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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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- Report of work done by Julie Allinson (UKOLN/University of York)

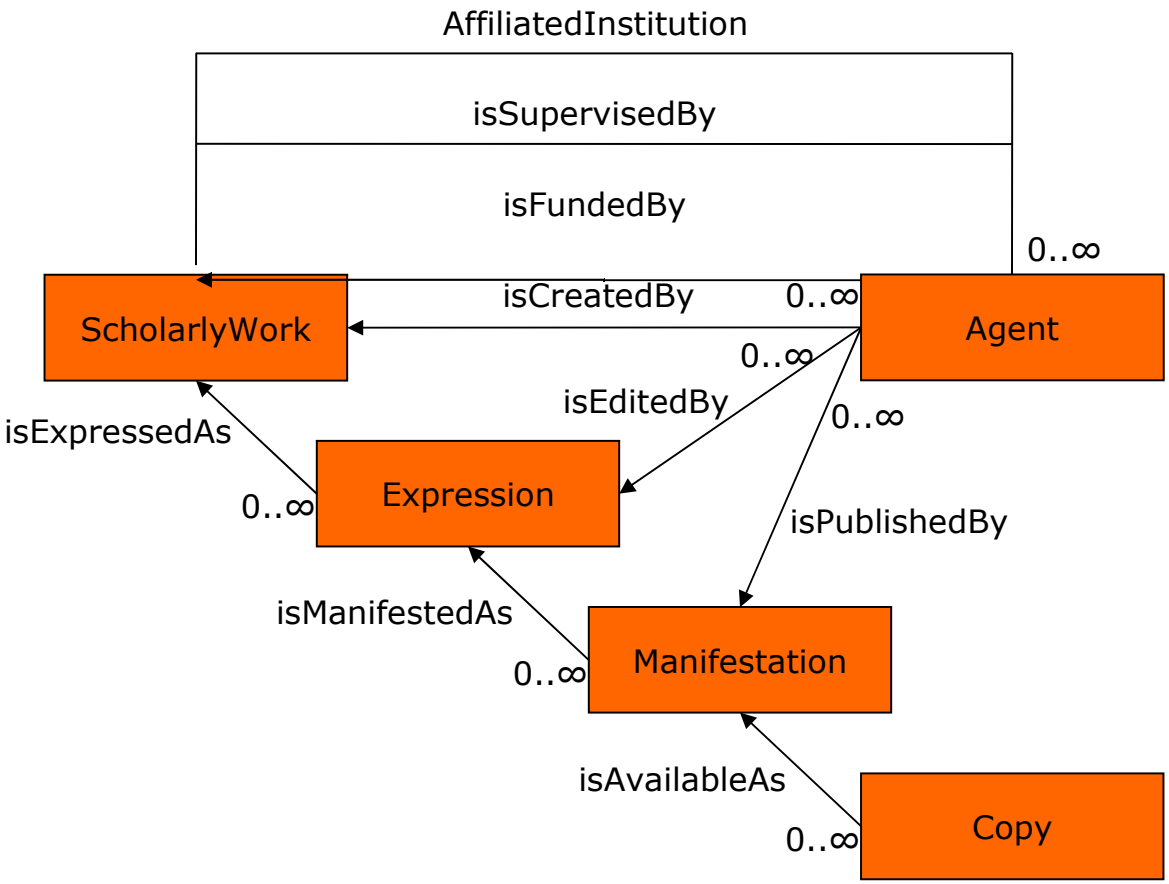
Background to the Eprints DCAP

- 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



The eprints DCAP Domain Model

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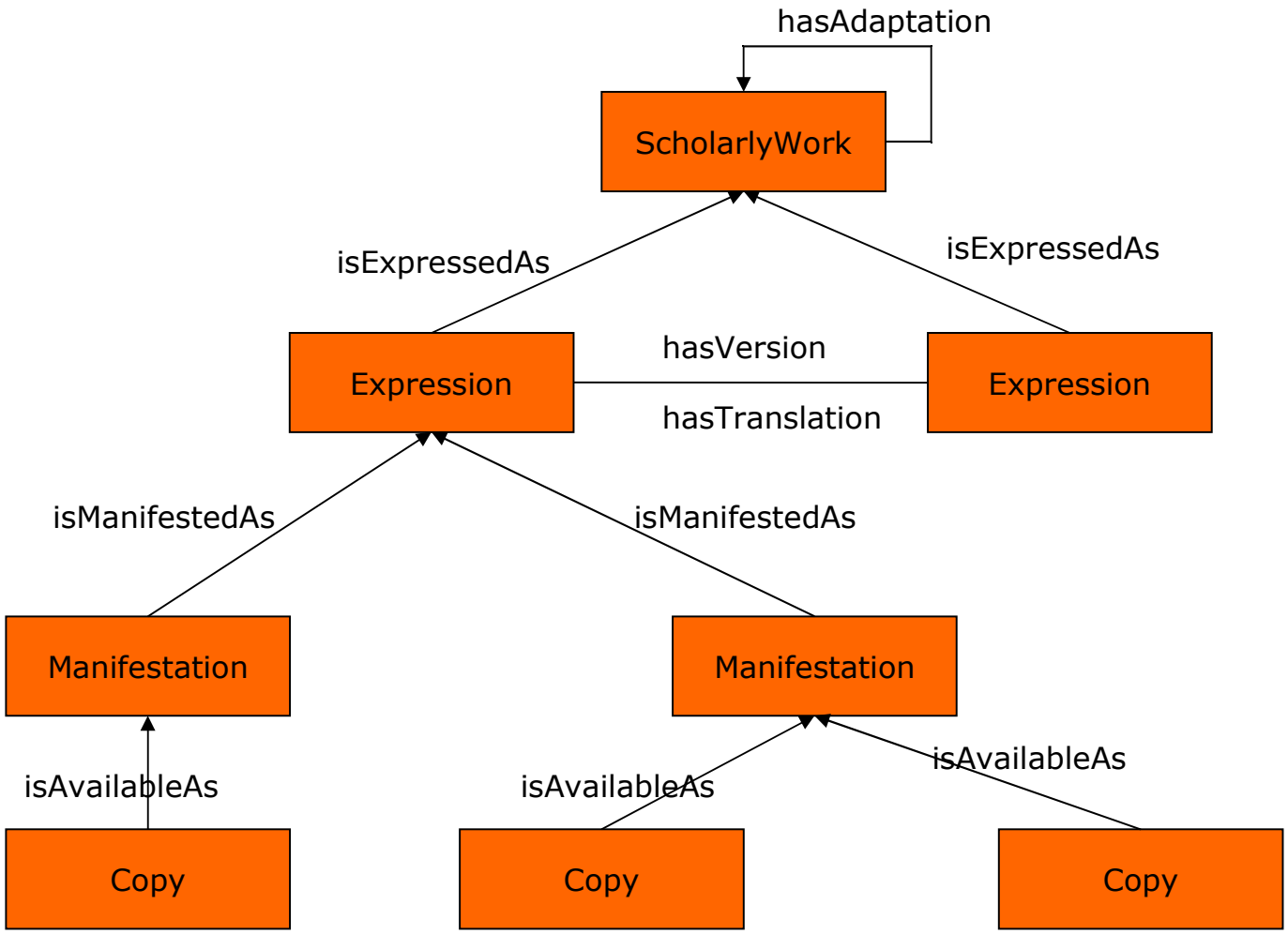

The eprints DCAP as DSP

- 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**

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

- **Description of Expression of ScholarlyWork**

```
DT=(
  ID="Expression"
  standalone="no"
  RC=[http://purl.org/eprint/entityType/Expression/]
)
```

- 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**

```
ST=(
   type="nonliteral"
   PC={http://purl.org/eprint/terms/isExpressedAs}
)

NLC=(
   description="expression"
   [http://purl.org/eprint/entityType/Expression]
   VURIConstraint=( occurrence="mandatory")
   VESConstraint=( occurrence="disallowed")
   VStringConstraint=(max="0")
)
```

- And so on for Statements referencing other properties

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

```
        Property URI ( eprint:hasAdaptation )
        Value URI ( <http://www.example.com/mypaper.ppt> )
    )
```

Is Expressed As

Property	http://purl.org/eprint/terms/isExpressedAs
Literal?	No
Definition	A version of the described eprint.
Eprint-specific recommendation	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.
Value (Non-Literal)	**Description**: expression **Vocabulary Encoding Scheme Constraint** **Occurrence**: disallowed **Value String Constraint:** Max occurrence: 0 *Syntax Encoding Syntax Constraint:* **Occurrence**: disallowed *Language Constraint:* **Occurrence**: disallowed

For example:

```
Statement (
        Property URI ( eprint:isExpressedAs )
        DescriptionRef ( expression1 )
)
```

http://knowware.nada.kth.se/DCWiki/EprintsApplicationProfile

Description of an Expression of the eprint

Entity type

```
    – <NonliteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>
        <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
      – <ValueStringConstraint maxOccu="0">
          <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
          <LanguageOccurrence>disallowed</LanguageOccurrence>
        </ValueStringConstraint>
      </NonliteralConstraint>
    </StatementTemplate>
  – <StatementTemplate type="nonliteral">
      <Property>http://purl.org/eprint/terms/isExpressedAs</Property>
    – <NonliteralConstraint descriptionTemplateID="expression">
        <VocabularyEncodingSchemeOccurrence>disallowed</VocabularyEncodingSchemeOccurrence>
      – <ValueStringConstraint maxOccu="0">
          <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
          <LanguageOccurrence>disallowed</LanguageOccurrence>
        </ValueStringConstraint>
      </NonliteralConstraint>
    </StatementTemplate>
  </DescriptionTemplate>
– <DescriptionTemplate ID="Expression">
    <ResourceClass>http://purl.org/eprint/entityType/Expression/]</ResourceClass>
  – <StatementTemplate minOccu="1" maxOccu="1" type="nonliteral">
      <Property>http://purl.org/dc/elements/1.1/type</Property>
    – <NonliteralConstraint>
        <ValueURIOccurrence>mandatory</ValueURIOccurrence>
        <ValueURI>http://purl.org/eprint/entityType/Expression/</ValueURI>
        <VocabularyEncodingSchemeOccurrence>mandatory</VocabularyEncodingSchemeOccurrence>
        <VocabularyEncodingScheme>http://purl.org/eprint/entityType/</VocabularyEncodingScheme>
      – <ValueStringConstraint maxOccu="0">
          <SyntaxEncodingSchemeOccurrence>disallowed</SyntaxEncodingSchemeOccurrence>
          <LanguageOccurrence>disallowed</LanguageOccurrence>
        </ValueStringConstraint>
      </NonliteralConstraint>
    </StatementTemplate>
  – <StatementTemplate type="literal">
      <Property>http://purl.org/dc/elements/1.1/title</Property>
    </StatementTemplate>
  – <StatementTemplate type="nonliteral">
      <Property>http://purl.org/dc/elements/1.1/description</Property>
    </StatementTemplate>
  – <StatementTemplate minOccu="1" type="literal">
```


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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Title slide photo of Singapore Orchid Gardens by Flickr user Andries3
See http://www.flickr.com/photos/andriesoudshoorn/458660650//

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