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Title: THE MPEG-7 QUERY LANGUAGE (MP7QL)

Proposal for a Query Language for MPEG-7, in response to the ISO/IEC JTC1/SC29/WG11 N8220 entitled “Final Call for Proposals on MPEG-7 Query Format (MP7QF)”

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TABLE OF CONTENTS

1. Introduction.....	3
2. The Input Format of the MP7QL Query Language	5
2.1. Query Specifications with Explicit Preference Values.....	12
2.2. Query Specifications with Explicit Boolean Operators.....	14
2.3. Query Specifications with Explicit Boolean Operators and Preference Values..	16
3. The Output Format of the MP7QL Query Language.....	19
4. Filtering and Search Preference Model.....	21
5. Compliance of the MP7QL with the MP7QF Requirements.....	22
5.1. General Requirements	23
5.1.1. Use of Relevant Standard Technology.....	23
5.1.2. Integration with MPEG-7.....	23
5.1.3. XML Technology.....	24
5.1.4. Human Readable Representation	24
5.1.5. Binary (Bandwidth-efficient) Encoded Representation	24
5.1.6. Language and Character-set Independence.....	24
5.2. Requirements for the Input Query Format	24
5.2.1. “Query-by-Textual Description” Support	25
5.2.2. Free Text Query Support.....	26
5.2.3. “Query By Example” Support.....	26
5.2.4. “Query By Segment Example” Support.....	27
5.2.5. “Query By Mixed Example” Support	27
5.2.6. “Query By ID” Support.....	28
5.2.7. “Query by MPEG-7 Description” Support.....	28
5.2.8. Support for Queries based on the User Preferences and/or the Usage History	29
5.2.9. Combination of Query Conditions	30
5.2.10. Empty Queries.....	30
5.2.11. Use of Personal Information during Query Execution.....	30
5.2.12. Support for Queries based on Spatiotemporal Relationships.....	30
5.2.13. Specification of the Information contained in the Result Set.....	31
5.2.14. Specification of the Media Formats/Types of the Result Set.....	31
5.2.15. Sorting and Grouping Parameters for the Result Set	32
5.2.16. Specification of the Display Format of the Result Set	32
5.2.17. Limiting the Size of the Result Set.....	33
5.2.18. Paging the Result Set.....	33
5.3. Requirements for the Query Output Format.....	33

5.3.1. Structure of the Response containing the Result Set.....	33
5.3.2. Default Response for the Result Set.....	33
5.4. Requirements on Query Management Tools	34
5.4.1. Specification of the Exceptions.....	34
5.4.2. Server/Service Provider Selection.....	35
5.4.3. Relevance Feedback Support	35
5.4.4. Support for Searching within a Result Set	35
5.4.5. Querying Server Capabilities	35
5.4.6. Provision of Time Limit to the Query Response.....	35
6. Conclusions.....	36
7. References.....	36
8. Appendix A – Expression of MP7QL using XML Schema Syntax	38
8.1. General MP7QL Constructs	38
8.2. MP7QL Constructs for the Representation of Query Specifications with Explicit Preference Values	46
8.3. MP7QL Constructs for the Representation of Query Specifications with Explicit Boolean Operators	86
8.4. MP7QL Constructs for the Representation of Query Specifications with Explicit Boolean Operators and Preference Values	128

1. INTRODUCTION

An open multimedia consumption environment has been recently formed, due to three major reasons: (a) The development of digital multimedia content services that offer high content quality, advanced interaction capabilities, media personalization and adaptation according to the user preferences and access conditions; (b) The emergence of advanced network infrastructures that allow for the fast, efficient and reliable transmission of multimedia content; and (c) The availability and affordability of consumer electronic devices that allow the consumption and management of multimedia content like, for example, MP3 recordable players, digital cameras, DV camcorders and well-integrated smart phones. Such an open environment will become popular only if it is based on standards that allow the services provided by different vendors to interoperate.

The dominant standard in multimedia content description is the MPEG-7 [19]. MPEG-7 allows the description of (segments of) multimedia objects (i.e. images, audio and video) in terms of *media information* (including media format, quality etc.), *creation information* (including title, creators, subject, related material etc.), *structure*, *usage information* (including rights, availability etc.), *textual annotations*, *media semantics*, *matching hints* for associating the media with audio and visual descriptors, the importance of the multimedia content from specific *points of view*, the *relations* of the multimedia content with other media and metadata items and the low-level visual and audio features of the multimedia content.

In addition to the syntactic interoperation, which is achieved through the usage of well-accepted standards, semantic interoperation is also needed for providing efficient

retrieval and filtering services. The semantic interoperation is typically achieved through the integration of domain knowledge, which is usually expressed in the form of domain ontologies. The domain knowledge is subsequently utilized for supporting semantic retrieval and filtering [21][25] and has been shown to enhance the retrieval precision [24].

We have shown, in our previous research [22], that domain knowledge, in the form of domain ontologies, can be expressed using MPEG-7 constructs and integrated in the MPEG-7 semantic descriptions.

Powerful retrieval and filtering capabilities can be built on top of the rich information captured in the MPEG-7 descriptions. Several research groups have been working on MPEG-7 based multimedia content retrieval and filtering. The VizIR [4] framework fully exploits the *Visual* MPEG-7 Descriptors [10] for low-level feature based multimedia content retrieval. Several groups utilize the textual annotations and/or the media-related elements of the MPEG-7 descriptors [6][18][20][26] for retrieval and filtering support. Finally, the semantic metadata descriptions formed according to the *Semantic DS* of the MPEG-7 *Multimedia Description Schemes (MDS)* [12] are utilized in other retrieval and filtering approaches [1][8][21][22].

The major limitation of the above approaches is that they treat some aspects of the MPEG-7 based retrieval and filtering, but they do not provide a uniform and transparent MPEG-7 retrieval and filtering framework.

A first approach towards this end was the proposal to use plain XQuery [2] on top of an XML repository for MPEG-7 based multimedia content retrieval [17], without taking into account the peculiarities of the MPEG-7 description elements. The major limitation of this approach is that, using XQuery only, the different MPEG-7 metadata description elements cannot be fully exploited. This happens because both the MPEG-7 semantic model and the domain knowledge integrated in the semantic MPEG-7 descriptions are expressed in an involved way and cannot be successfully exploited if they are accessed in the same way with the textual and the media-related elements of the MPEG-7 metadata descriptions. Special treatment is also needed for the low-level visual features. It is difficult for the average user to express, using plain XQuery, queries on the semantics and the low-level features and even more difficult to combine such query conditions with textual and media-related query conditions. In addition, XQuery does not support queries with preference values, where the user states which query conditions are more important for him. In order to overcome these limitations, a query language for querying MPEG-7 descriptions is needed, with clear, MPEG-7 specific semantics (instead of the generic semantics of the XQuery). These semantics will allow the optimizers to effectively perform consistency checking and first-level optimization.

Another approach is to use the existing MPEG-7 *Filtering and Search Preferences (FASP)* as query specifications that allow multimedia content filtering and retrieval. The major limitations of this approach are the following: (a) The MPEG-7 description elements that represent the semantic descriptions and the low-level features of the multimedia content are not present in the current MPEG-7 FASPs; (b) Not all the media-related MPEG-7 elements are present in the MPEG-7 FASPs; and (c) The boolean operators AND/OR/NOT cannot be explicitly specified in the MPEG-7 FASPs.

The limitations of the existing approaches make apparent the need for a query language that provides retrieval and filtering support for all the aspects of an MPEG-7 de-

scription in a transparent and uniform way. In response to this need, the International Organization for Standardization (ISO) has recently issued the *MPEG-7 Query Format Requirements* [14], in order to guide the MPEG-7 query format standardization.

We propose here, in response to the MPEG-7 Query Format Requirements, the *MPEG-7 Query Language (MP7QL)* and a compatible FASP model (expressed according to the MP7QL model). Both the MP7QL and its compatible FASP model allow for the uniform and transparent MPEG-7 based retrieval and filtering of multimedia content that combine conditions on the semantics, the low-level visual features and the media-related aspects (creation, classification, source etc) of the MPEG-7 descriptions. The MP7QL allows querying every aspect of an MPEG-7 multimedia object description, as it integrates the semantics of the MPEG-7, and satisfies the ISO MPEG-7 Query Format Requirements [14]. The MP7QL queries may utilize the user preferences and the usage history as context, thus allowing for personalized multimedia content retrieval. The proposed FASP model has the standard MPEG-7 FASPs as a special case, and, at the same time, extends our previous research for supporting semantic user preferences for multimedia content consumption [21]. Both the MP7QL and its compatible FASP model allow for the exploitation of domain knowledge encoded using pure MPEG-7 constructs. In addition, they allow the explicit specification of operators and/or preference values in order to allow the combination of the query conditions according to the user intentions and the importance of the individual conditions for the users. The MP7QL also specifies the format and the structure of the output of the MP7QL queries, which forms MPEG-7 documents where the query results are represented as parts of standard MPEG-7 collections. This way, the language has the closure property [3]. This allows the results of the query language expressions to be able to be stored as new MPEG-7 descriptions, and to be re-used by the query language in a recursive manner.

The MP7QL has been expressed using XML Schema [5] syntax. The MP7QL is being implemented, on top of an XML native database accessed using XQuery in a service oriented environment. In particular, an MP7QL search service is developed that takes an MP7QL query as input and returns the MP7QL query results as output.

The rest of this document is structured as follows: In section 2 we present the input format of the MP7QL query language in section 3 we present the output format of the MP7QL query language and in section 4 we present our proposed FASP model. In section 5 we show that the MP7QL satisfies the MP7QF requirements and we conclude in section 6.

2. THE INPUT FORMAT OF THE MP7QL QUERY LANGUAGE

We present in this section the proposed MP7QL query language. The MP7QL is a language for querying MPEG-7 descriptions that we are developing and the input format of the MP7QL allows querying every aspect of an MPEG-7 multimedia object description. The MP7QL queries may utilize the user preferences as context, thus allowing for personalized multimedia content retrieval.

The fundamental MP7QL element is the MP7QL query, which is represented by the *MPEG7QueryType* abstract type. MP7QL allows the explicit specification of boolean operators and preference values for the MP7QL query elements. Three subtypes of *MPEG7QueryType* have been defined for the representation of all the possible types of

queries, as shown in Figure 1: (a) The *WeighedMPEG7QueryType*, which represents queries with explicit preference values. The preference values are integers in the range [-100, 100], with default value 10. The type, the range and the default value of the preference values are compatible with the preference values used in the MPEG-7 FASPs; (b) The *BooleanMPEG7QueryType*, which represents queries with explicit boolean operators (AND/OR/NOT); and (c) The *BooleanWeighedMPEG7QueryType*, which represents queries with explicit preference values and boolean operators.

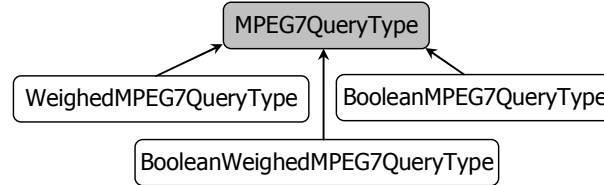


Figure 1: The MP7QL Query Type Hierarchy

An MP7QL query has a SELECT-FROM-WHERE syntax and is formally described using the regular expression syntax of (1). As shown in (1), all the MP7QL query elements are optional. This way, empty queries are supported, which result all the existing MPEG-7 descriptions as result.

$$Q=[Select][From][Where][OrderBy][GroupBy] \quad (1)$$

The optional *Select* element of an MP7QL query allows the specification of the elements and/or attributes of the MPEG-7 descriptions that will be returned in the query results. If the *Select* element is not present in an MP7QL query, the query results will be formed in the default way (see section 3 for details about the query results). The display format of the output, the maximum number of the query result items that will be returned to the user, the number of the result items that will be displayed in each result page and the result page returned are also specified in the *Select* element. The *Select* element of an MP7QL query is formally described using the regular expression syntax of (2).

$$Select=Item^* [format][transformationRules] [maxItems][numOfPageItems] [page][timeLimit] \quad (2)$$

The *Item* elements of *Select* represent, in the form of XPath expressions, the elements and/or attributes of the MPEG-7 descriptions that should be returned for each of the query results. The *format* optional attribute represents the URL of the file, where the structure of the output display format (that is, the format in which the query results will be displayed in the user's terminal device) is specified and has as default value the URL of the default query output format. The *transformationRules* optional attribute represents the URL of the XSL stylesheet [16] that should be applied in the standard MP7QL output in order to be presented according to a different format. The *maxItems* optional attribute represents the maximum number of the query results that will be returned to the user and has "unbounded" as default value. The *numOfPageItems* optional attribute represents the number of the query results that will be displayed in each result page and has 10 as default value. The *timeLimit* optional attribute represents the time limit in seconds until which the query must be replied and has 300 as default value. The *page* optional attribute specifies which result page should be returned to the user and has 1 as default value.

The optional *From* element of an MP7QL query allows the specification of the type of the MPEG-7 descriptions on which the query will be posed and is formally described using the regular expression syntax of (3).

$$From = Item^* \quad (3)$$

The *Item* elements of *From* may take predefined string values that specify the type of the MPEG-7 descriptions on which the query will be posed. The allowed values of *Item* are: (a) “MultimediaCollectionType”, which states that the query should be posed on the existing multimedia collections (for example, “give me the multimedia collections which include a photo of Zidane”); (b) “ImageType”, which states that the query should be posed on the image descriptions; (c) “VideoType”, which states that the query should be posed on the video descriptions (for example, “give me the videos where a goal is scored”); (d) “AudioType”, which states that the query should be posed on the audio descriptions; (e) “AudioVisualType”, which states that the query should be posed on the audiovisual content descriptions; (f) “MultimediaType”, which states that the query should be posed on the multimedia descriptions; (g) “SignalType”, which states that the query should be posed on the signal descriptions; (h) “AnalyticEditedVideoType”, which states that the query should be posed on the analytic edited video descriptions; (i) “Ink-ContentType”, which states that the query should be posed on the ink segment descriptions; (j) “AllMultimediaDescriptions”, which is the default value and states that the query should be posed on all the previous types of multimedia content descriptions in order to locate multimedia content that satisfies specific criteria; (k) “SemanticEntityDefinition”, which states that the query should be posed on the semantic entities that satisfy specific criteria and can be used for the semantic descriptions of multimedia content (for example, “give me the players affiliated to the soccer team Barcelona”); (l) “Ontology”, which states that the query should be posed on the constructs of domain ontologies expressed using MPEG-7 syntax (for example, “give me the subclasses of the *SoccerPlayer* class”);

The optional *OrderBy* element of an MP7QL query allows the specification of the criteria for ordering the result set and is formally described using the regular expression syntax of (4).

$$OrderBy = Criterion^* \quad (4)$$

The *Criterion* elements of *OrderBy* represent ordering criteria, which specify the elements and/or attributes on which the ordering will be based, their ordering priority and if the ordering should be ascending or descending. A *Criterion* element is formally described using the regular expression syntax of (5).

$$Criterion = Item [priority][order] \quad (5)$$

The *Item* element of *Criterion* represents, as an XPath expression, an element or an attribute of the MPEG-7 descriptions, on which the ordering will be based. The *priority* optional attribute represents the priority of the element/attribute in ordering and has 0 as default value. The *order* optional attribute represents the type (ascending or descending) of the ordering based on the element/attribute and has “ascending” as default value.

The optional *GroupBy* element of an MP7QL query allows the specification of the attribute or element that will be used for grouping the query results. The *GroupBy* element

has the form of an XPath expression that describes the attribute or the element of the query results on which the grouping of the query results will be based.

The optional *Where* element of an MP7QL query allows the expression of the query conditions set by the user. The structure of the *Where* element is different for the different types of the MP7QL queries. In particular:

1. The *Where* element of an MP7QL query with explicit preference values (*WWhere*) is formally described using the regular expression syntax of (6).

$$WWhere=(WQS\ pv)^* \quad (6)$$

pv is an explicit preference value and *WQS* is a query specification with explicit preference values (formally described in (9)). The query specification represents the query conditions set by the user.

2. The *Where* element of an MP7QL query with explicit boolean operators (*BWhere*) is formally described using the regular expression syntax of (7).

$$BWhere=BQS[NOT] ((AND|OR) BQS [NOT])^* \quad (7)$$

BQS is a query specification with explicit boolean operators (formally described in (12)).

3. The *Where* element of an MP7QL query with explicit preference values and boolean operators (*BWWhere*) is formally described using the regular expression syntax of (8).

$$BWWhere=BWQS\ pv ((AND|OR) BWQS\ pv)^* \quad (8)$$

BWQS is a query specification with explicitly specified preference values and boolean operators (formally described in (16)).

The MP7QL query specifications are represented by the abstract type *MPEG7QuerySpecificationType*, which is specialized according to the presence/absence of explicit boolean operators and/or preference values as shown in Figure 2: The *WeighedQuerySpecificationType* represents query specifications with explicit preference values, the *BooleanQuerySpecificationType* represents query specifications with explicit boolean operators and the *BooleanWeighedQuerySpecificationType* represents query specifications with explicit boolean operators and preference values.

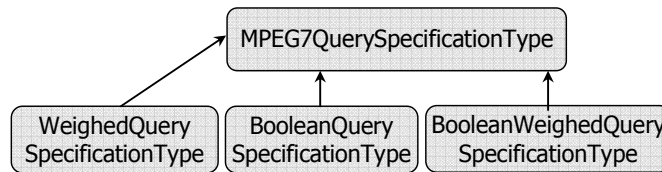


Figure 2: The Type Hierarchy of the MP7QL Query Specifications

The query specifications have been designed to allow expressing constraints on every aspect of a multimedia object that has been described using MPEG-7, so that the MP7QL may be used for querying any MPEG-7 multimedia object description. Thus, every element of an MPEG-7 multimedia object description has a corresponding query specification element in the MP7QL query specifications. The corresponding query specification element is used to impose constraints on the values of the MPEG-7 element, which constraints should be satisfied by the segments retrieved. In order to satisfy the requirement of the MPEG-7 Query Format Requirements [14] stating that the existing MPEG-7 FASPs should be valid query specifications, we decided to use the same naming and typ-

ing scheme with the MPEG-7 FASPs for all the elements that exist in the MPEG-7 FASPs. The rest of the MP7QL query specification elements follow the naming and typing scheme of the MPEG-7 multimedia object descriptions.

The MP7QL query specifications include the following (optional) elements:

- The *MediaIdentification (MI)* element (which corresponds to the *MediaIdentification* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the identification of the query results.
- The *MediaProfile (MP)* element (which corresponds to the *MediaProfile* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the media features (i.e. media format, quality etc.) of the query results.
- The *MediaLocator (ML)* element (which corresponds to the *MediaLocator* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the actual media comprising the query results.
- The *StructuralUnit (SU)* element (which corresponds to the *StructuralUnit* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the structure of the requested items.
- The *CreationPreferences (CrP)* element (which corresponds to the *CreationPreferences* element of the MPEG-7 filtering and search preferences), where the users specify criteria about the creation details of the requested items (i.e. title, creators, related material etc.). Examples of the usage of the creation preferences are shown in the query of Figure 3 and the FASP of Figure 13.
- The *ClassificationPreferences (ClP)* element (which corresponds to the *ClassificationPreferences* element of the MPEG-7 filtering and search preferences), where the users specify criteria about the classification of the requested items (i.e. language, genre, etc.).
- The *SourcePreferences (SoP)* element (which corresponds to the *SourcePreferences* element of the MPEG-7 filtering and search preferences), where the users specify criteria about the dissemination of the requested items (i.e. dissemination source, format etc.).
- The *Semantic (SeP)* element (which corresponds to the *Semantic* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the semantics of the content of the requested items. The semantic preferences are very important in event-based environments (like sports). In addition, the semantic preferences element is used for queries about reusable semantic entities and domain ontologies expressed using MPEG-7 syntax. Examples of the usage of the semantic preferences are shown in the queries of Figure 3, Figure 7 and Figure 10 and the FASP of Figure 13.
- The *PreferenceCondition (PC)* element (which corresponds to the *PreferenceCondition* element of the MPEG-7 filtering and search preferences), where the users state which conditions should hold, in terms of place and time, for the query specification to be taken into account.
- The *UsageInformation (UI)* element (which corresponds to the *UsageInformation* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the usage of the requested items (i.e. rights, availability etc.).

- The *MatchingHint (MH)* element (which corresponds to the *MatchingHint* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the matching of low-level descriptor features with the media element features.
- The *PointOfView (PoV)* element (which corresponds to the *PointOfView* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the importance of the multimedia content from specific points of view.
- The *RelatedMaterial (RM)* element (which corresponds to the *RelatedMaterial* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the related material of the requested items.
- The *Relation (R)* element (which corresponds to the *Relation* element of the MPEG-7 multimedia object descriptions), where the users specify the relationships of the requested items with other media or metadata items. A relationship may be directed or undirected and features a relationship *type*, the *target* and the *source* of the relationship and the *strength* of the relationship. The standardized MPEG-7 relationship types are more than 100 and are classified into: (a) Basic relationship types (equals, inside, refines etc.), which are specified in the *BaseRelation CS*; (b) Graph node relationship types (identity, equivalent etc.), which are specified in the *GraphRelation CS*; (c) Spatial relationship types (over, below, north etc.), which are specified in the *SpatialRelation CS*; (d) Temporal relationship types (precedes, overlaps, contains etc.), which are specified in the *TemporalRelation CS*; and (e) Semantic relationship types (shows, agent, causer etc.), which are specified in the *SemanticRelation CS*.
- The *TextAnnotation (TA)* element (which corresponds to the *TextAnnotation* element of the MPEG-7 multimedia object descriptions), where the users specify criteria about the textual annotations of the requested items.
- The *VisualDescriptor (VD)* element (which corresponds to the *VisualDescriptor* element of the MPEG-7 multimedia object descriptions that have a visual component), where references to the low-level visual features structured according to the descriptors of the MPEG-7 Visual [10] are specified.
- The *VisualDescriptionScheme (VDS)* element (which corresponds to the *VisualDescriptionScheme* element of the MPEG-7 multimedia object descriptions that have a visual component), where references to the low-level visual features structured according to the description schemes of the MPEG-7 Visual [10] are specified.
- The *AudioDescriptor (AD)* element (which corresponds to the *AudioDescriptor* element of the MPEG-7 multimedia object descriptions that have an audio component), where references to the low-level audio features structured according to the descriptors of the MPEG-7 Audio [11] are specified.
- The *AudioDescriptionScheme (ADS)* element (which corresponds to the *AudioDescriptionScheme* element of the MPEG-7 multimedia object descriptions that have an audio component), where references to the low-level audio features structured according to the description schemes of the MPEG-7 Audio [11] are specified.
- The *VisualTimeSeriesDescriptor (VTSD)* element (which corresponds to the *VisualTimeSeriesDescriptor* element of the MPEG-7 multimedia object descriptions that have a moving region visual component), where references to the descriptors that represent the temporal order of the visual features of moving regions structured according to the description of the MPEG-7 Visual [10] are specified.

- The *DescriptorRef (DR)* element, where the users specify an existing MPEG-7 description that should guide query-by-example queries about reusable semantic entities and domain ontologies expressed using MPEG-7 syntax.
- The *SemanticEntityRef (SER)* element, where the users specify an existing MPEG-7 description that should guide query-by-example queries about multimedia content descriptions.

The string and number comparison operators of the elements of the MP7QL query specifications may be explicitly specified. For the string comparison operator, the default value is “contains”, which succeeds if the value of the Query Specification Element (QSE) is contained in the value of the corresponding metadata description element (MDE). The string comparison operator may also take one of the following values: (a) “equals”, which succeeds if the value of the QSE equals to the value of the corresponding MDE; (b) “startsWith”, which succeeds if the value of QSE equals to the start of the value of the corresponding MDE; (c) “endsWith”, which succeeds if the value of the QSE equals to the end of the value of the corresponding MDE; and (d) “keywords”, which succeeds if every word contained in the QSE is also contained in the value of the corresponding MDE. For the number comparison operator, the default value is “equals”, which succeeds if the value of the QSE is equal to the value of the corresponding MDE. The number comparison operator may also take one of the following values: (a) “greaterThan”, which succeeds if the value of the QSE is greater than the value of the corresponding MDE; (b) “greaterThanOrEqual”, which succeeds if the value of the QSE is greater than or equal to the value of the corresponding MDE; (c) “lessThan”, which succeeds if the value of the QSE is less than the value of the corresponding MDE; and (d) “lessThanOrEqual”, which succeeds if the value of the QSE is less than or equal to the value of the corresponding MDE.

Variables are provided in MP7QL, in order to support joins on the conditions about the features of semantic entities that are interrelated through MPEG-7 relationships. From a syntactic point of view, a variable is a semantic entity identifier that begins with the “\$” character.

The MP7QL has been expressed using XML Schema [5] syntax, which is available in Appendix A. An implementation of the MP7QL using the XML Schema syntax is under way on top of an XML repository that is accessed by XQuery.

An example of an MP7QL query is shown in Figure 3. The query of Figure 3 is a query with explicit preference values, which asks for the image descriptions that contain in their title the keywords “soccer” and “Barcelona”. The results will contain the titles of the image descriptions, the labels of the semantic parts of the descriptions and the URIs of the images. The ordering of the results will be ascending, based on the titles of the descriptions.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <Select>
    <Item>
      Mpeg7/Description/MultimediaContent/Image/CreationInformation/Creation/Title
    </Item>
    <Item>
```

```

    Mpeg7/Description/MultimediaContent/Image/Semantic/Label/Name
  </Item>
  <Item>
    Mpeg7/Description/MultimediaContent/Image/MediaLocator/MediaUri
  </Item>
</Select>
<From>
  <Item>ImageType</Item>
</From>
<OrderBy>
  <OrderCriterion>
    <Item>
      Mpeg7/Description/MultimediaContent/Image/CreationInformation/Creation/Title
    </Item>
  </OrderCriterion>
</OrderBy>
<Where>
  <QuerySpecification xsi:type="WeighedContextQuerySpecificationType">
    <CreationPreferences>
      <Title preferenceValue="100" stringComparisonOperator="keywords">
        soccer Barcelona
      </Title>
    </CreationPreferences>
  </QuerySpecification>
</Where>
</Mpeg7Query>

```

Figure 3: An example query with explicit preference values

In the rest of this section we present the different types of MP7QL query specifications. In particular, we present query specifications with explicit preference values in subsection 2.1, query specifications with explicit boolean operators in subsection 2.2 and query specifications with explicit boolean operators and preference values in subsection 2.3.

2.1. Query Specifications with Explicit Preference Values

We present in this subsection the query specifications with explicit preference values, where a preference value may be explicitly specified for every query specification element. The query specifications with explicit preference values are represented by the subtypes of the *WeighedQuerySpecificationType*, as shown in Figure 4.

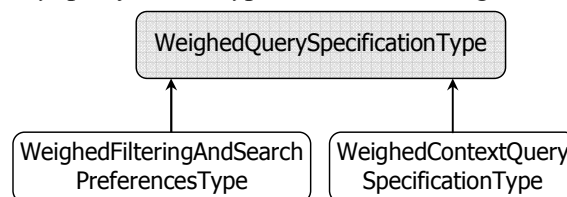


Figure 4: Type hierarchy of the MP7QL query specifications with explicit preference values

The *WeighedContextQuerySpecificationType* type represents queries for which a query context may be specified either in the *FASP* and the *Usage History* of the user or in a set of ad-hoc query specifications that represent the user preferences for this query specification. The *WeighedFilteringAndSearchPreferencesType* type represents user FASPs with explicit preference values, which also have FASP elements that allow forming FASP hierarchies (details on the FASP model are provided in section 4).

The *WeighedContextQuerySpecificationType* and the *WeighedFilteringAndSearch-PreferencesType* query specifications (*WQS*) are formally described using the regular expression syntax of (9).

$$WQS=((WMI|WMP|WML|WSU|WCrP| WCIP|WSoP|WSeP|WPC|WUI|WMH| WPoV|WRM|WR|WTA|WDR|WSER|WVD|WVDS|WAD|WADS|WVTSD|WUH| WFASP) pv)^* \quad (9)$$

WMI is a media identification element, *WMP* is a media profile element, *WML* is a media locator element, *WSU* is a structural unit element, *WCrP* is a creation preferences element, *CIP* is a classification preferences element, *WSoP* is a source preferences element, *WSeP* is a semantic preferences element, *WPC* is a preference condition element, *WUI* is a usage information element, *WMH* is a matching hint element, *WPoV* is a point of view element, *WRM* is a related material element, *WR* is a relation element, *WTA* is a textual annotation element, *WDR* is a multimedia description reference element, *WSER* is a semantic entity reference element, *WVD* is a reference to a visual descriptor element, *WVDS* is a reference to a visual description scheme element, *WAD* is a reference to an audio descriptor element, *WADS* is a reference to an audio description scheme element, *WVTSD* is a reference to a visual time series descriptor element, *WUH* is a reference to a usage history element and *WFASP* is a filtering and search preferences element (or a reference to a filtering and search preferences element). All the *WQS* elements may also have explicit preference values. This way, the users may specify the search and filtering criteria as well as the importance of each of the criteria.

A semantic preference element with explicit preference values (*WSeP*) is formally described in (10).

$$WSeP=(WSE pv)^* \quad (10)$$

WSE is a set of search and filtering criteria for a semantic entity with explicit preference values, and is formally described in (11).

$$WSE=[SID] SType pv ((AName AValue pv) | (EName EValue pv (EName EAValue pv)^* (E pv)^*)) | (RType RTarget RSource RStrength pv))^* maxOccurs minOccurs \quad (11)$$

A *WSE* may be identified by *SID*, which plays the role of a variable name. The desired type (*SType*) of the semantic entity may also be specified, as well as: (a) The name (*AName*) and the desired value (*AValue*) respectively of the attributes of the semantic entity; (b) Descriptions of the desired values of the semantic entity elements, including the element name (*EName*), the element value (*EValue*), the list of the desired element attribute values represented by attribute name (*EName*) – desired attribute value (*EAValue*) pairs and the list of the desired values of its sub-elements (*E*); (c) Relationship description information, consisting of the type (*RType*), the target (*RTarget*), the source (*RSource*) and the strength (*RStrength*) of the relationship. The minimum and maximum number of occurrences of a semantic entity that satisfies a set of criteria is specified in the values of *minOccurs* (with default value 1) and *maxOccurs* (with default value unbounded) respectively.

An example of query specification with explicit preference values for the retrieval of images has been shown in Figure 3. Another example of query specification with explicit preference values is shown in Figure 5, where a query on a soccer ontology is described

that asks for the semantic entities that belong to the “SoccerPlayer” class (which is an abstract semantic entity that represents the class of the soccer players).

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <From>
    <Item>Ontology</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="WeighedContextQuerySpecificationType">
      <Semantic>
        <SemanticBase xsi:type="WeighedAgentObjectType">
          <Relation type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies"
target="socceragents#SoccerPlayer" preferenceValue="100"/>
        </SemanticBase>
      </Semantic>
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

Figure 5: Example of Query Specification with Explicit Preference Values for Domain Ontology Constructs

2.2. Query Specifications with Explicit Boolean Operators

We present in this subsection the query specifications with explicit boolean operators, where the *AND/OR operators* and the *NOT operator* that should be applied in the element contents may be explicitly specified for each query specification element. The default value of the AND/OR operator is “OR” and the default value of the NOT operator is “false” (meaning that the users by default would like the media elements that satisfy the specific criteria to be returned to them). The query specifications with explicit boolean operators are represented by the subtypes of the *BooleanQuerySpecificationType*, as shown in Figure 6. The *BooleanContextQuerySpecificationType* type represents queries for which a query context may be specified, comprised of the *FASP* and the *Usage History* of the user or a set of ad-hoc query specifications that represent the user preferences for this query specification. The *BooleanFilteringAndSearchPreferencesType* type represents user FASPs with explicit boolean operators, which also have FASP elements that allow forming FASP hierarchies (details on the FASP model are provided in section 4).

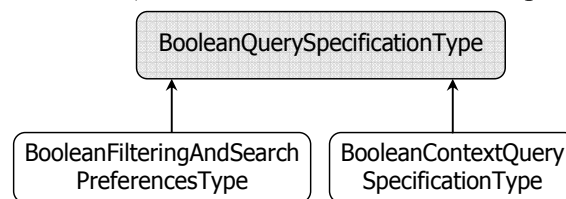


Figure 6: Type hierarchy of the MP7QL query specifications with explicit boolean operators

The *BooleanContextQuerySpecificationType* and the *BooleanFilteringAndSearchPreferencesType* query specifications (*BQS*) are formally described using the regular expression syntax of (12).

$$BQS=(BMI|BMP|BML|BSU|BCrP|BCIP|BSoP|BSeP|BPC|BUI|BMH|BPoV|BRM|BR|BTA|BDR|BSER|BVD|BVDS|BAD|BADS|BVTSD|BUH|BFASP) [NOT] \quad (12)$$

$(AND|OR) (BMI|BMP|BML|BSU|BCrP|BCIP|BSoP|BSeP|BPC|BUI|BMH|BPoV|BRM|BR|BTA|BDR|BSEr|BVD|BVDS|BAD|BADS|BVTSD|BUH|BFASP)[NOT]^*$

BMI is a media identification element, *BMP* is a media profile element, *BML* is a media locator element, *BSU* is a structural unit element, *BCrP* is a creation preferences element, *BCIP* is a classification preferences element, *BSoP* is a source preferences element, *BSeP* is a semantic preferences element, *BPC* is a preference condition element, *BUI* is a usage information element, *BMH* is a matching hint element, *BPoV* is a point of view element, *BRM* is a related material element, *BR* is a relation element, *BTA* is a textual annotation element, *BDR* is a multimedia description reference element, *BSEr* is a semantic entity reference element, *BVD* is a reference to a visual descriptor element, *BVDS* is a reference to a visual description scheme element, *BAD* is a reference to an audio descriptor element, *BADS* is a reference to an audio description scheme element, *BVTSD* is a reference to a visual time series descriptor element, *BUH* is a reference to a usage history element and *BFASP* is a filtering and search preferences element (or a reference to a filtering and search preferences element). All the BQS elements may have explicit boolean operators.

A semantic preference element with explicit boolean operators (BSeP) is formally described in (13).

$$BSeP=[NOT] BSE ((AND/OR) [NOT] BSE)^* \quad (13)$$

BSE is a set of search and filtering criteria for a semantic entity with explicit boolean operators, and is formally described in (14).

$$BSE=[SID] SType ((AND/OR)[NOT] (AName AValue) | (EName EValue (EName EValue)* (E)*)) | (RType RTarget RSource RStrength))* maxOccurs minOccurs \quad (14)$$

An example of an MP7QL query specification with explicit boolean operators, which states “I want the multimedia objects where a goal is scored by *Zidane*” is shown, expressed in formal syntax, in (15).

$$BQSI = (EventType AND (exemplifies, Goal) AND (agent, $zid)) AND (($zid, AgentObjectType) AND (exemplifies, PlayerObject, $zid) AND (Agent(Name(FamilyName 'Zidane')))) \quad (15)$$

We assume in this example that the abstract semantic entities “PlayerObject” and “Goal” exist, which represent the classes of all the players and all the goals respectively. We also assume that the soccer player Zidane is bound to the “\$zid” variable. The same query specification is shown in Figure 7, expressed using XML syntax in a query that contains only a *Where* element.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001_BooleanMP7QF.xsd"
xsi:type="BooleanMpeg7QueryType">
  <Where>
    <QuerySpecification xsi:type="BooleanContextQuerySpecificationType">
      <Semantic ANDOROperator="AND">
        <SemanticBase xsi:type="BooleanEventType" ANDOROperator="AND"
NOTOperator="false">
          <Relation ANDOROperator="AND" target="soccerevents#Goal"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies"/>
        </SemanticBase>
      </Semantic ANDOROperator="AND">
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

```

    <Relation ANDOROperator="AND" target="$zid"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:agent"/>
  </SemanticBase>
  <SemanticBase ANDOROperator="AND" xsi:type="BooleanAgentObjectType"
id="$zid" NOTOperator="false">
    <Relation ANDOROperator="AND" target="socceragents#PlayerObject"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies"/>
    <Agent xsi:type="BooleanPersonType">
      <Name>
        <FamilyName>Zidane</FamilyName>
      </Name>
    </Agent>
  </SemanticBase>
</Semantic>
</QuerySpecification>
</Where>
</Mpeg7Query>

```

Figure 7: MP7QL query stating “I want the multimedia objects where a goal is scored by Zidane”, using XML syntax

Another example of query specification with explicit boolean operators is shown in Figure 8, where a query on a soccer ontology is described that asks for the abstract semantic entities that represent the subclasses of the “SoccerPlayer” class.

```

<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 BooleanMP7QF.xsd"
xsi:type="BooleanMpeg7QueryType">
  <From>
    <Item>Ontology</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="BooleanContextQuerySpecificationType">
      <Semantic>
        <SemanticBase xsi:type="BooleanAgentObjectType" ANDOROperator="AND">
          <AbstractionLevel dimension="1" numberComparisonOperator="greaterThanOrEqual"/>
          <Relation type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:specializes"
target="socceragents#SoccerPlayer" ANDOROperator="AND"/>
        </SemanticBase>
      </Semantic>
    </QuerySpecification>
  </Where>
</Mpeg7Query>

```

Figure 8: Example of Query Specification with Explicit Boolean Operators for Domain Ontology Constructs

2.3. Query Specifications with Explicit Boolean Operators and Preference Values

We present in this subsection the query specifications with explicit boolean operators and preference values, where the boolean operator and the preference value that should be applied in the element contents may be explicitly specified for each query specification element. The query specifications with explicit boolean operators and preference values are represented by the subtypes of the *BooleanWeighedQuerySpecificationType*, as shown in Figure 9. The *BooleanWeighedContextQuerySpecificationType* type represents queries for which a query context may be specified, comprised of the *FASP* and the *Us-*

age History of the user or a set of ad-hoc query specifications that represent the user preferences for this query specification. The *BooleanWeighedFilteringAndSearchPreferencesType* type represents user FASPs with explicit boolean operators and preference values, which also have FASP elements that allow forming FASP hierarchies (details on the FASP model are provided in section 4).

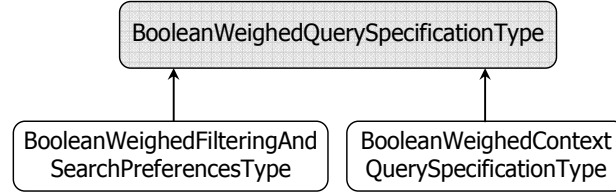


Figure 9: Type hierarchy of the MP7QL query specifications with explicit boolean operators and explicit preference values

The *BooleanWeighedContextQuerySpecificationType* and the *BooleanWeighedFilteringAndSearchPreferencesType* query specifications (BWQS) are formally described using the regular expression syntax of (16).

$$\begin{aligned}
 BWQS = & (BWMI|BWMP|BWML|BWSU|BWCrP|BWCIP|BWSOP|BWSeP|BWPC| \\
 & BWUI|BWMH|BWPoV|BWRM|BWR|BWTa|BWDR|BWSER|BWVD|BWVDS|BWAD \\
 & |BWADS|BWVTSD|BWUH|BWFASP) pv ((AND|OR) (BWMI|BWMP|BWML|BWSU (16) \\
 & |BWCrP|BWCIP|BWSOP|BWSeP|BWPC|BWUI|BWMH|BWPoV|BWRM|BWR|BWTa \\
 & |BWDR|BWSER|BWVD|BWVDS|BWAD|BWADS|BWVTSD|BWUH|BWFASP) pv)^*
 \end{aligned}$$

BWMI is a media identification element, *BWMP* is a media profile element, *BWML* is a media locator element, *BWSU* is a structural unit element, *BWCrP* is a creation preferences element, *BWCIP* is a classification preferences element, *BWSOP* is a source preferences element, *BWSeP* is a semantic preferences element, *BWPC* is a preference condition element, *BWUI* is a usage information element, *BWMH* is a matching hint element, *BWPoV* is a point of view element, *BWRM* is a related material element, *BWR* is a relation element, *BWTa* is a textual annotation element, *BWDR* is a multimedia description reference element, *BWSER* is a semantic entity reference element, *BWTa* is a textual annotation element, *BWVD* is a reference to a visual descriptor element, *BWVDS* is a reference to a visual description scheme element, *BWAD* is a reference to an audio descriptor element, *BWADS* is a reference to an audio description scheme element, *BWVTSD* is a reference to a visual time series descriptor element, *BWUH* is a reference to a usage history element and *BWFASP* is a filtering and search preferences element (or a reference to a filtering and search preferences element). All the BWQS elements may have explicit boolean operators and preference values.

A semantic preference element with explicit preference values and boolean operators (*BWSeP*) is formally described in (17).

$$BWSeP = BWSE pv ((AND/OR) BWSE pv)^* \quad (17)$$

BWSE is a set of search and filtering criteria for a semantic entity with explicit preference values and boolean operators, formally described in (18).

$$\begin{aligned}
 BWSE = & [SID] SType pv ((AND/OR) (AName AValue pv) | (EName EValue pv \\
 & (EName EValue pv)^* (E pv)^*) | (RType RTarget RSource RStrength pv))^* \\
 & maxOccurs minOccurs
 \end{aligned} \quad (18)$$

An example of an MP7QL query specification with explicit boolean operators and preference values, which states “I want the multimedia objects where a goal is scored (preference 100) or a penalty kick takes place (preference 50)”, is shown, expressed in formal syntax, in (19).

$$BWQSI = (EventType \text{ AND } (exemplifies, Goal \ 100)) \text{ OR } (EventType \text{ AND } (exemplifies, PenaltyKick \ 50)) \quad (19)$$

We assume in this example that the abstract semantic entity “PenaltyKick” exists, which represents the class of all the penalty kicks. The same query specification, expressed using XML syntax, is shown in Figure 10, expressed using XML syntax in a query that contains only a *Where* element.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 BooleanWMP7QF.xsd"
xsi:type="BooleanWeighedMpeg7QueryType">
  <Where>
    <QuerySpecification ANDOROperator="OR"
xsi:type="BooleanWeighedContextQuerySpecificationType">
      <Semantic ANDOROperator="OR">
        <SemanticBase preferenceValue="100" xsi:type="BooleanWeighedEventType">
          <Relation ANDOROperator="AND" target="soccerevents#Goal"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies"/>
        </SemanticBase>
        <SemanticBase preferenceValue="50" xsi:type="BooleanWeighedEventType">
          <Relation ANDOROperator="AND" target="soccerevents#PenaltyKick"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies"/>
        </SemanticBase>
      </Semantic>
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

Figure 10: MP7QL query stating “I want the multimedia objects where a goal is scored (preference 100) or a penalty kick takes place (preference 50)”, using XML syntax

Another example of query specification with explicit boolean operators and preference values is shown in Figure 11, where a query stating “I want the JPEG images that contains a man (preference 100) or a woman (preference 50)”.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 BooleanWMP7QF.xsd"
xsi:type="BooleanWeighedMpeg7QueryType">
  <From>
    <Item>ImageType</Item>
  </From>
  <Where>
    <QuerySpecification ANDOROperator="OR"
xsi:type="BooleanWeighedContextQuerySpecificationType">
      <SourcePreferences>
        <MediaFormat>
          <FileFormat>
            <Name>JPEG</Name>
          </FileFormat>
        </MediaFormat>
      </SourcePreferences>
    <Semantic ANDOROperator="OR">
```

```

    <SemanticBase preferenceValue="100"
xsi:type="BooleanWeighedAgentObjectType">
    <Relation ANDOROperator="AND" target="soccerevents#Man"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies" />
    </SemanticBase>
    <SemanticBase preferenceValue="50" xsi:type="BooleanWeighedAgentObjectType">
    <Relation ANDOROperator="AND" target="soccerevents#Woman
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies" />
    </SemanticBase>
    </Semantic>
  </QuerySpecification>
</Where>
</Mpeg7Query>

```

Figure 11: MP7QL query stating “I want the JPEG images that contains a man (preference 100) or a woman (preference 50)”, using XML syntax

3. THE OUTPUT FORMAT OF THE MP7QL QUERY LANGUAGE

In this section we describe the output format of the MP7QL query language. The proposed query output format structures the query results as an MPEG-7 description. This way, the MP7QL language has the closure property. This allows the results of the query language expressions to be able to be stored as new MPEG-7 descriptions, and to be recursively reused by the MP7QL query language.

If the user wishes to view the query results structured in another way, he should specify the display format and the XSL stylesheet that should perform the transformation in his display device in the *Select* element of the MP7QL queries.

The proposed MP7QL query output format organizes the query results in an MPEG-7 description where the query result set is represented by an MPEG-7 collection.

The collection that represents the result set has a *CreationInformation* element, which contains information about the *creation* of the collection. If the query execution terminates normally, the collection title is “Query Results” and the abstract of the collection is “Automatically created mixed collection, that contains MP7QL query results”. If an exception occurs during the execution of the query, no result items are returned, the collection title is “Exception” and the abstract of the collection contains the message returned by the query engine and describes the exception.

The result items form an MPEG-7 *Mixed Collection*, ordered according to the ordering criteria provided by the user in the *OrderBy* element. If the user has specified a grouping criterion in the *GroupBy* element of the MP7QL query, every group of result items is represented by a mixed collection element that contains the group items ordered according to the ordering criteria. If no results are returned, an empty MPEG-7 collection is returned. Every result item is represented in the collection that represents the query results by a *MixedCollection* element comprised of:

- A *Concept* element that represents the ranking (in the 0-100 range) of the current result item. This element is present only when a ranking of the query results is provided by the query engine.
- A reference to the element that represents the URI of the current result item, which is represented by a *ContentRef* element if the query is about multimedia content descriptions and by a *ConceptRef* element if the query is about reusable semantic entities or

ontologies expressed in MPEG-7 syntax. This element is present for all the query result items, independently of the user's selections.

- The element that represents the elements of the description of the current result item that were returned according to the user selections in the *Select* part of the query. This element is a *Content* element if the query is about multimedia content descriptions and a *Concept* element if the query is about reusable semantic entities or ontologies expressed in MPEG-7 syntax. This element is present only if the user has specified, in the *Select* part of the query, some elements and/or attributes of the results to be returned to him.

As an example, let the result set of the query of Figure 3 to be a set of two images, showing the soccer team Barcelona in 2005 and in 2006. This result set should be structured, according to the MP7QL query output format, as shown in Figure 12.

```

<Mpeg7 xmlns="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mpeg7:schema:2001 Mpeg7-2001.xsd">
  <Description xsi:type="ContentEntityType">
    <MultimediaContent xsi:type="MultimediaCollectionType">
      <Collection xsi:type="MixedCollectionType">
        <CreationInformation>
          <Creation>
            <Title>Query Results</Title>
            <Abstract>
              <FreeTextAnnotation>
                Automatically created mixed collection, that contains MP7QL query re-
                sults.
              </FreeTextAnnotation>
            </Abstract>
          </Creation>
        </CreationInformation>
        <MixedCollection xsi:type="MixedCollectionType">
          <Content xsi:type="ImageType">
            <Image>
              <MediaLocator>
                <MediaUri>
                  http://elikonas.ced.tuc.gr/photos/soccer/2005/Barcelona.jpg
                </MediaUri>
              </MediaLocator>
              <CreationInformation>
                <Creation>
                  <Title>Photo of the soccer team Barcelona in 2005</Title>
                </Creation>
              </CreationInformation>
              <Semantic>
                <Label>
                  <Name>Barcelona 2005</Name>
                </Label>
              </Semantic>
            </Image>
          </Content>
          <ContentRef href="http://elikonas.ced.tuc.gr/Desc/Barcelona05.xml"/>
          <Concept xsi:type="ConceptType">
            <Label>
              <Name>Rank</Name>
            </Label>
            <Property>
              <Name>Rank Value</Name>
              <Definition>100</Definition>
            </Property>
          </Concept>
        </MixedCollection>
      </Collection>
    </MultimediaContent>
  </Description>

```

```

    </Concept>
  </MixedCollection>
  <MixedCollection xsi:type="MixedCollectionType">
    <Content xsi:type="ImageType">
      <Image>
        <MediaLocator>
          <MediaUri>
            http://elikonas.ced.tuc.gr/photos/soccer/2006/Barcelona.jpg
          </MediaUri>
        </MediaLocator>
        <CreationInformation>
          <Creation>
            <Title>Photo of the soccer team Barcelona in 2006</Title>
          </Creation>
        </CreationInformation>
        <Semantic>
          <Label>
            <Name>Barcelona 2006</Name>
          </Label>
        </Semantic>
      </Image>
    </Content>
    <ContentRef href="http://elikonas.ced.tuc.gr/Desc/Barcelona06.xml"/>
    <Concept xsi:type="ConceptType">
      <Label>
        <Name>Rank</Name>
      </Label>
      <Property>
        <Name>Rank Value</Name>
        <Definition>100</Definition>
      </Property>
    </Concept>
  </MixedCollection>
</Collection>
</MultimediaContent>
</Description>
</Mpeg7>

```

Figure 12: The results of the Query of Figure 3

4. FILTERING AND SEARCH PREFERENCE MODEL

We present in this section the proposed *Filtering and Search Preference (FASP)* model, which is compliant with the MP7QL query language. As already mentioned, the MP7QL compliant FASPs essentially are MP7QL query specifications. Thus, a FASP may have all the elements of a query specification.

According to the presentation of section 2, the FASPs are distinguished into FASPs with explicit preference values, represented by the *WeighedFilteringAndSearchPreferencesType* (see Figure 2), FASPs with explicit boolean operators, represented by the *BooleanFilteringAndSearchPreferencesType* (see Figure 4) and FASPs with explicit boolean operators and explicit preference values, represented by the *BooleanWeighedFilteringAndSearchPreferencesType* (see Figure 6). These types extend the abstract query specification types (*WeighedQuerySpecificationType*, *BooleanQuerySpecificationType* and *BooleanWeighedQuerySpecificationType* respectively) with *FilteringAndSearchPreferences* elements that allow forming FASP hierarchies. Notice that the NOT operator and

the negative preference values allow the users to express their negative preferences (dislikes) in the FASPs.

The MP7QL compliant FASP model proposed here enhances the FASP model we proposed in [21] for the extension of the MPEG-7 FASPs with semantic user preferences. The model of [21] has extended the MPEG-7 FASPs with semantic user preferences only, while the MP7QL compliant FASP model allows one to express preferences for every aspect of the MPEG-7 multimedia object descriptions. In addition, the usage of boolean operators is more flexible in the MP7QL compliant FASP model. The discussion shows that the FASP model we proposed in [21] is a special case of the MP7QL compliant FASP model proposed here.

The MPEG-7 FASPs are also a special case of the MP7QL compliant FASP model. In particular, an MPEG-7 FASP is also a FASP of type *WeighedFilteringAndSearchPreferencesType*, which has only the *CreationPreferences*, *ClassificationPreferences*, *SourcePreferences* and *PreferenceCondition* elements.

An example of a FASP with explicit preference values, which states “I want the multimedia objects where a goal is scored (preference 100) and their title contains the keyword ‘soccer’ (preference 90)”, is shown, expressed in formal syntax, in (20).

$$FASP1 = ((EventType \text{ AND } (exemplifies, Goal)) 100 (Title \text{ 'soccer'}) 90) \quad (20)$$

The same FASP, expressed using XML syntax, is shown in Figure 13.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001
WMP7QF.xsd" xsi:type="WeighedMpeg7QueryType">
  <Where>
    <QuerySpecification xsi:type="WeighedFilteringAndSearchPreferencesType">
      <Semantic>
        <SemanticBase xsi:type="WeighedEventType" preferenceValue="100">
          <Relation target="soccerevents#Goal"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies"/>
        </SemanticBase>
      </Semantic>
      <CreationPreferences>
        <Title preferenceValue="90" stringComparisonOperator="keywords">
          Soccer
        </Title>
      </CreationPreferences>
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

Figure 13: FASP stating “I want the multimedia objects where a goal is scored (preference 100) and their title contains the keyword ‘soccer’ (preference 90)”, using XML syntax

5. COMPLIANCE OF THE MP7QL WITH THE MP7QF REQUIREMENTS

We show in this section that the MP7QL query language covers the MP7QF requirements. For each of the MP7QF requirements, we describe the MP7QL mechanism that allows covering it and, whenever it is needed, we demonstrate it using appropriate examples. In particular, the coverage of the general requirements of the MP7QF by the

MP7QL is presented in subsection 5.1, the coverage of the requirements for the input query format of the MP7QF by the MP7QL is presented in subsection 5.2, the coverage of the requirements for the query output format of the MP7QF by the MP7QL is presented in subsection 5.2.2 and the coverage of the requirements of the MP7QF for the support of query tools by the MP7QL is presented in subsection 5.4.

5.1. General Requirements

In this subsection we show how the MP7QL covers the general MP7QF requirements. In particular, in paragraph 5.1.1 we discuss how the MP7QL uses and supports relevant international standards, in paragraph 5.1.2 we present how the MP7QL is well integrated with other parts of the MPEG-7, in paragraph 5.1.3 we show that the MP7QL is based on XML technology, in paragraph 5.1.4 we outline the human readable representation of the MP7QL, in paragraph 5.1.5 we discuss about the binary (bandwidth-efficient) encoded representation of the MP7QL and in paragraph 5.1.6 we describe the mechanisms used in the MP7QL so that it is language and character set independent.

5.1.1. Use of Relevant Standard Technology

We discuss in this paragraph how the MP7QL covers the MP7QF requirement for using and supporting relevant international standards.

The MP7QL is expressed in XML Schema and allows expressing user queries about every aspect of an MPEG-7 description. This way, the XML/XML Schema standards are used and the constructs of the MPEG-7 standard are re-used.

The syntax of the MP7QL is independent of the underlying MPEG-7 repository, which may be a relational database accessed using SQL, an XML native database accessed using XQuery, etc. This way, well-accepted standard query languages like the SQL and the XQuery can be used for the implementation of the MP7QL in different working environments.

In addition, the expression of the MP7QL using formal syntax makes it syntax-independent and allows its expression using different syntax. For example, the MP7QL may be expressed in the *Web Ontology Language (OWL)* [7] syntax, in order to be used with multimedia content descriptions expressed in OWL that are based on the OWL ontologies that capture the semantics of the MPEG-7 [9] [23]. This way, the use of the Semantic Web standards and technologies together with the MP7QL will be supported.

5.1.2. Integration with MPEG-7

We show in this paragraph how the MP7QL is well integrated with other parts of the MPEG-7, as is required by the MP7QF. In particular:

- The MP7QL input query format is well integrated with the MPEG-7 MDS, Visual and Audio parts, as it allows querying every aspect of an MPEG-7 description that is based on these parts.
- The MP7QL query output format is well integrated with the MPEG-7 MDS, Visual and Audio parts, as it is structured as a standard MPEG-7 mixed collection.
- The XML syntax of the MP7QL will be provided in the binary format of XML (BiM) [13], for the specification of the MP7QL binary format (analogous to the binary format of the MPEG-7).

- A profiling mechanism for the MP7QL, analogous to the MPEG-7 profiles [15], will be specified.

5.1.3. XML Technology

We present in this paragraph that the MP7QL is based on XML technology, as is required by the MP7QF. In particular, the syntax of the MP7QL is XML Schema and the MP7QL queries are XML documents valid according to this schema. In addition, the MP7QL query results are structured as MPEG-7 mixed collections, which are also XML documents valid according to the MPEG-7 schema. Finally, the XML syntax of the MP7QL will be provided in the binary format of XML (BiM).

5.1.4. Human Readable Representation

We state in this paragraph that the MP7QL is, as requested by the MP7QF, able to be expressed in a format that human users can easily understand and use for query formulation, in the same way that the XML Schema syntax of the MPEG-7 allows the definition of human readable multimedia content descriptions. The expression of the MP7QL using XML Schema syntax covers this requirement.

5.1.5. Binary (Bandwidth-efficient) Encoded Representation

We present in this paragraph that the MP7QL is, as requested by the MP7QF, able to be expressed in compressed binary form for bandwidth-efficient transmission of the queries between clients and servers. In particular, the XML syntax of the MP7QL will also be provided in the binary format of XML (BiM) in order to support bandwidth-efficiency, in the same way that the MPEG-7 descriptors and description schemes are expressed in BiM. In particular, the MP7QL query output format is already expressed in BiM, as it is standard MPEG-7, while the input query format will be expressed in the same way with the MPEG-7, as it uses and extends the MPEG-7 constructs.

5.1.6. Language and Character-set Independence

We describe in this paragraph the mechanisms used in the MP7QL so that it is, as required by the MP7QF, language and character set independent.

The MP7QL query results are structured as standard MPEG-7 mixed collections. This way, the mechanisms provided by the MPEG-7 for language and character set independence are also used in the MP7QL query results. The same mechanisms have also been adopted in the MP7QL input query format, so that the textual parts of the queries can be expressed using any language and character set.

5.2. Requirements for the Input Query Format

We describe in this subsection how the MP7QL satisfies the input query format requirements of the MP7QF. In particular, in paragraph 5.2.1 we present how the MP7QL supports textual queries, in paragraph 5.2.2 we show the free text query support, in paragraph 5.2.3 we present the support provided for “query-by-example”, in paragraph 5.2.4 we describe how the MP7QL supports “query-by-segment example”, in paragraph 5.2.5 we describe the support provided for “query-by-mixed example”, in paragraph 5.2.6 we present how the MP7QL supports “query-by-ID”, in paragraph 5.2.7 we present the support provided for “query-by-MPEG-7 description”, in paragraph 5.2.8 we present how the MP7QL supports user preferences and/or usage history based queries, in paragraph 5.2.9 we demonstrate how various query conditions can be combined in the MP7QL queries, in

paragraph 5.2.10 we outline the empty query support provided by the MP7QL, in paragraph 5.2.11 we present the support provided in order to specify if the personal information should be used during query execution, in paragraph 5.2.12 we present how queries based on spatiotemporal relationships are supported, in paragraph 5.2.13 we describe the result set specification, in paragraph 5.2.14 we present the specification of the media formats/types of the result set, in paragraph 5.2.15 we show the sorting and grouping parameters for the result sets that are provided by the MP7QL, in paragraph 5.2.16 we show how the specification of the structure of the result set is done, in paragraph 5.2.17 we show how to limit the size of the result set and in paragraph 5.2.18 we present the MP7QL capabilities for paging the result set.

5.2.1. “Query-by-Textual Description” Support

We present in this paragraph how are the textual queries supported by the MP7QL. Such queries contain conditions on the values of the textual parts of the MPEG-7 descriptions.

The MP7QL allows queries that contain conditions on all the textual elements and attributes of the MPEG-7 descriptions. The string comparison operator provided by the MP7QL allows the users to specify how the textual values of the queries should be compared with the corresponding values of the MPEG-7 descriptions.

As an example, consider the query of Figure 14, where the user states that he wants the images which have: (a) A creator with first name “Vincent” and family name that contains the words “van” and “Gogh”; and (b) Title and textual annotation that contain the word “self-portrait”. The user also states that the query results should be at most 60, no more than 15 result items should be returned to him and that the second page of the query results should be the first delivered to him. Every result item should contain the title, the URI and the textual annotation of the image.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 BooleanMP7QF.xsd"
xsi:type="BooleanMpeg7QueryType">
  <Select maxItems="60" numOfPageItems="15" page="2">
    <Item>
      Mpeg7/Description/MultimediaContent/Image/CreationInformation/Creation/Title
    </Item>
    <Item>
      Mpeg7/Description/MultimediaContent/Image/Semantic/Label/Name
    </Item>
    <Item>
      Mpeg7/Description/MultimediaContent/Image/TextAnnotation/FreeTextAnnotation
    </Item>
  </Select>
  <From>
    <Item>ImageType</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="BooleanContextQuerySpecificationType" ANDOROperator="AND">
      <CreationPreferences ANDOROperator="AND">
        <Title stringComparisonOperator="contains">self-portrait</Title>
        <Creator>
          <Character>
            <GivenName stringComparisonOperator="equals">Vincent</GivenName>
            <FamilyName stringComparisonOperator="keywords">van Gogh</FamilyName>
          </Character>
        </Creator>
      </CreationPreferences>
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

```

    </Creator>
  </CreationPreferences>
  <TextAnnotation>
    <FreeTextAnnotation stringComparisonOperator="contains">
      self-portrait
    </FreeTextAnnotation>
  </TextAnnotation>
</QuerySpecification>
</Where>
</Mpeg7Query>

```

Figure 14: Example of a Textual MP7QL Query

5.2.2. Free Text Query Support

We describe in this paragraph how the MP7QL supports free text queries, as is requested by the MP7QF.

The free text queries contain the specification of keywords and/or keyword phrases that may occur in any textual element or attribute of an MPEG-7 description. This type of queries is supported in the MP7QL by the *Keyword* element of the *creationPreferences*, where the users specify the keywords and/or keyword phrases they want to search for.

As an example, in the query of Figure 15 the user states that she wants the video segments that contain the keywords “goal”, “penalty” and the keyword phrase “red card” in any of their textual elements.

```

<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001_BooleanMP7QF.xsd"
xsi:type="BooleanMpeg7QueryType">
  <From>
    <Item>VideoType</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="BooleanContextQuerySpecificationType" ANDOROperator="AND">
      <CreationPreferences ANDOROperator="AND">
        <Keyword>goal</Keyword>
        <Keyword>penalty</Keyword>
        <Keyword>red card</Keyword>
      </CreationPreferences>
    </QuerySpecification>
  </Where>
</Mpeg7Query>

```

Figure 15: Example of a Free Text MP7QL Query

5.2.3. “Query By Example” Support

We state in this paragraph that the MP7QL supports “query-by-example”, as is requested by the MP7QF. The queries that belong to this type take as input a multimedia object and search for similar multimedia objects.

This feature is supported through the *MediaURI* element of the media locator of the *Where* element of the MP7QL queries, where the user may specify the URI of the multimedia object that will be used as an example.

As an example, consider the query of Figure 16, where the user states that he wants the images that are similar to the image available at <http://www.music.tuc.gr/photos/p1.jpg>.

```

<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <From>
    <Item>ImageType</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="WeighedContextQuerySpecificationType">
      <MediaLocator preferenceValue="100">
        <MediaUri>http://www.music.tuc.gr/photos/p1.jpg</MediaUri>
      </MediaLocator>
    </QuerySpecification>
  </Where>
</Mpeg7Query>

```

Figure 16: MP7QL “Query By Example”

5.2.4. “Query By Segment Example” Support

We describe in this paragraph how the MP7QL supports “query-by-segment example”, as is requested by the MP7QF. The queries that belong to this type take as input a multimedia object segment and search for multimedia objects similar to the segment.

This feature is supported through the *DescriptionRef* element of the *Where* element of the MP7QL queries, which allows giving MPEG-7 descriptions as query examples. This way, the segment descriptions can be used as query examples.

As an example, consider the query of Figure 17, where the user states that he wants the images that are similar to the image segment described in the description available at <http://www.music.tuc.gr/descriptions/D1.xml>.

```

<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <From>
    <Item>ImageType</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="WeighedContextQuerySpecificationType">
      <DescriptionRef href="http://www.music.tuc.gr/descriptions/D1.xml"
preferenceValue="100"/>
    </QuerySpecification>
  </Where>
</Mpeg7Query>

```

Figure 17: MP7QL “Query By Segment Example”

5.2.5. “Query By Mixed Example” Support

We present in this paragraph how the MP7QL supports “query-by-mixed example”, as is requested by the MP7QF. The queries that belong to this type take as input several multimedia objects (even of different types) and search for multimedia objects similar to them.

This feature is supported by the capability of defining multiple instances of the *MediaURI* element of the media locator in the *Where* element of the MP7QL queries.

As an example, consider the query of Figure 18, where the user states that he wants the audiovisual segments that are similar to the image available at <http://www.music.tuc.gr/photos/p1.jpg> and the audio segment available at <http://www.music.tuc.gr/sounds/s1.jpg>.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <From>
    <Item>AudioVisualType</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="WeighedContextQuerySpecificationType">
      <MediaLocator preferenceValue="100">
        <MediaUri>http://www.music.tuc.gr/photos/p1.jpg</MediaUri>
      </MediaLocator>
      <MediaLocator preferenceValue="90">
        <MediaUri>http://www.music.tuc.gr/sounds/s1.jpg</MediaUri>
      </MediaLocator>
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

Figure 18: MP7QL “Query By Mixed Example”

5.2.6. “Query By ID” Support

We state in this paragraph that the MP7QL supports “query-by-ID” as is requested by the MP7QF. The queries that belong to this type take as input the unique identifier of a multimedia object and return its MPEG-7 description.

This feature is supported through the *EntityIdentifier* element of the media identification of the *Where* element of the MP7QL queries, which allows specifying the unique identifier of the multimedia object.

As an example, consider the query of Figure 19, where the user states that he wants the multimedia object with id <http://www.music.tuc.gr/photos/p1.jpg>.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 BooleanMP7QF.xsd"
xsi:type="BooleanMpeg7QueryType">
  <Where>
    <QuerySpecification xsi:type="BooleanContextQuerySpecificationType">
      <MediaIdentification>
        <EntityIdentifier
type="URI">http://www.music.tuc.gr/photos/p1.jpg</EntityIdentifier>
      </MediaIdentification>
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

Figure 19: MP7QL “Query By ID”

5.2.7. “Query by MPEG-7 Description” Support

We describe in this paragraph how the MP7QL supports empty “query-by-MPEG-7 description”, as is requested by the MP7QF. The queries that belong to this type take as input an MPEG-7 description and search for similar MPEG-7 descriptions.

This feature is supported through the *DescriptionRef* element of the *Where* element of the MP7QL queries, which allows referencing the MPEG-7 descriptions that should be used as query examples.

As an example, consider the query of Figure 20, where the user states that he wants the images that have descriptions similar to the descriptions available at <http://www.music.tuc.gr/descriptions/D1.xml> and <http://www.music.tuc.gr/descriptions/D2.xml>.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <From>
    <Item>ImageType</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="WeighedContextQuerySpecificationType">
      <DescriptionRef href="http://www.music.tuc.gr/descriptions/D1.xml"
preferenceValue="100"/>
      <DescriptionRef href="http://www.music.tuc.gr/descriptions/D2.xml"
preferenceValue="90"/>
    </QuerySpecification>
  </Where>
</Mpeg7Query>
```

Figure 20:MP7QL “Query by MPEG-7 Description”

5.2.8. Support for Queries based on the User Preferences and/or the Usage History

We present in this paragraph how the MP7QL supports queries based on the user preferences and/or the usage history, as is requested by the MP7QF.

The MP7QL allows including the user FASPs in the MP7QL queries, as is shown in the example of the query of Figure 13.

In addition, the MP7QL allows including references to the user filtering and search preferences and the usage history, which can be used as query context in the MP7QL queries. As an example, in the query of Figure 21 the user’s filtering and search preferences (with preference value 100) and the usage history (with preference value 50) are used in an MP7QL query, which will return to the user the recommended material.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <Select>
    <Item>
      Mpeg7/Description/MultimediaContent/Image/CreationInformation/Creation/Title
    </Item>
    <Item>
      Mpeg7/Description/MultimediaContent/Image/MediaLocator/MediaUri
    </Item>
  </Select>
  <From>
    <Item>ImageType</Item>
  </From>
  <Where>
    <QuerySpecification xsi:type="WeighedContextQuerySpecificationType">
```

```

    <FilteringAndSearchPreferencesRef preferenceValue="100"
href="http://www.music.tuc.gr/UPs/chrisa.xml"/>
    <UsageHistoryRef preferenceValue="50"
href="http://www.music.tuc.gr/UH/chrisa.xml"/>
    </QuerySpecification>
  </Where>
</Mpeg7Query>

```

Figure 21: MP7QL Query that uses the User's FASP and Usage History

5.2.9. Combination of Query Conditions

We state in this paragraph that the MP7QL allows the combination of several query conditions, as is requested by the MP7QF.

The MP7QL supports this feature through the provision of several query elements that can be used in the same query and allow the specification of conditions on different aspects of the multimedia descriptions. As an example, consider the query of Figure 14, where conditions on the creator, the title and the textual annotation of the images are expressed.

In addition, the availability of boolean operators and preference values allows the combination of the different conditions according to the user's intentions. The string and number comparison operators further enhance the accuracy of the conditions specified in the MP7QL queries.

5.2.10. Empty Queries

We describe in this paragraph how the MP7QL supports empty queries, as is requested by the MP7QF. The MP7QL supports empty queries, as all the MP7QL query elements are optional. An empty query results in receiving an MPEG-7 mixed collection that contains references to all the MPEG-7 descriptions that are stored in the MPEG-7 repository being queried.

5.2.11. Use of Personal Information during Query Execution

We state in this paragraph that the MP7QL allows to signal the server/service provider whether to use or not to use the personal information for the execution of a query, as is requested by the MP7QF.

The user information is made available in the MP7QL queries only if the user includes or references it in the queries. This way, the user explicitly states if he wishes his personal information to be used during query execution.

In addition, the users may state in the *PreferenceConditions* element of their FASPs under which condition the FASP should be taken into account. This way, the conditions (in terms of location and time) are always checked before the filtering and search preferences of the users are utilized during the query execution.

5.2.12. Support for Queries based on Spatiotemporal Relationships

We present in this paragraph how the MP7QL supports queries based on spatiotemporal relationships, as is requested by the MP7QF. This feature is provided through the support of the spatial and the temporal relationships provided by the MPEG-7.

As an example, consider the query of Figure 22, where the user asks for images that contain a table with a vase over it.

```

<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 BooleanMP7QF.xsd"
xsi:type="BooleanMpeg7QueryType">
  <Where>
    <QuerySpecification xsi:type="BooleanContextQuerySpecificationType">
      <Semantic ANDOROperator="AND">
        <SemanticBase xsi:type="BooleanObjectType" ANDOROperator="AND">
          <Relation ANDOROperator="AND" target="objects#Vase"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies" />
          <Relation ANDOROperator="AND"
type="urn:mpeg:mpeg7:cs:SpatialRelationCS:2001:over" target="$table"/>
        </SemanticBase>
        <SemanticBase xsi:type="BooleanObjectType" id="$table">
          <Relation ANDOROperator="AND" target="objects#Table"
type="urn:mpeg:mpeg7:cs:SemanticRelationCS:2001:exemplifies"/>
        </SemanticBase>
      </Semantic>
    </QuerySpecification>
  </Where></Mpeg7Query>

```

Figure 22: MP7QL Query with Spatial Relationships

5.2.13. Specification of the Information contained in the Result Set

We state in this paragraph that the MP7QL allows the specification of the information contained in the result set, as is requested by the MP7QF. The MP7QL supports this feature through the specification of the *Select* element of the MP7QL queries, where the users specify which part of the MPEG-7 descriptions should be present in the query results. As an example, in the query of Figure 3 the user states that the query results should contain the titles of the image descriptions, the labels of the semantic parts of the descriptions and the URIs of the images.

5.2.14. Specification of the Media Formats/Types of the Result Set

We present in this paragraph how the MP7QL allows the specification of the media format and type of the multimedia objects contained in the result set.

The media type is specified in the *From* element of the MP7QL queries, where the users specify the media type of the multimedia objects they are looking for. As an example, in the query of Figure 23 the user states that the query results should be image descriptions.

The media format is specified in the *MediaFormat* element of the source preferences of the *Where* element of the MP7QL queries, where the users specify the media format of the multimedia objects they are looking for. As an example, in the query of Figure 23 the user states that the query should be sent to the service provider described in “http://www.serviceprovider.com/SP1.xml”, the query results should be available in 120 seconds at most, the results items should be about images either in JPEG format (with preference value 100) or in GIFF format (with preference value 70) and should be grouped based on their media format.

```

<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 WMP7QF.xsd"
xsi:type="WeighedMpeg7QueryType">
  <Select timeLimit="120">
    <Item>

```

```

    Mpeg7/Description/MultimediaContent/Image/CreationInformation/Creation/Title
  </Item>
  <Item>
    Mpeg7/Description/MultimediaContent/Image/UsageInformation/Availability/
Dissemination/Format/Name
  </Item>
  <Item>
    Mpeg7/Description/MultimediaContent/Image/MediaLocator/MediaUri
  </Item>
</Select>
<From>
  <Item>ImageType</Item>
</From>
<GroupBy>
  Mpeg7/Description/MultimediaContent/Image/UsageInformation/Availability/
Dissemination/Format/Name
</GroupBy>
<Where>
  <QuerySpecification xsi:type="WeighedContextQuerySpecification">
    <SourcePreferences>
      <MediaFormat>
        <FileFormat>
          <Name preferenceValue="100">JPEG</Name>
          <Name preferenceValue="70">GIF</Name>
        </FileFormat>
      </MediaFormat>
      <Disseminator>
        <AgentRef href="http://www.serviceprovider.com/SP1.xml"/>
      </Disseminator>
    </SourcePreferences>
  </QuerySpecification>
</Where>
</Mpeg7Query>

```

Figure 23: Example MP7QL Query with Media Format and Media Type Specification

5.2.15. Sorting and Grouping Parameters for the Result Set

We describe in this paragraph how the MP7QL allows the specification of the sorting and grouping parameters for the result set.

Sorting of the query results is supported in the *OrderBy* element of the MP7QL queries, where the users may specify the criteria for ordering the query results. As an example, in the query of Figure 3 the user states that the ordering of the query results will be ascending, based on the titles of the descriptions.

Grouping of the query results is supported in the *GroupBy* element of the MP7QL queries, where the users may specify the criterion for grouping the query results. As an example, in the query of Figure 23 the user states that the query results should be grouped according to the media format.

5.2.16. Specification of the Display Format of the Result Set

We show in this paragraph how the MP7QL supports the specification of the structure of the display format of the result set. The MP7QL allows the users to specify the result set structure by providing: (a) A display format structure in the *format* attribute of the *Select* element of the MP7QL queries; and (b) The rules for transforming the MP7QL output format in the display format, in the *transformationRules* attribute of the *Select* element of the MP7QL queries.

As an example, in the query of Figure 24 the user states that he wants to receive all the images, and the query results should be presented as XML documents that are valid according to the XML Schema “./myFormat.xsd”. The transformation of the query results from the standard MP7QL form to the desired format will be done according to the XSL transformation rules found in “./myRules.xsl”.

```
<Mpeg7Query xmlns="urn:mpeg:mp7q:schema:2001"
xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mp7q:schema:2001 MP7QF.xsd"
xsi:type="BooleanMpeg7QueryType">
  <Select format="./myFormat.xsd" transformationRules="./myRules.xsl"></Select>
  <From>
    <Item>ImageType</Item>
  </From>
</Mpeg7Query>
```

Figure 24: Example Query with Result Set Structure Specification

5.2.17. Limiting the Size of the Result Set

We state in this paragraph that the MP7QL supports limiting the size of the result set, as is requested by the MP7QF. This is supported through the *maxItems* attribute of the *Select* element of the MP7QL queries, where the users may specify the maximum number of the query result items they wish to receive. As an example, in the query of Figure 14 the user states that he should receive at most 60 items.

5.2.18. Paging the Result Set

We show in this paragraph how the MP7QL supports paging the result set. This is supported through the *page* attribute of the *Select* element of the MP7QL queries, where the users may specify which of the result pages should be returned first to them. As an example, in the query of Figure 14 the user states that the second page of the query results should be the first delivered to him.

5.3. Requirements for the Query Output Format

We show in this subsection how the MP7QL satisfies the query output format requirements of the MP7QF. In particular, in paragraph 5.3.1 we describe the MP7QL structure of the response containing the result set and in paragraph 5.3.2 we present the default response for the result set.

5.3.1. Structure of the Response containing the Result Set

We state in this paragraph that the MP7QL satisfies the MP7QF requirement for the specification of the structure of the response that contains the result set. This is done in the specification of the output query format, which has been presented in section 3.

5.3.2. Default Response for the Result Set

We show in this paragraph that the MP7QL specifies a default query format, which will be used when the users make no selections for the way the result set should be structured. This default format has the form of a standard MPEG-7 mixed collection that contains references to the MPEG-7 descriptions of the query results. As an example, if the user did not specify how the results of the query of Figure 3 should be structured and the query engine had not returned rank values, the result set should have the form of Figure 25.

```

<Mpeg7 xmlns="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mpeg7:schema:2001 Mpeg7-2001.xsd">
  <Description xsi:type="ContentEntityType">
    <MultimediaContent xsi:type="MultimediaCollectionType">
      <Collection xsi:type="MixedCollectionType">
        <CreationInformation>
          <Creation>
            <Title>Query Results</Title>
            <Abstract>
              <FreeTextAnnotation>
                Automatically created mixed collection, that contains MP7QL query re-
                sults.
              </FreeTextAnnotation>
            </Abstract>
          </Creation>
        </CreationInformation>
        <MixedCollection xsi:type="MixedCollectionType">
          <ContentRef href="http://elikonas.ced.tuc.gr/Desc/Barcelona05.xml"/>
        </MixedCollection>
        <MixedCollection xsi:type="MixedCollectionType">
          <ContentRef href="http://elikonas.ced.tuc.gr/Desc/Barcelona06.xml"/>
        </MixedCollection>
      </Collection>
    </MultimediaContent>
  </Description>
</Mpeg7>

```

Figure 25: The results of the Query of Figure 3 if there was no rank value and no specification of the information about the Result Set Items

5.4. Requirements on Query Management Tools

We show in this subsection how the MP7QL satisfies the MP7QF requirements for managing the sequence of related search processes. In particular, in paragraph 5.4.1 we discuss the specification of the exceptions, in paragraph 5.4.2 we present the service selection capabilities of the MP7QF, in paragraph 5.4.3 we describe the relevance feedback support provided by the MP7QF, in paragraph 5.4.4 we show the capabilities for searching within a result set, in paragraph 5.4.5 we present the description of the querying server capabilities and in paragraph 5.4.6 we describe the specification of a time limit to the query response.

5.4.1. Specification of the Exceptions

We show in this paragraph how the MP7QL supports the specification of the exceptions that may occur during query execution. In this case, the result returned is an empty MPEG-7 collection, which has “Exception” as title and the description of the exception as abstract. As an example, if an “Invalid query” exception occurs, the query result will be the MPEG-7 collection shown in Figure 26.

```

<Mpeg7 xmlns="urn:mpeg:mpeg7:schema:2001"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="urn:mpeg:mpeg7:schema:2001 Mpeg7-2001.xsd">
  <Description xsi:type="ContentEntityType">
    <MultimediaContent xsi:type="MultimediaCollectionType">
      <Collection xsi:type="MixedCollectionType">
        <CreationInformation>
          <Creation>
            <Title>Exception</Title>
            <Abstract>

```

```
<FreeTextAnnotation>Invalid query</FreeTextAnnotation>
</Abstract>
</Creation>
</CreationInformation>
</Collection>
</MultimediaContent>
</Description>
</Mpeg7>
```

Figure 26: Specification if the “Invalid query” Exception

5.4.2. Server/Service Provider Selection

We show in this paragraph how the MP7QL satisfies the MP7QF requirement for server and service provider selection. This is specified in the *Disseminator* element of the source preferences of the *Where* element of the MP7QL queries, where the users specify which should be the server/service provider to which the query should be sent.

As an example, in the query of Figure 23 the user states that the query should be sent to the service provider described in “http://www.serviceprovider.com/SP1.xml”.

5.4.3. Relevance Feedback Support

We describe in this paragraph how the MP7QL satisfies the MP7QF requirement for relevance feedback support. This feature is supported through the capability to define MP7QL queries that use existing MPEG-7 descriptions as examples (see paragraph 5.2.7 for details). Thus, the users may select the query results they prefer and form a new query with these descriptions. They may also assign preference values to the descriptions, in order to distinguish the result items that satisfy them more.

5.4.4. Support for Searching within a Result Set

We state in this paragraph that the MP7QL satisfies the MP7QF requirement for supporting searches within the query result sets. The MP7QL satisfies this requirement, as a query result set formed according to the MP7QL query output format is an MPEG-7 description and can be stored and recursively queried.

5.4.5. Querying Server Capabilities

We discuss in this paragraph the support that will be provided by the MP7QL for querying the capabilities of the servers/service providers. This feature is not currently supported by the MP7QL, but it will be supported in the near future. In particular, we are working on a profiling mechanism analogous to the MPEG-7 profiles [15], which will allow the formal specification of the part of the MP7QL that is supported by the different servers/service providers.

We foresee that different profiles should be defined for query servers that support: (a) Free text queries; (b) Textual queries; (c) Low-level feature based queries; (d) Query-by-Example; (e) MPEG-7 FASP and usage history based queries; (f) Media related queries; and (g) Semantic queries.

5.4.6. Provision of Time Limit to the Query Response

We state in this paragraph that the MP7QL satisfies the MP7QF requirement for the specification of a time limit, until which the server or the service provider should have provided the query response.

This feature is supported through the *timeLimit* attribute of the *Select* element of the MP7QL queries, where the users may specify the time limit for receiving the query results. As an example, in the query of Figure 23 the user states that the query results should be available in 120 seconds at most.

6. CONCLUSIONS

We have proposed here the MPEG-7 Query Language (MP7QL), a powerful query language that we have been developing for querying MPEG-7 descriptions, in response to the ISO/IEC JTC1/SC29/WG11 N8220 Call for Proposals on MPEG-7 Query Format (MP7QF). The MP7QL allows for querying every aspect of an MPEG-7 multimedia content description. It allows the users to express the conditions that should hold for the multimedia content returned to them regarding semantics, low-level visual features and media-related aspects.

The MP7QL queries may utilize the user FASPs and the usage history as context, thus allowing for personalized multimedia content retrieval. The filtering and search preference model supported is compatible with the MP7QL and has the model of the standard MPEG-7 FASPs as a special case. The proposed FASPs essentially are MP7QL queries.

Both the MP7QL and its compatible FASP model allow for the exploitation of domain knowledge encoded using pure MPEG-7 constructs. In addition, they allow the explicit specification of boolean operators and/or preference values in order to allow the combination of the query conditions according to the user intentions and the importance of the individual conditions for the users.

The MP7QL also specifies the format and the structure of the output of the MP7QL queries, which forms MPEG-7 collections. This way, the language has the closure property that allows the results of the query language expressions to be able to be stored as new MPEG-7 descriptions, and to be reused by the query language in a recursive manner.

The MP7QL has been expressed using XML Schema syntax. The MP7QL is being implemented, on top of an XML native database accessed using XQuery in a service oriented environment.

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8. APPENDIX A – EXPRESSION OF MP7QL USING XML SCHEMA SYNTAX

We present here the syntax of the MP7QL query language. The MP7QL syntax is split in four parts. The first part is provided in section 8.1, where the generic constructs of the MP7QL are defined and the structure of the MP7QL queries is specified. The second part is provided in section 8.2, where the MP7QL constructs for the representation of query specifications with explicit preference values are defined. The third part is provided in section 8.3, where the MP7QL constructs for the representation of query specifications with explicit boolean operators are defined. The fourth part is provided in section 8.4 where the MP7QL constructs for the representation of query specifications with explicit boolean operators and preference values are defined.

8.1. General MP7QL Constructs

```
<?xml version="1.0" encoding="iso-8859-1"?>
<!-- *****
XML Schema for Boolean Queries for MPEG-7
Copyright Chrisa Tsinaraki TUC/MUSIC
***** -->
<schema targetNamespace="urn:mpeg:mp7q:schema:2001"
xmlns:mp7q="urn:mpeg:mp7q:schema:2001" xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attribute-
FormDefault="unqualified">
  <annotation>
    <documentation>
      XML Schema for Boolean Queries for MPEG-7
    </documentation>
  </annotation>
  <!-- import xml components -->
  <import namespace="http://www.w3.org/XML/1998/namespace" schemaLocation="xml-
1998.xsd"/>
  <!-- ##### -->
  <!-- Definition of the necessary MPEG-7 DDL Types
      -->
  <!-- ##### -->
  <!-- ##### -->
  <!-- Definition of 'mpeg7:dim" for Matrix Datatype -->
  <!-- ##### -->
  <!-- definition of listOfPositiveIntegerForDim datatype -->
  <simpleType name="listOfPositiveIntegerForDim">
    <list itemType="positiveInteger"/>
  </simpleType>
  <!-- definition of mpeg7:dim attribute -->
  <attribute name="dim">
    <simpleType>
      <restriction base="mp7q:listOfPositiveIntegerForDim">
        <minLength value="1"/>
      </restriction>
    </simpleType>
  </attribute>
  <!-- ##### -->
  <!-- Definition of MPEG-7 Datatype Extensions -->
  <!-- ##### -->
  <!-- definition of basicTimePoint dataype -->
  <simpleType name="basicTimePointType">
    <restriction base="string">
```

```

    <pattern value="\-?(\d+(\-\d{2})(\-\d{2})?)?(T\d{2}(:\d{2}(:\d{2}(:\d+(\.\d{2})?)?)?)?(F\d+)?((\-\|+)\d{2}:\d{2}Z)?)?"/>
  </restriction>
</simpleType>
<!-- definition of basicDuration datatype -->
<simpleType name="basicDurationType">
  <restriction base="string">
    <pattern value="\-?P(\d+D)?(T(\d+H)?(\d+M)?(\d+S)?(\d+N)?(\d{2}f)?)?(\d+F)?((\-\|+)\d{2}:\d{2}Z)?" />
  </restriction>
</simpleType>
<!-- ##### -->
<!-- Definition of the necessary MPEG-7 MDS Types -->
<!-- ##### -->
<!-- Definition of MPEG-7 base type -->
<complexType name="Mpeg7BaseType" abstract="true">
  <complexContent>
    <restriction base="anyType"/>
  </complexContent>
</complexType>
<!-- Definition of generic D -->
<complexType name="DType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7BaseType"/>
  </complexContent>
</complexType>
<!-- Definition of generic DS -->
<complexType name="DSType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7BaseType">
      <sequence>
        <element name="Header" type="mp7q:HeaderType" minOccurs="0" maxOccurs="unbounded"/>
      </sequence>
      <attribute name="id" type="ID" use="optional"/>
      <attributeGroup ref="mp7q:timePropertyGrp"/>
      <attributeGroup ref="mp7q:mediaTimePropertyGrp"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of Header datatype -->
<complexType name="HeaderType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7BaseType">
      <attribute name="id" type="ID" use="optional"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of unsigned32 datatype -->
<simpleType name="unsigned32">
  <restriction base="nonNegativeInteger">
    <minInclusive value="0"/>
    <maxInclusive value="4294967295"/>
  </restriction>
</simpleType>
<!-- Definition of timePropertyGrp attribute group -->
<attributeGroup name="timePropertyGrp">
  <attribute name="timeBase" type="mp7q:xPathRefType" use="optional"/>
  <attribute name="timeUnit" type="mp7q:durationType" use="optional"/>
</attributeGroup>
<!-- Definition of mediaTimePropertyGrp attribute group -->

```

```

<attributeGroup name="mediaTimePropertyGrp">
  <attribute name="mediaTimeBase" type="mp7q:xPathRefType" use="optional"/>
  <attribute name="mediaTimeUnit" type="mp7q:mediaDurationType" use="optional"/>
</attributeGroup>
<!-- Definition of referenceGrp attribute group -->
<attributeGroup name="referenceGrp">
  <attribute name="idref" type="IDREF" use="optional"/>
  <attribute name="xpath" type="mp7q:xPathRefType" use="optional"/>
  <attribute name="href" type="anyURI" use="optional"/>
</attributeGroup>
<!-- Definition of nonNegativeReal datatype -->
<simpleType name="nonNegativeReal">
  <restriction base="double">
    <minInclusive value="0.0"/>
  </restriction>
</simpleType>
<!-- Definition of zeroToOne datatype -->
<simpleType name="zeroToOneType">
  <restriction base="float">
    <minInclusive value="0.0"/>
    <maxInclusive value="1.0"/>
  </restriction>
</simpleType>
<!-- Definition of XPath datatype -->
<simpleType name="XPathType">
  <restriction base="token"/>
</simpleType>
<!-- Definition of XPathRef datatype -->
<simpleType name="XPathRefType">
  <restriction base="mp7q:XPathType">
    <pattern
value="/?(((child:)?((\i\c*:\i\c*)?(\i\c*) (\[\d+\])?)|\.\.|\.\.)))*(((child:)?((\i\c*:\i\c*)?(\i\c*) (\[\d+\])?)|\.\.))|((attribute:|@)((\i\c*:\i\c*)?(\i\c*|*)))/>
  </restriction>
</simpleType>
<!-- Definition of termReference datatype -->
<simpleType name="termReferenceType">
  <union>
    <simpleType>
      <restriction base="NMTOKEN">
        <whiteSpace value="collapse"/>
        <pattern value=":[^:]+:[^:]+"/>
      </restriction>
    </simpleType>
    <simpleType>
      <restriction base="anyURI"/>
    </simpleType>
  </union>
</simpleType>
<!-- Definition of termRelationQualifier datatype -->
<simpleType name="termRelationQualifierType">
  <union>
    <simpleType>
      <restriction base="NMTOKEN">
        <enumeration value="NT"/>
        <enumeration value="BT"/>
        <enumeration value="RT"/>
        <enumeration value="US"/>
        <enumeration value="UF"/>
      </restriction>
    </simpleType>
    <simpleType>
      <restriction base="mp7q:termReferenceType"/>
    </simpleType>
  </union>

```



```

    </simpleType>
  </union>
</simpleType>
<!-- Definition of dependencyOperator datatype -->
<simpleType name="dependencyOperatorType">
  <restriction base="NMTOKEN">
    <enumeration value="subject"/>
    <enumeration value="object"/>
    <enumeration value="indirectObject"/>
    <enumeration value="predicate"/>
    <enumeration value="expletive"/>
    <enumeration value="nonRestrictive"/>
  </restriction>
</simpleType>
<!-- Definition of timePoint datatype -->
<simpleType name="timePointType">
  <restriction base="mp7q:basicTimePointType">
    <pattern value="(\\-?\\d+(\\-\\d{2})(\\-\\d{2})?)?(T\\d{2}(:\\d{2}(:\\d{2}(:\\d+)?))?)?(F\\d+)?((\\-|\\+)?\\d{2}:\\d{2})?" />
  </restriction>
</simpleType>
<!-- Definition of timeOffsetType datatype -->
<simpleType name="timeOffsetType">
  <restriction base="mp7q:basicDurationType">
    <pattern value="\\-?P(\\d+D)?(T(\\d+H)?(\\d+M)?(\\d+S)?(\\d+N)?)(\\d+F)?((\\-|\\+)?\\d{2}:\\d{2}Z)?" />
  </restriction>
</simpleType>
<!-- Definition of mediaTimePoint datatype -->
<simpleType name="mediaTimePointType">
  <restriction base="mp7q:basicTimePointType">
    <pattern value="(\\-?\\d+(\\-\\d{2})(\\-\\d{2})?)?(T\\d{2}(:\\d{2}(:\\d{2}(:\\d+)?))?)?(F\\d+)" />
  </restriction>
</simpleType>
<!-- Definition of mediaTimeOffset datatype -->
<simpleType name="mediaTimeOffsetType">
  <restriction base="mp7q:basicDurationType">
    <pattern value="\\-?P(\\d+D)?(T(\\d+H)?(\\d+M)?(\\d+S)?(\\d+N)?)(\\d+F)" />
  </restriction>
</simpleType>
<!-- Definition of duration datatype -->
<simpleType name="durationType">
  <restriction base="mp7q:basicDurationType">
    <pattern value="\\-?P(\\d+D)?(T(\\d+H)?(\\d+M)?(\\d+S)?(\\d+N)?)(\\d+F)?((\\-|\\+)?\\d{2}:\\d{2}Z)?" />
  </restriction>
</simpleType>
<!-- Definition of mediaDuration datatype -->
<simpleType name="mediaDurationType">
  <restriction base="mp7q:basicDurationType">
    <pattern value="\\-?P(\\d+D)?(T(\\d+H)?(\\d+M)?(\\d+S)?(\\d+N)?)(\\d+F)" />
  </restriction>
</simpleType>
<!-- Definition of mimeType datatype -->
<simpleType name="mimeType">
  <restriction base="string">
    <whiteSpace value="collapse"/>
    <pattern value=' [&#x21;-&#x7f;-[\\(\\)&lt;&gt;@,;:\\\\"/\\[\\]\\?]=]+/[&#x21;-&#x7f;-[\\(\\)&lt;&gt;@,;:\\\\"/\\[\\]\\?]=]+' />
  </restriction>
</simpleType>
<!-- Definition of userChoice datatype -->

```

```

<simpleType name="userChoiceType">
  <restriction base="NMTOKEN">
    <enumeration value="true"/>
    <enumeration value="false"/>
    <enumeration value="user"/>
  </restriction>
</simpleType>
<!-- Definition of countryCode datatype -->
<simpleType name="countryCode">
  <restriction base="string">
    <whiteSpace value="collapse"/>
    <pattern value="[a-zA-Z]{2}"/>
  </restriction>
</simpleType>
<!-- Definition of regionCode datatype -->
<simpleType name="regionCode">
  <restriction base="string">
    <whiteSpace value="collapse"/>
    <pattern value="[a-zA-Z]{2}(-[a-zA-Z0-9]{1,3})?"/>
  </restriction>
</simpleType>
<!-- Definition of currencyCode datatype -->
<simpleType name="currencyCode">
  <restriction base="string">
    <whiteSpace value="collapse"/>
    <pattern value="[a-zA-Z]{3}"/>
  </restriction>
</simpleType>
<!-- Definition of auxiliaryLanguage datatype -->
<simpleType name="auxiliaryLanguageType">
  <union>
    <simpleType>
      <restriction base="NMTOKEN">
        <enumeration value="dubbed"/>
        <enumeration value="closedCaptions"/>
        <enumeration value="subTitles"/>
        <enumeration value="signLanguage"/>
        <enumeration value="audioDescription"/>
      </restriction>
    </simpleType>
    <simpleType>
      <restriction base="mp7q:termReferenceType"/>
    </simpleType>
  </union>
</simpleType>
<!-- Definition of WordForm datatype -->
<complexType name="WordFormType">
  <complexContent>
    <extension base="string">
      <attribute name="terms" use="optional">
        <simpleType>
          <list itemType="mp7q:termReferenceType"/>
        </simpleType>
      </attribute>
      <attribute name="id" type="ID" use="optional"/>
      <attribute name="equal" type="IDREF" use="optional"/>
      <attribute name="type" use="optional">
        <simpleType>
          <list>
            <simpleType>
              <union>
                <simpleType>
                  <restriction base="NMTOKEN">

```

```

        <enumeration value="noun"/>
        <enumeration value="pronoun"/>
        <enumeration value="adjective"/>
        <enumeration value="verb"/>
        <enumeration value="adverb"/>
        <enumeration value="conjunction"/>
        <enumeration value="preposition"/>
        <enumeration value="postposition"/>
        <enumeration value="article"/>
        <enumeration value="interjection"/>
    </restriction>
</simpleType>
<simpleType>
    <restriction base="mp7q:termReferenceType"/>
</simpleType>
</union>
</simpleType>
</list>
</simpleType>
</attribute>
<attribute name="baseForm" type="string" use="optional"/>
</extension>
</simpleContent>
</complexType>
<!-- Definition of integerVector datatype -->
<simpleType name="integerVector">
    <list itemType="integer"/>
</simpleType>
<!-- Definition of floatVector datatype -->
<simpleType name="floatVector">
    <list itemType="float"/>
</simpleType>
<!-- ##### -->
<!-- Definition of the necessary MPEG-7 Audio Types -->
-->
<!-- ##### -->
<!-- Definition of Phone datatype -->
<simpleType name="PhoneType">
    <restriction base="string"/>
</simpleType>
<!-- Definition of phoneticAlphabet datatype -->
<simpleType name="phoneticAlphabetType">
    <restriction base="NMTOKEN">
        <enumeration value="sampa"/>
        <enumeration value="ipaSymbol"/>
        <enumeration value="ipaNumber"/>
        <enumeration value="other"/>
    </restriction>
</simpleType>
<!-- ##### -->
<!-- Definition of the Types supporting MPEG-7 Queries -->
-->
<!-- ##### -->
<!-- Definition of MPEG-7 base type -->
<complexType name="Mpeg7QBaseType" abstract="true">
    <complexContent>
        <restriction base="anyType"/>
    </complexContent>
</complexType>
<!-- Definition of Mpeg7Query Type-->
<complexType name="Mpeg7QueryType" abstract="true">
    <sequence>
        <element name="Select" type="mp7q:SelectType" minOccurs="0"/>

```

```

    <element name="From" type="mp7q:FromType" minOccurs="0"/>
    <!-- the Where part is specified separately, depending on the query specification -->
    <element name="OrderBy" type="mp7q:OrderByType" minOccurs="0"/>
    <element name="GroupBy" type="anyURI" minOccurs="0"/>
  </sequence>
  <attribute ref="xml:lang" use="optional"/>
  <attribute name="allowAutomaticUpdate" type="mp7q:userChoiceType" use="optional" default="false"/>
</complexType>
<!-- Definition of Mpeg7Query Element -->
<element name="Mpeg7Query" type="mp7q:Mpeg7QueryType"/>
<!-- Definition of SelectType DS -->
<complexType name="SelectType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Item" type="anyURI"/>
  </choice>
  <attribute name="format" type="anyURI" default="./Mpeg7-2001.xsd"/>
  <attribute name="transformationRules" type="anyURI" use="optional"/>
  <attribute name="maxItems" type="string" default="unbounded"/>
  <attribute name="numOfPageItems" type="nonNegativeInteger" default="10"/>
  <attribute name="page" type="positiveInteger" default="1"/>
  <attribute name="timeLimit" type="positiveInteger" default="300"/>
</complexType>
<!-- Definition of OrderBy DS -->
<complexType name="OrderByType">
  <choice maxOccurs="unbounded">
    <element name="OrderCriterion" type="mp7q:OrderCriterionType"/>
  </choice>
</complexType>
<!-- Definition of OrderCriterion DS -->
<complexType name="OrderCriterionType">
  <choice>
    <element name="Item" type="anyURI"/>
  </choice>
  <attribute name="priority" type="integer" default="0"/>
  <attribute name="order" type="mp7q:orderType" default="ascending"/>
</complexType>
<!-- Definition of FromType DS -->
<complexType name="FromType">
  <choice maxOccurs="unbounded">
    <element name="Item" type="mp7q:fromType" default="AllMultimediaDescriptions"/>
  </choice>
</complexType>
<!-- Definition of MPEG7QuerySpecification DS -->
<complexType name="MPEG7QuerySpecificationType" abstract="true">
  <complexContent>
    <extension base="mp7q:DSType">
      <attribute name="protected" type="mp7q:userChoiceType" use="optional" default="true"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of orderType, which denotes the type of the collection that will be used for the representation of the query results -->
<simpleType name="orderType">
  <restriction base="NMTOKEN">
    <enumeration value="ascending"/>
    <enumeration value="descending"/>
  </restriction>
</simpleType>

```

```

<!-- Definition of fromType, which denotes among which items the current query
should be posed -->
<simpleType name="fromType">
  <restriction base="NMTOKEN">
    <enumeration value="Ontology"/>
    <enumeration value="SemanticEntityDefinition"/>
    <enumeration value="AllMultimediaDescriptions"/>
    <enumeration value="ImageType"/>
    <enumeration value="VideoType"/>
    <enumeration value="AudioType"/>
    <enumeration value="AudioVisualType"/>
    <enumeration value="MultimediaType"/>
    <enumeration value="MultimediaCollectionType"/>
    <enumeration value="SignalType"/>
    <enumeration value="InkContentType"/>
    <enumeration value="AnalyticEditedVideoType"/>
  </restriction>
</simpleType>
<!-- ##### -->
<!-- Definition of Conditional Datatypes -->
<!-- ##### -->
<!-- Definition of numberComparisonOperatorType, which represents the comparison
operator applied to a number value -->
<simpleType name="numberComparisonOperatorType">
  <restriction base="NMTOKEN">
    <enumeration value="equals"/>
    <enumeration value="greaterThan"/>
    <enumeration value="greaterThanOrEqual"/>
    <enumeration value="lessThan"/>
    <enumeration value="lessThanOrEqual"/>
  </restriction>
</simpleType>
<!-- Definition of stringComparisonOperatorType, which represents the comparison
operator applied to a string value -->
<simpleType name="stringComparisonOperatorType">
  <restriction base="NMTOKEN">
    <enumeration value="equals"/>
    <!-- When the requested value should be the "whole" value of the string-->
    <enumeration value="contains"/>
    <!-- When the requested value should be contained in the string-->
    <enumeration value="startsWith"/>
    <!-- When the requested value should be the start of the string-->
    <enumeration value="endsWith"/>
    <!-- When the requested value should be the end of the string-->
    <enumeration value="keywords"/>
    <!-- When each of the individual words contained in the requested value
should be contained in the string-->
  </restriction>
</simpleType>
<!-- ##### -->
<!-- Definition of the Types supporting Queries with explicit Boolean Operators
-->
<!-- ##### -->
<!-- Definition of ANDOROperatorType, which represents the boolean operators and
may take the values "AND" and "OR" -->
<simpleType name="ANDOROperatorType">
  <restriction base="NMTOKEN">
    <enumeration value="OR"/>
    <enumeration value="AND"/>
  </restriction>
</simpleType>
<!-- ##### -->

```

```

<!-- Definition of the Types supporting Weighed Queries
-->
<!-- ##### -->
<!-- Definition of preferenceValue datatype -->
<simpleType name="preferenceValueType">
  <restriction base="integer">
    <minInclusive value="-100"/>
    <maxInclusive value="100"/>
  </restriction>
</simpleType>
</schema>

```

8.2. MP7QL Constructs for the Representation of Query Specifications with Explicit Preference Values

```

<?xml version="1.0" encoding="iso-8859-1"?>
<!-- *****
XML Schema for Weighed Queries for MPEG-7
Copyright Chrisa Tsinaraki TUC/MUSIC
***** -->
<schema targetNamespace="urn:mpeg:mp7q:schema:2001"
xmlns:mp7q="urn:mpeg:mp7q:schema:2001" xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attribute-
FormDefault="unqualified">
  <annotation>
    <documentation>
      XML Schema for Weighed Queries for MPEG-7
    </documentation>
  </annotation>
  <!-- import xml components -->
  <import namespace="http://www.w3.org/XML/1998/namespace" schemaLocation="xml-
1998.xsd"/>
  <!-- include root element definitions -->
  <include schemaLocation="./MP7QF.xsd"/>
  <!-- ##### -->
  <!-- Definition of the Types supporting Weighed MPEG-7 Queries
-->
  <!-- ##### -->
  <!-- Definition of Mpeg7QueryType Type-->
  <complexType name="WeighedMpeg7QueryType">
    <complexContent>
      <extension base="mp7q:Mpeg7QueryType">
        <choice>
          <element name="Where" type="mp7q:WeighedWhereType" minOccurs="0"/>
        </choice>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of WeighedWhereType Type-->
  <complexType name="WeighedWhereType">
    <choice maxOccurs="unbounded">
      <element name="QuerySpecification"
type="mp7q:WeighedQuerySpecificationType"/>
    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  </complexType>
  <!-- Definition of WeighedUserIdentifier datatype -->
  <complexType name="WeighedUserIdentifierType">
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Name" type="mp7q:WeighedTextualType"/>
    </choice>

```

```

    <attribute name="protected" type="mp7q:userChoiceType" use="optional" default="true"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType" use="optional" default="10"/>
    <attribute name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
  <!-- Definition of WeighedQuerySpecification DS -->
  <complexType name="WeighedQuerySpecificationType" abstract="true">
    <complexContent>
      <extension base="mp7q:MPEG7QuerySpecificationType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="MediaIdentification" type="mp7q:WeighedMediaIdentificationType"/>
          <element name="MediaProfile">
            <complexType>
              <choice minOccurs="0" maxOccurs="unbounded">
                <element name="ComponentMediaProfile" type="mp7q:WeighedMediaProfileType"/>
                <element name="MediaTranscodingHints" type="mp7q:WeighedMediaTranscodingHintsType"/>
                <element name="MediaQuality" type="mp7q:WeighedMediaQualityType"/>
                <element name="MediaInstance" type="mp7q:WeighedMediaInstanceType"/>
              </choice>
              <attribute name="master" type="boolean" use="optional" default="false"/>
              <attribute name="preferenceValue" type="mp7q:preferenceValueType" use="optional" default="10"/>
              <attribute name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
              <attribute name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </complexType>
          </element>
          <element name="MediaLocator" type="mp7q:WeighedMediaLocatorType"/>
          <element name="StructuralUnit" type="mp7q:WeighedControlledTermUseType"/>
          <element name="CreationPreferences" type="mp7q:WeighedCreationPreferencesType"/>
          <element name="ClassificationPreferences" type="mp7q:WeighedQueryClassificationPreferencesType"/>
          <element name="SourcePreferences" type="mp7q:WeighedSourcePreferencesType"/>
          <element name="Semantic" type="mp7q:WeighedSemanticType"/>
          <element name="PreferenceCondition" type="mp7q:WeighedPreferenceConditionType"/>
          <element name="UsageInformation" type="mp7q:WeighedUsageInformationType"/>
          <element name="MatchingHint" type="mp7q:WeighedMatchingHintType"/>
          <element name="PointOfView" type="mp7q:WeighedPointOfViewType"/>
          <element name="RelatedMaterial" type="mp7q:WeighedRelatedMaterialType"/>
          <element name="Relation" type="mp7q:WeighedRelationType"/>
          <element name="TextAnnotation" type="mp7q:WeighedTextAnnotationType"/>
          <element name="VisualDescriptor" type="mp7q:WeighedReferenceType"/>
          <element name="VisualDescriptionScheme" type="mp7q:WeighedReferenceType"/>
          <element name="VisualTimeSeriesDescriptor" type="mp7q:WeighedReferenceType"/>
          <element name="AudioDescriptor" type="mp7q:WeighedReferenceType"/>
          <element name="AudioDescriptionScheme" type="mp7q:WeighedReferenceType"/>
          <element name="DescriptionRef" type="mp7q:WeighedReferenceType"/>
          <element name="SemanticEntityRef" type="mp7q:WeighedReferenceType"/>
        </choice>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType" use="optional" default="10"/>

```

```

        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
</complexContent>
</complexType>
<!-- Definition of WeighedContextQuerySpecification DS -->
<complexType name="WeighedContextQuerySpecificationType">
    <complexContent>
        <extension base="mp7q:WeighedQuerySpecificationType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="FilteringAndSearchPreferences"
type="mp7q:MPEG7QuerySpecificationType"/>
                <element name="FilteringAndSearchPreferencesRef"
type="mp7q:WeighedReferenceType"/>
                <element name="UsageHistoryRef" type="mp7q:WeighedReferenceType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of WeighedFilteringAndSearchPreferences DS -->
<complexType name="WeighedFilteringAndSearchPreferencesType">
    <complexContent>
        <extension base="mp7q:WeighedQuerySpecificationType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="FilteringAndSearchPreferences"
type="mp7q:WeighedFilteringAndSearchPreferencesType"/>
                <element name="FilteringAndSearchPreferencesRef"
type="mp7q:WeighedReferenceType"/>
                <element name="UsageHistoryRef" type="mp7q:WeighedReferenceType"/>
                <element name="UserIdentifier" type="mp7q:WeighedUserIdentifierType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of Ds and DSs -->
<!-- Definition of generic Weighed D -->
<complexType name="WeighedDType" abstract="true">
    <complexContent>
        <extension base="mp7q:Mpeg7QBaseType">
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of generic Weighed DS -->
<complexType name="WeighedDSType" abstract="true">
    <complexContent>
        <extension base="mp7q:Mpeg7QBaseType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Header" type="mp7q:WeighedHeaderType" minOccurs="0" maxOc-
curs="unbounded"/>
            </choice>
            <attribute name="id" type="string" use="optional"/>
            <attributeGroup ref="mp7q:timePropertyGrp"/>
            <attributeGroup ref="mp7q:mediaTimePropertyGrp"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>

```



```

    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </extension>
</complexContent>
</complexType>
<!-- Definition of WeighedVisual D -->
<complexType name="WeighedVisualDType" abstract="true">
  <complexContent>
    <extension base="mp7q:WeighedDType"/>
  </complexContent>
</complexType>
<!-- Definition of WeighedAudio D -->
<complexType name="WeighedAudioDType" abstract="true">
  <complexContent>
    <extension base="mp7q:WeighedDType"/>
  </complexContent>
</complexType>
<!-- Definition of WeighedVisual DS -->
<complexType name="WeighedVisualDSType" abstract="true">
  <complexContent>
    <extension base="mp7q:WeighedDSType"/>
  </complexContent>
</complexType>
<!-- Definition of AudioWeighed DS -->
<complexType name="WeighedAudioDSType" abstract="true">
  <complexContent>
    <extension base="mp7q:WeighedDSType"/>
  </complexContent>
</complexType>
<!-- Definition of WeighedHeader datatype -->
<complexType name="WeighedHeaderType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7QBaseType">
      <attribute name="id" type="string" use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedReference datatype -->
<complexType name="WeighedReferenceType">
  <attributeGroup ref="mp7q:referenceGrp"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedTextualBase datatype -->
<complexType name="WeighedTextualBaseType" abstract="true">
  <simpleContent>
    <extension base="string">
      <attribute ref="xml:lang" use="optional"/>
      <attribute name="phoneticTranscription" use="optional">
        <simpleType>
          <list itemType="mp7q:PhoneType"/>
        </simpleType>
      </attribute>
    </extension>
  </simpleContent>
</complexType>

```

```

        </simpleType>
    </attribute>
    <attribute name="phoneticAlphabet" type="mp7q:phoneticAlphabetType"
use="optional" default="sampa"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</extension>
</simpleContent>
</complexType>
<!-- Definition of WeighedTextual datatype -->
<complexType name="WeighedTextualType">
    <simpleContent>
        <extension base="mp7q:WeighedTextualBaseType"/>
    </simpleContent>
</complexType>
<!-- Definition of WeighedTextAnnotation datatype -->
<complexType name="WeighedTextAnnotationType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="FreeTextAnnotation" type="mp7q:WeighedTextualType"/>
        <element name="StructuredAnnotation"
type="mp7q:WeighedStructuredAnnotationType"/>
        <element name="DependencyStructure"
type="mp7q:WeighedDependencyStructureType"/>
        <element name="KeywordAnnotation" type="mp7q:WeighedKeywordAnnotationType"/>
    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    <attribute name="relevance" type="mp7q:zeroToOneType" use="optional"/>
    <attribute name="confidence" type="mp7q:zeroToOneType" use="optional"/>
    <attribute ref="xml:lang"/>
</complexType>
<!-- Definition of WeighedStructuredAnnotation datatype -->
<complexType name="WeighedStructuredAnnotationType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Who" type="mp7q:WeighedTermUseType"/>
        <element name="WhatObject" type="mp7q:WeighedTermUseType"/>
        <element name="WhatAction" type="mp7q:WeighedTermUseType"/>
        <element name="Where" type="mp7q:WeighedTermUseType"/>
        <element name="When" type="mp7q:WeighedTermUseType"/>
        <element name="Why" type="mp7q:WeighedTermUseType"/>
        <element name="How" type="mp7q:WeighedTermUseType"/>
    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    <attribute ref="xml:lang" use="optional"/>
</complexType>
<!-- Definition of WeighedKeywordAnnotation datatype -->
<complexType name="WeighedKeywordAnnotationType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Keyword">
            <complexType>

```

```

    <simpleContent>
      <extension base="mp7q:WeighedTextualType">
        <attribute name="type" use="optional" default="main">
          <simpleType>
            <restriction base="NMTOKEN">
              <enumeration value="main"/>
              <enumeration value="secondary"/>
              <enumeration value="other"/>
            </restriction>
          </simpleType>
        </attribute>
      </extension>
    </simpleContent>
  </complexType>
</element>
</choice>
<attribute ref="xml:lang" use="optional"/>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedDependencyStructure datatype -->
<complexType name="WeighedDependencyStructure">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Sentence" type="mp7q:WeighedDependencyStructurePhraseType"/>
  </choice>
  <attribute ref="xml:lang" use="optional"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedDependencyStructurePhrase datatype -->
<complexType name="WeighedDependencyStructurePhrase">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Quotation" type="mp7q:WeighedDependencyStructurePhraseType"/>
    <element name="Phrase" type="mp7q:WeighedDependencyStructurePhraseType"/>
    <element name="Head" type="mp7q:WordFormType"/>
    <element name="CompoundHead"
type="mp7q:WeighedNonDependencyStructurePhraseType"/>
  </choice>
  <attribute name="id" type="ID" use="optional"/>
  <attribute name="equal" type="IDREF" use="optional"/>
  <attribute name="operator" use="optional">
    <simpleType>
      <union memberTypes="mp7q:dependencyOperatorType mp7q:termReferenceType"/>
    </simpleType>
  </attribute>
  <attribute name="functionWord" type="string" use="optional"/>
  <attribute name="synthesis" type="NMTOKEN" use="optional" fixed="dependency"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedNonDependencyStructurePhrase datatype -->

```

```

<complexType name="WeighedNonDependencyStructurePhraseType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Quotation" type="mp7q:WeighedDependencyStructurePhraseType"/>
    <element name="Phrase" type="mp7q:WeighedDependencyStructurePhraseType"/>
    <element name="Word" type="mp7q:WordFormType"/>
    <element name="NonDependencyPhrase"
type="mp7q:WeighedNonDependencyStructurePhraseType"/>
  </choice>
  <attribute name="id" type="ID" use="optional"/>
  <attribute name="equal" type="IDREF" use="optional"/>
  <attribute name="synthesis" use="optional" default="unspecified">
    <simpleType>
      <restriction base="NMTOKEN">
        <enumeration value="unspecified"/>
        <enumeration value="coordination"/>
      </restriction>
    </simpleType>
  </attribute>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedTermDefinitionBase DS -->
<complexType name="WeighedTermDefinitionBaseType" abstract="true">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Name">
          <complexType>
            <simpleContent>
              <extension base="mp7q:WeighedTextualType">
                <attribute name="preferred" type="boolean" use="optional"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
        <element name="Definition" type="mp7q:WeighedTextualType"/>
      </choice>
      <attribute name="termID" type="NMTOKEN"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedTermDefinition DS -->
<complexType name="WeighedTermDefinitionType">
  <complexContent>
    <extension base="mp7q:WeighedTermDefinitionBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Term">
          <complexType>
            <complexContent>
              <extension base="mp7q:WeighedTermDefinitionType">
                <attribute name="relation" type="mp7q:termRelationQualifierType"
use="optional" default="NT"/>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

</complexType>
<!-- Definition of WeighedInlineTermDefinition datatype -->
<complexType name="WeighedInlineTermDefinitionType" abstract="true">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Name">
      <complexType>
        <simpleContent>
          <extension base="mp7q:WeighedTextualType">
            <attribute name="preferred" type="boolean" use="optional"/>
          </extension>
        </simpleContent>
      </complexType>
    </element>
    <element name="Definition" type="mp7q:WeighedTextualType"/>
    <element name="Term" minOccurs="0" maxOccurs="unbounded">
      <complexType>
        <complexContent>
          <extension base="mp7q:WeighedInlineTermDefinitionType">
            <attribute name="relation" type="mp7q:termRelationQualifierType"
use="optional" default="NT"/>
            <attribute name="termID" type="NMTOKEN"/>
          </extension>
        </complexContent>
      </complexType>
    </element>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedTermUse datatype -->
<complexType name="WeighedTermUseType">
  <complexContent>
    <extension base="mp7q:WeighedInlineTermDefinitionType">
      <attribute name="href" type="mp7q:termReferenceType" use="optional"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedControlledTermUse datatype -->
<complexType name="WeighedControlledTermUseType">
  <complexContent>
    <extension base="mp7q:WeighedInlineTermDefinitionType">
      <attribute name="href" type="mp7q:termReferenceType" use="optional"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedSemanticBase DS -->
<complexType name="WeighedSemanticBaseType" abstract="true">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AbstractionLevel" type="mp7q:WeighedAbstractionLevelType"/>
        <element name="Label" type="mp7q:WeighedTermUseType"/>
        <element name="Definition" type="mp7q:WeighedTextAnnotationType"/>
        <element name="Property" type="mp7q:WeighedTermUseType"/>
        <element name="MediaOccurrence">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="MediaInformation"
type="mp7q:WeighedMediaInformationType"/>

```

```

        <element name="MediaInformationRef" type="mp7q:WeighedReferenceType"/>
        <element name="MediaLocator" type="mp7q:WeighedMediaLocatorType"/>
        <element name="Mask" type="mp7q:WeighedMaskType"/>
        <element name="AudioDescriptor" type="mp7q:WeighedAudioDType"/>
        <element name="AudioDescriptionScheme" type="mp7q:WeighedAudioDSType"/>
        <element name="VisualDescriptor" type="mp7q:WeighedVisualDType"/>
        <element name="VisualDescriptionScheme"
type="mp7q:WeighedVisualDSType"/>
    </choice>
    <attribute name="type" use="optional" default="perceivable">
        <simpleType>
            <union>
                <simpleType>
                    <restriction base="NMTOKEN">
                        <enumeration value="perceivable"/>
                        <enumeration value="reference"/>
                        <enumeration value="symbol"/>
                    </restriction>
                </simpleType>
                <simpleType>
                    <restriction base="mp7q:termReferenceType"/>
                </simpleType>
            </union>
        </simpleType>
    </attribute>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    <attribute name="minOccurs" type="integer" use="optional" default="0"/>
    <attribute name="maxOccurs" type="string" use="optional" de-
fault="unbounded"/>
</complexType>
</element>
    <element name="Relation" type="mp7q:WeighedRelationType"/>
    <element name="Occurences" type="nonNegativeInteger" default="1"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedSemanticBag DS -->
<complexType name="WeighedSemanticBagType" abstract="true">
    <complexContent>
        <extension base="mp7q:WeighedSemanticBaseType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="SemanticBase" type="mp7q:WeighedSemanticBaseType"/>
                <element name="SemanticBaseRef" type="mp7q:WeighedReferenceType"/>
                <element name="Graph" type="mp7q:WeighedGraphType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of WeighedSemantic DS -->
<complexType name="WeighedSemanticType">
    <complexContent>
        <extension base="mp7q:WeighedSemanticBagType"/>
    </complexContent>
</complexType>
<!-- Definition of WeighedObject DS -->
<complexType name="WeighedObjectType">
    <complexContent>

```

```

<extension base="mp7q:WeighedSemanticBaseType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Object" type="mp7q:WeighedObjectType"/>
    <element name="ObjectRef" type="mp7q:WeighedReferenceType"/>
  </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedAgentObject DS -->
<complexType name="WeighedAgentObjectType">
  <complexContent>
    <extension base="mp7q:WeighedObjectType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Agent" type="mp7q:WeighedAgentType"/>
        <element name="AgentRef" type="mp7q:WeighedReferenceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedEvent DS -->
<complexType name="WeighedEventType">
  <complexContent>
    <extension base="mp7q:WeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Event" type="mp7q:WeighedEventType"/>
        <element name="EventRef" type="mp7q:WeighedReferenceType"/>
        <element name="SemanticPlace" type="mp7q:WeighedSemanticPlaceType"/>
        <element name="SemanticTime" type="mp7q:WeighedSemanticTimeType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedConcept DS -->
<complexType name="WeighedConceptType">
  <complexContent>
    <extension base="mp7q:WeighedSemanticBaseType"/>
  </complexContent>
</complexType>
<!-- Definition of WeighedSemanticState DS -->
<complexType name="WeighedSemanticStateType">
  <complexContent>
    <extension base="mp7q:WeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AttributeValuePair">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Attribute" type="mp7q:WeighedTermUseType"/>
              <element name="Unit" type="mp7q:WeighedTermUseType"/>
              <element name="BooleanValue" type="boolean"/>
              <element name="IntegerValue" type="integer"/>
              <element name="FloatValue" type="float"/>
              <element name="IntegerMatrixValue"
type="mp7q:WeighedIntegerMatrixType"/>
              <element name="FloatMatrixValue" type="mp7q:WeighedFloatMatrixType"/>
              <element name="TextValue" type="mp7q:WeighedTextualType"/>
              <element name="TextAnnotationValue"
type="mp7q:WeighedTextAnnotationType"/>
              <element name="ControlledTermUseValue"
type="mp7q:WeighedControlledTermUseType"/>
              <element name="DescriptorValue" type="mp7q:WeighedDType"/>
            </choice>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
    <element name="SemanticTime" type="mp7q:WeighedSemanticTimeType"/>
    <element name="SemanticPlace" type="mp7q:WeighedSemanticPlaceType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedSemanticPlace DS -->
<complexType name="WeighedSemanticPlaceType">
    <complexContent>
        <extension base="mp7q:WeighedSemanticBaseType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Place" type="mp7q:WeighedPlaceType"/>
                <element name="SemanticPlaceInterval">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="Position" type="mp7q:WeighedPositionType"/>
                            <element name="Extent" type="mp7q:WeighedExtentType"/>
                        </choice>
                        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of WeighedSemanticTime DS -->
<complexType name="WeighedSemanticTimeType">
    <complexContent>
        <extension base="mp7q:WeighedSemanticBaseType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Time" type="mp7q:WeighedTimeType" minOccurs="0"/>
                <element name="SemanticTimeInterval">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="TimePoint" type="mp7q:WeighedPositionType"/>
                            <element name="Duration" type="mp7q:WeighedExtentType"/>
                        </choice>
                        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of WeighedAgent DS -->
<complexType name="WeighedAgentType" abstract="true">
    <complexContent>

```



```

<extension base="mp7q:WeighedDSType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Icon" type="mp7q:WeighedMediaLocatorType"/>
  </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedPerson DS -->
<complexType name="WeighedPersonType">
  <complexContent>
    <extension base="mp7q:WeighedAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Name" type="mp7q:WeighedPersonNameType"/>
        <element name="NameTerm" type="mp7q:WeighedControlledTermUseType"/>
        <element name="Affiliation">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Organization" type="mp7q:WeighedOrganizationType"/>
              <element name="OrganizationRef" type="mp7q:WeighedReferenceType"/>
              <element name="PersonGroup" type="mp7q:WeighedPersonGroupType"/>
              <element name="PersonGroupRef" type="mp7q:WeighedReferenceType"/>
            </choice>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
        <element name="Citizenship" type="mp7q:countryCode"/>
        <element name="Address" type="mp7q:WeighedPlaceType"/>
        <element name="AddressRef" type="mp7q:WeighedReferenceType"/>
        <element name="ElectronicAddress"
type="mp7q:WeighedElectronicAddressType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedPersonGroup DS -->
<complexType name="WeighedPersonGroupType">
  <complexContent>
    <extension base="mp7q:WeighedAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Name">
          <complexType>
            <simpleContent>
              <extension base="mp7q:WeighedTextualType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="former"/>
                      <enumeration value="variant"/>
                      <enumeration value="main"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </simpleContent>
          </complexType>
        </element>
        <element name="NameTerm">
          <complexType>

```

```

    <complexContent>
      <extension base="mp7q:WeighedControlledTermUseType">
        <attribute name="type" use="optional">
          <simpleType>
            <restriction base="NMTOKEN">
              <enumeration value="former"/>
              <enumeration value="variant"/>
              <enumeration value="main"/>
            </restriction>
          </simpleType>
        </attribute>
      </extension>
    </complexContent>
  </complexType>
</element>
<element name="Kind" type="mp7q:WeighedTermUseType"/>
<element name="Member" type="mp7q:WeighedPersonType"/>
<element name="MemberRef" type="mp7q:WeighedReferenceType"/>
<element name="Jurisdiction" type="mp7q:WeighedPlaceType"/>
<element name="JurisdictionRef" type="mp7q:WeighedReferenceType"/>
<element name="Address" type="mp7q:WeighedPlaceType"/>
<element name="AddressRef" type="mp7q:WeighedReferenceType"/>
<element name="ElectronicAddress"
type="mp7q:WeighedElectronicAddressType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedOrganization DS -->
<complexType name="WeighedOrganizationType">
  <complexContent>
    <extension base="mp7q:WeighedAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Name">
          <complexType>
            <simpleContent>
              <extension base="mp7q:WeighedTextualType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="former"/>
                      <enumeration value="variant"/>
                      <enumeration value="main"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </simpleContent>
          </complexType>
        </element>
        <element name="NameTerm">
          <complexType>
            <complexContent>
              <extension base="mp7q:WeighedControlledTermUseType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="former"/>
                      <enumeration value="variant"/>
                      <enumeration value="main"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        </extension>
    </complexContent>
</complexType>
</element>
<element name="Kind" type="mp7q:WeighedTermUseType"/>
<element name="Contact" type="mp7q:WeighedAgentType"/>
<element name="ContactRef" type="mp7q:WeighedReferenceType"/>
<element name="Jurisdiction" type="mp7q:WeighedPlaceType"/>
<element name="JurisdictionRef" type="mp7q:WeighedReferenceType"/>
<element name="Address" type="mp7q:WeighedPlaceType"/>
<element name="AddressRef" type="mp7q:WeighedReferenceType"/>
<element name="ElectronicAddress" type="mp7q:WeighedElectronicAddressType"
minOccurs="0"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedPlace DS -->
<complexType name="WeighedPlaceType">
    <complexContent>
        <extension base="mp7q:WeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Name" type="mp7q:WeighedTextualType"/>
                <element name="NameTerm" type="mp7q:WeighedControlledTermUseType"/>
                <element name="Role" type="mp7q:WeighedTermUseType"/>
                <element name="GeographicPosition">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="Point" type="mp7q:WeighedGeographicPointType"/>
                        </choice>
                        <attribute name="datum" type="string" use="optional"/>
                        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
                <element name="AstronomicalBody" type="mp7q:WeighedTermUseType"/>
                <element name="Region" type="mp7q:regionCode"/>
                <element name="AdministrativeUnit">
                    <complexType>
                        <simpleContent>
                            <extension base="string">
                                <attribute name="type" type="string" use="optional"/>
                                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
            </choice>
            <element name="PostalAddress" minOccurs="0">
                <complexType>
                    <choice minOccurs="0" maxOccurs="unbounded">
                        <element name="AddressLine" type="mp7q:WeighedTextualType"/>
                        <element name="PostingIdentifier" type="mp7q:WeighedTextualType"/>
                    </choice>
                </complexType>
            </element>
        </extension>
    </complexContent>
</complexType>

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        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        <attribute ref="xml:lang" use="optional"/>
    </complexType>
</element>
    <element name="InternalCoordinates" type="string"/>
</choice>
    <attribute ref="xml:lang" use="optional"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedGeographicPoint datatype -->
<complexType name="WeighedGeographicPointType">
    <attribute name="longitude" use="optional">
        <simpleType>
            <restriction base="double">
                <minInclusive value="-180.0"/>
                <maxInclusive value="180.0"/>
            </restriction>
        </simpleType>
    </attribute>
    <attribute name="latitude" use="optional">
        <simpleType>
            <restriction base="double">
                <minInclusive value="-90.0"/>
                <maxInclusive value="90.0"/>
            </restriction>
        </simpleType>
    </attribute>
    <attribute name="altitude" type="double" use="optional"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedPersonaName datatype -->
<complexType name="WeighedPersonaNameType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="GivenName" type="mp7q:WeighedNameComponentType"/>
        <element name="FamilyName" type="mp7q:WeighedNameComponentType"/>
        <element name="Title" type="mp7q:WeighedNameComponentType"/>
        <element name="Numeration" type="string"/>
    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    <attribute name="dateFrom" type="mp7q:timePointType" use="optional"/>
    <attribute name="dateTo" type="mp7q:timePointType" use="optional"/>
    <attribute name="type" use="optional">
        <simpleType>
            <restriction base="NMTOKEN">
                <enumeration value="former"/>
                <enumeration value="variant"/>
                <enumeration value="main"/>
            </restriction>
        </simpleType>
    </attribute>

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```

    </restriction>
  </simpleType>
</attribute>
  <attribute ref="xml:lang" use="optional"/>
</complexType>
<!-- Definition of WeighedNameComponent datatype -->
<complexType name="WeighedNameComponentType">
  <simpleContent>
    <extension base="mp7q:WeighedTextualBaseType">
      <attribute name="initial" type="string" use="optional"/>
      <attribute name="abbrev" type="string" use="optional"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of WeighedElectronicAddress datatype -->
<complexType name="WeighedElectronicAddressType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Telephone" type="string"/>
    <element name="Fax" type="string"/>
    <element name="Email" type="string"/>
    <element name="Url" type="anyURI"/>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedWeighedGraph DS -->
<complexType name="WeighedGraphType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Node">
          <complexType>
            <complexContent>
              <extension base="mp7q:WeighedReferenceType">
                <choice minOccurs="0" maxOccurs="unbounded">
                  <element name="Name" type="mp7q:WeighedTermUseType"/>
                </choice>
                <attribute name="id" type="ID" use="optional"/>
              </extension>
            </complexContent>
          </complexType>
        </element>
        <element name="Relation" type="mp7q:WeighedRelationType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedRelation DS -->
<complexType name="WeighedRelationType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <attribute name="type" type="mp7q:termReferenceType" use="optional"/>
      <attribute name="source" use="optional">
        <simpleType>
          <list itemType="anyURI"/>
        </simpleType>
      </attribute>
      <attribute name="target">
        <simpleType>

```

```

    <list itemType="anyURI"/>
  </simpleType>
</attribute>
  <attribute name="directed" type="boolean" use="optional" default="true"/>
  <attribute name="strength" type="mp7q:zeroToOneType" use="optional" de-
fault="1.0"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedAbstractionLevel DS -->
<complexType name="WeighedAbstractionLevelType">
  <attribute name="dimension" type="nonNegativeInteger" use="optional"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedExtent datatype -->
<complexType name="WeighedExtentType">
  <attribute name="measurementType" type="string" use="optional"/>
  <attribute name="unit" type="string" use="optional"/>
  <attribute name="value" type="string" use="optional"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedPosition datatype -->
<complexType name="WeighedPositionType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Displacement" type="mp7q:WeighedExtentType" minOccurs="0"/>
    <element name="Direction" type="mp7q:WeighedExtentType" minOccurs="0"/>
  </choice>
  <attribute name="origin" type="string" use="optional"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedMask D -->
<complexType name="WeighedMaskType" abstract="true">
  <complexContent>
    <extension base="mp7q:WeighedDSType"/>
  </complexContent>
</complexType>
<!-- Definition of WeighedMediaLocator datatype -->
<complexType name="WeighedMediaLocatorType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="MediaUri" type="anyURI"/>
    <element name="InlineMedia" type="mp7q:WeighedInlineMediaType"/>
    <element name="StreamID" type="nonNegativeInteger"/>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>

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    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedInlineMedia datatype -->
<complexType name="WeighedInlineMediaType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="MediaData16" type="hexBinary"/>
    <element name="MediaData64" type="base64Binary"/>
  </choice>
  <attribute name="type" type="mp7q:mimeType" use="optional"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedIntegerMatrix datatype -->
<complexType name="WeighedIntegerMatrixType">
  <simpleContent>
    <extension base="mp7q:integerVector">
      <attribute ref="mp7q:dim" use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of WeighedFloatMatrix datatype -->
<complexType name="WeighedFloatMatrixType">
  <simpleContent>
    <extension base="mp7q:floatVector">
      <attribute ref="mp7q:dim" use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of WeighedMediaInformation DS -->
<complexType name="WeighedMediaInformationType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaIdentification"
type="mp7q:WeighedMediaIdentificationType"/>
        <element name="MediaProfile" type="mp7q:WeighedMediaProfileType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedMediaIdentification D -->
<complexType name="WeighedMediaIdentificationType">
  <complexContent>
    <extension base="mp7q:WeighedDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="EntityIdentifier" type="mp7q:WeighedUniqueIDType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        <element name="AudioDomain" type="mp7q:WeighedControlledTermUseType"/>
        <element name="VideoDomain" type="mp7q:WeighedControlledTermUseType"/>
        <element name="ImageDomain" type="mp7q:WeighedControlledTermUseType"/>
    </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedMediaProfile DS -->
<complexType name="WeighedMediaProfileType">
    <complexContent>
        <extension base="mp7q:WeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="ComponentMediaProfile" type="mp7q:WeighedMediaProfileType"/>
                <element name="MediaFormat" type="mp7q:WeighedMediaFormatType"/>
                <element name="MediaTranscodingHints"
type="mp7q:WeighedMediaTranscodingHintsType"/>
                <element name="MediaQuality" type="mp7q:WeighedMediaQualityType"/>
                <element name="MediaInstance" type="mp7q:WeighedMediaInstanceType"/>
            </choice>
            <attribute name="master" type="boolean" use="optional" default="false"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of WeighedMediaFormat D -->
<complexType name="WeighedMediaFormatType">
    <complexContent>
        <extension base="mp7q:WeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Content" type="mp7q:WeighedControlledTermUseType"/>
                <element name="Medium" type="mp7q:WeighedControlledTermUseType"/>
                <element name="FileFormat" type="mp7q:WeighedControlledTermUseType"/>
                <element name="FileSize" type="nonNegativeInteger"/>
                <element name="System" type="mp7q:WeighedControlledTermUseType"/>
                <element name="Bandwidth" type="float"/>
                <element name="BitRate">
                    <complexType>
                        <simpleContent>
                            <extension base="nonNegativeInteger">
                                <attribute name="variable" type="boolean" use="optional" de-
fault="false"/>
                                <attribute name="minimum" type="nonNegativeInteger"
use="optional"/>
                                <attribute name="average" type="nonNegativeInteger"
use="optional"/>
                                <attribute name="maximum" type="nonNegativeInteger"
use="optional"/>
                                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
                <element name="TargetChannelBitRate" type="nonNegativeInteger"/>
                <element name="ScalableCoding" minOccurs="0">
                    <simpleType>
                        <union>
                            <simpleType>
                                <restriction base="NMTOKEN">
                                    <enumeration value="spatial"/>
                                </restriction>
                            </simpleType>
                        </union>
                    </simpleType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>

```



```

        <enumeration value="temporal"/>
        <enumeration value="snr"/>
        <enumeration value="fgs"/>
    </restriction>
</simpleType>
<simpleType>
    <restriction base="mp7q:termReferenceType"/>
</simpleType>
</union>
</simpleType>
</element>
<element name="VisualCoding">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Format">
                <complexType>
                    <complexContent>
                        <extension base="mp7q:WeighedControlledTermUseType">
                            <attribute name="colorDomain" use="optional"
default="color">
                                <simpleType>
                                    <union>
                                        <simpleType>
                                            <restriction
base="NMTOKEN">
                                                <enumeration
value="binary"/>
                                                <enumeration
value="color"/>
                                                <enumeration
value="graylevel"/>
                                                <enumeration
value="colorized"/>
                                            </restriction>
                                        </simpleType>
                                        <simpleType>
                                            <restriction
base="mp7q:termReferenceType"/>
                                        </simpleType>
                                    </union>
                                </simpleType>
                            </attribute>
                        </extension>
                    </complexContent>
                </complexType>
            </element>
            <element name="Pixel">
                <complexType>
                    <attribute name="resolution" type="nonNegativeInteger"
use="optional"/>
                    <attribute name="aspectRatio" type="mp7q:nonNegativeReal"
use="optional"/>
                    <attribute name="bitsPer" type="nonNegativeInteger"
use="optional"/>
                    <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                </complexType>
            </element>
            <element name="Frame">

```

```

        <complexType>
            <attribute name="height" type="nonNegativeInteger"
use="optional"/>
            <attribute name="width" type="nonNegativeInteger"
use="optional"/>
            <attribute name="aspectRatio" type="mp7q:nonNegativeReal"
use="optional"/>
            <attribute name="rate" type="mp7q:nonNegativeReal"
use="optional"/>
            <attribute name="structure" use="optional">
                <simpleType>
                    <restriction base="NMTOKEN">
                        <enumeration value="progressive"/>
                        <enumeration value="interlaced"/>
                    </restriction>
                </simpleType>
            </attribute>
            <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </complexType>
    </element>
    <element name="ColorSampling" type="mp7q:WeighedColorSamplingType"/>
</choice>
</complexType>
</element>
<element name="AudioCoding">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Format" type="mp7q:WeighedControlledTermUseType"/>
            <element name="AudioChannels">
                <complexType>
                    <simpleContent>
                        <extension base="nonNegativeInteger">
                            <attribute name="front"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="side"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="rear"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="lfe" type="nonNegativeInteger"
use="optional"/>
                            <attribute name="track"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
                            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                        </extension>
                    </simpleContent>
                </complexType>
            </element>
        </choice>
    </complexType>
    <element name="Sample">
        <complexType>
            <attribute name="rate" type="mp7q:nonNegativeReal"
use="optional"/>
            <attribute name="bitsPer" type="nonNegativeInteger"
use="optional"/>

```

```

        <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="Emphasis">
    <simpleType>
        <union>
            <simpleType>
                <restriction base="NMTOKEN">
                    <enumeration value="none"/>
                    <enumeration
value="50over15Microseconds"/>
                    <enumeration value="ccittJ17"/>
                </restriction>
            </simpleType>
            <simpleType>
                <restriction base="mp7q:termReferenceType"/>
            </simpleType>
        </union>
    </simpleType>
</element>
<element name="Presentation" type="mp7q:WeighedControlledTermUseType"/>
</choice>
</complexType>
</element>
<element name="SceneCodingFormat"
type="mp7q:WeighedControlledTermUseType"/>
<element name="GraphicsCodingFormat"
type="mp7q:WeighedControlledTermUseType"/>
<element name="OtherCodingFormat"
type="mp7q:WeighedControlledTermUseType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedColorSampling D -->
<complexType name="WeighedColorSamplingType">
    <complexContent>
        <extension base="mp7q:WeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Lattice">
                    <complexType>
                        <attribute name="width" type="positiveInteger" use="optional"/>
                        <attribute name="height" type="positiveInteger" use="optional"/>
                        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
                <element name="Field">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="Component">
                                <complexType>
                                    <complexContent>
                                        <extension base="mp7q:WeighedTermUseType">

```

```

        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Offset">
                <complexType>
                    <attribute
name="horizontal" type="mp7q:nonNegativeReal" use="optional"/>
                    <attribute name="vertical"
type="mp7q:nonNegativeReal" use="optional"/>
                    <attribute
name="preferenceValue" type="mp7q:preferenceValueType" use="optional" de-
fault="10"/>
                    <attribute
name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType"
use="optional" default="equals"/>
                    <attribute
name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType"
use="optional" default="contains"/>
                </complexType>
            </element>
            <element name="Period">
                <complexType>
                    <attribute
name="horizontal" type="mp7q:nonNegativeReal" use="optional"/>
                    <attribute name="vertical"
type="mp7q:nonNegativeReal" use="optional"/>
                    <attribute
name="preferenceValue" type="mp7q:preferenceValueType" use="optional" de-
fault="10"/>
                    <attribute
name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType"
use="optional" default="equals"/>
                    <attribute
name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType"
use="optional" default="contains"/>
                </complexType>
            </element>
        </choice>
    </extension>
</complexContent>
</complexType>
</element>
</choice>
<attribute name="temporalOrder" type="nonNegativeInteger"
use="optional"/>
<attribute name="positionalOrder" type="nonNegativeInteger"
use="optional"/>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedMediaTranscodingHints D -->
<complexType name="WeighedMediaTranscodingHintsType">
    <complexContent>
        <extension base="mp7q:WeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="MotionHint">

```

```

    <complexType>
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MotionRange">
          <complexType>
            <attribute name="xLeft" type="nonNegativeInteger"
use="optional"/>
            <attribute name="xRight" type="nonNegativeInteger"
use="optional"/>
            <attribute name="yDown" type="nonNegativeInteger"
use="optional"/>
            <attribute name="yUp" type="nonNegativeInteger"
use="optional"/>
            <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
      <attribute name="uncompensability" type="mp7q:zeroToOneType"
use="optional"/>
      <attribute name="intensity" type="mp7q:zeroToOneType" use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
  <element name="ShapeHint">
    <complexType>
      <attribute name="shapeChange" type="float" use="optional"/>
      <attribute name="numOfNonTranspBlocks" type="mp7q:nonNegativeReal"
use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
  <element name="CodingHints">
    <complexType>
      <attribute name="avgQuantScale" type="mp7q:nonNegativeReal"
use="optional"/>
      <attribute name="intraFrameDistance" type="nonNegativeInteger"
use="optional"/>
      <attribute name="anchorFrameDistance" type="positiveInteger"
use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
</choice>
<attribute name="difficulty" type="mp7q:zeroToOneType" use="optional"/>

```

```

        <attribute name="importance" type="mp7q:zeroToOneType" use="optional"/>
        <attribute name="spatialResolutionHint" type="mp7q:zeroToOneType"
use="optional"/>
    </extension>
</complexContent>
</complexType>
<!-- Definition of WeighedMediaQuality D -->
<complexType name="WeighedMediaQualityType">
    <complexContent>
        <extension base="mp7q:WeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="QualityRating">
                    <complexType>
                        <complexContent>
                            <extension base="mp7q:WeighedRatingType">
                                <attribute name="type" use="optional">
                                    <simpleType>
                                        <restriction base="NMTOKEN">
                                            <enumeration value="subjective"/>
                                            <enumeration value="objective"/>
                                        </restriction>
                                    </simpleType>
                                </attribute>
                            </extension>
                        </complexContent>
                    </complexType>
                </element>
                <element name="RatingSource" type="mp7q:WeighedAgentType"/>
                <element name="RatingInformationLocator" type="mp7q:WeighedReferenceType"/>
                <element name="PerceptibleDefects">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="VisualDefects"
type="mp7q:WeighedControlledTermUseType"/>
                            <element name="AudioDefects" type="mp7q:WeighedControlledTermUseType"/>
                        </choice>
                        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of WeighedRating datatype -->
<complexType name="WeighedRatingType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="RatingValue" type="float"/>
        <element name="RatingScheme">
            <complexType>
                <complexContent>
                    <extension base="mp7q:WeighedTermUseType">
                        <attribute name="best" type="float" use="optional"/>
                        <attribute name="worst" type="float" use="optional"/>
                        <attribute name="style" use="optional">
                            <simpleType>
                                <restriction base="NMTOKEN">
                                    <enumeration value="higherBetter"/>
                                    <enumeration value="lowerBetter"/>
                                </restriction>
                            </simpleType>
                        </attribute>
                    </extension>
                </complexContent>
            </complexType>
        </element>
    </choice>
</complexType>

```

```

        </restriction>
    </simpleType>
</attribute>
</extension>
</complexContent>
</complexType>
</element>
</choice>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedMediaInstance DS -->
<complexType name="WeighedMediaInstanceType">
<complexContent>
<extension base="mp7q:WeighedDSType">
<choice minOccurs="0" maxOccurs="unbounded">
<element name="InstanceIdentifier" type="mp7q:WeighedUniqueIDType"/>
<element name="MediaLocator" type="mp7q:WeighedMediaLocatorType"/>
<element name="LocationDescription" type="mp7q:WeighedTextualType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedUniqueID datatype -->
<complexType name="WeighedUniqueIDType">
<simpleContent>
<extension base="string">
<attribute name="type" type="NMTOKEN" use="optional" default="URI"/>
<attribute name="organization" type="NMTOKEN" use="optional"/>
<attribute name="authority" type="NMTOKEN" use="optional"/>
<attribute name="encoding" use="optional" default="text">
<simpleType>
<restriction base="string">
<enumeration value="text"/>
<enumeration value="base16"/>
<enumeration value="base64"/>
</restriction>
</simpleType>
</attribute>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</extension>
</simpleContent>
</complexType>
<!-- Definition of WeighedPreferenceCondition D -->
<complexType name="WeighedPreferenceConditionType">
<complexContent>
<extension base="mp7q:WeighedDType">
<choice minOccurs="0" maxOccurs="unbounded">
<element name="Place" type="mp7q:WeighedPlaceType" minOccurs="0"/>
<element name="Time" minOccurs="0" maxOccurs="unbounded">
<complexType>
<complexContent>
<extension base="mp7q:WeighedTimeType">
<attribute name="recurrence" use="optional" default="none">

```

```

        <simpleType>
          <union>
            <simpleType>
              <restriction base="NMTOKEN">
                <enumeration value="none"/>
                <enumeration value="daily"/>
                <enumeration value="weekly"/>
                <enumeration value="monthly"/>
                <enumeration value="annually"/>
              </restriction>
            </simpleType>
            <simpleType>
              <restriction
base="mp7q:termReferenceType"/>
              </simpleType>
            </union>
          </simpleType>
        </attribute>
        <attribute name="numOfRecurrences" type="positiveInteger"
use="optional"/>
      </extension>
    </complexContent>
  </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedTime datatype -->
<complexType name="WeighedTimeType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="TimePoint" type="mp7q:timePointType"/>
    <element name="RelTimePoint" type="mp7q:WeighedRelTimePointType"/>
    <element name="RelIncrTimePoint" type="mp7q:WeighedRelIncrTimePointType"/>
    <element name="Duration" type="mp7q:durationType"/>
    <element name="IncrDuration" type="mp7q:WeighedIncrDurationType"/>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedIncrDuration datatype -->
<complexType name="WeighedIncrDurationType">
  <simpleContent>
    <extension base="integer">
      <attribute name="timeUnit" type="mp7q:durationType" use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of WeighedRelTimePointType datatype -->
<complexType name="WeighedRelTimePointType">
  <simpleContent>
    <extension base="mp7q:timeOffsetType">
      <attribute name="timeBase" type="mp7q:xPathRefType" use="optional"/>
    </extension>
  </simpleContent>
</complexType>

```



```

    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </extension>
</simpleContent>
</complexType>
<!-- Definition of WeighedRelIncrTimePointType datatype -->
<complexType name="WeighedRelIncrTimePointType">
  <simpleContent>
    <extension base="integer">
      <attribute name="timeUnit" type="mp7q:durationType" use="optional"/>
      <attribute name="timeBase" type="mp7q:xPathRefType" use="optional"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of WeighedQueryCreationPreferences DS -->
<complexType name="WeighedQueryCreationPreferencesType">
  <complexContent>
    <extension base="mp7q:WeighedCreationPreferencesType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="TitleMedia" type="mp7q:WeighedTitleMediaType"/>
        <element name="CopyrightString" type="mp7q:WeighedTextualType"/>
        <element name="CreationToolSetting" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <attribute name="name" type="string" use="optional"/>
            <attribute name="value" type="string" use="optional"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedCreationPreferences DS -->
<complexType name="WeighedCreationPreferencesType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Title" type="mp7q:WeighedTitleType"/>
        <element name="Creator" type="mp7q:WeighedCreatorType"/>
        <element name="Keyword" type="mp7q:WeighedTextualType"/>
        <element name="Location" type="mp7q:WeighedPlaceType"/>
        <element name="DatePeriod" type="mp7q:WeighedTimeType"/>
        <element name="Tool" type="mp7q:WeighedTermUseType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedClassificationPreferences DS -->

```

```

<complexType name="WeighedClassificationPreferencesType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Country">
          <complexType>
            <simpleContent>
              <extension base="mp7q:countryCode">
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
        <element name="DatePeriod" type="mp7q:WeighedTimeType"/>
        <element name="LanguageFormat">
          <complexType>
            <simpleContent>
              <extension base="mp7q:auxiliaryLanguageType">
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
        <element name="Language" type="mp7q:WeighedExtendedLanguageType"/>
        <element name="CaptionLanguage">
          <complexType>
            <simpleContent>
              <extension base="language">
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
        <element name="Form" type="mp7q:WeighedTermUseType"/>
        <element name="Genre" type="mp7q:WeighedTermUseType"/>
        <element name="Subject" type="mp7q:WeighedTextualType"/>
        <element name="Review">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Rating" type="mp7q:WeighedRatingType"/>
              <element name="Reviewer" type="mp7q:WeighedAgentType"/>
            </choice>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        </complexType>
    </element>
    <element name="ParentalGuidance" type="mp7q:WeighedParentalGuidanceType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedQueryClassificationPreferences DS -->
<complexType name="WeighedQueryClassificationPreferencesType">
    <complexContent>
        <extension base="mp7q:WeighedClassificationPreferencesType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Purpose" type="mp7q:WeighedControlledTermUseType"/>
                <element name="SignLanguage">
                    <complexType>
                        <simpleContent>
                            <extension base="language">
                                <attribute name="primary" type="boolean" use="optional"/>
                                <attribute name="translation" type="boolean" use="optional"/>
                                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
                <element name="Target">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="Market" type="mp7q:WeighedControlledTermUseType"/>
                            <element name="Age">
                                <complexType>
                                    <attribute name="min" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="max" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
                                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                                </complexType>
                            </element>
                            <element name="Region" type="mp7q:regionCode"/>
                        </choice>
                        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
                <element name="ReviewDetails">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="ReviewReference"
type="mp7q:WeighedRelatedMaterialType"/>
                            <element name="FreeTextReview" type="mp7q:WeighedTextualType"/>
                        </choice>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>

```

```

        </choice>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedSourcePreferences DS -->
<complexType name="WeighedSourcePreferencesType">
    <complexContent>
        <extension base="mp7q:WeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="DisseminationFormat" type="mp7q:WeighedTermUseType"/>
                <element name="DisseminationSource" type="mp7q:WeighedTextualType"/>
                <element name="DisseminationLocation" type="mp7q:WeighedPlaceType"/>
                <element name="DisseminationDate" type="mp7q:WeighedTimeType"/>
                <element name="Disseminator" type="mp7q:WeighedMediaAgentType"/>
                <element name="MediaFormat" type="mp7q:WeighedMediaFormatType"/>
            </choice>
            <attribute name="noRepeat" type="boolean" use="optional"/>
            <attribute name="noEncryption" type="boolean" use="optional"/>
            <attribute name="noPayPerUse" type="boolean" use="optional"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of WeighedTitle datatype -->
<complexType name="WeighedTitleType">
    <simpleContent>
        <extension base="mp7q:WeighedTextualBaseType">
            <attribute name="type" use="optional" default="main">
                <simpleType>
                    <union>
                        <simpleType>
                            <restriction base="NMTOKEN">
                                <enumeration value="main"/>
                                <enumeration value="secondary"/>
                                <enumeration value="alternative"/>
                                <enumeration value="original"/>
                                <enumeration value="popular"/>
                                <enumeration value="opusNumber"/>
                                <enumeration value="songTitle"/>
                                <enumeration value="albumTitle"/>
                                <enumeration value="seriesTitle"/>
                                <enumeration value="episodeTitle"/>
                            </restriction>
                        </simpleType>
                        <simpleType>
                            <restriction base="mp7q:termReferenceType"/>
                        </simpleType>
                    </union>
                </simpleType>
            </attribute>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of WeighedMediaAgent datatype -->
<complexType name="WeighedMediaAgentType">

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<choice minOccurs="0" maxOccurs="unbounded">
  <element name="Role" type="mp7q:WeighedControlledTermUseType"/>
  <element name="Agent" type="mp7q:WeighedAgentType"/>
  <element name="AgentRef" type="mp7q:WeighedReferenceType"/>
</choice>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedCreator datatype -->
<complexType name="WeighedCreatorType">
  <complexContent>
    <extension base="mp7q:WeighedMediaAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Character" type="mp7q:WeighedPersonNameType"/>
        <element name="Instrument" type="mp7q:WeighedCreationToolType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedCreationTool datatype -->
<complexType name="WeighedCreationToolType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Tool" type="mp7q:WeighedTermUseType"/>
    <element name="Setting">
      <complexType>
        <attribute name="name" type="string" use="optional"/>
        <attribute name="value" type="string" use="optional"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedExtendedLanguage datatype -->
<complexType name="WeighedExtendedLanguageType">
  <simpleContent>
    <extension base="language">
      <attribute name="type" use="optional" default="original">
        <simpleType>
          <restriction base="NMTOKEN">
            <enumeration value="original"/>
            <enumeration value="dubbed"/>
            <enumeration value="background"/>
          </restriction>
        </simpleType>
      </attribute>
      <attribute name="supplemental" type="boolean" use="optional" de-
fault="false"/>
    </extension>
  </simpleContent>
</complexType>

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    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </extension>
</simpleContent>
</complexType>
<!-- Definition of WeighedParentalGuidance datatype -->
<complexType name="WeighedParentalGuidanceType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="ParentalRating" type="mp7q:WeighedControlledTermUseType"/>
    <element name="MinimumAge" type="nonNegativeInteger"/>
    <element name="Region" type="mp7q:regionCode"/>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedRelatedMaterial DS -->
<complexType name="WeighedRelatedMaterialType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="DisseminationFormat"
type="mp7q:WeighedControlledTermUseType"/>
        <element name="MaterialType" type="mp7q:WeighedTermUseType"/>
        <element name="MediaLocator" type="mp7q:WeighedMediaLocatorType"/>
        <element name="MediaInformation" type="mp7q:WeighedMediaInformationType"/>
        <element name="MediaInformationRef" type="mp7q:WeighedReferenceType"/>
        <element name="CreationInformation"
type="mp7q:WeighedCreationInformationType"/>
        <element name="CreationInformationRef" type="mp7q:WeighedReferenceType"/>
        <element name="UsageInformation" type="mp7q:WeighedUsageInformationType"/>
        <element name="UsageInformationRef" type="mp7q:WeighedReferenceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedCreationInformation DS -->
<complexType name="WeighedCreationInformationType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Creation" type="mp7q:WeighedCreationType"/>
        <element name="Classification" type="mp7q:WeighedClassificationType"/>
        <element name="RelatedMaterial" type="mp7q:WeighedRelatedMaterialType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedCreation DS -->
<complexType name="WeighedCreationType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Title" type="mp7q:WeighedTitleType"/>
        <element name="TitleMedia" type="mp7q:WeighedTitleMediaType"/>
        <element name="Abstract" type="mp7q:WeighedTextAnnotationType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>

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```

<element name="Creator" type="mp7q:WeighedCreatorType"/>
<element name="CreationCoordinates">
  <complexType>
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Location" type="mp7q:WeighedPlaceType"/>
      <element name="Date" type="mp7q:WeighedTimeType"/>
    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
</element>
<element name="CreationTool" type="mp7q:WeighedCreationToolType"/>
<element name="CopyrightString" type="mp7q:WeighedTextualType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedClassification DS -->
<complexType name="WeighedClassificationType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Form" type="mp7q:WeighedControlledTermUseType"/>
        <element name="Genre" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <complexContent>
              <extension base="mp7q:WeighedControlledTermUseType">
                <attribute name="type" use="optional" default="main">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="main"/>
                      <enumeration value="secondary"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </complexContent>
          </complexType>
        </element>
        <element name="Subject" type="mp7q:WeighedTextAnnotationType"/>
        <element name="Purpose" type="mp7q:WeighedControlledTermUseType"/>
        <element name="Language" type="mp7q:WeighedExtendedLanguageType"/>
        <element name="CaptionLanguage">
          <complexType>
            <simpleContent>
              <extension base="language">
                <attribute name="closed" type="boolean" use="optional" de-
fault="true"/>
                <attribute name="supplemental" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

</element>
<element name="SignLanguage">
  <complexType>
    <simpleContent>
      <extension base="language">
        <attribute name="primary" type="boolean" use="optional"/>
        <attribute name="translation" type="boolean" use="optional"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </extension>
    </simpleContent>
  </complexType>
</element>
<element name="Release">
  <complexType>
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Region" type="mp7q:regionCode"/>
    </choice>
    <attribute name="date" type="mp7q:timePointType" use="optional"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
</element>
<element name="Target">
  <complexType>
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Market" type="mp7q:WeighedControlledTermUseType"/>
      <element name="Age" minOccurs="0">
        <complexType>
          <attribute name="min" type="nonNegativeInteger"
use="optional"/>
          <attribute name="max" type="nonNegativeInteger"
use="optional"/>
          <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
          <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
          <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </complexType>
      </element>
      <element name="Region" type="mp7q:regionCode" minOccurs="0" maxOc-
curs="unbounded"/>
    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
</element>
<element name="ParentalGuidance" type="mp7q:WeighedParentalGuidanceType"/>
<element name="MediaReview" type="mp7q:WeighedMediaReviewType"/>
</choice>

```



```

    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedUsageInformation DS -->
<complexType name="WeighedUsageInformationType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Rights" type="mp7q:WeighedRightsType"/>
        <element name="FinancialResults" type="mp7q:WeighedFinancialType"/>
        <element name="Availability" type="mp7q:WeighedAvailabilityType"/>
        <element name="UsageRecord" type="mp7q:WeighedUsageRecordType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedTitleMedia datatype -->
<complexType name="WeighedTitleMediaType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="TitleImage" type="mp7q:WeighedImageLocatorType"/>
    <element name="TitleVideo" type="mp7q:WeighedTemporalSegmentLocatorType"/>
    <element name="TitleAudio" type="mp7q:WeighedTemporalSegmentLocatorType"/>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedRights datatype -->
<complexType name="WeighedRightsType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="RightsID" type="mp7q:WeighedUniqueIDType" maxOc-
curs="unbounded"/>
  </choice>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedFinancial datatype -->
<complexType name="WeighedFinancialType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="AccountItem">
      <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="EffectiveDate" type="mp7q:timePointType"/>
          <element name="CostType" type="mp7q:WeighedTermUseType"/>
          <element name="IncomeType" type="mp7q:WeighedTermUseType"/>
        </choice>
        <attribute name="currency" type="mp7q:currencyCode" use="optional"/>
        <attribute name="value" type="decimal" use="optional"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
  </choice>
</complexType>

```

```

    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
  <!-- Definition of WeighedAvailability DS -->
  <complexType name="WeighedAvailabilityType">
    <complexContent>
      <extension base="mp7q:WeighedDSType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="InstanceRef" type="mp7q:WeighedReferenceType"/>
          <element name="Dissemination" type="mp7q:WeighedDisseminationType"/>
          <element name="Financial" type="mp7q:WeighedFinancialType"/>
          <element name="Rights" type="mp7q:WeighedRightsType"/>
          <element name="AvailabilityPeriod">
            <complexType>
              <complexContent>
                <extension base="mp7q:WeighedTimeType">
                  <attribute name="type" use="optional">
                    <simpleType>
                      <list>
                        <simpleType>
                          <union>
                            <simpleType>
                              <restriction
base="NMTOKEN">
                                <enumeration
value="live"/>
                                <enumeration
value="repeat"/>
                                <enumeration
value="firstShowing"/>
                                <enumeration
value="lastShowing"/>
                                <enumeration
value="conditionalAccess"/>
                                <enumeration
value="encrypted"/>
                                <enumeration
value="payPerUse"/>
                              </restriction>
                            </simpleType>
                          <simpleType>
                            <restriction
base="mp7q:termReferenceType"/>
                              </simpleType>
                          </union>
                        </simpleType>
                      </list>
                    </simpleType>
                  </attribute>
                </extension>
              </complexContent>
            </complexType>
          </element>
        </choice>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of WeighedDissemination DS -->

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```

<complexType name="WeighedDisseminationType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Source" type="mp7q:WeighedTextualType"/>
        <element name="Format" type="mp7q:WeighedControlledTermUseType"/>
        <element name="Disseminator" type="mp7q:WeighedMediaAgentType"/>
        <element name="Location" type="mp7q:WeighedPlaceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedUsageRecord DS -->
<complexType name="WeighedUsageRecordType">
  <complexContent>
    <extension base="mp7q:WeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AvailabilityRef" type="mp7q:WeighedReferenceType"/>
        <element name="Audience" type="nonNegativeInteger"/>
        <element name="Financial" type="mp7q:WeighedFinancialType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedTemporalSegmentLocator datatype -->
<complexType name="WeighedTemporalSegmentLocatorType">
  <complexContent>
    <extension base="mp7q:WeighedMediaLocatorType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaTime" type="mp7q:WeighedMediaTimeType"/>
        <element name="BytePosition">
          <complexType>
            <attribute name="offset" type="nonNegativeInteger" use="optional"/>
            <attribute name="length" type="positiveInteger" use="optional"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedImageLocator datatype -->
<complexType name="WeighedImageLocatorType">
  <complexContent>
    <extension base="mp7q:WeighedMediaLocatorType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaTimePoint" type="mp7q:mediaTimePointType"/>
        <element name="MediaRelTimePoint"
type="mp7q:WeighedMediaRelTimePointType"/>
        <element name="MediaRelIncrTimePoint"
type="mp7q:WeighedMediaRelIncrTimePointType"/>
        <element name="BytePosition">
          <complexType>
            <attribute name="offset" type="nonNegativeInteger" use="optional"/>
            <attribute name="length" type="positiveInteger" use="optional"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

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        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedMediaTime datatype -->
<complexType name="WeighedMediaTimeType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaTimePoint" type="mp7q:mediaTimePointType"/>
        <element name="MediaRelTimePoint" type="mp7q:WeighedMediaRelTimePointType"/>
        <element name="MediaRelIncrTimePoint"
type="mp7q:WeighedMediaRelIncrTimePointType"/>
        <element name="MediaDuration" type="mp7q:mediaDurationType"/>
        <element name="MediaIncrDuration" type="mp7q:WeighedMediaIncrDurationType"/>
    </choice>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of WeighedMediaRelTimePoint datatype -->
<complexType name="WeighedMediaRelTimePointType">
    <simpleContent>
        <extension base="mp7q:mediaTimeOffsetType">
            <attribute name="mediaTimeBase" type="mp7q:xPathRefType" use="optional"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of WeighedMediaRelIncrTimePoint datatype -->
<complexType name="WeighedMediaRelIncrTimePointType">
    <simpleContent>
        <extension base="integer">
            <attribute name="mediaTimeUnit" type="mp7q:mediaDurationType"
use="optional"/>
            <attribute name="mediaTimeBase" type="mp7q:xPathRefType" use="optional"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of WeighedMediaIncrDuration datatype -->
<complexType name="WeighedMediaIncrDurationType">
    <simpleContent>
        <extension base="integer">
            <attribute name="mediaTimeUnit" type="mp7q:mediaDurationType"
use="optional"/>

```

```

    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </extension>
</simpleContent>
</complexType>
<!-- Definition of WeighedMatchingHint D -->
<complexType name="WeighedMatchingHintType">
  <complexContent>
    <extension base="mp7q:WeighedDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Hint">
          <complexType>
            <complexContent>
              <extension base="mp7q:WeighedReferenceType">
                <attribute name="value" type="mp7q:zeroToOneType" use="optional"/>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
      <attribute name="reliability" type="mp7q:zeroToOneType" use="optional" de-
fault="1.0"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedPointOfView D -->
<complexType name="WeighedPointOfViewType">
  <complexContent>
    <extension base="mp7q:WeighedDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="SupplementalInformation"
type="mp7q:WeighedTextAnnotationType"/>
        <element name="Importance">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Value" type="mp7q:zeroToOneType"/>
              <element name="SegmentRef" type="mp7q:WeighedReferenceType"/>
            </choice>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
      <attribute name="viewpoint" type="string" use="optional"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of WeighedMediaReview datatype -->
<complexType name="WeighedMediaReviewType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Rating" type="mp7q:WeighedRatingType"/>
    <element name="FreeTextReview" type="mp7q:WeighedTextualType"/>
    <element name="ReviewReference" type="mp7q:WeighedRelatedMaterialType"/>
    <element name="Reviewer" type="mp7q:WeighedAgentType"/>
  </choice>

```

```

    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
  <!-- Definition of FilteringAndSearchPreferences DS -->
  <complexType name="FilteringAndSearchPreferencesType">
    <complexContent>
      <extension base="mp7q:MPEG7QuerySpecificationType">
        <sequence>
          <element name="UserIdentifier" type="mp7q:WeighedUserIdentifierType"/>
          <element name="CreationPreferences"
type="mp7q:WeighedCreationPreferencesType" minOccurs="0" maxOccurs="unbounded"/>
          <element name="ClassificationPreferences"
type="mp7q:WeighedClassificationPreferencesType" minOccurs="0" maxOc-
curs="unbounded"/>
          <element name="SourcePreferences" type="mp7q:WeighedSourcePreferencesType"
minOccurs="0" maxOccurs="unbounded"/>
          <element name="PreferenceCondition"
type="mp7q:WeighedPreferenceConditionType" minOccurs="0" maxOccurs="unbounded"/>
          <element name="FilteringAndSearchPreferences"
type="mp7q:WeighedFilteringAndSearchPreferencesType" minOccurs="0" maxOc-
curs="unbounded"/>
        </sequence>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      </extension>
    </complexContent>
  </complexType>
</schema>

```

8.3. MP7QL Constructs for the Representation of Query Specifications with Explicit Boolean Operators

```

<?xml version="1.0" encoding="iso-8859-1"?>
<!-- *****
XML Schema for Boolean Queries for MPEG-7
Copyright Chrisa Tsinaraki TUC/MUSIC
***** -->
<schema targetNamespace="urn:mpeg:mp7q:schema:2001"
xmlns:mp7q="urn:mpeg:mp7q:schema:2001" xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attribute-
FormDefault="unqualified">
  <annotation>
    <documentation>
      XML Schema for Boolean Queries for MPEG-7
    </documentation>
  </annotation>
  <!-- import xml components -->
  <import namespace="http://www.w3.org/XML/1998/namespace" schemaLocation="xml-
1998.xsd"/>
  <!-- include root element definitions -->
  <include schemaLocation="./MP7QF.xsd"/>
  <!-- ##### -->
  <!-- Definition of the Types supporting Boolean MPEG-7 Queries
  -->
  <!-- ##### -->
  <!-- Definition of BooleanMpeg7QueryType Type-->
  <complexType name="BooleanMpeg7QueryType">
    <complexContent>

```

```

<extension base="mp7q:Mpeg7QueryType">
  <choice>
    <element name="Where" minOccurs="0" type="mp7q:BooleanWhereType"/>
  </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWhereType Type-->
<complexType name="BooleanWhereType">
  <choice maxOccurs="unbounded">
    <element name="QuerySpecification"
type="mp7q:BooleanQuerySpecificationType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
</complexType>
<!-- Definition of BooleanQuerySpecification DS -->
<complexType name="BooleanQuerySpecificationType" abstract="true">
  <complexContent>
    <extension base="mp7q:MPEG7QuerySpecificationType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaIdentification"
type="mp7q:BooleanMediaIdentificationType"/>
        <element name="MediaProfile">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="ComponentMediaProfile"
type="mp7q:BooleanMediaProfileType"/>
              <element name="MediaTranscodingHints"
type="mp7q:BooleanMediaTranscodingHintsType"/>
              <element name="MediaQuality" type="mp7q:BooleanMediaQualityType"/>
              <element name="MediaInstance" type="mp7q:BooleanMediaInstanceType"/>
            </choice>
            <attribute name="master" type="boolean" use="optional" default="false"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
        <element name="MediaLocator" type="mp7q:BooleanMediaLocatorType"/>
        <element name="StructuralUnit" type="mp7q:BooleanControlledTermUseType"/>
        <element name="CreationPreferences"
type="mp7q:BooleanCreationPreferencesType"/>
        <element name="ClassificationPreferences"
type="mp7q:BooleanQueryClassificationPreferencesType"/>
        <element name="SourcePreferences"
type="mp7q:BooleanSourcePreferencesType"/>
        <element name="Semantic" type="mp7q:BooleanSemanticType"/>
        <element name="PreferenceCondition"
type="mp7q:BooleanPreferenceConditionType"/>
        <element name="UsageInformation" type="mp7q:BooleanUsageInformationType"/>
        <element name="MatchingHint" type="mp7q:BooleanMatchingHintType"/>
        <element name="PointOfView" type="mp7q:BooleanPointOfViewType"/>
        <element name="RelatedMaterial" type="mp7q:BooleanRelatedMaterialType"/>
        <element name="Relation" type="mp7q:BooleanRelationType"/>
        <element name="TextAnnotation" type="mp7q:BooleanTextAnnotationType"/>
        <element name="VisualDescriptor" type="mp7q:BooleanReferenceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        <element name="VisualDescriptionScheme" type="mp7q:BooleanReferenceType"/>
        <element name="VisualTimeSeriesDescriptor"
type="mp7q:BooleanReferenceType"/>
        <element name="AudioDescriptor" type="mp7q:BooleanReferenceType"/>
        <element name="AudioDescriptionScheme" type="mp7q:BooleanReferenceType"/>
        <element name="DescriptionRef" type="mp7q:BooleanReferenceType"/>
        <element name="SemanticEntityRef" type="mp7q:BooleanReferenceType"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanContextQuerySpecification DS -->
<complexType name="BooleanContextQuerySpecificationType">
    <complexContent>
        <extension base="mp7q:BooleanQuerySpecificationType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="FilteringAndSearchPreferences"
type="mp7q:MPEG7QuerySpecificationType"/>
                <element name="FilteringAndSearchPreferencesRef"
type="mp7q:BooleanReferenceType"/>
                <element name="UsageHistoryRef" type="mp7q:BooleanReferenceType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanFilteringAndSearchPreferences DS -->
<complexType name="BooleanFilteringAndSearchPreferencesType">
    <complexContent>
        <extension base="mp7q:BooleanQuerySpecificationType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="FilteringAndSearchPreferences"
type="mp7q:BooleanFilteringAndSearchPreferencesType"/>
                <element name="FilteringAndSearchPreferencesRef"
type="mp7q:BooleanReferenceType"/>
                <element name="UsageHistoryRef" type="mp7q:BooleanReferenceType"/>
                <element name="UserIdentifier" type="mp7q:BooleanUserIdentifierType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanUserIdentifier datatype -->
<complexType name="BooleanUserIdentifierType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Name" type="mp7q:BooleanTextualType"/>
    </choice>
    <attribute name="protected" type="mp7q:userChoiceType" use="optional" de-
fault="true"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>

```



```

<!-- Definition of Ds and DSs -->
<!-- Definition of generic Boolean D -->
<complexType name="BooleanDType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7QBaseType">
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of generic Boolean DS -->
<complexType name="BooleanDSType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7QBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Header" type="mp7q:BooleanHeaderType" minOccurs="0" maxOc-
curs="unbounded"/>
      </choice>
      <attribute name="id" type="string" use="optional"/>
      <attributeGroup ref="mp7q:timePropertyGrp"/>
      <attributeGroup ref="mp7q:mediaTimePropertyGrp"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanVisual D -->
<complexType name="BooleanVisualDType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanDType"/>
  </complexContent>
</complexType>
<!-- Definition of BooleanAudio D -->
<complexType name="BooleanAudioDType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanDType"/>
  </complexContent>
</complexType>
<!-- Definition of BooleanVisual DS -->
<complexType name="BooleanVisualDSType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanDSType"/>
  </complexContent>
</complexType>
<!-- Definition of Audio DS -->
<complexType name="BooleanAudioDSType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanDSType"/>
  </complexContent>
</complexType>
<!-- Definition of BooleanHeader datatype -->

```

```

<complexType name="BooleanHeaderType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7QBaseType">
      <attribute name="id" type="string" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanReference datatype -->
<complexType name="BooleanReferenceType">
  <attributeGroup ref="mp7q:referenceGrp"/>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanTextualBase datatype -->
<complexType name="BooleanTextualBaseType" abstract="true">
  <simpleContent>
    <extension base="string">
      <attribute ref="xml:lang" use="optional"/>
      <attribute name="phoneticTranscription" use="optional">
        <simpleType>
          <list itemType="mp7q:PhoneType"/>
        </simpleType>
      </attribute>
      <attribute name="phoneticAlphabet" type="mp7q:phoneticAlphabetType"
use="optional" default="sampa"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanTextual datatype -->
<complexType name="BooleanTextualType">
  <simpleContent>
    <extension base="mp7q:BooleanTextualBaseType"/>
  </simpleContent>
</complexType>
<!-- Definition of BooleanTextAnnotation datatype -->
<complexType name="BooleanTextAnnotationType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="FreeTextAnnotation" type="mp7q:BooleanTextualType"/>
    <element name="StructuredAnnotation"
type="mp7q:BooleanStructuredAnnotationType"/>
    <element name="DependencyStructure"
type="mp7q:BooleanDependencyStructureType"/>
  </choice>
</complexType>

```

```

    <element name="KeywordAnnotation" type="mp7q:BooleanKeywordAnnotationType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  <attribute name="relevance" type="mp7q:zeroToOneType" use="optional"/>
  <attribute name="confidence" type="mp7q:zeroToOneType" use="optional"/>
  <attribute ref="xml:lang"/>
</complexType>
<!-- Definition of BooleanStructuredAnnotation datatype -->
<complexType name="BooleanStructuredAnnotationType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Who" type="mp7q:BooleanTermUseType"/>
    <element name="WhatObject" type="mp7q:BooleanTermUseType"/>
    <element name="WhatAction" type="mp7q:BooleanTermUseType"/>
    <element name="Where" type="mp7q:BooleanTermUseType"/>
    <element name="When" type="mp7q:BooleanTermUseType"/>
    <element name="Why" type="mp7q:BooleanTermUseType"/>
    <element name="How" type="mp7q:BooleanTermUseType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  <attribute ref="xml:lang" use="optional"/>
</complexType>
<!-- Definition of BooleanKeywordAnnotation datatype -->
<complexType name="BooleanKeywordAnnotationType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Keyword">
      <complexType>
        <simpleContent>
          <extension base="mp7q:BooleanTextualType">
            <attribute name="type" use="optional" default="main">
              <simpleType>
                <restriction base="NMTOKEN">
                  <enumeration value="main"/>
                  <enumeration value="secondary"/>
                  <enumeration value="other"/>
                </restriction>
              </simpleType>
            </attribute>
          </extension>
        </simpleContent>
      </complexType>
    </element>
  </choice>
  <attribute ref="xml:lang" use="optional"/>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>

```

```

<!-- Definition of BooleanDependencyStructure datatype -->
<complexType name="BooleanDependencyStructureType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Sentence" type="mp7q:BooleanDependencyStructurePhraseType"/>
  </choice>
  <attribute ref="xml:lang" use="optional"/>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanDependencyStructurePhrase datatype -->
<complexType name="BooleanDependencyStructurePhraseType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Quotation" type="mp7q:BooleanDependencyStructurePhraseType"/>
    <element name="Phrase" type="mp7q:BooleanDependencyStructurePhraseType"/>
    <element name="Head" type="mp7q:WordFormType"/>
    <element name="CompoundHead"
type="mp7q:BooleanNonDependencyStructurePhraseType"/>
  </choice>
  <attribute name="id" type="ID" use="optional"/>
  <attribute name="equal" type="IDREF" use="optional"/>
  <attribute name="operator" use="optional">
    <simpleType>
      <union memberTypes="mp7q:dependencyOperatorType mp7q:termReferenceType"/>
    </simpleType>
  </attribute>
  <attribute name="functionWord" type="string" use="optional"/>
  <attribute name="synthesis" type="NMTOKEN" use="optional" fixed="dependency"/>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanNonDependencyStructurePhrase datatype -->
<complexType name="BooleanNonDependencyStructurePhraseType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Quotation" type="mp7q:BooleanDependencyStructurePhraseType"/>
    <element name="Phrase" type="mp7q:BooleanDependencyStructurePhraseType"/>
    <element name="Word" type="mp7q:WordFormType"/>
    <element name="NonDependencyPhrase"
type="mp7q:BooleanNonDependencyStructurePhraseType"/>
  </choice>
  <attribute name="id" type="ID" use="optional"/>
  <attribute name="equal" type="IDREF" use="optional"/>
  <attribute name="synthesis" use="optional" default="unspecified">
    <simpleType>
      <restriction base="NMTOKEN">
        <enumeration value="unspecified"/>
        <enumeration value="coordination"/>
      </restriction>
    </simpleType>
  </attribute>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>

```

```

    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
  <!-- Definition of BooleanTermDefinitionBase DS -->
  <complexType name="BooleanTermDefinitionBaseType" abstract="true">
    <complexContent>
      <extension base="mp7q:BooleanDSType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Name">
            <complexType>
              <simpleContent>
                <extension base="mp7q:BooleanTextualType">
                  <attribute name="preferred" type="boolean" use="optional"/>
                </extension>
              </simpleContent>
            </complexType>
          </element>
          <element name="Definition" type="mp7q:BooleanTextualType"/>
        </choice>
        <attribute name="termID" type="NMTOKEN"/>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanTermDefinition DS -->
  <complexType name="BooleanTermDefinitionType">
    <complexContent>
      <extension base="mp7q:BooleanTermDefinitionBaseType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Term">
            <complexType>
              <complexContent>
                <extension base="mp7q:BooleanTermDefinitionType">
                  <attribute name="relation" type="mp7q:termRelationQualifierType"
use="optional" default="NT"/>
                </extension>
              </complexContent>
            </complexType>
          </element>
        </choice>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanInlineTermDefinition datatype -->
  <complexType name="BooleanInlineTermDefinitionType" abstract="true">
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Name">
        <complexType>
          <simpleContent>
            <extension base="mp7q:BooleanTextualType">
              <attribute name="preferred" type="boolean" use="optional"/>
            </extension>
          </simpleContent>
        </complexType>
      </element>
      <element name="Definition" type="mp7q:BooleanTextualType"/>
      <element name="Term" minOccurs="0" maxOccurs="unbounded">
        <complexType>
          <complexContent>
            <extension base="mp7q:BooleanInlineTermDefinitionType">
              <attribute name="relation" type="mp7q:termRelationQualifierType"
use="optional" default="NT"/>
            </extension>
          </complexContent>
        </complexType>
      </element>
    </choice>
  </complexType>

```

```

        <attribute name="termID" type="NMTOKEN"/>
    </extension>
</complexContent>
</complexType>
</element>
</choice>
<attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
<attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanTermUse datatype -->
<complexType name="BooleanTermUseType">
<complexContent>
<extension base="mp7q:BooleanInlineTermDefinitionType">
<attribute name="href" type="mp7q:termReferenceType" use="optional"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanControlledTermUse datatype -->
<complexType name="BooleanControlledTermUseType">
<complexContent>
<extension base="mp7q:BooleanInlineTermDefinitionType">
<attribute name="href" type="mp7q:termReferenceType" use="optional"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanSemanticBase DS -->
<complexType name="BooleanSemanticBaseType" abstract="true">
<complexContent>
<extension base="mp7q:BooleanDSType">
<choice minOccurs="0" maxOccurs="unbounded">
<element name="AbstractionLevel" type="mp7q:BooleanAbstractionLevelType"/>
<element name="Label" type="mp7q:BooleanTermUseType"/>
<element name="Definition" type="mp7q:BooleanTextAnnotationType"/>
<element name="Property" type="mp7q:BooleanTermUseType"/>
<element name="MediaOccurrence">
<complexType>
<choice minOccurs="0" maxOccurs="unbounded">
<element name="MediaInformation"
type="mp7q:BooleanMediaInformationType"/>
<element name="MediaInformationRef" type="mp7q:BooleanReferenceType"/>
<element name="MediaLocator" type="mp7q:BooleanMediaLocatorType"/>
<element name="Mask" type="mp7q:BooleanMaskType"/>
<element name="AudioDescriptor" type="mp7q:BooleanAudioDType"/>
<element name="AudioDescriptionScheme" type="mp7q:BooleanAudioDSType"/>
<element name="VisualDescriptor" type="mp7q:BooleanVisualDType"/>
<element name="VisualDescriptionScheme"
type="mp7q:BooleanVisualDSType"/>
</choice>
</complexType>
</extension>
<attribute name="type" use="optional" default="perceivable">
<simpleType>
<union>
<simpleType>
<restriction base="NMTOKEN">
<enumeration value="perceivable"/>
<enumeration value="reference"/>
<enumeration value="symbol"/>
</restriction>
</simpleType>
</union>
</simpleType>

```

```

        <simpleType>
            <restriction base="mp7q:termReferenceType"/>
        </simpleType>
    </union>
</simpleType>
</attribute>
<attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
<attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
<attribute name="minOccurs" type="integer" use="optional" default="0"/>
<attribute name="maxOccurs" type="string" use="optional" de-
fault="unbounded"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
</element>
<element name="Relation" type="mp7q:BooleanRelationType"/>
<element name="Occurences" type="nonNegativeInteger" default="1"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanSemanticBag DS -->
<complexType name="BooleanSemanticBagType" abstract="true">
<complexContent>
<extension base="mp7q:BooleanSemanticBaseType">
<choice minOccurs="0" maxOccurs="unbounded">
<element name="SemanticBase" type="mp7q:BooleanSemanticBaseType"/>
<element name="SemanticBaseRef" type="mp7q:BooleanReferenceType"/>
<element name="Graph" type="mp7q:BooleanGraphType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanSemantic DS -->
<complexType name="BooleanSemanticType">
<complexContent>
<extension base="mp7q:BooleanSemanticBagType"/>
</complexContent>
</complexType>
<!-- Definition of BooleanObject DS -->
<complexType name="BooleanObjectType">
<complexContent>
<extension base="mp7q:BooleanSemanticBaseType">
<choice minOccurs="0" maxOccurs="unbounded">
<element name="Object" type="mp7q:BooleanObjectType"/>
<element name="ObjectRef" type="mp7q:BooleanReferenceType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanAgentObject DS -->
<complexType name="BooleanAgentObjectType">
<complexContent>
<extension base="mp7q:BooleanObjectType">
<choice minOccurs="0" maxOccurs="unbounded">
<element name="Agent" type="mp7q:BooleanAgentType"/>
<element name="AgentRef" type="mp7q:BooleanReferenceType"/>
</choice>
</extension>

```

```

    </complexContent>
</complexType>
<!-- Definition of BooleanEvent DS -->
<complexType name="BooleanEventType">
  <complexContent>
    <extension base="mp7q:BooleanSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Event" type="mp7q:BooleanEventType"/>
        <element name="EventRef" type="mp7q:BooleanReferenceType"/>
        <element name="SemanticPlace" type="mp7q:BooleanSemanticPlaceType"/>
        <element name="SemanticTime" type="mp7q:BooleanSemanticTimeType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanConcept DS -->
<complexType name="BooleanConceptType">
  <complexContent>
    <extension base="mp7q:BooleanSemanticBaseType"/>
  </complexContent>
</complexType>
<!-- Definition of BooleanSemanticState DS -->
<complexType name="BooleanSemanticStateType">
  <complexContent>
    <extension base="mp7q:BooleanSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AttributeValuePair">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Attribute" type="mp7q:BooleanTermUseType"/>
              <element name="Unit" type="mp7q:BooleanTermUseType"/>
              <element name="BooleanValue" type="boolean"/>
              <element name="IntegerValue" type="integer"/>
              <element name="FloatValue" type="float"/>
              <element name="IntegerMatrixValue"
type="mp7q:BooleanIntegerMatrixType"/>
              <element name="FloatMatrixValue" type="mp7q:BooleanFloatMatrixType"/>
              <element name="TextValue" type="mp7q:BooleanTextualType"/>
              <element name="TextAnnotationValue"
type="mp7q:BooleanTextAnnotationType"/>
              <element name="ControlledTermUseValue"
type="mp7q:BooleanControlledTermUseType"/>
              <element name="DescriptorValue" type="mp7q:BooleanDType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
        <element name="SemanticTime" type="mp7q:BooleanSemanticTimeType"/>
        <element name="SemanticPlace" type="mp7q:BooleanSemanticPlaceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanSemanticPlace DS -->
<complexType name="BooleanSemanticPlaceType">
  <complexContent>

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<extension base="mp7q:BooleanSemanticBaseType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Place" type="mp7q:BooleanPlaceType"/>
    <element name="SemanticPlaceInterval">
      <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Position" type="mp7q:BooleanPositionType"/>
          <element name="Extent" type="mp7q:BooleanExtentType"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
  </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanSemanticTime DS -->
<complexType name="BooleanSemanticTimeType">
  <complexContent>
    <extension base="mp7q:BooleanSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Time" type="mp7q:BooleanTimeType" minOccurs="0"/>
        <element name="SemanticTimeInterval">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="TimePoint" type="mp7q:BooleanPositionType"/>
              <element name="Duration" type="mp7q:BooleanExtentType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanAgent DS -->
<complexType name="BooleanAgentType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Icon" type="mp7q:BooleanMediaLocatorType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanPerson DS -->
<complexType name="BooleanPersonType">
  <complexContent>
    <extension base="mp7q:BooleanAgentType">

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<choice minOccurs="0" maxOccurs="unbounded">
  <element name="Name" type="mp7q:BooleanPersonNameType"/>
  <element name="NameTerm" type="mp7q:BooleanControlledTermUseType"/>
  <element name="Affiliation">
    <complexType>
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Organization" type="mp7q:BooleanOrganizationType"/>
        <element name="OrganizationRef" type="mp7q:BooleanReferenceType"/>
        <element name="PersonGroup" type="mp7q:BooleanPersonGroupType"/>
        <element name="PersonGroupRef" type="mp7q:BooleanReferenceType"/>
      </choice>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
  <element name="Citizenship" type="mp7q:countryCode"/>
  <element name="Address" type="mp7q:BooleanPlaceType"/>
  <element name="AddressRef" type="mp7q:BooleanReferenceType"/>
  <element name="ElectronicAddress"
type="mp7q:BooleanElectronicAddressType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanPersonGroup DS -->
<complexType name="BooleanPersonGroupType">
  <complexContent>
    <extension base="mp7q:BooleanAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Name">
          <complexType>
            <simpleContent>
              <extension base="mp7q:BooleanTextualType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="former"/>
                      <enumeration value="variant"/>
                      <enumeration value="main"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </simpleContent>
          </complexType>
        </element>
        <element name="NameTerm">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanControlledTermUseType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="former"/>
                      <enumeration value="variant"/>
                      <enumeration value="main"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

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```

        </simpleType>
    </attribute>
</extension>
</complexContent>
</complexType>
</element>
<element name="Kind" type="mp7q:BooleanTermUseType"/>
<element name="Member" type="mp7q:BooleanPersonType"/>
<element name="MemberRef" type="mp7q:BooleanReferenceType"/>
<element name="Jurisdiction" type="mp7q:BooleanPlaceType"/>
<element name="JurisdictionRef" type="mp7q:BooleanReferenceType"/>
<element name="Address" type="mp7q:BooleanPlaceType"/>
<element name="AddressRef" type="mp7q:BooleanReferenceType"/>
<element name="ElectronicAddress"
type="mp7q:BooleanElectronicAddressType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanOrganization DS -->
<complexType name="BooleanOrganizationType">
<complexContent>
<extension base="mp7q:BooleanAgentType">
<choice minOccurs="0" maxOccurs="unbounded">
<element name="Name">
<complexType>
<simpleContent>
<extension base="mp7q:BooleanTextualType">
<attribute name="type" use="optional">
<simpleType>
<restriction base="NMTOKEN">
<enumeration value="former"/>
<enumeration value="variant"/>
<enumeration value="main"/>
</restriction>
</simpleType>
</attribute>
</extension>
</simpleContent>
</complexType>
</element>
<element name="NameTerm">
<complexType>
<complexContent>
<extension base="mp7q:BooleanControlledTermUseType">
<attribute name="type" use="optional">
<simpleType>
<restriction base="NMTOKEN">
<enumeration value="former"/>
<enumeration value="variant"/>
<enumeration value="main"/>
</restriction>
</simpleType>
</attribute>
</extension>
</complexContent>
</complexType>
</element>
<element name="Kind" type="mp7q:BooleanTermUseType"/>
<element name="Contact" type="mp7q:BooleanAgentType"/>
<element name="ContactRef" type="mp7q:BooleanReferenceType"/>
<element name="Jurisdiction" type="mp7q:BooleanPlaceType"/>
<element name="JurisdictionRef" type="mp7q:BooleanReferenceType"/>

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        <element name="Address" type="mp7q:BooleanPlaceType"/>
        <element name="AddressRef" type="mp7q:BooleanReferenceType"/>
        <element name="ElectronicAddress" type="mp7q:BooleanElectronicAddressType"
minOccurs="0"/>
    </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanPlace DS -->
<complexType name="BooleanPlaceType">
    <complexContent>
        <extension base="mp7q:BooleanDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Name" type="mp7q:BooleanTextualType"/>
                <element name="NameTerm" type="mp7q:BooleanControlledTermUseType"/>
                <element name="Role" type="mp7q:BooleanTermUseType"/>
                <element name="GeographicPosition">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="Point" type="mp7q:BooleanGeographicPointType"/>
                        </choice>
                        <attribute name="datum" type="string" use="optional"/>
                        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
                <element name="AstronomicalBody" type="mp7q:BooleanTermUseType"/>
                <element name="Region" type="mp7q:regionCode"/>
                <element name="AdministrativeUnit">
                    <complexType>
                        <simpleContent>
                            <extension base="string">
                                <attribute name="type" type="string" use="optional"/>
                                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                                <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
                <element name="PostalAddress" minOccurs="0">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="AddressLine" type="mp7q:BooleanTextualType"/>
                            <element name="PostingIdentifier" type="mp7q:BooleanTextualType"/>
                        </choice>
                        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>

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        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        <attribute ref="xml:lang" use="optional"/>
    </complexType>
</element>
    <element name="InternalCoordinates" type="string"/>
</choice>
    <attribute ref="xml:lang" use="optional"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanGeographicPoint datatype -->
<complexType name="BooleanGeographicPointType">
    <attribute name="longitude" use="optional">
        <simpleType>
            <restriction base="double">
                <minInclusive value="-180.0"/>
                <maxInclusive value="180.0"/>
            </restriction>
        </simpleType>
    </attribute>
    <attribute name="latitude" use="optional">
        <simpleType>
            <restriction base="double">
                <minInclusive value="-90.0"/>
                <maxInclusive value="90.0"/>
            </restriction>
        </simpleType>
    </attribute>
    <attribute name="altitude" type="double" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanPersonaName datatype -->
<complexType name="BooleanPersonNameType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="GivenName" type="mp7q:BooleanNameComponentType"/>
        <element name="FamilyName" type="mp7q:BooleanNameComponentType"/>
        <element name="Title" type="mp7q:BooleanNameComponentType"/>
        <element name="Numeration" type="string"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    <attribute name="dateFrom" type="mp7q:timePointType" use="optional"/>
    <attribute name="dateTo" type="mp7q:timePointType" use="optional"/>
    <attribute name="type" use="optional">
        <simpleType>
            <restriction base="NMTOKEN">
                <enumeration value="former"/>
                <enumeration value="variant"/>
                <enumeration value="main"/>
            </restriction>
        </simpleType>
    </attribute>

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```

    </attribute>
    <attribute ref="xml:lang" use="optional"/>
  </complexType>
  <!-- Definition of BooleanNameComponent datatype -->
  <complexType name="BooleanNameComponentType">
    <simpleContent>
      <extension base="mp7q:BooleanTextualBaseType">
        <attribute name="initial" type="string" use="optional"/>
        <attribute name="abbrev" type="string" use="optional"/>
      </extension>
    </simpleContent>
  </complexType>
  <!-- Definition of BooleanElectronicAddress datatype -->
  <complexType name="BooleanElectronicAddressType">
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Telephone" type="string"/>
      <element name="Fax" type="string"/>
      <element name="Email" type="string"/>
      <element name="Url" type="anyURI"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
    default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
    type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
    type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
  <!-- Definition of BooleanGraph DS -->
  <complexType name="BooleanGraphType">
    <complexContent>
      <extension base="mp7q:BooleanDSType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Node">
            <complexType>
              <complexContent>
                <extension base="mp7q:BooleanReferenceType">
                  <choice minOccurs="0" maxOccurs="unbounded">
                    <element name="Name" type="mp7q:BooleanTermUseType"/>
                  </choice>
                  <attribute name="id" type="ID" use="optional"/>
                </extension>
              </complexContent>
            </complexType>
          </element>
          <element name="Relation" type="mp7q:BooleanRelationType"/>
        </choice>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanRelation DS -->
  <complexType name="BooleanRelationType">
    <complexContent>
      <extension base="mp7q:BooleanDSType">
        <attribute name="type" type="mp7q:termReferenceType" use="optional"/>
        <attribute name="source" use="optional">
          <simpleType>
            <list itemType="anyURI"/>
          </simpleType>
        </attribute>
        <attribute name="target">
          <simpleType>
            <list itemType="anyURI"/>
          </simpleType>
        </attribute>
      </extension>
    </complexContent>
  </complexType>

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        </simpleType>
    </attribute>
    <attribute name="directed" type="boolean" use="optional" default="true"/>
    <attribute name="strength" type="mp7q:zeroToOneType" use="optional" de-
fault="1.0"/>
    </extension>
</complexContent>
</complexType>
<!-- Definition of BooleanAbstractionLevel DS -->
<complexType name="BooleanAbstractionLevelType">
    <attribute name="dimension" type="nonNegativeInteger" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanExtent datatype -->
<complexType name="BooleanExtentType">
    <attribute name="measurementType" type="string" use="optional"/>
    <attribute name="unit" type="string" use="optional"/>
    <attribute name="value" type="string" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanPosition datatype -->
<complexType name="BooleanPositionType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Displacement" type="mp7q:BooleanExtentType" minOccurs="0"/>
        <element name="Direction" type="mp7q:BooleanExtentType" minOccurs="0"/>
    </choice>
    <attribute name="origin" type="string" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanMask D -->
<complexType name="BooleanMaskType" abstract="true">
    <complexContent>
        <extension base="mp7q:BooleanDSType"/>
    </complexContent>
</complexType>
<!-- Definition of BooleanMediaLocator datatype -->
<complexType name="BooleanMediaLocatorType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaUri" type="anyURI"/>
        <element name="InlineMedia" type="mp7q:BooleanInlineMediaType"/>
        <element name="StreamID" type="nonNegativeInteger"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>

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    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanInlineMedia datatype -->
<complexType name="BooleanInlineMediaType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaData16" type="hexBinary"/>
        <element name="MediaData64" type="base64Binary"/>
    </choice>
    <attribute name="type" type="mp7q:mimeType" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanIntegerMatrix datatype -->
<complexType name="BooleanIntegerMatrixType">
    <simpleContent>
        <extension base="mp7q:integerVector">
            <attribute ref="mp7q:dim" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of BooleanFloatMatrix datatype -->
<complexType name="BooleanFloatMatrixType">
    <simpleContent>
        <extension base="mp7q:floatVector">
            <attribute ref="mp7q:dim" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of BooleanMediaInformation DS -->
<complexType name="BooleanMediaInformationType">
    <complexContent>
        <extension base="mp7q:BooleanDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="MediaIdentification"
type="mp7q:BooleanMediaIdentificationType"/>
                <element name="MediaProfile" type="mp7q:BooleanMediaProfileType"/>
            </choice>
        </extension>
    </complexContent>

```



```

</complexType>
<!-- Definition of BooleanMediaIdentification D -->
<complexType name="BooleanMediaIdentificationType">
  <complexContent>
    <extension base="mp7q:BooleanDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="EntityIdentifier" type="mp7q:BooleanUniqueIDType"/>
        <element name="AudioDomain" type="mp7q:BooleanControlledTermUseType"/>
        <element name="VideoDomain" type="mp7q:BooleanControlledTermUseType"/>
        <element name="ImageDomain" type="mp7q:BooleanControlledTermUseType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanMediaProfile DS -->
<complexType name="BooleanMediaProfileType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="ComponentMediaProfile" type="mp7q:BooleanMediaProfileType"/>
        <element name="MediaFormat" type="mp7q:BooleanMediaFormatType"/>
        <element name="MediaTranscodingHints"
type="mp7q:BooleanMediaTranscodingHintsType"/>
        <element name="MediaQuality" type="mp7q:BooleanMediaQualityType"/>
        <element name="MediaInstance" type="mp7q:BooleanMediaInstanceType"/>
      </choice>
      <attribute name="master" type="boolean" use="optional" default="false"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanMediaFormat D -->
<complexType name="BooleanMediaFormatType">
  <complexContent>
    <extension base="mp7q:BooleanDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Content" type="mp7q:BooleanControlledTermUseType"/>
        <element name="Medium" type="mp7q:BooleanControlledTermUseType"/>
        <element name="FileFormat" type="mp7q:BooleanControlledTermUseType"/>
        <element name="FileSize" type="nonNegativeInteger"/>
        <element name="System" type="mp7q:BooleanControlledTermUseType"/>
        <element name="Bandwidth" type="float"/>
        <element name="BitRate">
          <complexType>
            <simpleContent>
              <extension base="nonNegativeInteger">
                <attribute name="variable" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="minimum" type="nonNegativeInteger"
use="optional"/>
                <attribute name="average" type="nonNegativeInteger"
use="optional"/>
                <attribute name="maximum" type="nonNegativeInteger"
use="optional"/>
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>

```

```

    </complexType>
  </element>
  <element name="TargetChannelBitRate" type="nonNegativeInteger"/>
  <element name="ScalableCoding" minOccurs="0">
    <simpleType>
      <union>
        <simpleType>
          <restriction base="NMTOKEN">
            <enumeration value="spatial"/>
            <enumeration value="temporal"/>
            <enumeration value="snr"/>
            <enumeration value="fgs"/>
          </restriction>
        </simpleType>
        <simpleType>
          <restriction base="mp7q:termReferenceType"/>
        </simpleType>
      </union>
    </simpleType>
  </element>
  <element name="VisualCoding">
    <complexType>
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Format">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanControlledTermUseType">
                <attribute name="colorDomain" use="optional"
default="color">
                  <simpleType>
                    <union>
                      <simpleType>
                        <restriction
base="NMTOKEN">
                          <enumeration
value="binary"/>
                          <enumeration
value="color"/>
                          <enumeration
value="graylevel"/>
                          <enumeration
value="colorized"/>
                        </restriction>
                      </simpleType>
                      <simpleType>
                        <restriction
base="mp7q:termReferenceType"/>
                      </simpleType>
                    </union>
                  </simpleType>
                </attribute>
              </extension>
            </complexContent>
          </complexType>
        </element>
        <element name="Pixel">
          <complexType>
            <attribute name="resolution" type="nonNegativeInteger"
use="optional"/>
            <attribute name="aspectRatio" type="mp7q:nonNegativeReal"
use="optional"/>
            <attribute name="bitsPer" type="nonNegativeInteger"
use="optional"/>
          </complexType>
        </element>
      </choice>
    </complexType>
  </element>

```

```

        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional"
default="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="Frame">
    <complexType>
        <attribute name="height" type="nonNegativeInteger"
use="optional"/>
        <attribute name="width" type="nonNegativeInteger"
use="optional"/>
        <attribute name="aspectRatio" type="mp7q:nonNegativeReal"
use="optional"/>
        <attribute name="rate" type="mp7q:nonNegativeReal"
use="optional"/>
        <attribute name="structure" use="optional">
            <simpleType>
                <restriction base="NMTOKEN">
                    <enumeration value="progressive"/>
                    <enumeration value="interlaced"/>
                </restriction>
            </simpleType>
        </attribute>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional"
default="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="ColorSampling" type="mp7q:BooleanColorSamplingType"/>
</choice>
</complexType>
</element>
<element name="AudioCoding">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Format" type="mp7q:BooleanControlledTermUseType"/>
            <element name="AudioChannels">
                <complexType>
                    <simpleContent>
                        <extension base="nonNegativeInteger">
                            <attribute name="front"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="side"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="rear"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="lfe" type="nonNegativeInteger"
use="optional"/>
                            <attribute name="track"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="ANDOROperator"
type="mp7q:ANDOROperatorType" use="optional" default="OR"/>

```

```

                                <attribute name="NOTOperator" type="boolean"
use="optional" default="false"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                                </extension>
                                </complexContent>
                                </complexType>
                                </element>
                                <element name="Sample">
                                <complexType>
                                <attribute name="rate" type="mp7q:nonNegativeReal"
use="optional"/>
                                <attribute name="bitsPer" type="nonNegativeInteger"
use="optional"/>
                                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                                <attribute name="NOTOperator" type="boolean" use="optional"
default="false"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                                </complexType>
                                </element>
                                <element name="Emphasis">
                                <simpleType>
                                <union>
                                <simpleType>
                                <restriction base="NMTOKEN">
                                <enumeration value="none"/>
                                <enumeration
value="50over15Microseconds"/>
                                <enumeration value="ccittJ17"/>
                                </restriction>
                                </simpleType>
                                <simpleType>
                                <restriction base="mp7q:termReferenceType"/>
                                </simpleType>
                                </union>
                                </simpleType>
                                </element>
                                <element name="Presentation" type="mp7q:BooleanControlledTermUseType"/>
                                </choice>
                                </complexType>
                                </element>
                                <element name="SceneCodingFormat"
type="mp7q:BooleanControlledTermUseType"/>
                                <element name="GraphicsCodingFormat"
type="mp7q:BooleanControlledTermUseType"/>
                                <element name="OtherCodingFormat"
type="mp7q:BooleanControlledTermUseType"/>
                                </choice>
                                </extension>
                                </complexContent>
                                </complexType>
                                <!-- Definition of BooleanColorSampling D -->
                                <complexType name="BooleanColorSamplingType">
                                <complexContent>
                                <extension base="mp7q:BooleanDType">
                                <choice minOccurs="0" maxOccurs="unbounded">
                                <element name="Lattice">

```

```

    <complexType>
      <attribute name="width" type="positiveInteger" use="optional"/>
      <attribute name="height" type="positiveInteger" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
  <element name="Field">
    <complexType>
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Component">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanTermUseType">
                <choice minOccurs="0" maxOccurs="unbounded">
                  <element name="Offset">
                    <complexType>
                      <attribute
name="horizontal" type="mp7q:nonNegativeReal" use="optional"/>
                      <attribute name="vertical"
type="mp7q:nonNegativeReal" use="optional"/>
                      <attribute
name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional" default="OR"/>
                      <attribute
name="NOTOperator" type="boolean" use="optional" default="false"/>
                      <attribute
name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType"
use="optional" default="equals"/>
                      <attribute
name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType"
use="optional" default="contains"/>
                    </complexType>
                  </element>
                  <element name="Period">
                    <complexType>
                      <attribute
name="horizontal" type="mp7q:nonNegativeReal" use="optional"/>
                      <attribute name="vertical"
type="mp7q:nonNegativeReal" use="optional"/>
                      <attribute
name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional" default="OR"/>
                      <attribute
name="NOTOperator" type="boolean" use="optional" default="false"/>
                      <attribute
name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType"
use="optional" default="equals"/>
                      <attribute
name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType"
use="optional" default="contains"/>
                    </complexType>
                  </element>
                </choice>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
    </complexType>
  </element>
</choice>

```

```

        <attribute name="temporalOrder" type="nonNegativeInteger"
use="optional"/>
        <attribute name="positionalOrder" type="nonNegativeInteger"
use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanMediaTranscodingHints D -->
<complexType name="BooleanMediaTranscodingHintsType">
    <complexContent>
        <extension base="mp7q:BooleanDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="MotionHint">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="MotionRange">
                                <complexType>
                                    <attribute name="xLeft" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="xRight" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="yDown" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="yUp" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                                    <attribute name="NOTOperator" type="boolean" use="optional"
default="false"/>
                                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                                </complexType>
                            </element>
                        </choice>
                    </complexType>
                </element>
                <attribute name="uncompensability" type="mp7q:zeroToOneType"
use="optional"/>
                <attribute name="intensity" type="mp7q:zeroToOneType" use="optional"/>
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </complexType>
        </element>
        <element name="ShapeHint">
            <complexType>
                <attribute name="shapeChange" type="float" use="optional"/>
            </complexType>
        </element>
    </choice>
</extension>
</complexContent>
</complexType>

```

```

        <attribute name="numOfNonTranspBlocks" type="mp7q:nonNegativeReal"
use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="CodingHints">
    <complexType>
        <attribute name="avgQuantScale" type="mp7q:nonNegativeReal"
use="optional"/>
        <attribute name="intraFrameDistance" type="nonNegativeInteger"
use="optional"/>
        <attribute name="anchorFrameDistance" type="positiveInteger"
use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
    <attribute name="difficulty" type="mp7q:zeroToOneType" use="optional"/>
    <attribute name="importance" type="mp7q:zeroToOneType" use="optional"/>
    <attribute name="spatialResolutionHint" type="mp7q:zeroToOneType"
use="optional"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanMediaQuality D -->
<complexType name="BooleanMediaQualityType">
    <complexContent>
        <extension base="mp7q:BooleanDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="QualityRating">
                    <complexType>
                        <complexContent>
                            <extension base="mp7q:BooleanRatingType">
                                <attribute name="type" use="optional">
                                    <simpleType>
                                        <restriction base="NMTOKEN">
                                            <enumeration value="subjective"/>
                                            <enumeration value="objective"/>
                                        </restriction>
                                    </simpleType>
                                </attribute>
                            </extension>
                        </complexContent>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>
</element>
    <element name="RatingSource" type="mp7q:BooleanAgentType"/>
    <element name="RatingInformationLocator" type="mp7q:BooleanReferenceType"/>
    <element name="PerceptibleDefects">
        <complexType>

```

```

        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="VisualDefects"
type="mp7q:BooleanControlledTermUseType"/>
            <element name="AudioDefects" type="mp7q:BooleanControlledTermUseType"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanRating datatype -->
<complexType name="BooleanRatingType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="RatingValue" type="float"/>
        <element name="RatingScheme">
            <complexType>
                <complexContent>
                    <extension base="mp7q:BooleanTermUseType">
                        <attribute name="best" type="float" use="optional"/>
                        <attribute name="worst" type="float" use="optional"/>
                        <attribute name="style" use="optional">
                            <simpleType>
                                <restriction base="NMTOKEN">
                                    <enumeration value="higherBetter"/>
                                    <enumeration value="lowerBetter"/>
                                </restriction>
                            </simpleType>
                        </attribute>
                    </extension>
                </complexContent>
            </complexType>
        </element>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanMediaInstance DS -->
<complexType name="BooleanMediaInstanceType">
    <complexContent>
        <extension base="mp7q:BooleanDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="InstanceIdentifier" type="mp7q:BooleanUniqueIDType"/>
                <element name="MediaLocator" type="mp7q:BooleanMediaLocatorType"/>
                <element name="LocationDescription" type="mp7q:BooleanTextualType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanUniqueID datatype -->

```



```

<complexType name="BooleanUniqueIDType">
  <simpleContent>
    <extension base="string">
      <attribute name="type" type="NMTOKEN" use="optional" default="URI"/>
      <attribute name="organization" type="NMTOKEN" use="optional"/>
      <attribute name="authority" type="NMTOKEN" use="optional"/>
      <attribute name="encoding" use="optional" default="text">
        <simpleType>
          <restriction base="string">
            <enumeration value="text"/>
            <enumeration value="base16"/>
            <enumeration value="base64"/>
          </restriction>
        </simpleType>
      </attribute>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanPreferenceCondition D -->
<complexType name="BooleanPreferenceConditionType">
  <complexContent>
    <extension base="mp7q:BooleanDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Place" type="mp7q:BooleanPlaceType" minOccurs="0"/>
        <element name="Time" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanTimeType">
                <attribute name="recurrence" use="optional" default="none">
                  <simpleType>
                    <union>
                      <simpleType>
                        <restriction base="NMTOKEN">
                          <enumeration value="none"/>
                          <enumeration value="daily"/>
                          <enumeration value="weekly"/>
                          <enumeration value="monthly"/>
                          <enumeration value="annually"/>
                        </restriction>
                      </simpleType>
                      <simpleType>
                        <restriction
base="mp7q:termReferenceType"/>
                      </simpleType>
                    </union>
                  </simpleType>
                </attribute>
                <attribute name="numOfRecurrences" type="positiveInteger"
use="optional"/>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

    </complexContent>
</complexType>
<!-- Definition of BooleanTime datatype -->
<complexType name="BooleanTimeType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="TimePoint" type="mp7q:timePointType"/>
    <element name="RelTimePoint" type="mp7q:BooleanRelTimePointType"/>
    <element name="RelIncrTimePoint" type="mp7q:BooleanRelIncrTimePointType"/>
    <element name="Duration" type="mp7q:durationType"/>
    <element name="IncrDuration" type="mp7q:BooleanIncrDurationType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanIncrDuration datatype -->
<complexType name="BooleanIncrDurationType">
  <simpleContent>
    <extension base="integer">
      <attribute name="timeUnit" type="mp7q:durationType" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanRelTimePointType datatype -->
<complexType name="BooleanRelTimePointType">
  <simpleContent>
    <extension base="mp7q:timeOffsetType">
      <attribute name="timeBase" type="mp7q:xPathRefType" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanRelIncrTimePointType datatype -->
<complexType name="BooleanRelIncrTimePointType">
  <simpleContent>
    <extension base="integer">
      <attribute name="timeUnit" type="mp7q:durationType" use="optional"/>
      <attribute name="timeBase" type="mp7q:xPathRefType" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>

```

```

    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </extension>
</simpleContent>
</complexType>
<!-- Definition of BooleanQueryCreationPreferences DS -->
<complexType name="BooleanQueryCreationPreferencesType">
  <complexContent>
    <extension base="mp7q:BooleanCreationPreferencesType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="TitleMedia" type="mp7q:BooleanTitleMediaType"/>
        <element name="CopyrightString" type="mp7q:BooleanTextualType"/>
        <element name="CreationToolSetting" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <attribute name="name" type="string" use="optional"/>
            <attribute name="value" type="string" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanCreationPreferences DS -->
<complexType name="BooleanCreationPreferencesType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Title" type="mp7q:BooleanTitleType"/>
        <element name="Creator" type="mp7q:BooleanCreatorType"/>
        <element name="Keyword" type="mp7q:BooleanTextualType"/>
        <element name="Location" type="mp7q:BooleanPlaceType"/>
        <element name="DatePeriod" type="mp7q:BooleanTimeType"/>
        <element name="Tool" type="mp7q:BooleanTermUseType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanClassificationPreferences DS -->
<complexType name="BooleanClassificationPreferencesType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Country">
          <complexType>
            <simpleContent>
              <extension base="mp7q:countryCode">
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        </simpleContent>
    </complexType>
</element>
<element name="DatePeriod" type="mp7q:BooleanTimeType"/>
<element name="LanguageFormat">
    <complexType>
        <simpleContent>
            <extension base="mp7q:auxiliaryLanguageType">
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
        </simpleContent>
    </complexType>
</element>
<element name="Language" type="mp7q:BooleanExtendedLanguageType"/>
<element name="CaptionLanguage">
    <complexType>
        <simpleContent>
            <extension base="language">
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
        </simpleContent>
    </complexType>
</element>
<element name="Form" type="mp7q:BooleanTermUseType"/>
<element name="Genre" type="mp7q:BooleanTermUseType"/>
<element name="Subject" type="mp7q:BooleanTextualType"/>
<element name="Review">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Rating" type="mp7q:BooleanRatingType"/>
            <element name="Reviewer" type="mp7q:BooleanAgentType"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<choice>
    <element name="ParentalGuidance" type="mp7q:BooleanParentalGuidanceType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanQueryClassificationPreferences DS -->
<complexType name="BooleanQueryClassificationPreferencesType">

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```

<complexContent>
  <extension base="mp7q:BooleanClassificationPreferencesType">
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Purpose" type="mp7q:BooleanControlledTermUseType"/>
      <element name="SignLanguage">
        <complexType>
          <simpleContent>
            <extension base="language">
              <attribute name="primary" type="boolean" use="optional"/>
              <attribute name="translation" type="boolean" use="optional"/>
              <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
              <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
              <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
              <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
          </simpleContent>
        </complexType>
      </element>
      <element name="Target">
        <complexType>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Market" type="mp7q:BooleanControlledTermUseType"/>
            <element name="Age">
              <complexType>
                <attribute name="min" type="nonNegativeInteger"
use="optional"/>
                <attribute name="max" type="nonNegativeInteger"
use="optional"/>
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="NOTOperator" type="boolean" use="optional"
default="false"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
              </complexType>
            </element>
            <element name="Region" type="mp7q:regionCode"/>
          </choice>
          <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
          <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
          <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
          <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </complexType>
      </element>
      <element name="ReviewDetails">
        <complexType>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element name="ReviewReference"
type="mp7q:BooleanRelatedMaterialType"/>
            <element name="FreeTextReview" type="mp7q:BooleanTextualType"/>
          </choice>
          <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>

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        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanSourcePreferences DS -->
<complexType name="BooleanSourcePreferencesType">
    <complexContent>
        <extension base="mp7q:BooleanDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="DisseminationFormat" type="mp7q:BooleanTermUseType"/>
                <element name="DisseminationSource" type="mp7q:BooleanTextualType"/>
                <element name="DisseminationLocation" type="mp7q:BooleanPlaceType"/>
                <element name="DisseminationDate" type="mp7q:BooleanTimeType"/>
                <element name="Disseminator" type="mp7q:BooleanMediaAgentType"/>
                <element name="MediaFormat" type="mp7q:BooleanMediaFormatType"/>
            </choice>
            <attribute name="noRepeat" type="boolean" use="optional"/>
            <attribute name="noEncryption" type="boolean" use="optional"/>
            <attribute name="noPayPerUse" type="boolean" use="optional"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanTitle datatype -->
<complexType name="BooleanTitleType">
    <simpleContent>
        <extension base="mp7q:BooleanTextualBaseType">
            <attribute name="type" use="optional" default="main">
                <simpleType>
                    <union>
                        <simpleType>
                            <restriction base="NMTOKEN">
                                <enumeration value="main"/>
                                <enumeration value="secondary"/>
                                <enumeration value="alternative"/>
                                <enumeration value="original"/>
                                <enumeration value="popular"/>
                                <enumeration value="opusNumber"/>
                                <enumeration value="songTitle"/>
                                <enumeration value="albumTitle"/>
                                <enumeration value="seriesTitle"/>
                                <enumeration value="episodeTitle"/>
                            </restriction>
                        </simpleType>
                        <simpleType>
                            <restriction base="mp7q:termReferenceType"/>
                        </simpleType>
                    </union>
                </simpleType>
            </attribute>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of BooleanMediaAgent datatype -->
<complexType name="BooleanMediaAgentType">
    <choice minOccurs="0" maxOccurs="unbounded">

```

```

    <element name="Role" type="mp7q:BooleanControlledTermUseType"/>
    <element name="Agent" type="mp7q:BooleanAgentType"/>
    <element name="AgentRef" type="mp7q:BooleanReferenceType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
  default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
  type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
  type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanCreator datatype -->
<complexType name="BooleanCreatorType">
  <complexContent>
    <extension base="mp7q:BooleanMediaAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Character" type="mp7q:BooleanPersonNameType"/>
        <element name="Instrument" type="mp7q:BooleanCreationToolType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanCreationTool datatype -->
<complexType name="BooleanCreationToolType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Tool" type="mp7q:BooleanTermUseType"/>
    <element name="Setting">
      <complexType>
        <attribute name="name" type="string" use="optional"/>
        <attribute name="value" type="string" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
  use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
  fault="false"/>
        <attribute name="numberComparisonOperator"
  type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
  type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
  default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
  type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
  type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanExtendedLanguage datatype -->
<complexType name="BooleanExtendedLanguageType">
  <simpleContent>
    <extension base="language">
      <attribute name="type" use="optional" default="original">
        <simpleType>
          <restriction base="NMTOKEN">
            <enumeration value="original"/>
            <enumeration value="dubbed"/>
            <enumeration value="background"/>
          </restriction>
        </simpleType>
      </attribute>
    </extension>
  </simpleContent>
</complexType>

```

```

    <attribute name="supplemental" type="boolean" use="optional" de-
fault="false"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </extension>
</simpleContent>
</complexType>
<!-- Definition of BooleanParentalGuidance datatype -->
<complexType name="BooleanParentalGuidanceType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="ParentalRating" type="mp7q:BooleanControlledTermUseType"/>
    <element name="MinimumAge" type="nonNegativeInteger"/>
    <element name="Region" type="mp7q:regionCode"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanRelatedMaterial DS -->
<complexType name="BooleanRelatedMaterialType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="DisseminationFormat"
type="mp7q:BooleanControlledTermUseType"/>
        <element name="MaterialType" type="mp7q:BooleanTermUseType"/>
        <element name="MediaLocator" type="mp7q:BooleanMediaLocatorType"/>
        <element name="MediaInformation" type="mp7q:BooleanMediaInformationType"/>
        <element name="MediaInformationRef" type="mp7q:BooleanReferenceType"/>
        <element name="CreationInformation"
type="mp7q:BooleanCreationInformationType"/>
        <element name="CreationInformationRef" type="mp7q:BooleanReferenceType"/>
        <element name="UsageInformation" type="mp7q:BooleanUsageInformationType"/>
        <element name="UsageInformationRef" type="mp7q:BooleanReferenceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanCreationInformation DS -->
<complexType name="BooleanCreationInformationType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Creation" type="mp7q:BooleanCreationType"/>
        <element name="Classification" type="mp7q:BooleanClassificationType"/>
        <element name="RelatedMaterial" type="mp7q:BooleanRelatedMaterialType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanCreation DS -->
<complexType name="BooleanCreationType">
  <complexContent>

```



```

<extension base="mp7q:BooleanDSType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Title" type="mp7q:BooleanTitleType"/>
    <element name="TitleMedia" type="mp7q:BooleanTitleMediaType"/>
    <element name="Abstract" type="mp7q:BooleanTextAnnotationType"/>
    <element name="Creator" type="mp7q:BooleanCreatorType"/>
    <element name="CreationCoordinates">
      <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Location" type="mp7q:BooleanPlaceType"/>
          <element name="Date" type="mp7q:BooleanTimeType"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
    <element name="CreationTool" type="mp7q:BooleanCreationToolType"/>
    <element name="CopyrightString" type="mp7q:BooleanTextualType"/>
  </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanClassification DS -->
<complexType name="BooleanClassificationType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Form" type="mp7q:BooleanControlledTermUseType"/>
        <element name="Genre" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanControlledTermUseType">
                <attribute name="type" use="optional" default="main">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="main"/>
                      <enumeration value="secondary"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </complexContent>
          </complexType>
        </element>
        <element name="Subject" type="mp7q:BooleanTextAnnotationType"/>
        <element name="Purpose" type="mp7q:BooleanControlledTermUseType"/>
        <element name="Language" type="mp7q:BooleanExtendedLanguageType"/>
        <element name="CaptionLanguage">
          <complexType>
            <simpleContent>
              <extension base="language">
                <attribute name="closed" type="boolean" use="optional" de-
fault="true"/>
                <attribute name="supplemental" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
              </extension>
            </simpleContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
</simpleContent>
</complexType>
</element>
<element name="SignLanguage">
    <complexType>
        <simpleContent>
            <extension base="language">
                <attribute name="primary" type="boolean" use="optional"/>
                <attribute name="translation" type="boolean" use="optional"/>
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
        </simpleContent>
    </complexType>
</element>
<element name="Release">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Region" type="mp7q:regionCode"/>
        </choice>
        <attribute name="date" type="mp7q:timePointType" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="Target">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Market" type="mp7q:BooleanControlledTermUseType"/>
            <element name="Age" minOccurs="0">
                <complexType>
                    <attribute name="min" type="nonNegativeInteger"
use="optional"/>
                    <attribute name="max" type="nonNegativeInteger"
use="optional"/>
                    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                    <attribute name="NOTOperator" type="boolean" use="optional"
default="false"/>
                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                </complexType>
            </element>
        </choice>
    </complexType>
</element>

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```

        </element>
        <element name="Region" type="mp7q:regionCode" minOccurs="0" maxOc-
curs="unbounded"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
</element>
    <element name="ParentalGuidance" type="mp7q:BooleanParentalGuidanceType"/>
    <element name="MediaReview" type="mp7q:BooleanMediaReviewType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanUsageInformation DS -->
<complexType name="BooleanUsageInformationType">
    <complexContent>
        <extension base="mp7q:BooleanDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Rights" type="mp7q:BooleanRightsType"/>
                <element name="FinancialResults" type="mp7q:BooleanFinancialType"/>
                <element name="Availability" type="mp7q:BooleanAvailabilityType"/>
                <element name="UsageRecord" type="mp7q:BooleanUsageRecordType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanTitleMedia datatype -->
<complexType name="BooleanTitleMediaType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="TitleImage" type="mp7q:BooleanImageLocatorType"/>
        <element name="TitleVideo" type="mp7q:BooleanTemporalSegmentLocatorType"/>
        <element name="TitleAudio" type="mp7q:BooleanTemporalSegmentLocatorType"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanRights datatype -->
<complexType name="BooleanRightsType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="RightsID" type="mp7q:BooleanUniqueIDType" maxOc-
curs="unbounded"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanFinancial datatype -->

```

```

<complexType name="BooleanFinancialType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="AccountItem">
      <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="EffectiveDate" type="mp7q:timePointType"/>
          <element name="CostType" type="mp7q:BooleanTermUseType"/>
          <element name="IncomeType" type="mp7q:BooleanTermUseType"/>
        </choice>
        <attribute name="currency" type="mp7q:currencyCode" use="optional"/>
        <attribute name="value" type="decimal" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanAvailability DS -->
<complexType name="BooleanAvailabilityType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="InstanceRef" type="mp7q:BooleanReferenceType"/>
        <element name="Dissemination" type="mp7q:BooleanDisseminationType"/>
        <element name="Financial" type="mp7q:BooleanFinancialType"/>
        <element name="Rights" type="mp7q:BooleanRightsType"/>
        <element name="AvailabilityPeriod">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanTimeType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <list>
                      <simpleType>
                        <union>
                          <simpleType>
                            <restriction
base="NMTOKEN">
                                <enumeration
value="live"/>
                                <enumeration
value="repeat"/>
                                <enumeration
value="firstShowing"/>
                                <enumeration
value="lastShowing"/>
                                <enumeration
value="conditionalAccess"/>
                                <enumeration
value="encrypted"/>

```

```

value="payPerUse"/>
</restriction>
</simpleType>
<simpleType>
  <restriction
base="mp7q:termReferenceType"/>
  </simpleType>
</union>
</simpleType>
</list>
</simpleType>
</attribute>
</extension>
</complexContent>
</complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanDissemination DS -->
<complexType name="BooleanDisseminationType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Source" type="mp7q:BooleanTextualType"/>
        <element name="Format" type="mp7q:BooleanControlledTermUseType"/>
        <element name="Disseminator" type="mp7q:BooleanMediaAgentType"/>
        <element name="Location" type="mp7q:BooleanPlaceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanUsageRecord DS -->
<complexType name="BooleanUsageRecordType">
  <complexContent>
    <extension base="mp7q:BooleanDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AvailabilityRef" type="mp7q:BooleanReferenceType"/>
        <element name="Audience" type="nonNegativeInteger"/>
        <element name="Financial" type="mp7q:BooleanFinancialType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanTemporalSegmentLocator datatype -->
<complexType name="BooleanTemporalSegmentLocatorType">
  <complexContent>
    <extension base="mp7q:BooleanMediaLocatorType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaTime" type="mp7q:BooleanMediaTimeType"/>
        <element name="BytePosition">
          <complexType>
            <attribute name="offset" type="nonNegativeInteger" use="optional"/>
            <attribute name="length" type="positiveInteger" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>

```

```

        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanImageLocator datatype -->
<complexType name="BooleanImageLocatorType">
    <complexContent>
        <extension base="mp7q:BooleanMediaLocatorType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="MediaTimePoint" type="mp7q:mediaTimePointType"/>
                <element name="MediaRelTimePoint"
type="mp7q:BooleanMediaRelTimePointType"/>
                <element name="MediaRelIncrTimePoint"
type="mp7q:BooleanMediaRelIncrTimePointType"/>
                <element name="BytePosition">
                    <complexType>
                        <attribute name="offset" type="nonNegativeInteger" use="optional"/>
                        <attribute name="length" type="positiveInteger" use="optional"/>
                        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                        <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanMediaTime datatype -->
<complexType name="BooleanMediaTimeType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaTimePoint" type="mp7q:mediaTimePointType"/>
        <element name="MediaRelTimePoint" type="mp7q:BooleanMediaRelTimePointType"/>
        <element name="MediaRelIncrTimePoint"
type="mp7q:BooleanMediaRelIncrTimePointType"/>
        <element name="MediaDuration" type="mp7q:mediaDurationType"/>
        <element name="MediaIncrDuration" type="mp7q:BooleanMediaIncrDurationType"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanMediaRelTimePoint datatype -->
<complexType name="BooleanMediaRelTimePointType">
    <simpleContent>
        <extension base="mp7q:mediaTimeOffsetType">
            <attribute name="mediaTimeBase" type="mp7q:xPathRefType" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>

```

```

    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </extension>
</simpleContent>
</complexType>
<!-- Definition of BooleanMediaRelIncrTimePoint datatype -->
<complexType name="BooleanMediaRelIncrTimePointType">
  <simpleContent>
    <extension base="integer">
      <attribute name="mediaTimeUnit" type="mp7q:mediaDurationType"
use="optional"/>
      <attribute name="mediaTimeBase" type="mp7q:xPathRefType" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanMediaIncrDuration datatype -->
<complexType name="BooleanMediaIncrDurationType">
  <simpleContent>
    <extension base="integer">
      <attribute name="mediaTimeUnit" type="mp7q:mediaDurationType"
use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanMatchingHint D -->
<complexType name="BooleanMatchingHintType">
  <complexContent>
    <extension base="mp7q:BooleanDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Hint">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanReferenceType">
                <attribute name="value" type="mp7q:zeroToOneType" use="optional"/>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
      <attribute name="reliability" type="mp7q:zeroToOneType" use="optional" de-
fault="1.0"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanPointOfView D -->

```

```

<complexType name="BooleanPointOfViewType">
  <complexContent>
    <extension base="mp7q:BooleanDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="SupplementalInformation"
type="mp7q:BooleanTextAnnotationType"/>
        <element name="Importance">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Value" type="mp7q:zeroToOneType"/>
              <element name="SegmentRef" type="mp7q:BooleanReferenceType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="NOTOperator" type="boolean" use="optional" de-
fault="false"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
      <attribute name="viewpoint" type="string" use="optional"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanMediaReview datatype -->
<complexType name="BooleanMediaReviewType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Rating" type="mp7q:BooleanRatingType"/>
    <element name="FreeTextReview" type="mp7q:BooleanTextualType"/>
    <element name="ReviewReference" type="mp7q:BooleanRelatedMaterialType"/>
    <element name="Reviewer" type="mp7q:BooleanAgentType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="NOTOperator" type="boolean" use="optional" default="false"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
</schema>

```

8.4. MP7QL Constructs for the Representation of Query Specifications with Explicit Boolean Operators and Preference Values

```

<?xml version="1.0" encoding="iso-8859-1"?>
<!-- *****
XML Schema for Boolean Weighed Queries for MPEG-7
Copyright Chrisa Tsinaraki TUC/MUSIC
***** -->
<schema targetNamespace="urn:mpeg:mp7q:schema:2001"
xmlns:mp7q="urn:mpeg:mp7q:schema:2001" xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
xmlns="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified" attribute-
FormDefault="unqualified">
  <annotation>
    <documentation>
      XML Schema for Boolean Weighed Queries for MPEG-7
    </documentation>
  </annotation>

```



```

<!-- import xml components -->
<import namespace="http://www.w3.org/XML/1998/namespace" schemaLocation="xml-
1998.xsd"/>
<!-- include root element definitions -->
<include schemaLocation="./MP7QF.xsd"/>
<!-- ##### -->
<!-- Definition of the Types supporting Boolean Weighed MPEG-7 Queries
-->
<!-- ##### -->
<!-- Definition of BooleanWeighedMpeg7QueryType Type-->
<complexType name="BooleanWeighedMpeg7QueryType">
  <complexContent>
    <extension base="mp7q:Mpeg7QueryType">
      <choice>
        <element name="Where" type="mp7q:BooleanWeighedWhereType" minOccurs="0"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedWhereType Type-->
<complexType name="BooleanWeighedWhereType">
  <choice maxOccurs="unbounded">
    <element name="QuerySpecification"
type="mp7q:BooleanWeighedQuerySpecificationType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
</complexType>
<!-- Definition of BooleanWeighedQuerySpecification DS -->
<complexType name="BooleanWeighedQuerySpecificationType" abstract="true">
  <complexContent>
    <extension base="mp7q:MPEG7QuerySpecificationType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaIdentification"
type="mp7q:BooleanWeighedMediaIdentificationType"/>
        <element name="MediaProfile">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="ComponentMediaProfile"
type="mp7q:BooleanWeighedMediaProfileType"/>
              <element name="MediaTranscodingHints"
type="mp7q:BooleanWeighedMediaTranscodingHintsType"/>
              <element name="MediaQuality"
type="mp7q:BooleanWeighedMediaQualityType"/>
              <element name="MediaInstance"
type="mp7q:BooleanWeighedMediaInstanceType"/>
            </choice>
            <attribute name="master" type="boolean" use="optional" default="false"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
        <element name="MediaLocator" type="mp7q:BooleanWeighedMediaLocatorType"/>
        <element name="StructuralUnit"
type="mp7q:BooleanWeighedControlledTermUseType"/>
      </choice>
    </extension>
  </complexContent>

```

```

        <element name="CreationPreferences"
type="mp7q:BooleanWeighedCreationPreferencesType"/>
        <element name="ClassificationPreferences"
type="mp7q:BooleanWeighedQueryClassificationPreferencesType"/>
        <element name="SourcePreferences"
type="mp7q:BooleanWeighedSourcePreferencesType"/>
        <element name="Semantic" type="mp7q:BooleanWeighedSemanticType"/>
        <element name="PreferenceCondition"
type="mp7q:BooleanWeighedPreferenceConditionType"/>
        <element name="UsageInformation"
type="mp7q:BooleanWeighedUsageInformationType"/>
        <element name="MatchingHint" type="mp7q:BooleanWeighedMatchingHintType"/>
        <element name="PointOfView" type="mp7q:BooleanWeighedPointOfViewType"/>
        <element name="RelatedMaterial"
type="mp7q:BooleanWeighedRelatedMaterialType"/>
        <element name="TextAnnotation"
type="mp7q:BooleanWeighedTextAnnotationType"/>
        <element name="Relation" type="mp7q:BooleanWeighedRelationType"/>
        <element name="VisualDescriptor" type="mp7q:BooleanWeighedReferenceType"/>
        <element name="VisualDescriptionScheme"
type="mp7q:BooleanWeighedReferenceType"/>
        <element name="VisualTimeSeriesDescriptor"
type="mp7q:BooleanWeighedReferenceType"/>
        <element name="AudioDescriptor" type="mp7q:BooleanWeighedReferenceType"/>
        <element name="AudioDescriptionScheme"
type="mp7q:BooleanWeighedReferenceType"/>
        <element name="DescriptionRef" type="mp7q:BooleanWeighedReferenceType"/>
        <element name="SemanticEntityRef" type="mp7q:BooleanWeighedReferenceType"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedContextQuerySpecification DS -->
<complexType name="BooleanWeighedContextQuerySpecificationType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedQuerySpecificationType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="FilteringAndSearchPreferences"
type="mp7q:MPEG7QuerySpecificationType"/>
                <element name="FilteringAndSearchPreferencesRef"
type="mp7q:BooleanWeighedReferenceType"/>
                <element name="UsageHistoryRef" type="mp7q:BooleanWeighedReferenceType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedFilteringAndSearchPreferences DS -->
<complexType name="BooleanWeighedFilteringAndSearchPreferencesType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedQuerySpecificationType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="UserIdentifier"
type="mp7q:BooleanWeighedUserIdentifierType"/>
                <element name="FilteringAndSearchPreferences"
type="mp7q:BooleanWeighedFilteringAndSearchPreferencesType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>

```

```

    <element name="FilteringAndSearchPreferencesRef"
type="mp7q:BooleanWeighedReferenceType"/>
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="UsageHistoryRef" type="mp7q:BooleanWeighedReferenceType"/>
    </choice>
  </extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedUserIdentifier datatype -->
<complexType name="BooleanWeighedUserIdentifierType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Name" type="mp7q:BooleanWeighedTextualType"/>
  </choice>
  <attribute name="protected" type="mp7q:userChoiceType" use="optional" de-
fault="true"/>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of Ds and DSs -->
<!-- Definition of generic BooleanWeighed D -->
<complexType name="BooleanWeighedDType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7QBaseType">
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of generic BooleanWeighed DS -->
<complexType name="BooleanWeighedDSType" abstract="true">
  <complexContent>
    <extension base="mp7q:Mpeg7QBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Header" type="mp7q:BooleanWeighedHeaderType" minOccurs="0"
maxOccurs="unbounded"/>
      </choice>
      <attribute name="id" type="string" use="optional"/>
      <attributeGroup ref="mp7q:timePropertyGrp"/>
      <attributeGroup ref="mp7q:mediaTimePropertyGrp"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedVisual D -->
<complexType name="BooleanWeighedVisualDType" abstract="true">

```

```

    <complexContent>
      <extension base="mp7q:BooleanWeighedDType"/>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedAudio D -->
  <complexType name="BooleanWeighedAudioDType" abstract="true">
    <complexContent>
      <extension base="mp7q:BooleanWeighedDType"/>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedVisual DS -->
  <complexType name="BooleanWeighedVisualDSType" abstract="true">
    <complexContent>
      <extension base="mp7q:BooleanWeighedDSType"/>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedAudio DS -->
  <complexType name="BooleanWeighedAudioDSType" abstract="true">
    <complexContent>
      <extension base="mp7q:BooleanWeighedDSType"/>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedHeader datatype -->
  <complexType name="BooleanWeighedHeaderType" abstract="true">
    <complexContent>
      <extension base="mp7q:Mpeg7QBaseType">
        <attribute name="id" type="string" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedReference datatype -->
  <complexType name="BooleanWeighedReferenceType">
    <attributeGroup ref="mp7q:referenceGrp"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
  <!-- Definition of BooleanWeighedTextualBase datatype -->
  <complexType name="BooleanWeighedTextualBaseType" abstract="true">
    <simpleContent>
      <extension base="string">
        <attribute ref="xml:lang" use="optional"/>
        <attribute name="phoneticTranscription" use="optional">
          <simpleType>
            <list itemType="mp7q:PhoneType"/>
          </simpleType>
        </attribute>
        <attribute name="phoneticAlphabet" type="mp7q:phoneticAlphabetType"
use="optional" default="sampa"/>
      </extension>
    </simpleContent>
  </complexType>

```

```

    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</extension>
</simpleContent>
</complexType>
<!-- Definition of BooleanWeighedTextual datatype -->
<complexType name="BooleanWeighedTextualType">
    <simpleContent>
        <extension base="mp7q:BooleanWeighedTextualBaseType"/>
    </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedTextAnnotation datatype -->
<complexType name="BooleanWeighedTextAnnotationType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="FreeTextAnnotation" type="mp7q:BooleanWeighedTextualType"/>
        <element name="StructuredAnnotation"
type="mp7q:BooleanWeighedStructuredAnnotationType"/>
        <element name="DependencyStructure"
type="mp7q:BooleanWeighedDependencyStructureType"/>
        <element name="KeywordAnnotation"
type="mp7q:BooleanWeighedKeywordAnnotationType"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    <attribute name="relevance" type="mp7q:zeroToOneType" use="optional"/>
    <attribute name="confidence" type="mp7q:zeroToOneType" use="optional"/>
    <attribute ref="xml:lang"/>
</complexType>
<!-- Definition of BooleanWeighedStructuredAnnotation datatype -->
<complexType name="BooleanWeighedStructuredAnnotationType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Who" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="WhatObject" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="WhatAction" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="Where" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="When" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="Why" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="How" type="mp7q:BooleanWeighedTermUseType"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    <attribute ref="xml:lang" use="optional"/>
</complexType>
<!-- Definition of BooleanWeighedKeywordAnnotation datatype -->
<complexType name="BooleanWeighedKeywordAnnotationType">

```

```

<choice minOccurs="0" maxOccurs="unbounded">
  <element name="Keyword">
    <complexType>
      <simpleContent>
        <extension base="mp7q:BooleanWeighedTextualType">
          <attribute name="type" use="optional" default="main">
            <simpleType>
              <restriction base="NMTOKEN">
                <enumeration value="main"/>
                <enumeration value="secondary"/>
                <enumeration value="other"/>
              </restriction>
            </simpleType>
          </attribute>
        </extension>
      </simpleContent>
    </complexType>
  </element>
</choice>
<attribute ref="xml:lang" use="optional"/>
<attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedDependencyStructure datatype -->
<complexType name="BooleanWeighedDependencyStructureType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Sentence"
type="mp7q:BooleanWeighedDependencyStructurePhraseType"/>
  </choice>
  <attribute ref="xml:lang" use="optional"/>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedDependencyStructurePhrase datatype -->
<complexType name="BooleanWeighedDependencyStructurePhraseType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Quotation"
type="mp7q:BooleanWeighedDependencyStructurePhraseType"/>
    <element name="Phrase"
type="mp7q:BooleanWeighedDependencyStructurePhraseType"/>
    <element name="Head" type="mp7q:WordFormType"/>
    <element name="CompoundHead"
type="mp7q:BooleanWeighedNonDependencyStructurePhraseType"/>
  </choice>
  <attribute name="id" type="ID" use="optional"/>
  <attribute name="equal" type="IDREF" use="optional"/>
  <attribute name="operator" use="optional">
    <simpleType>
      <union memberTypes="mp7q:dependencyOperatorType mp7q:termReferenceType"/>
    </simpleType>
  </attribute>

```

```

    <attribute name="functionWord" type="string" use="optional"/>
    <attribute name="synthesis" type="NMTOKEN" use="optional" fixed="dependency"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedNonDependencyStructurePhrase datatype -->
<complexType name="BooleanWeighedNonDependencyStructurePhraseType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Quotation"
type="mp7q:BooleanWeighedDependencyStructurePhraseType"/>
        <element name="Phrase"
type="mp7q:BooleanWeighedDependencyStructurePhraseType"/>
        <element name="Word" type="mp7q:WordFormType"/>
        <element name="NonDependencyPhrase"
type="mp7q:BooleanWeighedNonDependencyStructurePhraseType"/>
    </choice>
    <attribute name="id" type="ID" use="optional"/>
    <attribute name="equal" type="IDREF" use="optional"/>
    <attribute name="synthesis" use="optional" default="unspecified">
        <simpleType>
            <restriction base="NMTOKEN">
                <enumeration value="unspecified"/>
                <enumeration value="coordination"/>
            </restriction>
        </simpleType>
    </attribute>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedTermDefinitionBase DS -->
<complexType name="BooleanWeighedTermDefinitionBaseType" abstract="true">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Name">
                    <complexType>
                        <simpleContent>
                            <extension base="mp7q:BooleanWeighedTextualType">
                                <attribute name="preferred" type="boolean" use="optional"/>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
                <element name="Definition" type="mp7q:BooleanWeighedTextualType"/>
            </choice>
            <attribute name="termID" type="NMTOKEN"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedTermDefinition DS -->
<complexType name="BooleanWeighedTermDefinitionType">

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<complexContent>
  <extension base="mp7q:BooleanWeighedTermDefinitionBaseType">
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Term">
        <complexType>
          <complexContent>
            <extension base="mp7q:BooleanWeighedTermDefinitionType">
              <attribute name="relation" type="mp7q:termRelationQualifierType"
use="optional" default="NT"/>
            </extension>
          </complexContent>
        </complexType>
      </element>
    </choice>
  </extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedInlineTermDefinition datatype -->
<complexType name="BooleanWeighedInlineTermDefinitionType" abstract="true">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Name">
      <complexType>
        <simpleContent>
          <extension base="mp7q:BooleanWeighedTextualType">
            <attribute name="preferred" type="boolean" use="optional"/>
          </extension>
        </simpleContent>
      </complexType>
    </element>
    <element name="Definition" type="mp7q:BooleanWeighedTextualType"/>
    <element name="Term" minOccurs="0" maxOccurs="unbounded">
      <complexType>
        <complexContent>
          <extension base="mp7q:BooleanWeighedInlineTermDefinitionType">
            <attribute name="relation" type="mp7q:termRelationQualifierType"
use="optional" default="NT"/>
            <attribute name="termID" type="NMTOKEN"/>
          </extension>
        </complexContent>
      </complexType>
    </element>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedTermUse datatype -->
<complexType name="BooleanWeighedTermUseType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedInlineTermDefinitionType">
      <attribute name="href" type="mp7q:termReferenceType" use="optional"/>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedControlledTermUse datatype -->
<complexType name="BooleanWeighedControlledTermUseType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedInlineTermDefinitionType">

```



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    <attribute name="href" type="mp7q:termReferenceType" use="optional"/>
  </extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedSemanticBase DS -->
<complexType name="BooleanWeighedSemanticBaseType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AbstractionLevel"
type="mp7q:BooleanWeighedAbstractionLevelType"/>
        <element name="Label" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="Definition" type="mp7q:BooleanWeighedTextAnnotationType"/>
        <element name="Property" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="MediaOccurrence">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="MediaInformation"
type="mp7q:BooleanWeighedMediaInformationType"/>
              <element name="MediaInformationRef"
type="mp7q:BooleanWeighedReferenceType"/>
              <element name="MediaLocator"
type="mp7q:BooleanWeighedMediaLocatorType"/>
              <element name="Mask" type="mp7q:BooleanWeighedMaskType"/>
              <element name="AudioDescriptor" type="mp7q:BooleanWeighedAudioDType"/>
              <element name="AudioDescriptionScheme"
type="mp7q:BooleanWeighedAudioDSType"/>
              <element name="VisualDescriptor"
type="mp7q:BooleanWeighedVisualDType"/>
              <element name="VisualDescriptionScheme"
type="mp7q:BooleanWeighedVisualDSType"/>
            </choice>
            <attribute name="type" use="optional" default="perceivable">
              <simpleType>
                <union>
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="perceivable"/>
                      <enumeration value="reference"/>
                      <enumeration value="symbol"/>
                    </restriction>
                  </simpleType>
                  <simpleType>
                    <restriction base="mp7q:termReferenceType"/>
                  </simpleType>
                </union>
              </simpleType>
            </attribute>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            <attribute name="minOccurs" type="integer" use="optional" default="0"/>
            <attribute name="maxOccurs" type="string" use="optional" de-
fault="unbounded"/>
          </complexType>
        </element>
        <element name="Relation" type="mp7q:BooleanWeighedRelationType"/>
        <element name="Occurences" type="nonNegativeInteger" default="1"/>
      </choice>
    </extension>
  </complexContent>
</complexType>

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```

    </choice>
  </extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedSemanticBag DS -->
<complexType name="BooleanWeighedSemanticBagType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="SemanticBase" type="mp7q:BooleanWeighedSemanticBaseType"/>
        <element name="SemanticBaseRef" type="mp7q:BooleanWeighedReferenceType"/>
        <element name="Graph" type="mp7q:BooleanWeighedGraphType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedSemantic DS -->
<complexType name="BooleanWeighedSemanticType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBagType"/>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedObject DS -->
<complexType name="BooleanWeighedObjectType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Object" type="mp7q:BooleanWeighedObjectType"/>
        <element name="ObjectRef" type="mp7q:BooleanWeighedReferenceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedAgentObject DS -->
<complexType name="BooleanWeighedAgentObjectType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedObjectType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Agent" type="mp7q:BooleanWeighedAgentType"/>
        <element name="AgentRef" type="mp7q:BooleanWeighedReferenceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedEvent DS -->
<complexType name="BooleanWeighedEventType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Event" type="mp7q:BooleanWeighedEventType"/>
        <element name="EventRef" type="mp7q:BooleanWeighedReferenceType"/>
        <element name="SemanticPlace" type="mp7q:BooleanWeighedSemanticPlaceType"/>
        <element name="SemanticTime" type="mp7q:BooleanWeighedSemanticTimeType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedConcept DS -->
<complexType name="BooleanWeighedConceptType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBaseType"/>
  </complexContent>
</complexType>

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<!-- Definition of BooleanWeighedSemanticState DS -->
<complexType name="BooleanWeighedSemanticStateType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AttributeValuePair">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Attribute" type="mp7q:BooleanWeighedTermUseType"/>
              <element name="Unit" type="mp7q:BooleanWeighedTermUseType"/>
              <element name="BooleanValue" type="boolean"/>
              <element name="IntegerValue" type="integer"/>
              <element name="FloatValue" type="float"/>
              <element name="IntegerMatrixValue"
type="mp7q:BooleanWeighedIntegerMatrixType"/>
              <element name="FloatMatrixValue"
type="mp7q:BooleanWeighedFloatMatrixType"/>
              <element name="TextValue" type="mp7q:BooleanWeighedTextualType"/>
              <element name="TextAnnotationValue"
type="mp7q:BooleanWeighedTextAnnotationType"/>
              <element name="ControlledTermUseValue"
type="mp7q:BooleanWeighedControlledTermUseType"/>
              <element name="DescriptorValue" type="mp7q:BooleanWeighedDType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
        <element name="SemanticTime" type="mp7q:BooleanWeighedSemanticTimeType"/>
        <element name="SemanticPlace" type="mp7q:BooleanWeighedSemanticPlaceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedSemanticPlace DS -->
<complexType name="BooleanWeighedSemanticPlaceType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Place" type="mp7q:BooleanWeighedPlaceType"/>
        <element name="SemanticPlaceInterval">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Position" type="mp7q:BooleanWeighedPositionType"/>
              <element name="Extent" type="mp7q:BooleanWeighedExtentType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

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```

    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedSemanticTime DS -->
<complexType name="BooleanWeighedSemanticTimeType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedSemanticBaseType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Time" type="mp7q:BooleanWeighedTimeType" minOccurs="0"/>
        <element name="SemanticTimeInterval">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="TimePoint" type="mp7q:BooleanWeighedPositionType"/>
              <element name="Duration" type="mp7q:BooleanWeighedExtentType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedAgent DS -->
<complexType name="BooleanWeighedAgentType" abstract="true">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Icon" type="mp7q:BooleanWeighedMediaLocatorType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedPerson DS -->
<complexType name="BooleanWeighedPersonType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Name" type="mp7q:BooleanWeighedPersonNameType"/>
        <element name="NameTerm" type="mp7q:BooleanWeighedControlledTermUseType"/>
        <element name="Affiliation">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Organization"
type="mp7q:BooleanWeighedOrganizationType"/>
              <element name="OrganizationRef"
type="mp7q:BooleanWeighedReferenceType"/>
              <element name="PersonGroup" type="mp7q:BooleanWeighedPersonGroupType"/>
              <element name="PersonGroupRef"
type="mp7q:BooleanWeighedReferenceType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>

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        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
    <element name="Citizenship" type="mp7q:countryCode"/>
    <element name="Address" type="mp7q:BooleanWeighedPlaceType"/>
    <element name="AddressRef" type="mp7q:BooleanWeighedReferenceType"/>
    <element name="ElectronicAddress"
type="mp7q:BooleanWeighedElectronicAddressType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedPersonGroup DS -->
<complexType name="BooleanWeighedPersonGroupType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedAgentType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Name">
                    <complexType>
                        <simpleContent>
                            <extension base="mp7q:BooleanWeighedTextualType">
                                <attribute name="type" use="optional">
                                    <simpleType>
                                        <restriction base="NMTOKEN">
                                            <enumeration value="former"/>
                                            <enumeration value="variant"/>
                                            <enumeration value="main"/>
                                        </restriction>
                                    </simpleType>
                                </attribute>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
                <element name="NameTerm">
                    <complexType>
                        <complexContent>
                            <extension base="mp7q:BooleanWeighedControlledTermUseType">
                                <attribute name="type" use="optional">
                                    <simpleType>
                                        <restriction base="NMTOKEN">
                                            <enumeration value="former"/>
                                            <enumeration value="variant"/>
                                            <enumeration value="main"/>
                                        </restriction>
                                    </simpleType>
                                </attribute>
                            </extension>
                        </complexContent>
                    </complexType>
                </element>
                <element name="Kind" type="mp7q:BooleanWeighedTermUseType"/>
                <element name="Member" type="mp7q:BooleanWeighedPersonType"/>
                <element name="MemberRef" type="mp7q:BooleanWeighedReferenceType"/>
                <element name="Jurisdiction" type="mp7q:BooleanWeighedPlaceType"/>
                <element name="JurisdictionRef" type="mp7q:BooleanWeighedReferenceType"/>
                <element name="Address" type="mp7q:BooleanWeighedPlaceType"/>
                <element name="AddressRef" type="mp7q:BooleanWeighedReferenceType"/>
                <element name="ElectronicAddress"
type="mp7q:BooleanWeighedElectronicAddressType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>

```

```

    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedOrganization DS -->
  <complexType name="BooleanWeighedOrganizationType">
    <complexContent>
      <extension base="mp7q:BooleanWeighedAgentType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Name">
            <complexType>
              <simpleContent>
                <extension base="mp7q:BooleanWeighedTextualType">
                  <attribute name="type" use="optional">
                    <simpleType>
                      <restriction base="NMTOKEN">
                        <enumeration value="former"/>
                        <enumeration value="variant"/>
                        <enumeration value="main"/>
                      </restriction>
                    </simpleType>
                  </attribute>
                </extension>
              </simpleContent>
            </complexType>
          </element>
          <element name="NameTerm">
            <complexType>
              <complexContent>
                <extension base="mp7q:BooleanWeighedControlledTermUseType">
                  <attribute name="type" use="optional">
                    <simpleType>
                      <restriction base="NMTOKEN">
                        <enumeration value="former"/>
                        <enumeration value="variant"/>
                        <enumeration value="main"/>
                      </restriction>
                    </simpleType>
                  </attribute>
                </extension>
              </complexContent>
            </complexType>
          </element>
          <element name="Kind" type="mp7q:BooleanWeighedTermUseType"/>
          <element name="Contact" type="mp7q:BooleanWeighedAgentType"/>
          <element name="ContactRef" type="mp7q:BooleanWeighedReferenceType"/>
          <element name="Jurisdiction" type="mp7q:BooleanWeighedPlaceType"/>
          <element name="JurisdictionRef" type="mp7q:BooleanWeighedReferenceType"/>
          <element name="Address" type="mp7q:BooleanWeighedPlaceType"/>
          <element name="AddressRef" type="mp7q:BooleanWeighedReferenceType"/>
          <element name="ElectronicAddress"
type="mp7q:BooleanWeighedElectronicAddressType" minOccurs="0"/>
        </choice>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedPlace DS -->
  <complexType name="BooleanWeighedPlaceType">
    <complexContent>
      <extension base="mp7q:BooleanWeighedDSType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Name" type="mp7q:BooleanWeighedTextualType"/>
          <element name="NameTerm" type="mp7q:BooleanWeighedControlledTermUseType"/>
          <element name="Role" type="mp7q:BooleanWeighedTermUseType"/>
          <element name="GeographicPosition">

```

```

    <complexType>
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Point" type="mp7q:BooleanWeighedGeographicPointType"/>
      </choice>
      <attribute name="datum" type="string" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
  <element name="AstronomicalBody" type="mp7q:BooleanWeighedTermUseType"/>
  <element name="Region" type="mp7q:regionCode"/>
  <element name="AdministrativeUnit">
    <complexType>
      <simpleContent>
        <extension base="string">
          <attribute name="type" type="string" use="optional"/>
          <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
          <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
          <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
          <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
      </simpleContent>
    </complexType>
  </element>
  <element name="PostalAddress" minOccurs="0">
    <complexType>
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AddressLine" type="mp7q:BooleanWeighedTextualType"/>
        <element name="PostingIdentifier"
type="mp7q:BooleanWeighedTextualType"/>
      </choice>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      <attribute ref="xml:lang" use="optional"/>
    </complexType>
  </element>
  <element name="InternalCoordinates" type="string"/>
</choice>
<attribute ref="xml:lang" use="optional"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedGeographicPoint datatype -->
<complexType name="BooleanWeighedGeographicPointType">
  <attribute name="longitude" use="optional">
    <simpleType>
      <restriction base="double">

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```

    <minInclusive value="-180.0"/>
    <maxInclusive value="180.0"/>
  </restriction>
</simpleType>
</attribute>
<attribute name="latitude" use="optional">
  <simpleType>
    <restriction base="double">
      <minInclusive value="-90.0"/>
      <maxInclusive value="90.0"/>
    </restriction>
  </simpleType>
</attribute>
<attribute name="altitude" type="double" use="optional"/>
<attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedPersonaName datatype -->
<complexType name="BooleanWeighedPersonaNameType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="GivenName" type="mp7q:BooleanWeighedNameComponentType"/>
    <element name="FamilyName" type="mp7q:BooleanWeighedNameComponentType"/>
    <element name="Title" type="mp7q:BooleanWeighedNameComponentType"/>
    <element name="Numeration" type="string"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  <attribute name="dateFrom" type="mp7q:timePointType" use="optional"/>
  <attribute name="dateTo" type="mp7q:timePointType" use="optional"/>
  <attribute name="type" use="optional">
    <simpleType>
      <restriction base="NMTOKEN">
        <enumeration value="former"/>
        <enumeration value="variant"/>
        <enumeration value="main"/>
      </restriction>
    </simpleType>
  </attribute>
  <attribute ref="xml:lang" use="optional"/>
</complexType>
<!-- Definition of BooleanWeighedNameComponent datatype -->
<complexType name="BooleanWeighedNameComponentType">
  <simpleContent>
    <extension base="mp7q:BooleanWeighedTextualBaseType">
      <attribute name="initial" type="string" use="optional"/>
      <attribute name="abbrev" type="string" use="optional"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedElectronicAddress datatype -->
<complexType name="BooleanWeighedElectronicAddressType">

```



```

    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Telephone" type="string"/>
      <element name="Fax" type="string"/>
      <element name="Email" type="string"/>
      <element name="Url" type="anyURI"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
  </complexType>
  <!-- Definition of BooleanWeighedWeighedGraph DS -->
  <complexType name="BooleanWeighedGraphType">
    <complexContent>
      <extension base="mp7q:BooleanWeighedDSType">
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Node">
            <complexType>
              <complexContent>
                <extension base="mp7q:BooleanWeighedReferenceType">
                  <choice minOccurs="0" maxOccurs="unbounded">
                    <element name="Name" type="mp7q:BooleanWeighedTermUseType"/>
                  </choice>
                  <attribute name="id" type="ID" use="optional"/>
                </extension>
              </complexContent>
            </complexType>
          </element>
          <element name="Relation" type="mp7q:BooleanWeighedRelationType"/>
        </choice>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedRelation DS -->
  <complexType name="BooleanWeighedRelationType">
    <complexContent>
      <extension base="mp7q:BooleanWeighedDSType">
        <attribute name="type" type="mp7q:termReferenceType" use="optional"/>
        <attribute name="source" use="optional">
          <simpleType>
            <list itemType="anyURI"/>
          </simpleType>
        </attribute>
        <attribute name="target">
          <simpleType>
            <list itemType="anyURI"/>
          </simpleType>
        </attribute>
        <attribute name="directed" type="boolean" use="optional" default="true"/>
        <attribute name="strength" type="mp7q:zeroToOneType" use="optional" de-
fault="1.0"/>
      </extension>
    </complexContent>
  </complexType>
  <!-- Definition of BooleanWeighedAbstractionLevel DS -->
  <complexType name="BooleanWeighedAbstractionLevelType">
    <attribute name="dimension" type="nonNegativeInteger" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>

```

```

    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedExtent datatype -->
<complexType name="BooleanWeighedExtentType">
    <attribute name="measurementType" type="string" use="optional"/>
    <attribute name="unit" type="string" use="optional"/>
    <attribute name="value" type="string" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedPosition datatype -->
<complexType name="BooleanWeighedPositionType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Displacement" type="mp7q:BooleanWeighedExtentType" minOc-
curs="0"/>
        <element name="Direction" type="mp7q:BooleanWeighedExtentType" minOc-
curs="0"/>
    </choice>
    <attribute name="origin" type="string" use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedMask D -->
<complexType name="BooleanWeighedMaskType" abstract="true">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDSType"/>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaLocator datatype -->
<complexType name="BooleanWeighedMediaLocatorType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaUri" type="anyURI"/>
        <element name="InlineMedia" type="mp7q:BooleanWeighedInlineMediaType"/>
        <element name="StreamID" type="nonNegativeInteger"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedInlineMedia datatype -->
<complexType name="BooleanWeighedInlineMediaType">

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```

<choice minOccurs="0" maxOccurs="unbounded">
  <element name="MediaData16" type="hexBinary"/>
  <element name="MediaData64" type="base64Binary"/>
</choice>
<attribute name="type" type="mp7q:mimeType" use="optional"/>
<attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedIntegerMatrix datatype -->
<complexType name="BooleanWeighedIntegerMatrixType">
  <simpleContent>
    <extension base="mp7q:integerVector">
      <attribute ref="mp7q:dim" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedFloatMatrix datatype -->
<complexType name="BooleanWeighedFloatMatrixType">
  <simpleContent>
    <extension base="mp7q:floatVector">
      <attribute ref="mp7q:dim" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedMediaInformation DS -->
<complexType name="BooleanWeighedMediaInformationType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaIdentification"
type="mp7q:BooleanWeighedMediaIdentificationType"/>
        <element name="MediaProfile" type="mp7q:BooleanWeighedMediaProfileType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaIdentification D -->
<complexType name="BooleanWeighedMediaIdentificationType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">

```

```

        <element name="EntityIdentifier" type="mp7q:BooleanWeighedUniqueIDType"/>
        <element name="AudioDomain"
type="mp7q:BooleanWeighedControlledTermUseType"/>
        <element name="VideoDomain"
type="mp7q:BooleanWeighedControlledTermUseType"/>
        <element name="ImageDomain"
type="mp7q:BooleanWeighedControlledTermUseType"/>
    </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaProfile DS -->
<complexType name="BooleanWeighedMediaProfileType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="ComponentMediaProfile"
type="mp7q:BooleanWeighedMediaProfileType"/>
                <element name="MediaFormat" type="mp7q:BooleanWeighedMediaFormatType"/>
                <element name="MediaTranscodingHints"
type="mp7q:BooleanWeighedMediaTranscodingHintsType"/>
                <element name="MediaQuality" type="mp7q:BooleanWeighedMediaQualityType"/>
                <element name="MediaInstance" type="mp7q:BooleanWeighedMediaInstanceType"/>
            </choice>
            <attribute name="master" type="boolean" use="optional" default="false"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaFormat D -->
<complexType name="BooleanWeighedMediaFormatType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Content" type="mp7q:BooleanWeighedControlledTermUseType"/>
                <element name="Medium" type="mp7q:BooleanWeighedControlledTermUseType"/>
                <element name="FileFormat"
type="mp7q:BooleanWeighedControlledTermUseType"/>
                <element name="FileSize" type="nonNegativeInteger"/>
                <element name="System" type="mp7q:BooleanWeighedControlledTermUseType"/>
                <element name="Bandwidth" type="float"/>
                <element name="BitRate">
                    <complexType>
                        <simpleContent>
                            <extension base="nonNegativeInteger">
                                <attribute name="variable" type="boolean" use="optional" de-
fault="false"/>
                                <attribute name="minimum" type="nonNegativeInteger"
use="optional"/>
                                <attribute name="average" type="nonNegativeInteger"
use="optional"/>
                                <attribute name="maximum" type="nonNegativeInteger"
use="optional"/>
                                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>

```

```

</element>
<element name="TargetChannelBitRate" type="nonNegativeInteger"/>
<element name="ScalableCoding" minOccurs="0">
  <simpleType>
    <union>
      <simpleType>
        <restriction base="NMTOKEN">
          <enumeration value="spatial"/>
          <enumeration value="temporal"/>
          <enumeration value="snr"/>
          <enumeration value="fgs"/>
        </restriction>
      </simpleType>
      <simpleType>
        <restriction base="mp7q:termReferenceType"/>
      </simpleType>
    </union>
  </simpleType>
</element>
<element name="VisualCoding">
  <complexType>
    <choice minOccurs="0" maxOccurs="unbounded">
      <element name="Format">
        <complexType>
          <complexContent>
            <extension
base="mp7q:BooleanWeighedControlledTermUseType">
              <attribute name="colorDomain" use="optional"
default="color">
                <simpleType>
                  <union>
                    <simpleType>
                      <restriction
base="NMTOKEN">
                        <enumeration
value="binary"/>
                        <enumeration
value="color"/>
                        <enumeration
value="graylevel"/>
                        <enumeration
value="colorized"/>
                      </restriction>
                    </simpleType>
                    <simpleType>
                      <restriction
base="mp7q:termReferenceType"/>
                    </simpleType>
                  </union>
                </simpleType>
              </attribute>
            </extension>
          </complexContent>
        </complexType>
      </element>
      <element name="Pixel">
        <complexType>
          <attribute name="resolution" type="nonNegativeInteger"
use="optional"/>
          <attribute name="aspectRatio" type="mp7q:nonNegativeReal"
use="optional"/>
          <attribute name="bitsPer" type="nonNegativeInteger"
use="optional"/>
        </complexType>
      </element>
    </choice>
  </complexType>
</element>

```

```

        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="Frame">
    <complexType>
        <attribute name="height" type="nonNegativeInteger"
use="optional"/>
        <attribute name="width" type="nonNegativeInteger"
use="optional"/>
        <attribute name="aspectRatio" type="mp7q:nonNegativeReal"
use="optional"/>
        <attribute name="rate" type="mp7q:nonNegativeReal"
use="optional"/>
        <attribute name="structure" use="optional">
            <simpleType>
                <restriction base="NMTOKEN">
                    <enumeration value="progressive"/>
                    <enumeration value="interlaced"/>
                </restriction>
            </simpleType>
        </attribute>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="ColorSampling"
type="mp7q:BooleanWeighedColorSamplingType"/>
</choice>
</complexType>
</element>
<element name="AudioCoding">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Format"
type="mp7q:BooleanWeighedControlledTermUseType"/>
            <element name="AudioChannels">
                <complexType>
                    <simpleContent>
                        <extension base="nonNegativeInteger">
                            <attribute name="front"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="side"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="rear"
type="nonNegativeInteger" use="optional"/>
                            <attribute name="lfe" type="nonNegativeInteger"
use="optional"/>
                            <attribute name="track"
type="nonNegativeInteger" use="optional"/>

```

```

        <attribute name="ANDOROperator"
type="mp7q:ANDOROperatorType" use="optional" default="OR"/>
        <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
</element>
<element name="Sample">
    <complexType>
        <attribute name="rate" type="mp7q:nonNegativeReal"
use="optional"/>
        <attribute name="bitsPer" type="nonNegativeInteger"
use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="Emphasis">
    <simpleType>
        <union>
            <simpleType>
                <restriction base="NMTOKEN">
                    <enumeration value="none"/>
                    <enumeration
value="50over15Microseconds"/>
                    <enumeration value="ccittJ17"/>
                </restriction>
            </simpleType>
            <simpleType>
                <restriction base="mp7q:termReferenceType"/>
            </simpleType>
        </union>
    </simpleType>
</element>
<element name="Presentation"
type="mp7q:BooleanWeighedControlledTermUseType"/>
</choice>
</complexType>
</element>
<element name="SceneCodingFormat"
type="mp7q:BooleanWeighedControlledTermUseType"/>
<element name="GraphicsCodingFormat"
type="mp7q:BooleanWeighedControlledTermUseType"/>
<element name="OtherCodingFormat"
type="mp7q:BooleanWeighedControlledTermUseType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of WeighedBooleanColorSampling D -->
<complexType name="BooleanWeighedColorSamplingType">
    <complexContent>

```

```

<extension base="mp7q:BooleanWeighedDType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Lattice">
      <complexType>
        <attribute name="width" type="positiveInteger" use="optional"/>
        <attribute name="height" type="positiveInteger" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
    <element name="Field">
      <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="Component">
            <complexType>
              <complexContent>
                <extension base="mp7q:BooleanWeighedTermUseType">
                  <choice minOccurs="0" maxOccurs="unbounded">
                    <element name="Offset">
                      <complexType>
                        <attribute
name="horizontal" type="mp7q:nonNegativeReal" use="optional"/>
                        <attribute name="vertical"
type="mp7q:nonNegativeReal" use="optional"/>
                        <attribute
name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional" default="OR"/>
                        <attribute
name="preferenceValue" type="mp7q:preferenceValueType" use="optional" de-
fault="10"/>
                        <attribute
name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType"
use="optional" default="equals"/>
                        <attribute
name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType"
use="optional" default="contains"/>
                      </complexType>
                    </element>
                    <element name="Period">
                      <complexType>
                        <attribute
name="horizontal" type="mp7q:nonNegativeReal" use="optional"/>
                        <attribute name="vertical"
type="mp7q:nonNegativeReal" use="optional"/>
                        <attribute
name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional" default="OR"/>
                        <attribute
name="preferenceValue" type="mp7q:preferenceValueType" use="optional" de-
fault="10"/>
                        <attribute
name="numberComparisonOperator" type="mp7q:numberComparisonOperatorType"
use="optional" default="equals"/>
                        <attribute
name="stringComparisonOperator" type="mp7q:stringComparisonOperatorType"
use="optional" default="contains"/>
                      </complexType>
                    </element>
                  </choice>
                </extension>
              </complexContent>
            </complexType>
          </element>
        </choice>
      </complexType>
    </element>
  </choice>
</extension>

```



```

        </extension>
    </complexContent>
</complexType>
</element>
</choice>
    <attribute name="temporalOrder" type="nonNegativeInteger"
use="optional"/>
    <attribute name="positionalOrder" type="nonNegativeInteger"
use="optional"/>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaTranscodingHints D -->
<complexType name="BooleanWeighedMediaTranscodingHintsType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="MotionHint">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="MotionRange">
                                <complexType>
                                    <attribute name="xLeft" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="xRight" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="yDown" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="yUp" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                                    <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
                                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                                </complexType>
                            </element>
                        </choice>
                    <attribute name="uncompensability" type="mp7q:zeroToOneType"
use="optional"/>
                    <attribute name="intensity" type="mp7q:zeroToOneType" use="optional"/>
                    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                </complexType>
            </choice>
        </extension>
    </complexContent>
</complexType>

```

```

    </complexType>
  </element>
  <element name="ShapeHint">
    <complexType>
      <attribute name="shapeChange" type="float" use="optional"/>
      <attribute name="numOfNonTranspBlocks" type="mp7q:nonNegativeReal"
use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
  <element name="CodingHints">
    <complexType>
      <attribute name="avgQuantScale" type="mp7q:nonNegativeReal"
use="optional"/>
      <attribute name="intraFrameDistance" type="nonNegativeInteger"
use="optional"/>
      <attribute name="anchorFrameDistance" type="positiveInteger"
use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
  </element>
</choice>
<attribute name="difficulty" type="mp7q:zeroToOneType" use="optional"/>
<attribute name="importance" type="mp7q:zeroToOneType" use="optional"/>
<attribute name="spatialResolutionHint" type="mp7q:zeroToOneType"
use="optional"/>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaQuality D -->
<complexType name="BooleanWeighedMediaQualityType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="QualityRating">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanWeighedRatingType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <restriction base="NMTOKEN">
                      <enumeration value="subjective"/>
                      <enumeration value="objective"/>
                    </restriction>
                  </simpleType>
                </attribute>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

        </element>
        <element name="RatingSource" type="mp7q:BooleanWeighedAgentType"/>
        <element name="RatingInformationLocator"
type="mp7q:BooleanWeighedReferenceType"/>
        <element name="PerceptibleDefects">
        <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
        <element name="VisualDefects"
type="mp7q:BooleanWeighedControlledTermUseType"/>
        <element name="AudioDefects"
type="mp7q:BooleanWeighedControlledTermUseType"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </complexType>
        </element>
        </choice>
        </extension>
        </complexContent>
    </complexType>
    <!-- Definition of BooleanWeighedRating datatype -->
    <complexType name="BooleanWeighedRatingType">
    <choice minOccurs="0" maxOccurs="unbounded">
    <element name="RatingValue" type="float"/>
    <element name="RatingScheme">
    <complexType>
    <complexContent>
    <extension base="mp7q:BooleanWeighedTermUseType">
    <attribute name="best" type="float" use="optional"/>
    <attribute name="worst" type="float" use="optional"/>
    <attribute name="style" use="optional">
    <simpleType>
    <restriction base="NMTOKEN">
    <enumeration value="higherBetter"/>
    <enumeration value="lowerBetter"/>
    </restriction>
    </simpleType>
    </attribute>
    </extension>
    </complexContent>
    </complexType>
    </element>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
    <!-- Definition of BooleanWeighedMediaInstance DS -->
    <complexType name="BooleanWeighedMediaInstanceType">
    <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
    <choice minOccurs="0" maxOccurs="unbounded">

```

```

        <element name="InstanceIdentifier" type="mp7q:BooleanWeighedUniqueIDType"/>
        <element name="MediaLocator" type="mp7q:BooleanWeighedMediaLocatorType"/>
        <element name="LocationDescription" type="mp7q:BooleanWeighedTextualType"/>
    </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedUniqueID datatype -->
<complexType name="BooleanWeighedUniqueIDType">
    <simpleContent>
        <extension base="string">
            <attribute name="type" type="NMTOKEN" use="optional" default="URI"/>
            <attribute name="organization" type="NMTOKEN" use="optional"/>
            <attribute name="authority" type="NMTOKEN" use="optional"/>
            <attribute name="encoding" use="optional" default="text">
                <simpleType>
                    <restriction base="string">
                        <enumeration value="text"/>
                        <enumeration value="base16"/>
                        <enumeration value="base64"/>
                    </restriction>
                </simpleType>
            </attribute>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedPreferenceCondition D -->
<complexType name="BooleanWeighedPreferenceConditionType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Place" type="mp7q:BooleanWeighedPlaceType" minOccurs="0"/>
                <element name="Time" minOccurs="0" maxOccurs="unbounded">
                    <complexType>
                        <complexContent>
                            <extension base="mp7q:BooleanWeighedTimeType">
                                <attribute name="recurrence" use="optional" default="none">
                                    <simpleType>
                                        <union>
                                            <simpleType>
                                                <restriction base="NMTOKEN">
                                                    <enumeration value="none"/>
                                                    <enumeration value="daily"/>
                                                    <enumeration value="weekly"/>
                                                    <enumeration value="monthly"/>
                                                    <enumeration value="annually"/>
                                                </restriction>
                                            </simpleType>
                                            <simpleType>
                                                <restriction
base="mp7q:termReferenceType"/>
                                            </simpleType>
                                        </union>
                                    </simpleType>
                                </attribute>
                            </extension>
                        </complexContent>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>

```

```

        <attribute name="numOfRecurrences" type="positiveInteger"
use="optional"/>
    </extension>
</complexContent>
</complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedTime datatype -->
<complexType name="BooleanWeighedTimeType">
    <choice minOccurs="0" maxOccurs="unbounded">
        <element name="TimePoint" type="mp7q:timePointType"/>
        <element name="RelTimePoint" type="mp7q:BooleanWeighedRelTimePointType"/>
        <element name="RelIncrTimePoint"
type="mp7q:BooleanWeighedRelIncrTimePointType"/>
        <element name="Duration" type="mp7q:durationType"/>
        <element name="IncrDuration" type="mp7q:BooleanWeighedIncrDurationType"/>
    </choice>
    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
    <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedIncrDuration datatype -->
<complexType name="BooleanWeighedIncrDurationType">
    <simpleContent>
        <extension base="integer">
            <attribute name="timeUnit" type="mp7q:durationType" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedRelTimePointType datatype -->
<complexType name="BooleanWeighedRelTimePointType">
    <simpleContent>
        <extension base="mp7q:timeOffsetType">
            <attribute name="timeBase" type="mp7q:xPathRefType" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedRelIncrTimePointType datatype -->
<complexType name="BooleanWeighedRelIncrTimePointType">

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```

    <simpleContent>
      <extension base="integer">
        <attribute name="timeUnit" type="mp7q:durationType" use="optional"/>
        <attribute name="timeBase" type="mp7q:xPathRefType" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </extension>
    </simpleContent>
  </complexType>
<!-- Definition of BooleanWeighedQueryCreationPreferences DS -->
<complexType name="BooleanWeighedQueryCreationPreferencesType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedCreationPreferencesType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="TitleMedia" type="mp7q:BooleanWeighedTitleMediaType"/>
        <element name="CopyrightString" type="mp7q:BooleanWeighedTextualType"/>
        <element name="CreationToolSetting" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <attribute name="name" type="string" use="optional"/>
            <attribute name="value" type="string" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedCreationPreferences DS -->
<complexType name="BooleanWeighedCreationPreferencesType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Title" type="mp7q:BooleanWeighedTitleType"/>
        <element name="Creator" type="mp7q:BooleanWeighedCreatorType"/>
        <element name="Keyword" type="mp7q:BooleanWeighedTextualType"/>
        <element name="Location" type="mp7q:BooleanWeighedPlaceType"/>
        <element name="DatePeriod" type="mp7q:BooleanWeighedTimeType"/>
        <element name="Tool" type="mp7q:BooleanWeighedTermUseType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedClassificationPreferences DS -->
<complexType name="BooleanWeighedClassificationPreferencesType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Country">
          <complexType>
            <simpleContent>

```

```

        <extension base="mp7q:countryCode">
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </simpleContent>
</complexType>
</element>
<element name="DatePeriod" type="mp7q:BooleanWeighedTimeType"/>
<element name="LanguageFormat">
    <complexType>
        <simpleContent>
            <extension base="mp7q:auxiliaryLanguageType">
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
        </simpleContent>
    </complexType>
</element>
<element name="Language" type="mp7q:BooleanWeighedExtendedLanguageType"/>
<element name="CaptionLanguage">
    <complexType>
        <simpleContent>
            <extension base="language">
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
        </simpleContent>
    </complexType>
</element>
<element name="Form" type="mp7q:BooleanWeighedTermUseType"/>
<element name="Genre" type="mp7q:BooleanWeighedTermUseType"/>
<element name="Subject" type="mp7q:BooleanWeighedTextualType"/>
<element name="Review">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Rating" type="mp7q:BooleanWeighedRatingType"/>
            <element name="Reviewer" type="mp7q:BooleanWeighedAgentType"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>

```

```

        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
    <element name="ParentalGuidance"
type="mp7q:BooleanWeighedParentalGuidanceType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedQueryClassificationPreferences DS -->
<complexType name="BooleanWeighedQueryClassificationPreferencesType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedClassificationPreferencesType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Purpose" type="mp7q:BooleanWeighedControlledTermUseType"/>
                <element name="SignLanguage">
                    <complexType>
                        <simpleContent>
                            <extension base="language">
                                <attribute name="primary" type="boolean" use="optional"/>
                                <attribute name="translation" type="boolean" use="optional"/>
                                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                            </extension>
                        </simpleContent>
                    </complexType>
                </element>
                <element name="Target">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="Market"
type="mp7q:BooleanWeighedControlledTermUseType"/>
                            <element name="Age">
                                <complexType>
                                    <attribute name="min" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="max" type="nonNegativeInteger"
use="optional"/>
                                    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                                    <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
                                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                                </complexType>
                            </element>
                            <element name="Region" type="mp7q:regionCode"/>
                        </choice>
                        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                    </complexType>
                </element>
            </choice>
        </extension>
    </complexContent>
</complexType>

```



```

        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="ReviewDetails">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="ReviewReference"
type="mp7q:BooleanWeighedRelatedMaterialType"/>
            <element name="FreeTextReview" type="mp7q:BooleanWeighedTextualType"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedSourcePreferences DS -->
<complexType name="BooleanWeighedSourcePreferencesType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="DisseminationFormat" type="mp7q:BooleanWeighedTermUseType"/>
                <element name="DisseminationSource" type="mp7q:BooleanWeighedTextualType"/>
                <element name="DisseminationLocation" type="mp7q:BooleanWeighedPlaceType"/>
                <element name="DisseminationDate" type="mp7q:BooleanWeighedTimeType"/>
                <element name="Disseminator" type="mp7q:BooleanWeighedMediaAgentType"/>
                <element name="MediaFormat" type="mp7q:BooleanWeighedMediaFormatType"/>
            </choice>
            <attribute name="noRepeat" type="boolean" use="optional"/>
            <attribute name="noEncryption" type="boolean" use="optional"/>
            <attribute name="noPayPerUse" type="boolean" use="optional"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedTitle datatype -->
<complexType name="BooleanWeighedTitleType">
    <simpleContent>
        <extension base="mp7q:BooleanWeighedTextualBaseType">
            <attribute name="type" use="optional" default="main">
                <simpleType>
                    <union>
                        <simpleType>
                            <restriction base="NMTOKEN">
                                <enumeration value="main"/>
                                <enumeration value="secondary"/>
                                <enumeration value="alternative"/>
                                <enumeration value="original"/>
                                <enumeration value="popular"/>
                                <enumeration value="opusNumber"/>
                                <enumeration value="songTitle"/>
                                <enumeration value="albumTitle"/>
                                <enumeration value="seriesTitle"/>
                                <enumeration value="episodeTitle"/>
                            </restriction>

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```

        </simpleType>
        <simpleType>
          <restriction base="mp7q:termReferenceType"/>
        </simpleType>
      </union>
    </simpleType>
  </attribute>
</extension>
</simpleContent>
</complexType>
<!-- Definition of BooleanWeighedMediaAgent datatype -->
<complexType name="BooleanWeighedMediaAgentType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Role" type="mp7q:BooleanWeighedControlledTermUseType"/>
    <element name="Agent" type="mp7q:BooleanWeighedAgentType"/>
    <element name="AgentRef" type="mp7q:BooleanWeighedReferenceType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedCreator datatype -->
<complexType name="BooleanWeighedCreatorType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedMediaAgentType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Character" type="mp7q:BooleanWeighedPersonNameType"/>
        <element name="Instrument" type="mp7q:BooleanWeighedCreationToolType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedCreationTool datatype -->
<complexType name="BooleanWeighedCreationToolType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="Tool" type="mp7q:BooleanWeighedTermUseType"/>
    <element name="Setting">
      <complexType>
        <attribute name="name" type="string" use="optional"/>
        <attribute name="value" type="string" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>

```

```

    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedExtendedLanguage datatype -->
<complexType name="BooleanWeighedExtendedLanguageType">
  <simpleContent>
    <extension base="language">
      <attribute name="type" use="optional" default="original">
        <simpleType>
          <restriction base="NMTOKEN">
            <enumeration value="original"/>
            <enumeration value="dubbed"/>
            <enumeration value="background"/>
          </restriction>
        </simpleType>
      </attribute>
      <attribute name="supplemental" type="boolean" use="optional" de-
fault="false"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedParentalGuidance datatype -->
<complexType name="BooleanWeighedParentalGuidanceType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="ParentalRating"
type="mp7q:BooleanWeighedControlledTermUseType"/>
    <element name="MinimumAge" type="nonNegativeInteger"/>
    <element name="Region" type="mp7q:regionCode"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedRelatedMaterial DS -->
<complexType name="BooleanWeighedRelatedMaterialType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="DisseminationFormat"
type="mp7q:BooleanWeighedControlledTermUseType"/>
        <element name="MaterialType" type="mp7q:BooleanWeighedTermUseType"/>
        <element name="MediaLocator" type="mp7q:BooleanWeighedMediaLocatorType"/>
        <element name="MediaInformation"
type="mp7q:BooleanWeighedMediaInformationType"/>
        <element name="MediaInformationRef"
type="mp7q:BooleanWeighedReferenceType"/>
        <element name="CreationInformation"
type="mp7q:BooleanWeighedCreationInformationType"/>
        <element name="CreationInformationRef"
type="mp7q:BooleanWeighedReferenceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

    <element name="UsageInformation"
type="mp7q:BooleanWeighedUsageInformationType"/>
    <element name="UsageInformationRef"
type="mp7q:BooleanWeighedReferenceType"/>
  </choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedCreationInformation DS -->
<complexType name="BooleanWeighedCreationInformationType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Creation" type="mp7q:BooleanWeighedCreationType"/>
        <element name="Classification"
type="mp7q:BooleanWeighedClassificationType"/>
        <element name="RelatedMaterial"
type="mp7q:BooleanWeighedRelatedMaterialType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedCreation DS -->
<complexType name="BooleanWeighedCreationType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Title" type="mp7q:BooleanWeighedTitleType"/>
        <element name="TitleMedia" type="mp7q:BooleanWeighedTitleMediaType"/>
        <element name="Abstract" type="mp7q:BooleanWeighedTextAnnotationType"/>
        <element name="Creator" type="mp7q:BooleanWeighedCreatorType"/>
        <element name="CreationCoordinates">
          <complexType>
            <choice minOccurs="0" maxOccurs="unbounded">
              <element name="Location" type="mp7q:BooleanWeighedPlaceType"/>
              <element name="Date" type="mp7q:BooleanWeighedTimeType"/>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
        <element name="CreationTool" type="mp7q:BooleanWeighedCreationToolType"/>
        <element name="CopyrightString" type="mp7q:BooleanWeighedTextualType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedClassification DS -->
<complexType name="BooleanWeighedClassificationType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Form" type="mp7q:BooleanWeighedControlledTermUseType"/>
        <element name="Genre" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanWeighedControlledTermUseType">

```

```

        <attribute name="type" use="optional" default="main">
            <simpleType>
                <restriction base="NMTOKEN">
                    <enumeration value="main"/>
                    <enumeration value="secondary"/>
                </restriction>
            </simpleType>
        </attribute>
    </extension>
</complexContent>
</complexType>
</element>
<element name="Subject" type="mp7q:BooleanWeighedTextAnnotationType"/>
<element name="Purpose" type="mp7q:BooleanWeighedControlledTermUseType"/>
<element name="Language" type="mp7q:BooleanWeighedExtendedLanguageType"/>
<element name="CaptionLanguage">
    <complexType>
        <simpleContent>
            <extension base="language">
                <attribute name="closed" type="boolean" use="optional" de-
fault="true"/>
                <attribute name="supplemental" type="boolean" use="optional" de-
fault="false"/>
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
        </simpleContent>
    </complexType>
</element>
<element name="SignLanguage">
    <complexType>
        <simpleContent>
            <extension base="language">
                <attribute name="primary" type="boolean" use="optional"/>
                <attribute name="translation" type="boolean" use="optional"/>
                <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
                <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
            </extension>
        </simpleContent>
    </complexType>
</element>
<element name="Release">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Region" type="mp7q:regionCode"/>
        </choice>
        <attribute name="date" type="mp7q:timePointType" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>

```

```

        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="Target">
    <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
            <element name="Market"
type="mp7q:BooleanWeighedControlledTermUseType"/>
            <element name="Age" minOccurs="0">
                <complexType>
                    <attribute name="min" type="nonNegativeInteger"
use="optional"/>
                    <attribute name="max" type="nonNegativeInteger"
use="optional"/>
                    <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
                    <attribute name="preferenceValue"
type="mp7q:preferenceValueType" use="optional" default="10"/>
                    <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
                    <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
                </complexType>
            </element>
            <element name="Region" type="mp7q:regionCode" minOccurs="0" maxOc-
curs="unbounded"/>
        </choice>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </complexType>
</element>
<element name="ParentalGuidance"
type="mp7q:BooleanWeighedParentalGuidanceType"/>
</choice>
</extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedUsageInformation DS -->
<complexType name="BooleanWeighedUsageInformationType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDSType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Rights" type="mp7q:BooleanWeighedRightsType"/>
                <element name="FinancialResults" type="mp7q:BooleanWeighedFinancialType"/>
                <element name="Availability" type="mp7q:BooleanWeighedAvailabilityType"/>
                <element name="UsageRecord" type="mp7q:BooleanWeighedUsageRecordType"/>
            </choice>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedTitleMedia datatype -->
<complexType name="BooleanWeighedTitleMediaType">
    <choice minOccurs="0" maxOccurs="unbounded">

```

```

    <element name="TitleImage" type="mp7q:BooleanWeighedImageLocatorType"/>
    <element name="TitleVideo"
type="mp7q:BooleanWeighedTemporalSegmentLocatorType"/>
    <element name="TitleAudio"
type="mp7q:BooleanWeighedTemporalSegmentLocatorType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedRights datatype -->
<complexType name="BooleanWeighedRightsType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="RightsID" type="mp7q:BooleanWeighedUniqueIDType" maxOc-
curs="unbounded"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedFinancial datatype -->
<complexType name="BooleanWeighedFinancialType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="AccountItem">
      <complexType>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element name="EffectiveDate" type="mp7q:timePointType"/>
          <element name="CostType" type="mp7q:BooleanWeighedTermUseType"/>
          <element name="IncomeType" type="mp7q:BooleanWeighedTermUseType"/>
        </choice>
        <attribute name="currency" type="mp7q:currencyCode" use="optional"/>
        <attribute name="value" type="decimal" use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
      </complexType>
    </element>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedAvailability DS -->

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```

<complexType name="BooleanWeighedAvailabilityType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="InstanceRef" type="mp7q:BooleanWeighedReferenceType"/>
        <element name="Dissemination" type="mp7q:BooleanWeighedDisseminationType"/>
        <element name="Financial" type="mp7q:BooleanWeighedFinancialType"/>
        <element name="Rights" type="mp7q:BooleanWeighedRightsType"/>
        <element name="AvailabilityPeriod">
          <complexType>
            <complexContent>
              <extension base="mp7q:BooleanWeighedTimeType">
                <attribute name="type" use="optional">
                  <simpleType>
                    <list>
                      <simpleType>
                        <union>
                          <simpleType>
                            <restriction
base="NMTOKEN">
                                <enumeration
value="live"/>
                                <enumeration
value="repeat"/>
                                <enumeration
value="firstShowing"/>
                                <enumeration
value="lastShowing"/>
                                <enumeration
value="conditionalAccess"/>
                                <enumeration
value="encrypted"/>
                                <enumeration
value="payPerUse"/>
                            </restriction>
                          </simpleType>
                        <simpleType>
                          <restriction
base="mp7q:termReferenceType"/>
                            </restriction>
                        </simpleType>
                      </union>
                    </list>
                  </simpleType>
                </attribute>
              </extension>
            </complexContent>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedDissemination DS -->
<complexType name="BooleanWeighedDisseminationType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="Source" type="mp7q:BooleanWeighedTextualType"/>
        <element name="Format" type="mp7q:BooleanWeighedControlledTermUseType"/>
        <element name="Disseminator" type="mp7q:BooleanWeighedMediaAgentType"/>
        <element name="Location" type="mp7q:BooleanWeighedPlaceType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>

```



```

    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedUsageRecord DS -->
<complexType name="BooleanWeighedUsageRecordType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedDSType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="AvailabilityRef" type="mp7q:BooleanWeighedReferenceType"/>
        <element name="Audience" type="nonNegativeInteger"/>
        <element name="Financial" type="mp7q:BooleanWeighedFinancialType"/>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedTemporalSegmentLocator datatype -->
<complexType name="BooleanWeighedTemporalSegmentLocatorType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedMediaLocatorType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaTime" type="mp7q:BooleanWeighedMediaTimeType"/>
        <element name="BytePosition">
          <complexType>
            <attribute name="offset" type="nonNegativeInteger" use="optional"/>
            <attribute name="length" type="positiveInteger" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>
<!-- Definition of BooleanWeighedImageLocator datatype -->
<complexType name="BooleanWeighedImageLocatorType">
  <complexContent>
    <extension base="mp7q:BooleanWeighedMediaLocatorType">
      <choice minOccurs="0" maxOccurs="unbounded">
        <element name="MediaTimePoint" type="mp7q:mediaTimePointType"/>
        <element name="MediaRelTimePoint"
type="mp7q:BooleanWeighedMediaRelTimePointType"/>
        <element name="MediaRelIncrTimePoint"
type="mp7q:BooleanWeighedMediaRelIncrTimePointType"/>
        <element name="BytePosition">
          <complexType>
            <attribute name="offset" type="nonNegativeInteger" use="optional"/>
            <attribute name="length" type="positiveInteger" use="optional"/>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
          </complexType>
        </element>
      </choice>
    </extension>
  </complexContent>
</complexType>

```

```

    </choice>
  </extension>
</complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaTime datatype -->
<complexType name="BooleanWeighedMediaTimeType">
  <choice minOccurs="0" maxOccurs="unbounded">
    <element name="MediaTimePoint" type="mp7q:mediaTimePointType"/>
    <element name="MediaRelTimePoint"
type="mp7q:BooleanWeighedMediaRelTimePointType"/>
    <element name="MediaRelIncrTimePoint"
type="mp7q:BooleanWeighedMediaRelIncrTimePointType"/>
    <element name="MediaDuration" type="mp7q:mediaDurationType"/>
    <element name="MediaIncrDuration"
type="mp7q:BooleanWeighedMediaIncrDurationType"/>
  </choice>
  <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
  <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
  <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
  <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
<!-- Definition of BooleanWeighedMediaRelTimePoint datatype -->
<complexType name="BooleanWeighedMediaRelTimePointType">
  <simpleContent>
    <extension base="mp7q:mediaTimeOffsetType">
      <attribute name="mediaTimeBase" type="mp7q:xPathRefType" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedMediaRelIncrTimePoint datatype -->
<complexType name="BooleanWeighedMediaRelIncrTimePointType">
  <simpleContent>
    <extension base="integer">
      <attribute name="mediaTimeUnit" type="mp7q:mediaDurationType"
use="optional"/>
      <attribute name="mediaTimeBase" type="mp7q:xPathRefType" use="optional"/>
      <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
      <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
      <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
      <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
  </simpleContent>
</complexType>
<!-- Definition of BooleanWeighedMediaIncrDuration datatype -->
<complexType name="BooleanWeighedMediaIncrDurationType">
  <simpleContent>
    <extension base="integer">

```

```

        <attribute name="mediaTimeUnit" type="mp7q:mediaDurationType"
use="optional"/>
        <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
        <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
        <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
        <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
    </extension>
</simpleContent>
</complexType>
<!-- Definition of BooleanWeighedMatchingHint D -->
<complexType name="BooleanWeighedMatchingHintType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="Hint">
                    <complexType>
                        <complexContent>
                            <extension base="mp7q:BooleanWeighedReferenceType">
                                <attribute name="value" type="mp7q:zeroToOneType" use="optional"/>
                            </extension>
                        </complexContent>
                    </complexType>
                </element>
            </choice>
            <attribute name="reliability" type="mp7q:zeroToOneType" use="optional" de-
fault="1.0"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedPointOfView D -->
<complexType name="BooleanWeighedPointOfViewType">
    <complexContent>
        <extension base="mp7q:BooleanWeighedDType">
            <choice minOccurs="0" maxOccurs="unbounded">
                <element name="SupplementalInformation"
type="mp7q:BooleanWeighedTextAnnotationType"/>
                <element name="Importance">
                    <complexType>
                        <choice minOccurs="0" maxOccurs="unbounded">
                            <element name="Value" type="mp7q:zeroToOneType"/>
                            <element name="SegmentRef" type="mp7q:BooleanWeighedReferenceType"/>
                        </choice>
                    </complexType>
                </element>
            </choice>
            <attribute name="ANDOROperator" type="mp7q:ANDOROperatorType"
use="optional" default="OR"/>
            <attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
            <attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
            <attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
        </extension>
    </complexContent>
</complexType>
<!-- Definition of BooleanWeighedMediaReview datatype -->
<complexType name="BooleanWeighedMediaReviewType">

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```
<choice minOccurs="0" maxOccurs="unbounded">
  <element name="Rating" type="mp7q:BooleanWeighedRatingType"/>
  <element name="FreeTextReview" type="mp7q:BooleanWeighedTextualType"/>
  <element name="ReviewReference"
type="mp7q:BooleanWeighedRelatedMaterialType"/>
  <element name="Reviewer" type="mp7q:BooleanWeighedAgentType"/>
</choice>
<attribute name="ANDOROperator" type="mp7q:ANDOROperatorType" use="optional"
default="OR"/>
<attribute name="preferenceValue" type="mp7q:preferenceValueType"
use="optional" default="10"/>
<attribute name="numberComparisonOperator"
type="mp7q:numberComparisonOperatorType" use="optional" default="equals"/>
<attribute name="stringComparisonOperator"
type="mp7q:stringComparisonOperatorType" use="optional" default="contains"/>
</complexType>
</schema>
```