BSI Standards Publication

Exchanging course related information

Part 1: Course advertising profile
– Specification

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Publishing and copyright information

Publication history

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Contents

Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 20, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 October 2012. It was prepared by Panel IST/43/-/8, *UK adoption and of EN 15981 (EuroLMAI), EN 15943 (CEF) and EN 15982 (MLO)*, under the authority of Technical Committee IST/43, *Information technology for learning, education and training*. A list of organizations represented on this committee can be obtained on request to its secretary.

Relationship with other publications

BS 8581-2 provides guidance and recommendations on how and when the elements and attributes described in BS 8581-1 are to be used.

BS 8581-1 describes the structure of an XCRI-CAP1.2 XML document that conforms to BS EN 15982.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.
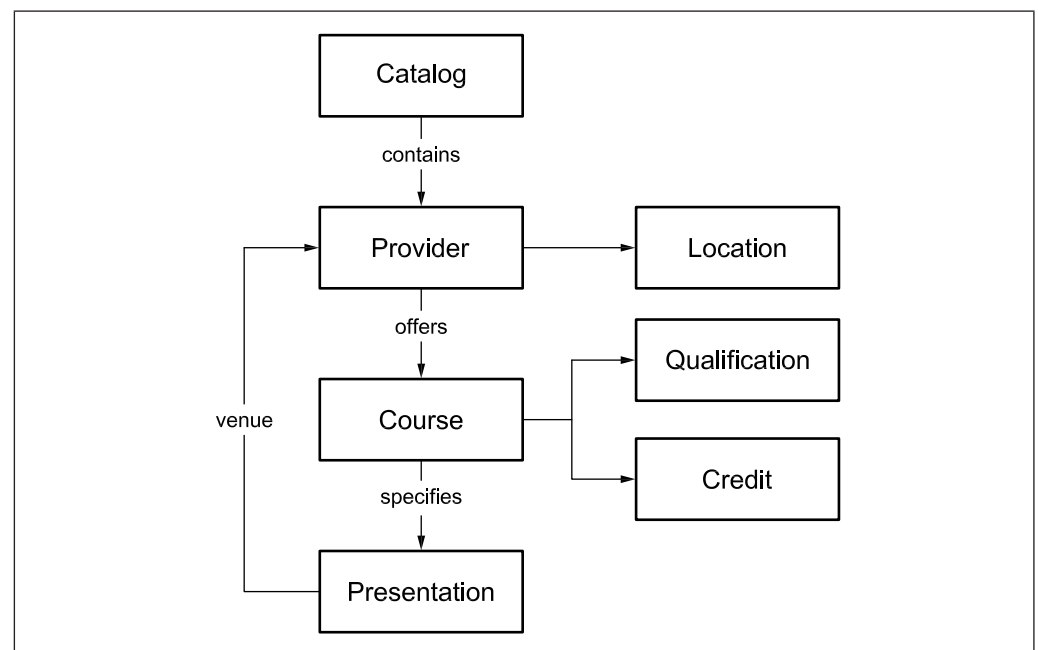
0   Introduction

The Exchanging Course Related Information (XCRI) Course Advertising Profile (XCRI-CAP) provides an XML description that enables the interoperability of course descriptions or learning opportunities between the course provider and any number of aggregators.

XCRI-CAP documents provide an XML format based on BS EN 15982, which means documents that conform to this British Standard have the same underlying semantics as those produced to other bindings of BS EN 15982.

XCRI-CAP documents typically consist of a top-level <catalog> element, encapsulating <provider> elements, for the entities providing courses and <course> elements for the descriptions for the courses offered. Each course has descriptive information available, e.g. topic, syllabus, obtainable qualification, career options. The course is also divided into any number of <presentation>s, which are the "instances" or "offerings" of the course that a prospective student applies for, which have specific start and end dates, locations, etc., that can vary in location and mode of study, e.g. a full time and part time presentation, with different durations and start dates.

Figure 1 details the main elements of this British Standard.

Figure 1   **Overview of the information model**

1   Scope

This British Standard specifies requirements for applications that produce and aggregate XCRI-CAP documents.

It is intended for use by producers and aggregators in the dissemination of course information to prospective students.

This British Standard specifies requirements for:

- policy-makers prescribing a consistent approach for product advertisement that conforms to BS EN 15982 to learning opportunity providers;

- decision-makers specifying or procuring software for advertising or aggregating information about learning opportunities in a format that conforms to BS EN 15982; and

- software developers writing code for advertising or aggregating information about learning opportunities in a format that conforms to BS EN 15982.

2   Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

BS EN 15982, *Metadata for learning opportunities (MLO) – Advertising*

BS ISO 8601, *Data elements and interchange formats – Information interchange – Representation of dates and times*

BS ISO 15836:2009, *Information and documentation – The Dublin Core metadata element set*

Other publications

[N1] INTERNET ENGINEERING TASK FORCE (IETF). *RFC 3986: Uniform resource identifier (URI) – Generic syntax* [viewed 2012-07-12]. Available from <http://tools.ietf.org/html/rfc3986>

[N2] DUBLIN CORE METADATA INITIATIVE. *DCMI terms* [viewed 2012-07-12]. Available from <http://dublincore.org/documents/dcmi-terms>

[N3] DUBLIN CORE METADATA INITIATIVE. *Dublin Core Metadata Element Set*, version 1.1 [viewed 2012-07-12]. Available from <http://dublincore.org/documents/2012/06/14/dcmi-terms/?v=elements>

[N4] INTERNET ENGINEERING TASK FORCE (IETF). *RFC 2822: Internet message format* [viewed 2012-07-16]. Available from <http://www.ietf.org/rfc/rfc2822.txt>

[N5] INTERNET ENGINEERING TASK FORCE (IETF). *RFC 1738: Uniform resource locators (URL)* [viewed 2012-07-17]. Available from <http://www.ietf.org/rfc/rfc1738.txt>

[N6] EUROPEAN COMMITTEE FOR STANDARDIZATION. *CEN workshop agreement (CWA) 16077: Educational credit information model* [viewed 2012-07-12]. CEN:2010. Available from <ftp://ftp.cen.eu/cen/Sectors/TCandWorkshops/Workshops/CWA16077.pdf>

[N7] INTERNET ENGINEERING TASK FORCE (IETF). *BCP47: Tags for identifying languages* [viewed 2012-07-12]. Available from <http://tools.ietf.org/rfc/bcp/bcp47.txt>

[N8] W3C. *Date and time formats* [viewed 2012-07-12]. Available from <http://www.w3.org/TR/NOTE-datetime>

3   Terms and definitions

For the purposes of this part of BS 8581, the terms and definitions from BS EN 15982 and the following apply.

3.1   attribute

name/value pair that exists within an element of an XML document

NOTE 1   Attributes are denoted in the text by the use of an "@" prefix, e.g. "@identifier".

NOTE 2   Attention is drawn to the W3C website: http://www.w3.org/TR/REC-xml/, for further information about XML documents.

3.2   element

logical component of an XML document

NOTE 1   Elements are denoted in the text by the use of angle brackets, e.g. "<provider>".

NOTE 2   Attention is drawn to the W3C website; http://www.w3.org/TR/REC-xml/, for further information about XML documents.

3.3   namespace

mechanism for providing uniquely named elements and attributes in an XML document

NOTE 1   Each namespace is identified using a namespace name, typically expressed as a URI, see [N1].

NOTE 2   Attention is drawn to the W3C website; http://www.w3.org/TR/xml-names/, for further information about namespaces in XML.

3.4   resource

anything that might be identified

[BS ISO 15836:2009, **3.1.1**]

3.5   URL

uniform resource locator conforming to IETF RFC 3986 [N1]

4   Conformance

COMMENTARY ON CLAUSE 4
There are two classes of application that can conform to this British Standard: a producer and an aggregator.

A producer is a class of application that produces XCRI-CAP documents. An aggregator is a class of application that aggregates XCRI-CAP documents.

Either or both classes can conform to this British Standard.

A **strictly conforming instance** shall be a set of structured information constituted only of elements and attributes and fully qualified refinements of the elements, as defined in this British Standard.

A **fully qualified refinement** is an element that explicitly extends an element defined by this British Standard. A fully qualified refinement shall be capable of being processed according to the semantics of the element it extends.

A **conforming instance** may contain additional elements and attributes not defined by this British Standard.

A **conforming producer** shall be capable of generating and sharing strictly conforming instances.

A **conforming aggregator** shall be capable of processing strictly conforming instances.

5 XCRI-CAP documents

The producer shall create XCRI-CAP documents that are valid XML documents.

The producer shall create XCRI-CAP documents with one of the following elements as its top-level element:

catalog;

provider; or

course.

The aggregator shall be able to process a valid XCRI-CAP document.

NOTE   Both provider and course are allowed as alternative top-level elements to enable REST-style operations to be supported.

6 Namespace

Elements and attributes shall be identified using the namespace: http://purl.org/xcri/cap

Elements defined by BS EN 15982 shall use the namespace: http://purl.org/net/mlo

Elements defined by BS ISO 15836 and DCMI terms [N2] shall use the namespace: http://purl.org/dc/terms/

NOTE 1   Information on namespace can also be found at http://www.xcri.co.uk/ h2-info-models.html.

NOTE 2   This British Standard also includes elements defined in other standards, specifically BS EN 15982, BS ISO 15836 and DCMI terms [N2].

7 Core elements

7.1 <catalog> element

URI: http://purl.org/xcri/cap#catalog

The <catalog> element shall be the default root element for a feed.

NOTE 1   The catalog element does not imply a relationship between this British Standard and a course catalog. A catalog does not necessarily relate to a concept of a catalog in an originating or consuming system, but rather provides the context for the content of this British Standard.

The <catalog> element shall contain exactly one @generated attribute.

The value of the @generated attribute shall be the date and time at which the catalog content is generated in BS ISO 8601 format.

The catalog element shall contain common elements in accordance with Clause **8**.

The catalog element shall contain any number of <provider> elements as defined in **7.2**.

NOTE 2   URI stands for uniform resource identifier.

7.2 <provider> element

URI: http://purl.org/xcri/cap#provider

The <provider> element shall describe an organization that offers one or more courses.

The <provider> element shall contain:

common elements in accordance with Clause **8**;

location (optional); and

course (optional, multiple).

*NOTE   See Clause **10** for further details on the child elements of the <provider> element.*

7.3 <course> element

URI: http://purl.org/xcri/cap#course

The <course> element shall describe a learning opportunity offered by a learning provider.

NOTE 1   A course is equivalent to a Learning Opportunity Specification, see BS EN 15982.

The <course> element shall contain:

common elements in accordance with Clause **8**;

common descriptive elements in accordance with Clause **9**;

level (optional, multiple);

qualification (optional, multiple);

presentation (optional, multiple); and

credit (optional, multiple).

*NOTE 2   See Clause **11** for further details on the child elements of the <course> element.*

7.4 <presentation> element

URI: http://purl.org/xcri/cap#presentation

The <presentation> element shall describe the course offered at a specific time and place, or through specified media.

NOTE 1   The <presentation> element is the entity to which learners apply. Alternative names for this type of element include course offering and course instance.

NOTE 2   The <presentation> element is equivalent to a Learning Opportunity Instance, see BS EN 15982.

The <presentation> element shall contain:

common elements in accordance with Clause **8**;

common descriptive elements in accordance with Clause **9**;

<start> (optional);

<end> (optional);

<duration> (optional);

<applyFrom> (optional);

<applyUntil> (optional);

<applyTo> (optional);

<engagement> (optional, multiple);

<studymode> (optional);

<attendancemode> (optional);

<attendancepattern> (optional);

<languageOfInstruction> (optional, multiple);

<languageOfAssessment> (optional, multiple);

<places> (optional);

<cost> (optional);

<age> (optional); and

<venue> (optional, multiple).

NOTE 3   See Clause **13** for further details on the child elements of the <presentation> element.

8 Common elements

8.1 General

Each of the core elements shall use the following set of common elements:

<hasPart> (optional, multiple);

<isPartOf> (optional, multiple);

<contributor> (optional, multiple);

<date> (optional, multiple);

<description> (optional, multiple, inheritable);

<identifier> (optional, multiple);

(optional, inheritable);

<subject> (optional, multiple, inheritable);

<title> (optional, multiple, inheritable);

<type> (optional, multiple); and

<url> (optional).

NOTE   See BS 8581-2:2012, Clause **7**, for guidelines on usage in each specific context.

8.2 <hasPart> element

URI:http://purl.org/dc/elements/1.1/hasPart

The <hasPart> element shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

The <hasPart> element shall use the DCMI Metadata Terms Namespace: http://purl.org/dc/terms/ [N2].

8.3 <isPartOf> element

URI: http://purl.org/dc/elements/1.1/isPartof

The <isPartOf> element shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

The <isPartOf> element shall use the DCMI metadata terms namespace: http://purl.org/dc/terms/ [N2].

8.4 <contributor> element

URI: http://purl.org/dc/elements/1.1/contributor

The <contributor> element shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

The <contributor> element shall use the Dublin Core Element Set namespace: http://purl.org/dc/elements/1.1/ [N3].

8.5 <date> element

URI: http://purl.org/dc/elements/1.1/date

The <date> element shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

The <date> element shall use the Dublin Core Element Set namespace: http://purl.org/dc/elements/1.1/ [N3].

8.6 <description> element

URI: http://purl.org/dc/elements/1.1/description

The <description> element shall describe the resource. It shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

This is a descriptive text element and shall be used in accordance with **14.1**.

The <description> element shall use the Dublin Core Element Set namespace: http://purl.org/dc/elements/1.1/ [N3].

8.7 <identifier> element

URI: http://purl.org/dc/elements/1.1/identifier

The <identifier> element shall be an unambiguous reference to the resource within a given context. It shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

The <identifier> element may be a uniform resource identifier (URI) conforming to the URL scheme in IETF RFC 3986 [N1], for example:

```
<dc:identifier>http://www.bolton.ac.uk</dc:identifier>
<dc:identifier xsi:type=»ukrlp:ukprn»>10006841</dc:identifier>
```

The <identifier> element shall use the Dublin Core Element Set namespace: http://purl.org/dc/elements/1.1/ [N3].

8.8 <title> element

URI: http://purl.org/dc/elements/1.1/title

The <title> element shall be the title of the resource. It shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982, for example:

```
<dc:title>Physics For Dogs</dc:title>

<dc:title xml:lang="en">The Stars Of The Night Sky</dc:title>
<dc:title xml:lang="es">Las Estrellas del Cielo de la
Noche</dc:title>
```

The <title> element shall use the Dublin Core Element Set namespace: http://purl.org/dc/elements/1.1/ [N3].

8.9 <subject> element

URI: http://purl.org/dc/elements/1.1/subject

The <subject> element shall describe the topic of the resource. It shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

The <subject> element shall not contain more than one @identifier attribute.

Each subject element shall contain exactly one key word, phrase, or classification, for example:

```
<dc:subject xsi:type="dct:LCSH" identifier="JC">Political
Theory</dc:subject>
<dc:subject>mental health</dc:subject>
<dc:subject>addiction nursing</dc:subject>
<dc:subject xml:lang="en">development</dc:subject>
<dc:subject xml:lang="de">bildung</dc:subject>
```

NOTE   As an example, multiple key words separated by spaces or other conventions should not be used; separate subject elements should be used instead.

If the <subject> element does not contain any text content, it is in error and the aggregator shall disregard this element.

The <subject> element shall use the Dublin Core Element Set namespace: "http://purl.org/dc/ elements/1.1" [N3].

8.10 <type> element

URI: http://purl.org/dc/elements/1.1/type

The <type> element shall describe the type of resource. It shall conform to BS ISO 15836 and shall be used in accordance with BS EN 15982.

8.11 <url> element

URI: http://purl.org/net/mlo/url

The <url> element shall be a link to a web resource that provides an alternate representation of the resource. It shall be used in accordance with BS EN 15982, for example:

```
<course>
        <dc:identifier>http://www.example.org/courses/1</
        dc:identifier>
        ...
        <mlo:url>http://www.example.org/prospectus.
        jsp?course=1</mlo:url>
        ...
</course>
```

The <url> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

8.12 <image> element

URI: http://purl.org/xcri/cap#image

The <image> element shall be used to enable images to be displayed by the aggregator.

The producer shall not create image elements that contain any text content or child elements.

The aggregator shall disregard any text content or child elements of the image element.

The value of the @src (required) attributes shall be a URI conforming to the URL scheme in IETF RFC 3986 [N1], for example:

```
<image src="http://xcri.org/courses/c1/logo.png" title="Study
XCRI" alt="Logo for the XCRI course"/>
```

NOTE   This is used for the image location.

The value of the @title (optional) shall be a title for the image, such as can be used for a caption.

The value of the @alt (optional) shall be alternative text displayed if the image cannot be rendered.

9 Common descriptive elements

9.1 General

The common descriptive elements shall contain:

abstract (optional, multiple, inheritable);

applicationProcedure (optional, multiple, inheritable);

assessment (optional, multiple, inheritable);

learningOutcome (optional, multiple, inheritable);

objective (optional, multiple, inheritable);

prerequisite (optional, multiple, inheritable); and

regulations (optional, multiple, inheritable).

*NOTE   The <course> and <presentation> elements may use any of the common descriptive elements, see BS 8581-2:2012, **7.3** and **7.4**, for guidelines on usage in each specific context.*

9.2 element

URI: http://purl.org/xcri/cap#abstract

The element shall be a short, one-sentence description for use in a course list.

This is a descriptive text element and shall be used in accordance with **14.1**.

The producer shall not create a value of the element that exceeds 140 characters.

9.3   <applicationProcedure> element

URI: http://purl.org/xcri/cap#applicationProcedure

The <applicationProcedure> element shall describe the procedure for applying to a course of study.

This is a descriptive text element and shall be used in accordance with **14.1**.

9.4   <assessment> element

URI: http://purl.org/net/mlo/assessment

The <assessment> element shall describe the broad approach to assessment used in the learning opportunity.

NOTE   Examples include types of assessments and evaluations of learning and competency development such as exams, mostly by coursework.

This is a descriptive text element and shall be used in accordance with **14.1**.

The <assessment> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

9.5   <learningOutcome> element

URI: http://purl.org/xcri/cap#learningOutcome

The <learningOutcome> element shall describe the learning outcomes for a course of study.

This is a descriptive text element and shall be used in accordance with **14.1**.

9.6   <objective> element

URI: http://purl.org/net/mlo/objective

The <objective> element shall describe the aims or learning objective in accordance with BS EN 15982.

This is a descriptive text element and shall be used in accordance with **14.1**.

The <objective> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

9.7   <prerequisite> element

URI: http://purl.org/net/mlo/prerequisite

The <prerequisite> element shall describe the prerequisite or entry requirement for accessing a course or presentation in accordance with BS EN 15982.

This is a descriptive text element and shall be used in accordance with **14.1**.

The <prerequisite> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

9.8   <regulations> element

URI: http://purl.org/xcri/cap#regulations

The <regulations> element shall describe regulations relevant to a course of study.

This is a descriptive text element and shall be used in accordance with **14.1**.

10 Elements used in the provider element: the \<location\> element

URI: http://purl.org/net/mlo/location

The \<location\> element shall describe the spatial location of the provider.

It shall contain the following elements:

- address (optional, multiple) – additional address information, which may include street address and postal town as separate elements;
- postcode (optional) – the postcode for the address;
- country (optional) – the country name;
- identifier (optional) – an identifier for the location;
- phone (optional) – a phone number as it would be dialled from the UK;
- fax (optional) – a fax number as it would be dialled from the UK;
- email (optional) – an email address; and
- url (optional) – a link to information about the location.

The producer shall not use a PO Box or other "virtual" address for the \<address\> or \<postcode\> elements.

The producer shall create \<email\> elements containing content conforming to the "addr-spec" production in RFC 2822 [N4].

The producer shall create \<url\> elements containing a valid URL, as defined by RFC 1738 [N5].

The \<location\> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo, for example:

```
<provider>
      <dc:title>The College of Art, Bolton</dc:title>
      <mlo:location>
            <mlo:address>Deane Road</mlo:address>
            <mlo:address>Bolton</mlo:address>
            <mlo:postcode>BL3 1EX</mlo:postcode>
      </mlo:location>
</provider>
```

11 Elements used in the course element

11.1 \<qualification\> element

URI: http://purl.org/net/mlo/qualification

The \<qualification\> element shall describe a formal recognition of achievement or competence certificated by its awarding body that might result from studying a course conforming to BS EN 15982.

It shall contain the following elements:

identifier (optional, multiple);

title (required, multiple);

abbr (optional);

description (optional, multiple);

educationLevel (optional);

type (optional);

url (optional);

awardedBy (optional); and

accreditedBy (optional).

The <qualification> element shall use the BS EN 15982 namespace:
http://purl.org/net/mlo, for example:

```
<mlo:qualification>
        <dc:title>Higher National Certificate</dc:title>
        <abbr>HNC</abbr>
        <dcterms:educationLevel>QCF
        Level 4</dcterms:educationLevel>
        <awardedBy>BTEC</awardedBy>
</mlo:qualification>
```

NOTE   See Clause **8** and Clause **12** for further details on the child elements of the
<qualification> element.

11.2   <credit> element

URI: http://purl.org/net/mlo/credit

The <credit> element shall describe an account of the credits that can be obtained
from completion of a course, in accordance with BS EN 15982.

NOTE   Attention is drawn to CWA 16077 [N6] for the definition of the following
elements and for additional guidance on their use.

The <credit> element shall contain the following elements:

scheme (optional, but see BS 8581-2:2012, **11.2.2**, for guidelines) – the scheme
under which credits are obtained, see CWA 16077 [N6];

level (optional) – the level at which credits are obtained, see CWA 16077 [N6]; and

value (required) – the number of credits that can be obtained, see CWA 16077 [N6],
for example:

```
<mlo:credit>
        <credit:scheme>http://purl.org/net/cm/terms/ECTS</
        credit:scheme>
        <credit:level>http://purl.org/net/cm/terms/ECTS#1</
        credit:level>
        <credit:value>20</credit:value>
</mlo:credit>
<mlo:credit>
        <credit:scheme>CATS</credit:scheme>
        <credit:level>2</credit:level>
        <credit:value>40</credit:value>
</mlo:credit>
```

If the <credit> element does not contain a <value> child element, it is in error and the aggregator shall disregard this element.

If the <credit> element does not contain a <scheme> child element, and no default value has been agreed between the aggregator and the producer, it is in error and the aggregator shall disregard this element.

If the <credit> element contains more than one <scheme> child element, it is in error and the aggregator shall disregard this element.

The <credit> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo. The <scheme>, <level> and <value> elements shall use the Educational Credit namespace: http://purl.org/net/cm [N6].

12 Elements used in the qualification element

12.1 <abbr> element

URI: http://purl.org/xcri/cap#abbr

The <abbr> element shall be an abbreviated form of the title of the qualification.

The <abbr> element shall use the XCRI namespace: http://purl.org/xcri/cap

12.2 <educationLevel> element

URI: http://purl.org/dc/elements/1.1/educationLevel

The <educationLevel> element may be used to describe the level of award, see DCMI terms [N2], for further information.

The <educationLevel> element shall use the DCMI metadata terms namespace: http://purl.org/dc/terms/ [N2].

12.3 <awardedBy> element

URI: http://purl.org/xcri/cap#awardedBy

The <awardedBy> element shall be the organization that awards the qualification.

The <awardedBy> element shall use the XCRI namespace: http://purl.org/xcri/cap

12.4 <accreditedBy> element

URI: http://purl.org/xcri/cap#accreditedBy

The <accreditedBy> element shall be the organization that accredits the qualification.

The <accreditedBy> element shall use the XCRI namespace: http://purl.org/xcri/cap

13 Elements used in the presentation element

13.1 <start> element

URI: http://purl.org/net/mlo/start

The <start> element shall be the date at which a presentation begins in accordance with BS EN 15982.

This is a temporal element and shall be used in accordance with **14.2**.

The <start> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.2   <end> element

URI: http://purl.org/xcri/cap#end

The <end> element shall be the date or time at which the presentation of a course finishes.

This is a temporal element and shall be used in accordance with **14.2**.

The <end> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.3   <duration> element

URI: http://purl.org/net/mlo/duration

The <duration> element shall be the duration of a presentation in accordance with BS EN 15982.

The value of the @interval (optional) attribute shall be a machine-readable duration-only time interval in accordance with BS ISO 8601.

If the <duration> element has no text content, it is in error and the aggregator shall disregard this element.

If the <duration> element contains both text content and an @interval attribute, and the value of the @interval attribute is not a duration-only time interval conforming to BS ISO 8601, the aggregator shall process the text content and disregard the @interval attribute, for example:

```
<duration interval="P3Y">Three years</duration>
```

The <duration> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.4   <applyFrom> element

URI: http://purl.org/xcri/cap#applyFrom

The <applyFrom> element shall contain the date from which applications can be accepted for the presentation of a course.

This is a temporal element and shall be used in accordance with **14.2**.

The <applyFrom> element shall use the XCRI namespace: http://purl.org/xcri/cap

13.5   <applyUntil> element

URI: http://purl.org/xcri/cap#applyUntil

The <applyUntil> element shall contain the date after which applications cannot be accepted for the presentation of a course.

This is a temporal element and shall be used in accordance with **14.2**.

The <applyUntil> element shall use the XCRI namespace: http://purl.org/xcri/cap

13.6   <applyTo> element

URI: http://purl.org/xcri/cap#applyTo

The <applyTo> element shall contain a URL to a resource for further information about, or an online application system for, a presentation.

The <applyTo> element shall use the XCRI namespace: http://purl.org/xcri/cap

13.7 <engagement> element

URI: http://purl.org/net/mlo/engagement

The <engagement> element shall describe the logistical means for individuals to engage in a presentation, including temporal, modal and spatial patterns of engagement and attendance, in accordance with BS EN 15982.

The <engagement> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.8 <studyMode> element

*NOTE 1   See BS 8581-2:2012, **13.8**, for the recommended vocabulary for the <studyMode> element.*

URI: http://purl.org/xcri/cap#studyMode

The <studyMode> element shall describe the overall amount of the student's time that is devoted to the learning opportunity, as defined by the provider.

NOTE 2   This element is a refinement of the <engagement> element.

The <studyMode> element shall not contain more than one @identifier attribute, for example:

```
<studyMode identifier="FT">Full time</studyMode>
```

The <studyMode> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.9 <attendanceMode> element

URI: http://purl.org/xcri/cap#attendanceMode

The <attendanceMode> element shall contain the type of location at which the student undertakes the learning opportunity, e.g. distance learning, campus-based, work-based, online.

NOTE   This element is a refinement of the <engagement> element.

The <attendanceMode> element shall not contain more than one @identifier attribute, for example:

```
<attendanceMode identifier="CM">Campus</attendanceMode>
```

The <attendanceMode> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.10 <attendancePattern> element

URI: http://purl.org/xcri/cap#attendancePattern

The <attendancePattern> element shall contain the period in the day and/or frequency during which attendance at a venue is required (if any), e.g. evenings, daytime, weekends.

NOTE   This element is a refinement of the <engagement> element.

The <attendancePattern> element shall not contain more than one @identifier attribute, for example:

```
<attendancePattern identifier="DT">Daytime</attendancePattern>
```

The <attendancePattern> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.11   <languageOfInstruction> element

URI: mlo:languageOfInstruction

The <languageOfInstruction> element shall contain the available languages for teaching the presentation in accordance with BS EN 15982.

If the content of the <languageOfInstruction> element is not a valid language tag conforming to BCP-47 [N7], it is in error and the aggregator shall disregard this element.

The <languageOfInstruction> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.12   <languageOfAssessment> element

URI: http://purl.org/xcri/cap#languageOfAssessment

The <languageOfAssessment> element shall contain the language in which the presentation of a course can be assessed.

If the content of the <languageOfAssessment> element is not a valid language tag conforming to BCP-47 [N7], it is in error and the aggregator shall disregard this element.

The <languageOfAssessment> element shall use the XCRI namespace: http://purl.org/xcri/cap#catalog

13.13   <places> element

URI: http://purl.org/net/mlo/places

The <places> element shall contain the number of places available for participants in the presentation in accordance with BS EN 15982.

The <places> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

NOTE   The default, unqualified value of this property is a simple textual description. The producer may use encoding schemes that refine the use of this property.

13.14   <cost> element

URI: http://purl.org/net/mlo/cost

The <cost> element shall contain the cost for obtaining access to the presentation in accordance with BS EN 15982, for example:

```
<cost>The course fees are £800 per semester, payable either
in advance or monthly by direct debit.</cost>
```

The <cost> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

NOTE   The default, unqualified value of this property is a simple textual description. The producer may use encoding schemes that refine the use of this property.

13.15   <age> element

URI: http://purl.org/xcri/cap#age

The <age> element shall contain the intended age range for which the presentation is suitable.

NOTE 1   This is a refinement of: http://purl.org/dc/elements/1.1/audience.

The value of the <age> element shall be one of the following:

any;

not known;

x-y; or

x+, for example:

```
14+
14-16
14-19
any
```

x and y shall be non-negative integers.

If the value of x is greater than the value of y, it is in error and the aggregator shall disregard this element.

NOTE 2   If the value of y is greater than or equal to 99, the aggregator may treat the value of this element as being equivalent to x+.

NOTE 3   If the value of x or y is greater than 120, the aggregator may either truncate the value from the right to a more realistic number, for example changing "124" to "12", or they may treat this element as in error and disregard this element.

If the content of this element is not one of the values or patterns defined in **13.15**, it is in error and the aggregator shall disregard this element.

The <age> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

13.16   <venue> element

URI: http://purl.org/xcri/cap#venue

The <venue> element shall contain the location, for example:

```
<presentation>
        <venue>
                <provider>
                        <identifier>asc:Priory Campus</identifier>
                        <title>Priory Campus</title>
                        <location>
                                <address>Victoria Road</address>
                                <address>Kirkcaldy</address>
                                <postcode>KY1 2QT</postcode>
                        </location>
                </provider>
        </venue>
</presentation>
```

NOTE   Venue is equivalent to "offeredAt" given in BS EN 15982.

The producer shall include a <provider> element as the only child element of <venue>.

If a <venue> element does not contain one and only one <provider> element, it is in error and the aggregator shall disregard this element.

If a <venue> element contains any child elements other than <provider>, it is in error and the aggregator shall disregard this element.

If a <venue> element contains any text content, it is in error and the aggregator shall disregard this element.

The <venue> element shall use the BS EN 15982 namespace: http://purl.org/net/mlo

14   Processing XCRI-CAP XML documents

14.1   Descriptive text elements

A descriptive text element shall contain or refer to descriptive text content, for example:

```
<dc:description>
        <div xmlns=»http://www.w3.org/1999/xhtml»>
                <p>This module shows how to take an existing
                presentation and modify it and how to create
                your own presentations. No knowledge of
                PowerPoint is assumed.</p>
                <p>The topics covered are:
                        <ul>
                                <li>Using and modifying
                                an existing PowerPoint
                                presentation</li>
                                <li>Creating a simple
                                presentation</li>
                                <li>Making use of themes
                                and schemes supplied with
                                PowerPoint</li>
                                <li>The PowerPoint views</li>
                                <li>Printing and saving your
                                presentation</li>
                        </ul>
                </p>
        </div>
</dc:description>
```

A descriptive text element shall be defined by having the following attributes:

@lang (optional) – language used for the description; and

@href (optional) – link to supporting information.

The content of a descriptive text element shall be one of either:

empty;

plain unescaped text content; or

valid XHTML 1.0 content.

14.2 Temporal elements

A temporal element shall contain information about dates and times; this may include both the "human-readable" and the "machine-processable" aspects of information.

A temporal element shall contain temporal information suitable for presentation as text content, e.g. "September, 2012" or "Early Summer, 2011".

A temporal element shall not contain more than one @dtf attribute. This attribute shall contain a date or time in accordance with W3C-DTF [N8] at any level of precision (e.g. the year only, or year-month-day), for example:

```
<start dtf="2011-09">September 2011</start>
<end dtf="2012-05">May 2012</end>
```

```
<start>As soon as enough students have enrolled, usually once
every four weeks</start>
```

NOTE 1   See the W3C XML Schema [1] "dateTime" type OR "date" type definitions for guidance on use.

NOTE 2   If a temporal element has both a valid @dtf attribute and text content, an aggregator may use either or both of the values.

If a temporal element does not contain text content, it is in error and the aggregator shall disregard this element.

If a temporal element has an @dtf attribute and the value of the attribute does not contain a valid date or time according to W3C-DTF [N8], it is in error and the aggregator shall disregard this element.

14.3 Inheritable elements

Inheritable elements shall describe content that can be inferred within child elements from a parent element.

NOTE 1   This enables documents to be less verbose by not repeating basic information.

NOTE 2   For example, the aggregator may infer that a <presentation> has a subject of "technology" because its parent <course> element contains <dc:subject>technology</dc:subject>.

Inheritable elements shall be indicated in this British Standard using the "inheritable" key word.

Bibliography

Standards publications

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 8581-2:2012, *Exchanging course-related information – Course advertising profile – Part 2: Code of practice*

Other publications

[1]   W3C. *XML Schema*, ©2000–2007 [viewed 2012-07-12]. Available from <http://www.w3.org/XML/Schema>

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