

Use of item types by UK institutional repositories

A comparison of existing policies, practices and guidelines and implications for the list of item types used by the IRUS-UK project

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1 Executive summary

IRUS-UK follows on from the PIRUS2 project (<http://www.cranfieldlibrary.cranfield.ac.uk/pirus2/tiki-index.php>) which demonstrated how COUNTER-compliant article-level usage statistics could be collected and consolidated from Publishers and Institutional Repositories. PIRUS2 worked with a limited number of item types (article, book chapter, book section, conference or workshop item, dataset, manual, other, presentation, report, technical report, thesis or dissertation, working paper) to which all other item types were mapped.

As part of the IRUS-UK project, we examined a number of standards that have been proposed for the use of item types in institutional repositories, together with the item types that are actually being used (as recorded by the Institutional Repository Search (IRS) (<http://irs.mimas.ac.uk/>)). We have identified a number of issues affecting any attempts to standardise item types across UK repositories and have proposed an initial listing of item types for use in IRUS-UK. This is a pragmatic solution for the immediate future and can be extended as the project progresses as the original item types for each download are being stored and can be remapped at any stage. This is an additional piece of work agreed by Balviar Notay, JISC, with the aim of supporting the work of RepNet. It was not in the original project plan.

In examining both the policies and guidelines and the actual usage of item types by UK repositories a number of issues became apparent:

1. There is a lack of consistency between the various guidelines which have been produced for the use of item types in institutional repositories. They vary in the terminology used (eg 'Journal articles' or 'Articles'), the style of terms (eg 'Book item' or 'bookPart') and whether singular or plural terms are used (eg 'Book' or 'Books'). Some guidelines include large numbers of terms, others only a few. Some include catch all terms such as 'Other', others don't.
2. Individual institutions have developed lists of item types for their institutional repositories which suit their own individual needs.
3. The software used by a repository may influence the item types that it uses, particularly if there is a default list included with the software as in the case of EPrints.
4. The item type chosen may vary depending on who creates the metadata when that item is deposited in a repository.
5. Some repositories and guidelines group items, whereas others have much more detailed breakdowns. For example bachelors, masters and doctoral theses may be separated out or grouped together.

6. Some repositories use the item type field for information that is of use to them but isn't strictly an item type, eg individual letters and numbers.
7. Some repositories allow for the use of multiple item types.
8. It would be impossible retrospectively to require institutional repositories to adhere to a standard listing.

IRUS-UK initially continued to use the listing from PIRUS2, but this study was undertaken to ascertain whether there were any guidelines on repository item types that existed and were in widespread use. In view of the inconsistencies identified above, a pragmatic approach was taken and a simplified version of the current IRS item type list is proposed for use in IRUS-UK. It aims to include the major item types that we are likely to encounter. We propose both an 'Other' heading for item types with few resources and an 'Unclassified' heading where the content of the item type field is not an obvious item type.

Version 1 of this report proposed that:

The IRUS list will contain the following item types: Article; Audio; Book; Book Section; Conference or Workshop Item; Exam Paper; Exhibition; Image; Journal; Learning Object; Moving Image; Other; Patent; Preprint, Report; Review; Text; Thesis or Dissertation; Unclassified; Website; Working Paper.

Following feedback from the repository community, particularly in relation to creative outputs, additional item types were added and Exhibition was renamed Show/Exhibition, giving an updated list as follows:

The IRUS list will contain the following item types: Art/Design Item; Article; Audio; Book; Book Section; Conference or Workshop Item; Dataset; Exam Paper; Image; Journal; Learning Object; Moving Image; Music/Musical Composition; Other; Patent; Performance; Preprint, Report; Review; Show/Exhibition; Text; Thesis or dissertation; Unclassified; Website; Working Paper.

As the original item types are stored for each download, it will be possible to remap types to expand or amend this list over time.

The existence and use of a harmonised version of item types would be of great benefit to the institutional repository community particularly in managing their usage data. We support the RIOXX recommendation that, going forward, a vocabulary be adopted or developed for item types.

However, the complexity of the existing use of item types is such that this is extremely unlikely ever to be retrospectively applied.

We propose that, rather than attempting to change existing item types, repositories are encouraged to map these to a generic list, either that used in IRUS, which could be provided to institutions, or a similar listing. Ideally this item type should be stored in a separate field

but if this were not possible, and it had to be stored in the same field as existing item types then it would need to be encoded in such a way that it could be distinguished and that it would be machine parsable.

We propose that further work be undertaken to investigate this including the possibility of developing some form of automated mapping tool for repositories to use.

2 Methodology

A mixture of desk research, discussions with key representatives and interviews informed this report.

The Repositories Support Project (RSP) (<http://www.rsp.ac.uk/>) and the Institutional Repository Search (IRS) (<http://irs.mimas.ac.uk/>), which both have expertise in this area, were contacted to obtain further information about the use of item types in UK institutional repositories and to ascertain whether they were aware of any guidelines being consistently applied across the repositories.

We received the following feedback from Phil Cross at the Institutional Repository Search (IRS) project:

“Typing is of great interest to the Institutional Repository Search (IRS) due to the great variety of resources within the institutional repositories we harvest and the difficulties this causes in filtering search results for end-users. Unfortunately, in our experience, there is little standardisation of resource type terms across repositories and, in many cases, a lack of awareness of the basic requirements of standardising to a controlled set of terms leading to a lack of standardisation within individual repositories.

This results in two main problem areas: a lack of consistency in the harvested metadata in describing the same types of resource across repositories, for instance a dozen different forms of words for ‘article’; and seemingly arbitrary and ad hoc descriptions of common types within repositories, for instance numerous masters and doctoral degree titles rather than the use of a simple ‘doctoral thesis’ type. Combined with a lack of standardisation of the form for the same types within an institution, together with spelling errors and variations in punctuation, this suggests the use of end-user data entry with no oversight in place.

Unfortunately there is no standard set of resource types that we are aware of that provides the breadth and detail necessary to describe the full contents of institutional repositories, which needs to consist of a far wider range of types than simply those of academic publications. However one could wish for a greater understanding from repository managers for the need for standardisation and consistency within repositories and a better

understanding of the needs of the end users who may wish to search through their collections.”

We received the following feedback from Bill Hubbard and Nancy Pontika at the Repositories Support Project (RSP):

“Typing of contents would be a useful and timely development. Initially repositories were built with user generated metadata on a “good enough” basis, which was felt necessary to kick-start growth. Repositories managers are likely to work to the institution’s library and have a good appreciation of the value- and eventual need for- standardized typologies of content. Thus far has been no other way to satisfy that need. What is needed is a rich typology sufficient to capture the diversity of possible content – was heavy work for legend pre-print/post-print articles- but simple enough for everyday use. This is a challenge, but one which would be welcomed by repository managers, as long as assigning the values is well integrated into the deposit process, which will call for technical development of the standard repository software and, of course, in-house development of any bespoke solutions. Proposals for standards in many areas come and go: adoption will take resource and managers need to be assured of the wide-spread buying and support of any proposed solution. The challenge for introducing them is three fold: the typology, the technical implementation and acceptance by repository staff of the proposal of the future standard solution.”

The issues associated with the use of item types were also discussed with Paul Walk at UKOLN who commented as follows:

“Paul,
many thanks for your time explaining the approaches you have taken to metadata normalisation in IRUS. I think that you have managed to hit the sweet-spot between maintaining the richness of the varied repositories' approaches to characterising items while introducing a well judged level of normalisation to arrive at a manageable but still useful set of item types.

I'm very interested in building on this approach for RIOXX/RepUK and will be in touch about this later on in the RIOXX project.

Paul”

The guidelines that RSP and IRS identified plus others already known to the IRUS team or identified using an internet search were checked. Details were extracted and compared for the main guidelines applicable to UK institutional repositories and the results summarised (see below and appendices 1-6).

Interviews were conducted with IRUS pioneer repository managers from EPrints, DSpace and Fedora repositories. Views were sought both about the use of item types in repositories generally and about the requirements for reporting within IRUS-UK.

The responses that we received, which confirmed a number of the issues above, will be written up and a distilled report made available later.

3 UK policies and guidelines

There have been a number of projects relating to the deposit of items in institutional repositories over the last few years which have aimed to provide guidance of some form on the use of item types.

In addition, repository software products such as EPrints and DSpace provide guidance on item types.

Appendix 6 provides a table comparing the various guidelines listed below. It illustrates the variation in proposed item types and also the inconsistencies in terminology and style.

Guidance is also available on version control for research outputs within institutional repositories and elsewhere. This is not of direct relevance to IRUS-UK (although it was to PIRUS) as version is effectively a sub-type of the item types for which IRUS is gathering data. However, versioning will have been adopted by some institutional repositories so the guidelines are included here for completeness.

3.1 Institutional repository software-specific guidelines

1. EPrints
2. DSpace

For further details of these guidelines see Appendix 1.

We were unable to locate recommendations for item types for repositories using Fedora software.

3.2 JISC-funded guidelines

1. SWAP - Scholarly Works Application Profile (2006)
2. EThOS (2006)
3. Kultur (2009)
4. JISC infoKit Digital repositories (archived)
5. RIOXX application profile

For further details of these guidelines see Appendix 2

3.3 EU-funded guidelines

1. DRIVER (Digital Repository Infrastructure Vision for European Research) Guidelines 2.0 Guidelines for content providers - exposing textual resources with OAI-PMH (November 2008)
2. OpenAIRE Guidelines 1.1 - Guidelines for providers of the OpenAIRE information space (November 2010)

For further details of these guidelines see Appendix 3

3.4 Other guidelines

1. Bibliographic Ontology (BIBO)

For further details of these guidelines see Appendix 4

3.5 Versioning guidelines

1. Versions toolkit (February 2008)
2. Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group (April 2008)

Although not of direct relevance to IRUS-UK, the PIRUS2 project considered the versioning of articles to be included in COUNTER Article Level reports. In the PIRUS2 Final report (http://www.cranfieldlibrary.cranfield.ac.uk/pirus2/tiki-download_wiki_attachment.php?attId=170&download=y), it was recommended that of the NISO/ALPSP JAV Working Group recommendations:

“**include** Accepted Manuscript, Proof, Version of Record versions”

“**exclude** Authors Original and Submitted Manuscript Under Review versions”.

For further details of these guidelines see Appendix 5

4 Usage of item types in UK repositories

Information on actual use of item types in UK institutional repositories was taken from the Institutional Repository Search (IRS) (<http://irs.mimas.ac.uk/>) tool which searches across 130 UK academic repositories and thus has data on all item types actually used in these repositories. A total of 735 item types has been identified, many of which are very similar.

See Appendix 7 for the full listing.

The IRS team has done some very useful work on mapping these item types to a list of approximately 42 item types which can be used to filter IRS searches. This mapping was used as a basis for the proposed IRUS-UK item types list.

5 Proposals for usage of item types in IRUS

A simplified version of the current IRS item type list is proposed for use in IRUS-UK. It aims to include the major item types that we are likely to encounter. We propose both an 'Other' heading for item types with few resources and an 'Unclassified' heading where the content of the item type field is not an obvious item type.

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As the original item types are stored for each download, it will be possible to remap types to expand or amend this list over time.

Appendix 1 - Institutional repository software-specific guidelines

EPrints

http://www.eprints.org/software/training/configuration/configuration_exercises.pdf [4 December 2012]

Default deposit types for users of EPrints software are: Article, Book, Book Section, Conference Item, Monograph, Patent, Thesis, Artefact, Exhibition, Composition, Performance, Image, Video, Audio, Dataset, Experiment, Teaching Resource and Other.

Institutions using EPrints software may choose to extend or reduce this default list.

DSpace

DSpace uses qualified Dublin Core which recommends using a controlled vocabulary such as the DCMI Type Vocabulary [DCMITYPE] <http://dublincore.org/documents/2000/07/11/dcmi-type-vocabulary/> [4 December 2012].

The DCMITYPE Vocabulary includes the following types: Collection, Dataset, Event, Image, InteractiveResource, Service, Software, Sound, Text.

Appendix 2 - JISC-funded guidelines

SWAP - Scholarly Works Application Profile (2006)

http://www.ukoln.ac.uk/repositories/digirep/index/Eprints_Application_Profile [23 November 2012]

A Dublin Core Application Profile for describing scholarly works (eprints) held in institutional repositories was developed by a JISC working group within the JISC Digital Repositories programme in 2006.

The profile recommended the use of an item type from the EPrints Type Vocabulary Encoding Scheme

(http://www.ukoln.ac.uk/repositories/digirep/index/Eprints_Type_Vocabulary_Encoding_Scheme [23 November 2012]), as given below.

Label	Definition
Scholarly Text	A scholarly text that is primarily words for reading. Where the text is one of the more specific types listed here, use the more specific term.
Book	A non-serial publication that is complete in one volume or a designated finite number of volumes. In physical form, a book is a collection of sheets of paper, parchment or other material bound together along one edge within covers. Books are often identified with an ISBN.
Book Item	A defined chapter or section of a book, usually with a separate title or number.
Book Review	A review of a book.
Conference Item	A contribution to a conference, workshop or other event. Where the contribution is a paper or poster, use Conference Paper or Conference Poster as appropriate.
Conference Paper	A paper submitted and/or presented at a conference, workshop or other event.
Conference Poster	A poster submitted and/or presented at a conference, workshop or other event.
Journal Item	A contribution to a journal, e.g. an article, editorial, conference report, debate, letter or response. Where the contribution is an article, use Journal Article.

Journal Article	An article or paper published in a journal. For book reviews, use Book Review. For news items use News Item. For other types of contribution use Journal Item.
News Item	A news item.
Patent	A patent or patent application.
Report	A research, statistical or technical report issued by an institution, agency, government body or other organisation.
Submitted Journal Article	The author's original manuscript as submitted to and/or accepted by a journal. In the terminology recommended by the [Sherpa project] , a submission prior to peer review is a preprint; a submission after peer review is a postprint. Therefore, a Submitted Journal Article can be either a preprint or a postprint. For the version of the article published by the journal, use Journal Article.
Thesis or Dissertation	A thesis or dissertation submitted in completion of a course of study at an institution of higher education.
Working or Discussion Paper	A working or discussion paper circulated publicly or among a group of peers. Certain disciplines, for example economics, issue working papers in series. Working or discussion papers may form the basis for a Journal Article or Conference Paper.

ETHOS (2006)

<http://ethostoolkit.cranfield.ac.uk/> [30 January 2013]

ETHOS was a JISC-funded project instrumental in delivering the British Library's ETHOS Service - enabling users to search a central database of UK theses and to download the full text of the selected items in secure format and in the form intended by the authors.

The project developed a UKETD application profile, described in the ETHOS Toolkit, which recommended a core set of metadata for theses and dissertations, including the use of the term 'Thesis or dissertation' as a standard type for theses.

Kultur (2009)

<http://kultur.eprints.org/Metadata%20report%20Final.pdf> [23 November 2012]

Kultur was a JISC-funded project which ran from 2007-2009 and which created a model of an institutional repository for use in the creative and applied arts. It developed metadata to describe non-text objects "including a greater requirement to describe physical items, to describe multiple items/documents within a single record, to document roles in collaborations, and to record objects and events within the same set of metadata".

In phase 2 of the project an expansion of the default EPrints item types list was used which replaced 'Artefact' with the following list: Animation; Architecture; Audio work; Book art/Artist's book; Ceramics; Conservation work; Craft; Curation; 2D Design; 3D Design; Digital art; Drawing; Exhibition/show; Fashion; Film; Illustration; Installation; Painting; Performance; Photography; Printmaking; Public art; Sculpture; Site-specific work; Sound art; Teaching; Textiles; Theatre; Typography; Video; Other.

This list was subsequently moved to a category field and the final metadata recommendations offer three types: Art/Design item; Show/Exhibition; Performance.

JISC infoKit Digital repositories

<http://www.jiscinfonet.ac.uk/infokits/repositories/content-types> [16 August 2012]

The Digital repositories infoKit was one of a collection of infoKits from JISC. The infoKit was archived in the course of this piece of work.

It provides two lists of content types for digital repositories: the first lists the most common content types in repositories as identified by OpenDOAR (List 1).

- Journal articles
- Bibliographic references (metadata only)
- Books, sections and chapters
- Conference and workshop papers
- Theses and Dissertations
- Unpublished reports & working papers
- Datasets
- Content-packaged learning objects
- Multimedia and audio-visual materials
- Software
- Patents
- Other special items

The second list, adapted from the default content type list provided with EPrints software, offers a starting point to seek to clarify item types (List 2).

Publications

- **Articles** - Articles in journals, magazines, newspapers. Not necessarily peer-reviewed. May be an electronic-only medium, such as an online journal or news website
- **Books** - Complete books or conference volumes
- **Book Sections** - Separately-authored chapters or sections in books
- **Conference or Workshop Items** - Papers, posters, speeches, lectures or presentations given at a conference, workshop or other event. If the conference item has been published in a journal or book then please use 'Book Section' or 'Article' instead

Theses & Dissertations

Student theses and dissertations submitted to an institution as part of the requirements for a degree, including:

- **Doctoral Theses** - PhD
- **Masters Theses & Dissertations** - MSc, MA, MBA, etc
- **Bachelors Dissertations** - BSc, BA, etc

Resources used to support teaching and learning

- **Curricula and syllabuses**
- **Course validation documents**
- **Course materials** - learning resources, lecture notes, learning exercises
- **Assessment materials** - tests, exam papers
- **Study skills, support and revision materials**
- **Student-produced work** (including all the content types listed here)

Audio Visual Items

- **Images** - Digital photographs or visual images
- **Video** - Digital video
- **Audio** - Sound recordings
- **Show/Exhibition** - An artist's exhibition or site-specific performance-based deposit
- **Artefact** - An artist's artefact or work product. Could also apply to archaeological finds
- **Performance** - Performance of a musical event
- **Composition** - A musical composition

Data

- **Datasets** - Bounded collections of quantitative data (e.g. spreadsheet or XML data file)
- **Experiment** - Experimental data with intermediate analyses and summary results

Grey Literature

- **Patents** - A published patent. As-yet unpublished patent applications should never be included in a repository, because to do so might disqualify the application

The following are grouped together by EPrints as Monographs, although many people use 'monograph' as a synonym for 'book'

- **Technical Reports**
- **Project Reports**
- **Documentation & Manuals**
- **Working Papers & Discussion Papers**

Other

Something within the scope of the repository, but not covered by the other categories.

RIOXX application profile

<http://blog.paulwalk.net/2012/10/23/riox-application-profile-draft-1/> [23 November 2012]

The RIOXX application profile, which is currently under development, is proposing to recommend for the element dc:type that "... a vocabulary be adopted or developed for this element."

Appendix 3 - EU-funded guidelines

DRIVER (Digital Repository Infrastructure Vision for European Research) Guidelines 2.0

Guidelines for content providers - exposing textual resources with OAI-PMH (November 2008)

[http://www.driver-support.eu/documents/DRIVER Guidelines v2 Final 2008-11-13.pdf](http://www.driver-support.eu/documents/DRIVER_Guidelines_v2_Final_2008-11-13.pdf)

[23 November 2012]

The DRIVER guidelines are “an instrument to map (or translate) the metadata used in the repository to the Dublin Core metadata as harvested by DRIVER”. They are derived from the e-print type vocabulary (<http://purl.org/eprint/type/> [23 November 2012]).

info:eu-repo/semantics/	Version allowed	Description
article	accepted / published / updated	Article or an editorial published in a journal
bachelorThesis	accepted / published / updated	Lowest level of a thesis (normally after three years of study). See also http://en.wikipedia.org/wiki/Diplom
masterThesis	accepted / published / updated	Intermediate level of a thesis (normally after four or five years of study). See also http://en.wikipedia.org/wiki/Diplom This also refers to theses of the pre-Bologna period for degrees that are at the same level as what now is known as a master degree.
doctoralThesis	accepted / published / updated	Highest level of a thesis normally after more than four or five years of study. See also http://en.wikipedia.org/wiki/Diplom Also everything equal and higher than a Doctoral thesis, that does not follow the “Bologna Convention”, will be put in the category doctoralThesis. A free text field will Provide the opportunity to specify this further.

book	accepted / published / updated	Book or monograph
bookPart	accepted / published / updated	Part or chapter of a book
review	draft / submitted / accepted / published / updated	Review of a book or article
conferenceObject	draft / submitted / accepted / published / updated	All kind of documents related to a conference, p.e. conference papers, conference reports, conference lecture, papers published in conference proceedings, conference contributions, reports of abstracts of conference papers and conference posters.
lecture	draft / submitted / accepted / published / updated	Lecture or presentation presented during an academic event, e.g., inaugural lecture. Excluded is a conference lecture (see conferenceItem).
workingPaper	draft / submitted	a preliminary scientific or technical paper that is published in a series of the institution where the research is done. Also known as research paper, research memorandum or discussion paper. The difference with a preprint is that a workingPaper is published in a institutional series. Examples are: working papers, research papers, research memoranda and discussion

		papers.
preprint	draft / submitted	like a workingPaper this is a preliminary scientific or technical paper, but it is not published in a institutional series . The paper is intended to be published in a scientific journal or as a chapter in a book.
report	draft / submitted / accepted / published / updated	This is a more or less a rest category and covers commission reports, memoranda, external research reports, internal reports, statistical report, reports to funding agency, technical documentation, project deliverables etc. Excluded are conference reports (See conferenceltem).
annotation	draft / submitted / accepted / published / updated	Note to a legal judgment
contributionToPeriodical	draft / submitted / accepted / published / updated	Contribution to a newspaper, weekly magazine or another non-academic periodical
patent	draft / submitted / accepted / published / updated	Patent
other	draft / submitted / accepted / published / updated	Especially meant for non-publication data like research data, audio-visual materials, animations etc.

OpenAIRE Guidelines 1.1 - Guidelines for providers of the OpenAIRE information space [November 2010]

<http://www.openaire.eu/fr/component/attachments/download/79%E2%8C%A9=en> [4 December 2012]

The use of info:eu-repo/semantics is recommended by the OpenAIRE Guidelines 1.1.

<http://wiki.surf.nl/display/standards/info-eu-repo#info-eu-repo-Publicationtypes> [23 November 2012]

Term	Description	Used by project*
article	article or an editorial published in a journal. (ed. Should this be specified specifically as an Scholarly article? Or does this list of publication types define a scholarly context by default?)	DRIVER SURF NEEO
bachelorThesis	lowest level of a thesis (normally after three years of study). See also http://en.wikipedia.org/wiki/Diplom	DRIVER SURF
masterThesis	intermediate level of a thesis (normally after four or five years of study). See also http://en.wikipedia.org/wiki/Diplom This also refers to theses of the pre-Bologna period for degrees that are at the same level as what now is known as a master degree	DRIVER SURF
doctoralThesis	highest level of a thesis normally after more than four or five years of study. See also http://en.wikipedia.org/wiki/Diplom Also everything equal and higher then a Doctoral thesis, that does not follow the "Bologna Convention", will be put in the category doctoralThesis. A free text field will Provide the opportunity to specify this further	DRIVER SURF
book	book or monograph	DRIVER SURF
bookPart	part or chapter of a book	DRIVER SURF
review	review of a book or article	DRIVER
conferenceObject	all kind of documents related to a conference, p.e. conference papers, conference reports, conference lecture, papers published in conference proceedings, conference contributions, reports of abstracts of conference papers and conference posters	DRIVER
lecture	lecture or presentation presented during an academic event, e.g., inaugural lecture. Excluded is a conference lecture (see conferenceltem)	DRIVER SURF
workingPaper	a preliminary scientific or technical paper that is published in a series of the institution where the research is done. Also known as research paper, research memorandum or discussion paper. The	DRIVER SURF

	difference with a preprint is that a workingPaper is published in a institutional series. Examples are: working papers, research papers, research memoranda and discussion papers	
preprint	like a workingPaper this is a preliminary scientific or technical paper, but it is not published in a institutional series. The paper is intended to be published in a scientific journal or as a chapter in a book	DRIVER SURF
report	this is a more or less a rest category and covers commission reports, memoranda, external research reports, internal reports, statistical report, reports to funding agency, technical documentation, project deliverables etc. Excluded are conference reports (See conferenceItem)	DRIVER SURF
annotation	note to a legal judgment	DRIVER SURF
contributionToPeriodical	contribution to a newspaper, weekly magazine or another non-academic periodical	DRIVER SURF
patent	patent	DRIVER SURF
other	especially meant for non-publication data like research data, audio-visual materials, animations etc.	DRIVER
conferenceObject	All kinds of documents related to a conference, e.g., conference papers, conference reports, conference lecture, papers published in conference proceedings, conference proceedings, conference contributions, reports of abstracts of conference papers and conference posters	DRIVER
reportPart	part of a report	SURF
bookReview	book review	SURF
conferencePaper	paper published in conference proceedings	SURF
researchProposal	documentation for grant request	SURF
studentThesis	this refers to theses of the pre-Bologna period for degrees that are at the same level as what now is known as a master degree	SURF
technicalDocumentation	technical documentation	SURF
conferencePaper	paper published in conference proceedings	NEEO

conferencePoster	poster presented at a conference	NEEO
conferenceProceedings	the conference proceedings	NEEO
conferenceContribution	contribution to a conference but not published in a conference	NEEO
conferencePaper	paper published in conference proceedings	DARE
Conferenceltem	contribution to a conference but not published in a conference	UKOLN
ConferencePaper	contribution to a conference but not published in a conference	UKOLN
ConferencePoster	contribution to a conference but not published in a conference	UKOLN

conferenceObject of Driver includes all other conference-related publications. This can be used if none of the more specific publication types comply.

Within conferenceObject are two types: conferenceProceedings as proposed by NEEO and Conferenceltem from the vocabulary of UKOLN. The type conferenceProceedings is used for authors who want to include the conference proceedings of which they are the editor. It is helpful if conference proceedings are contained in the repositories as compound objects. Conferenceltem is not really necessary, because there are more specific types who cover all sorts of Conferenceltems: ConferencePaper and conferenceContribution. The distinction between these two subtypes is the whether or not it's included in conference proceedings. conferenceContribution has a subtype: conferencePoster. Not published readings for a conference are a conferenceObject, a Conferenceltem and a ConferenceContribution. The class-subclass relations can be represented with the following hierarchy.

conferenceObject

 conferenceProceedings

 Conferenceltem

 conferencePaper = Conferenceltem in conferenceProceedings

 conferenceContribution = Conferenceltem not in conferenceProceedings

 conferencePoster

The term conferenceContribution is confusing. A more clear term is concenterItemNotInProceedings. The proposal is to adopt conferenceObject, conferenceProceedings, conferencePaper, conferenceltemNotInProceedings, conferenceContribution (owl:sameAs conferenceNotInProceedings; the latter is the preferred term) and conferencePoster in the info:eu-repo/semantics namespace. If we

specify in a more formal way the semantic relations, we can use ConferenceItem from the UKOLN vocabulary.

* Projects used for input to info:eu-repo/semantics:

[DRIVER Guidelines](#) (DRIVER)

[Project SamenInDelen](#) (SamenInDelen) (NB website no longer available)

[NEEO Technical guidelines](#) (NEEO)

[Use of MODS for institutional repositories](#) (SURFshare)

Appendix 4 - Other guidelines

Bibliographic Ontology (BIBO)

<http://bibotools.googlecode.com/svn/bibo-ontology/trunk/doc/index.html> [23 November 2012]

The Bibliographic Ontology Specification provides main concepts and properties for describing citations and bibliographic references (i.e. quotes, books, articles, etc) on the Semantic Web using RDF. It has been created by [Frédéric Giasson](#) and [Bruce D'Arcus](#).

It includes: AcademicArticle; Article; AudioDocument; AudioVisualDocument; Bill; Book; BookSection; Brief; Chapter; Code; CollectedDocument; Collection; Conference; CourtReporter; Document; DocumentPart; DocumentStatus; EditedBook; Email; Event; Excerpt; Film; Hearing; Image; Interview; Issue; Journal; LegalCaseDocument; LegalDecision; LegalDocument; Legislation; Letter; Magazine; Manual; Manuscript; Map; MultiVolumeBook; Newspaper; Note; Patent; Performance; Periodical; PersonalCommunication; PersonalCommunicationDocument; Proceedings; Quote; ReferenceSource; Report; Series; Slide; Slideshow; Standard; Statute; Thesis; ThesisDegree; Webpage; Website; Workshop.

Appendix 5 - Versioning guidelines

VERSIONS toolkit

http://www2.lse.ac.uk/library/versions/VERSIONS_Toolkit_v1_final.pdf [30 January 2013]

The VERSIONS (Versions of Eprints – a user Requirements Study and Investigation Of the Need for Standards) project addressed the issues and uncertainties relating to versions of academic papers in digital repositories. The project proposed five version types: Draft; Submitted Version; Accepted Version; Published Version; Updated Version.

Journal Article Versions (JAV): Recommendations of the NISO/ALPSP JAV Technical Working Group April 2008

<http://www.niso.org/publications/rp/RP-8-2008.pdf> [30 January 2013]

These recommendations proposed seven version types: Author's Original (AO); Submitted Manuscript Under Review (SMUR); Accepted Manuscript (AM); Proof (P); Version of Record (VoR); Corrected Version of Record (CVoR); Enhanced Version of Record (EVoR).

Appendix 6 - Comparison of item types included in the various guidelines

EPrints	DCMITYPE (recommended by DSpace)	SWAP	JISC InfoKit List 1	JISC InfoKit: List 2	DRIVER	info:eu- repo/semantics (recommended by OpenAIRE)	BIBO	Proposed IRUS item types and mappings
	Text	Scholarly Text						Text
Book		Book	Books, sections and chapters	Books	book	book	Book; EditedBook; MultiVolumeBook	Book
Book Section		Book Item		Book sections	bookPart	bookPart	BookSection	Book Section
		Book Review			review	bookReview; review		Review
Conference Item		Conferenc e Item			conferenceObject	conferenceObject; conferenceContributio n; conferenceltem; conferenceProceedings	Conference; Proceedings; Workshop	Conference or Workshop Item
		Conferenc e Paper	Conference and workshop papers	Conference or workshop items		conferencePaper		Conference or Workshop Item
		Conferenc e Poster				conferencePoster		Conference or Workshop Item
		Journal Item						Article
Article		Journal	Journal	Articles	Article;	Article;	AcademicArticle;	Article

		Article; Submitted Journal Article	articles		contributionToPeriodic al	contributionToPeriodic al	Article	
		News Item					Newspaper	Text
Patent		Patent	Patents	Patents	patent	patent	Patent	Patent
		Report		Technical reports; Project reports	report	Report; reportPart	Report	Report
Thesis		Thesis or Dissertatio n	Theses and Dissertatio s	Doctoral theses; Masters theses & dissertations; Bachelors dissertations	bachelorThesis; masterThesis; doctoralThesis	bachelorThesis; masterThesis; doctoralThesis; studentThesis	Thesis; ThesisDegree	Thesis or Dissertation
		Working or Discussion Paper		Working papers & discussion papers	workingPaper	workingPaper		Working Paper
Teaching resource					lecture	lecture		Learning Object
					preprint	preprint		Preprint
					annotation	annotation		Other
Other			Other special items		other	other		Other
			Bibliographi c references (metadata only)					Other
			Unpublishe d reports &					Report or Working Paper

			working papers					
Dataset	Dataset		Datasets	Datasets				Dataset
			Content-packaged learning objects					Learning Object
Video; Audio	Sound		Multimedia and audio-visual materials	Video; Audio			AudioVisualDocument; AudioDocument	Audio or Moving Image
	Software		Software					Other
				Curricula and syllabuses				Other
				Course validation documents				Other
				Course materials				Learning Object
				Assessment materials				Other
				Study skills, support and revision materials				Learning Object
				Student-produced work				Other
Image	Image			Images			Image	Image
Exhibition				Show/exhibition				Show/Exhibition
Artefact				Artefact				Art/Design Item
Performanc				Performance			Performance	Performance

e								
Compositio n				Composition				Music/Musical Composition
Experiment				Experiment				Other
				Documentatio n & manuals			Document; DocumentPart; DocumentStatus; Manual	Text
							Bill	Other
							Brief	Other
							Chapter	Other
							Code	Other
							CollectedDocume nt	Other
	Collection						Collection	Other
							CourtReporter	Other
							Email	Other
	Event						Event	Other
							Excerpt	Other
							Film	Moving Image
							Hearing	Other
							Interview	Other
							Issue	Other
							Journal	Journal
							LegalCaseDocum ent	Other
							LegalDecision	Other
							LegalDocument;	Other
							Legislation	Other
							Letter	Other
							Magazine	Other
							Manuscript	Text
							Map	Image

							Note	Other
							Periodical	Journal
							PersonalCommunication; PersonalCommunicationDocument	Other
							Quote	Other
							ReferenceSource	Other
							Series	Other
							Slide	Conference or Workshop Item
							Slideshow	Conference or Workshop Item
							Standard	Other
							Statute	Other
							Webpage; Website	Website
Monograph								Book
	InteractiveResource							Other
	Service							Other
						researchProposal		Other
						technicalDocumentation		Other
								Exam Paper

Appendix 7 - IRS item types

The following item types were in use in the 130 UK academic repositories harvested by IRS as at August 2012.

1; 10; 13; 14; 15; 16; 18; 19; 2; 20; 3; ; 5; 6; 7; 8; 9; ["eprint_ttypename_" not defined]; ["eprint_ttypename_report" not defined]; ["eprint_ttypename_review" not defined]; a; abstract; accepted; accepted manuscript; accepted version; addendum; aerial or satellite imagery; alps common competency map; application; artist s book; author post-print (non-refereed); animation; annotations to an asp; annual report; application/pdf; applied archaeology collection; archives and special collections; artefact; artefact/device; artefacts; design and exhibitions; an article; article; article; article section; article (literature review; editorial); article / editorial; article; post-print; article; pre-print; article: post-print; article; presentation; article from non-refereed journal (author version); article from non-refereed journal (publisher version); articles; art design item; art/design item; art object; art/poetry/short story performance or reading; artwork; artwork/design object; assessment; audio; audio file; audio recording; audios; author post-print; author post-print (pre-copy editing); author post-print (refereed); author s final draft; author s original; author version; authored book; authored books; b; biography (individual); biosciences; blog; book; book; book/report/proceedings; book/s; book (monograph); book (monograph): section of book or chapter of book; book (monograph) editorial; book chapter; book chapter (conference proceedings); book chapter; preprint; book chapter; presentation; book chapter: author post-print (pre-copy editing); book chapter: publisher version; book chapters; book item; book or book chapter; book or report section; book review; book_review; book reviews; book section; book sections; book_section; book_section; book_chapter; bookchapter; booklet; bookmarks; bookreview; briefing paper; broadcast; buildings; bw image; c; case report; case reports; case study; centaur administrative document; chapter; chapter in book; chapters in books; clinical investigation; clinical trial; phase i; cochrane review; collection; colour image; comment;letter; commentary; commentary series; commissioned report; comparative study; composition; compositions; conceptual learning object; conference; conference contribution; conference item; conference_item; conference_item;paper; conference_item;poster; conference_item;presentation; conference_item;speech; conference_item;workshop; conference object; conference or workshop item; conference or workshop items; conference papaer; conference paper; conference papers; conference poster; conference preprint; conference presentation; conference proceedings; conference proceedings - peer reviewed; conference_proceedings (peer reviewed); conference proceeding; conference publication; conference - published paper; conference report; conferenceobject; conferencepaper; conferenceproceedings; contribution in book/report/proceedings; course; crystal structure data holding; d; d.clin. philosophy; database; database/dataset; database or web resource; dataset; datasets; datasets / databases; dba; dclinpsy; dclinpsych; dclinpsy in clinical and community psychology; dclinpsych in clinical and community psychology; dclinpsych in clinical and community psychology; dclinpsychol doctorate in clinical psychology; dcounspych; ded psy in educational; child and community psychology; dedpsy in educational; child & community

psychology; dedpsy in educational; child; and community psychology; dedpsy; dedpsy in educational; child and community psychology; deng doctor of engineering; departmental technical report; design; device/product; diagram; digital; digital artefact; digital dictionary; digital scholarly resource; digital terrain model; discussion or working paper; discussion paper; dissertation; dm; doctor of applied social research; doctor in clinical psychology (clinpsyd); doctor of clinical psychology in clinical and community psychology; doctor of education; edd doctor of education; doctor of education in education; doctor of philosophy in management studies; doctor of education in mathematics education; doctor of education in tesol; doctor of educational psychology in educational; child and community psychology; doctor of educational psychology in educational; child & community psychology; doctor of medicine (md); doctor of medicine (research) md (res); doctor of nursing; doctor of philosophy; doctor of philosophy (phd); doctor of philosophy in accounting; doctor of philosophy in arab and islamic studies; doctor of philosophy in biological sciences; doctor of philosophy in education; doctor of philosophy in english; doctor of philosophy in management studies; doctor of philosophy in sociology; doctor of philosophy in theology; doctor of science (dsc); doctoral; doctoral thesis; doctoral thesis or dissertation; doctorate by public works; doctorate in clinical and community psychology; doctorate of clinical and community psychology; doctorate of educational psychology in educational; child and community psychology; document from web; draft; drawn image; dsocsci; dvd; e; ebook; edd; edd in education; edd in educational psychology; edd in mathematics education; edd in special educational needs; edd in teaching english as a foreign language; edd in teaching english to speakers of other languages; edd in teaching english to speakers of other languages (tesol); edd in tesol; edd tefl; edd tesol; editedbook; edited_book; edited book; edited books; edited special journal issue; editorial; editorial material; electronic book; electronic journal; electronic newspaper article; electronic thesis; encyclopedia entry; engd; engineering doctorate (engd); essay; ethnicity; evaluation report; evaluation studies; event or exhibition; exam; exam paper; exercise; exhibition; exhibition catalogue; external thesis; experiment; extract; f; figure; film; film/broadcast; film/video; final draft; final draft paper; final year project; flv; fre; funding application; g; game; gdp report; gis vector data; government publication; guide or manual; guidelines; h; honorary role; image; image;3-d; image/jpeg; image (still); image (moving); in collection; in press; in vitro; index; nfo:eu-repo/semantics/acceptedversion; info:eu-repo/semantics/article; info:eu-repo/semantics/bachelorthesis; info:eu-repo/semantics/book; info:eu-repo/semantics/bookpart; info:eu-repo/semantics/conferenceobject; info:eu-repo/semantics/doctoralthesis; info:eu-repo/semantics/draft; info:eu-repo/semantics/masterthesis; info:eu-repo/semantics/publishedversion; info:eu-repo/semantics/report; info:eu-repo/semantics/review; info:eu-repo/semantics/submittedversion; info:eu-repo/semantics/updatedversion; information resource; installation; invited lecture; interactive resource; interactiveresource; internet publication; irp report; j; journal; edited journal; journal (on-line/unpaginated); journal (paginated); journal article; journal - article; journal article - published version; journal article - submitted version; journal (full / special issue); journal issue; journal item; journalarticle; l; leaflet; learning activity; learning material; learning object; lecture; lecture notes; lecture transcript; letter; letter to the editor; llm; llm master of laws; m.ed; ma; ma by research; ma early years; ma master of arts; manual; manuscript; map; marker paper / data plan; master of laws; master of letters; master of philosophy; master of philosophy

(mphil); master of philosophy (m.phil.); master of philosophy in biological sciences; master of philosophy in management; master of science; masters; masters by research; masters by research.; masters by research in renewable energy; masters degree; masters dissertation; mba; mbyres; mbyres in biosciences; mbyres in theology and religion; md; md doctor of medicine; mdsc; med; med master of education; meetings & proceedings; meetings & proceedings; presentation; meetings and proceedings; miscellaneous conference item; mims preprint; mixed material; mlitt master of letters; mlitt master of literature; mmath; monograph; monograph;project; monographs; monthly archive; mov; moving image/broadcast; movingimage; moving image; mp3; mphil; mphil in arab and islamic studies; mphil in arabic and islamic studies; mphil in biological sciences; mphil in drama; mphil in english; mphil in geography; mphil in history; mphil in management studies; mphil in maritime history; mphil in performance practice (drama); mphil in physics; mphil in sport and health sciences; mphil in theology; mphil master of philosophy; mres; mres environmental biology; m.sc; m.sc.; msc; msc architecture: advanced energy and environmental studies; msc by res.; msc by research; msc econ; msc master of science; msc(r) master of science by research; multimedia; multimedia item;digital video; multimedia item;exhibition / installation; music item; musical score; mth; mth of theology; n; n/a; narrative text; newsletter; news; news item; newspaper/magazine article; non peer-reviewed; nonpeerreviewed; not applicable; not applicable paper; not available; not peer reviewed; not published; not yet published; occasional paper; off-air recording; online db/computer file; official report; original artwork; other; other conference paper; other form of assessable output; other journal paper; other; presentation; part iii project report; part of book or chapter of book; partent; patent; patent;option 1; peer reviewed; peer reviewed conference paper; peer reviewed conference proceedings; peer-reviewed journal article; peer reviewed journal paper; peer-reviewed; peer-reviewed conference paper; peerreviewed; performance; performance/live event; periodical; ph.d; ph.d.; phd; phd (by publication); phd by publication in finance; phd doctor of philosophy; phd genomics in society; phd in accountancy; phd in arab and islamic studies; phd in arab & islamic studies; phd in arab and islamic studies; phd in archaeology; phd by publication in archaeology; phd in biological sciences; phd in biosciences; phd in chemistry; phd in classics; phd in computer science; phd in cornish studies; phd in drama; phd in earth resources; phd in economics; phd in education; phd in engineering; phd in english; phd in ethno-political studies; phd in european studies; phd in film; phd in film by practice; phd in film studies; phd in finance; phd in french; phd in genomics in society; phd in geo-environmental engineering; phd in geography; phd in geography and politics; phd in geotechnical engineering; phd in german; phd in hispanic studies; phd in history; phd in italian; phd in leadership studies; phd in law; phd in management studies; phd in management studies?; phd in maritime history; phd in mathematics; phd in medical history; phd in medieval studies; phd in middle east politics; phd in modern languages; phd in music; phd in performance practice; drama; phd in performance practice (drama); phd in philosophy; phd in physics; phd in politics; phd in psychology; phd in sexuality and gender studies; phd in sociology; phd in sport & health sciences; phd in sport and health science; phd in sports and health sciences; phd management studies; phd sport & health sciences; phd sport and health sciences; phd in sport and health sciences; phd in theology; phd in water engineering; phd mathematics; phd physics; phd psychology; phd.; phd(p) doctor of philosophy by research publications; photograph; plan or blueprint; play; short story or poetry; podcast; poem; policy brief;

policy paper; post-print; postdoctoral; postgraduate; poster; poster / presentation; poster presentation; post-print (author final draft post-refereeing); postprint; powerpoint presentation; pre-print; pre-print (pre-refereeing); preprint; presentation; press article; printed ephemera; problem statement; proceedings paper; professional activity; professional doctorate in clinical psychology (d.clin.psych.); professional doctorate in counselling psychology (d.coun.psych.); professional doctorate in educational and child psychology (d.ed.ch.psych.); professional doctorate in educational psychology (d.ed.psych.); professional doctorate in psychoanalytic psychotherapy (d.psych.psych.); project; project report; project report and bibliography; project summary; proof; published; published_abstract; published article; published book; published book chapter; published conference or workshop item; published conference paper; published conferphd in modern languages; published editorial; published journal paper; published online; published version; published version paper; published vesion; publisher pdf; publisher s version; publisher version; publisher version (final published refereed version); publisher version (non-refereed); publisher version (refereed); q; questionnaire; quiz; r; radio interview; recording; musical; recording; oral; recording; oral report; ref_case_study; refereed; refereed conference paper; refereed published conference paper; refereed published journal article; refereed published journal paper; report; reports/papers; report/paper; report;discussion paper; report;document; report;occassional paper; report;project report; report;research report; report;technical report; report;working paper; research reports; research masters; research monograph; research paper; research report; research report (external); research report or paper; research support; n.i.h.; extramural; research support; n.i.h.; intramural; research support; non-u.s. gov t; research support; u.s. gov t; non-p.h.s.; resource; resource bank; response to article; review; reviewed (other); revised version 12 march 2012; s; scanned map; screencast; short film; study group report; scholarly edition; scholarly text; self assessment;; short communication; short film available online; show / exhibition; show/exhibition; shows / exhibitions; shows/exhibitions; simulation; slide; software; software; multimedia; sound; sound / audio; sound recording; special issue; still image; still/graphic work; stillimage; submitted; submitted version; submitted journal article; symposium; table; tabular data; taught course thesis; taught masters; teaching resource; technical documentation; technical report; technicalreport; text; theses; theses/dissertations; theses and dissertations; thesis; thesis;edd; thesis;msc by research; thesis or dissertation; thesis or dissertation; doctoral; doctor of education (de); thesis or dissertation; doctoral; doctor of medicine (md); thesis or dissertation; doctoral; doctor of philosophy (phd(r)); thesis or dissertation; doctoral; doctor of philosophy by research publications (phd(p)); thesis or dissertation; doctoral; doctor of philosophy(phd); thesis or dissertation; masters; doctor of philosophy (phd(r)); thesis or dissertation; masters; master of letters (mlt); thesis or dissertation; masters; master of philosophy (mph(r)); thesis or dissertation; masters; master of science (msc); thesis or dissertation; masters; master of science by research (mode a) (msc(r-a)); thesis or dissertation; masters; supervised postgraduate (spg); thesis;phd; thing; this is a review of a theatrical production; transcribed text; transcription; translations; tutorial; undergraduate; unpublished; unpublished conference or workshop item; updated author s original; updated version; updated publisher s version; video; video/film; video_research; videos; visual media; visual or digital media; web page; web resource; web site; website content; web_publication; webpage; webpages; website; working / discussion paper; working or discussion paper; working

paper; working paper; final version available online on sage journals online at <http://ema.sagepub.com/>; working paper; re-print; ;working_or_discussion_paper; working/discussion paper; workbook; workshop; x-stream assessment