



CARRICK INSTITUTE

Metadata Project

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Table of Contents

Carrick Institute	1
Metadata Project	1
1 Introduction.....	1
1.1 Terms.....	1
2 Aims and objectives.....	2
2.1 Issues for consideration in the investigation	2
2.2 Scope and boundaries.....	3
3 Metadata investigation deliverables	4
3.1 Environmental scan/literature review	4
3.2 Establish Carrick Exchange Higher Education Metadata Reference Group.....	4
3.2.1 Tasks of the Reference Group.....	5
4 Summary of tasks and timelines.....	5
5 Standards	6
6 Deliverables	6

1 Introduction

The Carrick Exchange (the Exchange) project will provide an online environment supporting the discovery and exchange of ideas and resources by members of the Australian higher education sector.

Metadata is likely to be a major enabler for the delivery of services through the Exchange.

Metadata, based on standards such as Dublin Core and Learning Object Metadata (LOM), is a key component in the construction of web-based repositories and e-learning environments.

The aim of the use of metadata in the Exchange is to support:

- Consistent description of Exchange resources using a consistent set of descriptors and associated controlled vocabularies;
- Provide interoperability with relevant higher education sector projects and resources;
- Support collaboration with other higher education projects and initiatives;
- Support the delivery of Exchange services.

1.1 Terms

For the purposes of this project, the following definitions are used:

Controlled vocabulary: specific words and phrases (descriptors) used to describing metadata

Metadata: structured data about data, which may include information about the author, title and subject of web resources.

Metadata system: describes the various components that combine to deliver the metadata requirements of the Exchange. This includes metadata profiles, thesauri, controlled vocabularies and tags.

Interoperability: the ability of two or more systems, or components to exchange information, and to use the information that has been exchanged. The ability to share metadata records via standard protocols.

Social tagging: the common practice of informally tagging resources. This form of tagging is regarded as democratic folksonomy metadata. Rather than an individual controlling the metadata about a resource, metadata is created by both the creator and the consumer.

2 Aims and objectives

The Exchange metadata investigation will aim to:

- Identify the Exchange's key metadata requirements based on the range of services in the Demonstrator (<http://rindemo.educationau.edu.au>);
- Investigate metadata systems that would enable the effective management and discovery of the Exchange's content;
- Identify a metadata framework for interoperability;
- Consider the relevance of the mashing of 'tagging' technologies used by social networks with more traditional metadata solutions;
- Undertake an investigation of current, key metadata practices in Australia and internationally to inform the Exchange of practices and trends;
- Investigate the potential for the automation of metadata in the Exchange;
- Collaborate with Exchange stakeholders and members of the higher education sector;
- Establish a Carrick Exchange Metadata Reference Group;
- Organise a face-to-face workshop to discuss the investigation findings and recommendations;
- Provide recommendations for how metadata should be used and implemented to support the activities of the Exchange.

2.1 Issues for consideration in the investigation

- *Selection*: identification of appropriate metadata elements to support interoperability with other higher projects;
- *Automation*: automatically generated metadata to reduce the cost and impact of metadata creation;

- *Mapping compatibility*: mapping to key higher education metadata profiles for future mutual benefits;
- *Quality*: methods identified to capture metadata to support the delivery of Exchange services;
- *Linkages*: methods to create linkages between profiles describing the various resources and services to support delivery of seamless user experiences;
- *Who creates metadata*: identify levels of completion by various agents and processes identified to enable the automation of objective metadata;
- *Role of social tagging*: harnessing of user created tags to support discovery and social networking;
- *Vocabularies*: identification and use of controlled vocabularies;
- *Issues of 'metadata cloud'*: the cycle of creation and incorporation of formal, social, commentary, peer review, resources and services metadata.

2.2 Scope and boundaries

This investigation will identify the metadata required to support the delivery of the Exchange services.

It will *not* address issues relating to storage of metadata or design of systems to input, store or access metadata.

In developing a metadata system to support the Exchange the following will be considered:

- *Search/find*: what metadata is necessary to enable effective discovery of resources, services, experts, etc. What pathway filters are necessary to enhance discovery?
- *Quality control*: what administrative metadata is necessary to ensure authoritative and mandatory metadata is captured?
- *Request*: what information is displayed to the end user based on a search request?
- *Vocabularies*: what vocabularies are adopted and what are created to describe elements?
- *Rights metadata*: what are the project requirements? What issues need to be addressed and how are these expressed in a technical solution using metadata?
- *Relation metadata*: what metadata is required to capture information and display relationships between the various resources services and agents?

3 Metadata investigation deliverables

The Investigation includes the following deliverables:

3.1 Environmental scan/literature review

Undertake an environmental scan which includes:

- The use of metadata in the higher education sector, with particular focus on key repository projects;
- Investigation, application and developments in 'person' metadata;
- Rationale and potential benefits in recommending a DC or LOM compliant schema;
- Metadata initiatives undertaken by other education sectors nationally and internationally (particular work currently undertaken by JISC and Jorum);
- Address the question of how the Exchange can remain interoperable with major projects within the sector and also leverage resources and technologies;
- Address the impact of Web 2.0 technologies such as social network tagging and how such technologies can be leveraged;
- Make recommendations on the use of vocabularies based on current usage across the sector and key projects;
- Automation of metadata – how much can be automated? What are the constraints to achieving automation?
- Tools available to create metadata (for both DC and LOM based schemas).

Semantic web considerations

- Address its relevance, or otherwise, to the Exchange;
- What could or should to be done to utilise the possibilities of the semantic web for the Exchange.

3.2 Establish Carrick Exchange Higher Education Metadata Reference Group

- Identify higher education sector members with expertise in metadata who will be able to contribute and influence the direction of the Exchange's metadata requirements;

- Develop scope and terms of reference for the Group;
- Establish communication strategy.

3.2.1 Tasks of the Reference Group

- Meet fortnightly for the duration of the project;
- Attend a face-to-face meeting;
- Identify and/or confirm the metadata needs of the Exchange project - what metadata will be required to deliver Exchange services to users;
- Review the investigation findings and provide advice on the proposed recommendations;
- Identify a metadata system for the management and discovery of Exchange resources;
- Identify or develop vocabularies to support metadata descriptions;
- Validate the proposed metadata system;
- Contribute to the documentation of the Exchange metadata system.

4 Summary of tasks and timelines

Task	Duration	Cost
Environmental scan <ul style="list-style-type: none"> ▪ Research Scope paper ▪ Draft ▪ Final 	January 2007 19 March 2007 31.March 2007	
Carrick Exchange Metadata Reference Group Activities <ul style="list-style-type: none"> ▪ Establish a Reference Group to collaboratively develop metadata requirements ▪ Invite participants ▪ Organise face-to-face meeting ▪ Write report of meeting outcomes ▪ Develop communications strategy and mechanisms to communicate with the group ▪ Plan and organise regular teleconferences, including agendas and discussion papers ▪ Draft first version of metadata requirements ▪ Circulate for feedback to group 	Early April ¹	

¹ This activity is dependent on the completion of the investigation.

<ul style="list-style-type: none"> ▪ Summarise issues arising from feedback ▪ Incorporate recommended changes in 2nd version ▪ Circulate next version to group for final feedback before wider consultation is sought ▪ Validation process ▪ Create list of key people to contact ▪ Develop a survey with a list of questions that feedback is sought on ▪ Summarise feedback ▪ Write report on consultation process and feedback ▪ Organise meeting (perhaps f2f depending on funding) to discuss issues arising from validation process and make recommendations for changes to metadata document ▪ Final version of metadata document is completed 		
<p>Collaboration 8 -10 members from higher education sector (some from key projects) Travel and time spent in meeting and contributing to the work.</p>	<p>May</p>	

5 Standards

Work and publications by the following organisations will be considered:

- OCLC – Library of Congress standards for management of online resources
- IEEE standards
- Dublin Core Initiative
- National Library of Australia
- National Higher Education Initiatives such as ARROW and APSR

6 Deliverables

- Investigation report and recommendations