Expressing the Scholarly Works (Eprints) DC Application Profile using the DSP wiki syntax

DC-2007: Application Profiles: Theory and Practice, Singapore

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Expressing the Scholarly Works (Eprints) DC Application Profile using the DSP wiki syntax

- Report of work done by Julie Allinson (UKOLN/University of York)
Background to the Eprints DCAP

- Eprints AP development funded by JISC, Summer 2006
- Co-ordinated by Julie Allinson & Andy Powell (Eduserv Foundation)
- Specification for using DC metadata for eprints that overcomes limitations of "Simple DC"
  - especially relationships between “versions”
  - “what is being described?”
- "eprint":
  - a "scientific or scholarly research text" (Budapest Open Access Initiative)
  - e.g. peer-reviewed journal article, preprint, working paper, thesis, book chapter, report, etc.
Components

- Functional requirements specification
- Domain model
  - Based on subset of FRBR
- The "eprints DCAP"
  - a "Description Set Profile"
  - plus human-readable commentary, usage guidelines
- New vocabularies of metadata terms
  - With URIs like http://purl.org/eprint/terms/xyz
- Eprints DC-XML XML format
  - Based on DC-XML-Full, Version 2006-09-18
The eprints DCAP Domain Model

- **ScholarlyWork**
  - isExpressedAs **Expression**
  - isManifestedAs **Manifestation**
  - isAvailableAs **Copy**

- **Expression**
  - isCreatedBy **Agent**

- **Manifestation**
  - isEditedBy **Agent**

- **Agent**
  - isFundedBy **AffiliatedInstitution**
  - isPublishedBy **Agent**

- **AffiliatedInstitution**
  - isSupervisedBy **Agent**
The eprints DCAP Domain Model

- **ScholarlyWork**
  - isExpressedAs **Expression**
    - hasVersion **Expression**
      - hasTranslation **Expression**
        - hasAdaptation
  - isManifestedAs **Manifestation**
    - isAvailableAs **Copy**
  - isAvailableAs **Copy**

- **Manifestation**
  - isAvailableAs **Copy**
  - isAvailableAs **Copy**
  - isAvailableAs **Copy**
The eprints DCAP as DSP

- Developed initially using "traditional" "tabular" DCAP presentation
- Document divided into five sections/tables, one for description of each entity type
  - -> DSP Description Template
- Each section/table divided into rows, one for each statement type within description
  - -> DSP Statement Template
- For statement referencing Literal Value
  - -> DSP Literal Value Constraint
- For statement referencing Non-Literal Value
  - -> DSP Non-Literal Value Constraint

http://www.ukoln.ac.uk/repositories/digirep/index/EPrints_Application_Profile
• **Description of ScholarlyWork**

\[
\begin{align*}
\text{DT}=&( \\
\quad \text{ID}="\text{ScholarlyWork}\" \\
\quad \text{min}="1" \text{ max}="1" \\
\quad \text{standalone}="yes" \\
\quad \text{RC}=[http://purl.org/eprint/entityType/ScholarlyWork/] \\
) \\
\end{align*}
\]

• **Description of Expression of ScholarlyWork**

\[
\begin{align*}
\text{DT}=&( \\
\quad \text{ID}="\text{Expression}\" \\
\quad \text{standalone}="no" \\
\quad \text{RC}=[http://purl.org/eprint/entityType/Expression/] \\
) \\
\end{align*}
\]

• And so on for Descriptions of Manifestation, Copy, Agent
• Description of ScholarlyWork

DT=(
    ID="ScholarlyWork"
    min="1" max="1"
    standalone="yes"
    RC=[http://purl.org/eprint/entityType/ScholarlyWork/]
)

- Title

ST=(
    type="literal"
    min="1"
    PC={http://purl.org/dc/elements/1.1/title}
)
Subject

ST=(
    type="nonliteral"
    PC={http://purl.org/dc/elements/1.1/subject}
)

NLC=(
    VURIConstraint=( occurrence="optional")
    VESConstraint=( occurrence="optional")
    VStringConstraint=(max="1"
        LangC=(occurrence="optional")
        SESConstraint=(occurrence="disallowed")
    )
)

)
- **Is Expressed As**

\[
\text{ST} =
\begin{align*}
&\text{type} = \"\text{nonliteral}\" \\
&\text{PC} = \{\text{http://purl.org/eprint/terms/isExpressedAs}\}
\end{align*}
\]

\[
\text{NLC} =
\begin{align*}
&\text{description} = \"\text{expression}\" \\
&[\text{http://purl.org/eprint/entityType/Expression}] \\
&\text{VURIConstraint} = (\text{occurrence} = \"\text{mandatory}\") \\
&\text{VESConstraint} = (\text{occurrence} = \"\text{disallowed}\") \\
&\text{VStringLengthConstraint} = (\text{max} = \"0\")
\end{align*}
\]

- And so on for Statements referencing other properties

http://knowware.nada.kth.se/DCWiki/EprintsApplicationProfile?action=raw
Is Expressed As

<table>
<thead>
<tr>
<th>Property</th>
<th>Description: expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>URI</td>
<td><a href="http://purl.org/eprint/terms/isExpressedAs">http://purl.org/eprint/terms/isExpressedAs</a></td>
</tr>
<tr>
<td>Literal?</td>
<td>No</td>
</tr>
<tr>
<td>Definition</td>
<td>A version of the described eprint.</td>
</tr>
<tr>
<td>Eprint-specific recommendation</td>
<td>An expression of the described eprint. In FRBR terms, an eprint is a Work. Use this property to provide the URI of an expression of the eprint and/or to link to a related description (with the description set) about the expression.</td>
</tr>
</tbody>
</table>

For example:

```xml
Statement {
  Property URI (eprint:isExpressedAs)
  DescriptionRef (expression1)
}
```

Description of an Expression of the eprint

Entity type
http://knowware.nada.kth.se/DCWiki/EprintsApplicationProfile?action=DSP2XML
Issues arising

- Formal model based on description model of DCAM 2007-06-04
  - e.g. literal v non-literal values
- Constraint matching limitations e.g.
- DT may contain max of one ST referencing a single property
- ST must contain either a NLC or a LC
- So
  - can’t specify the use of a statement referencing property P with either a literal value or a non-literal value
    - e.g. dcterms:abstract (abstract as literal or as document)
  - can’t specify the use of a statement referencing property P with two different NLCs
    - e.g. dcterms:subject (subject as keyword/no VES or subject as member of specified VES)
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