Do Researchers Dream of Data Management?

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A researcher's dream is to be able to concentrate on their research with as few administrative distractions as possible. In the media, there are regularly articles about and statements from researchers on the need to reduce the administrative workload being placed on them. In this environment researchers are now being asked by their institutions to complete data management plans to enable their research datasets to be made available in open access. If researcher's dream about data management, it is probably to consider how to complete their research while also achieving all that is required for data management.

In 2013 the University of South Australia released its strategic action plan which details the University's commitment to making as many research outputs as possible available in Open Access by 2018. The plan also provides strategic direction to 'cut red tape', maximise the use of online administration systems and to deliver services that are responsive to the needs of students and staff. These strategic requirements guided the development of a unique approach to data management that supports data management planning and the capture of critical information required to support the controlled release of research data once a research activity is completed.

To support research data management, a triumvirate team comprising representatives from the Research and Innovation Services unit, the Information Strategy and Technology Services unit and Library was created. The team undertook a survey of publically accessible data management plan guidance, forms and templates from Australian and international research institutions and found that the data management plans required significant data entry by researchers and support staff. We found that the content of these templates were consistent between institutions however no automation was evident whereby templates could be prepopulated from other corporate systems. The team analyzed the requirements for whole of life data management and data management planning and proposed that the creation of a metadata framework which divided research metadata into two groups would have a number of benefits including minimizing data entry. The two groups are research project metadata and research dataset metadata. Research project metadata contains information about the project and is primarily collated from corporate systems. Research dataset metadata inherits information from the project metadata and provides metadata for each dataset produced by the project. Taken together this metadata is then used to manage datasets and to support decision making when determining the releasability of datasets.

OVERVIEW OF THE TECHNICAL SOLUTION

Data Management Planning provides a framework to collect information and metadata about the research project, including what data is produced, how it is stored, accessed and treated, as well as who is involved. The University has developed a solution where information held in source systems including Research Master and EmpowerHR is used to build detailed Data Management Plans and support the management of rights, retention periods, ethics conditions and embargo periods both for the research project and its associated datasets (See Figure 1).

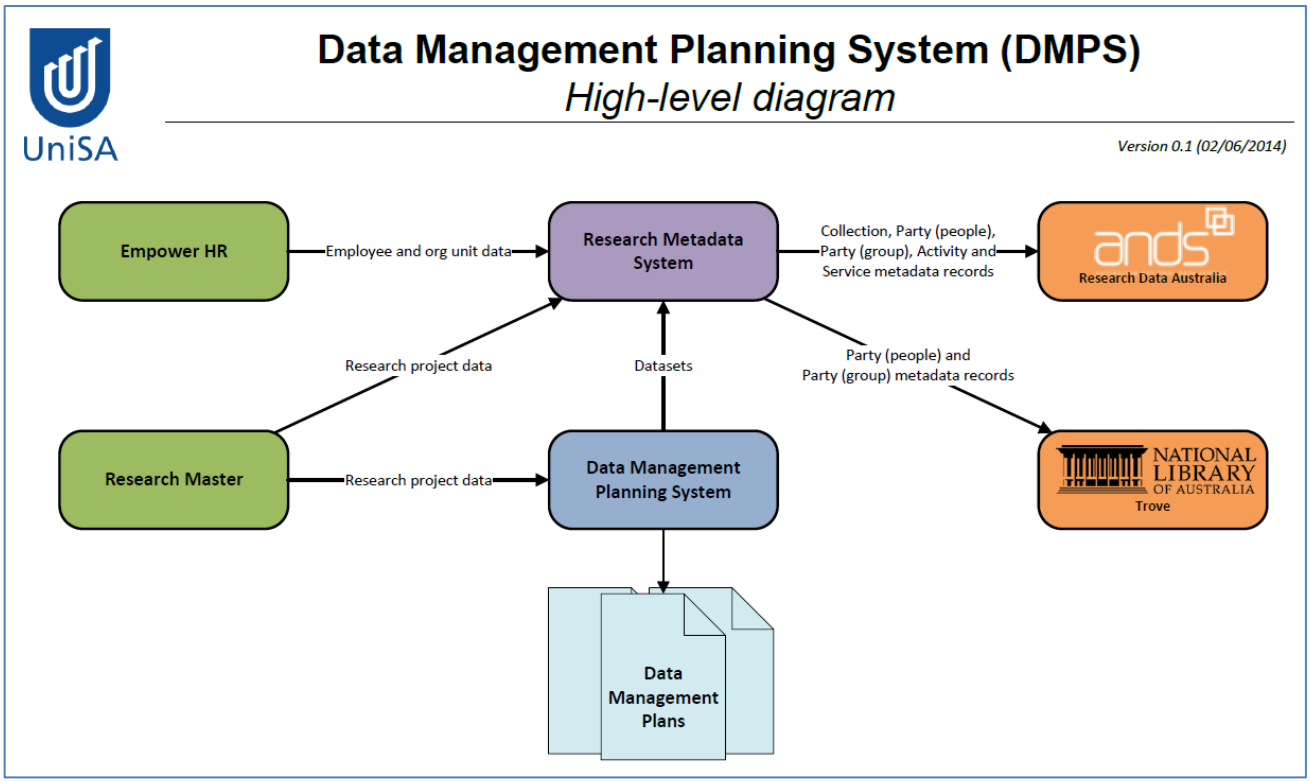

Figure 1: DMPS System Interfaces

The Data Management Planning System automatically pre-populates the majority of the research project information from the University's corporate systems and allows administrative staff to input detailed information relating to IP, security, ethics conditions and embargo periods for both the project and its associated datasets. The system automatically calculates the retention period for project data based on the data type selected by the end-user. A data management plan can be generated at any time during the project lifecycle and the system will automatically log and track all data management plan PDFs that are generated. The Data Management Planning System also interfaces to the Research Metadata Store for enrichment and subsequent harvest of the collection, party people, party group, activity and service metadata records by Research Data Australia (RDA) and the harvest of the party people and party group metadata records by National Library Australia (NLA).

OPERATIONAL SUPPORT

Support for researchers will be ongoing and provided in multiple formats, including:

- A face to face Data Management workshop will be open to all researchers and their administration staff to explain the principles of Data Management, what is required for grant submissions, what support is currently available within the institution (software, hardware, general advice) and how/when to request a Data Management Plan using the new system
- An online guide complimenting the workshop (similar to the Library's suite of LibGuides) which will provide information on the subject as well as links to support agencies within South Australian and Nationally (e.g. eResearch SA, ANDS etc) and a discussion board for staff to post their questions or discuss Data Management topics with their peers and support staff
- Meetings (Online or Face to face) to provide at-elbow support and deal with Data Management queries

ABOUT THE AUTHORS

Angelica Healey is the Manager: Research and Data Management Support in the Information Strategy and Technology Services Unit at UniSA. Angelica leads a technical team that provides development and support for Research Administrative and niche research solutions utilising both conventional and open source platforms as well as development and support for the University's corporate databases and data management solutions. She leads a number of University projects involved with the delivery of customised research systems and data management solutions for researchers and research support staff. Prior to joining the University, Angelica worked as a Director: Technology Solutions in the financial industry in San Francisco. Angelica holds a Bachelor of Science in Business Administration and Computing Systems from San Francisco State University.

Ann Morgan is the Business Processes and Archival Collections Coordinator at UniSA Library. Ann is responsible for investigating, recommending and implementing continuous improvement in the operations and processes that underpin provision of efficient and effective Library services. Ann assists in projects within the Library by undertaking requirements analysis, developing business cases, project plans, functional requirements and related documentation. Ann also supervises the Library's archival team who look after 8 archival collections of prominent South Australians including Bob Hawke and Alexander Downer. Prior to her current role Ann was employed as the UniSA Library's archivist and metadata librarian and has several years experience of working in corporate and public libraries in Ireland. Ann has a Bachelor of Arts (Hons - German and Irish), a Higher Diploma in Business and Financial Information Systems from University College Cork and a Higher Diploma in Library and Information Systems from University College Dublin, Ireland.

Glynn Stringer is the Senior Advisor: Systems and Processes in the Business Intelligence and Planning Unit at UniSA. The focus of Glynn's role is on business analysis and improvement in support of researchers and research administration. Prior to joining the University of South Australia Glynn worked as a project manager and systems engineer on a number of major defence projects both in industry and as an officer in the Royal Australian Navy. Glynn holds a Bachelor of Engineering (Hons – Digital Systems and Computer Engineering) and will complete his Masters of Management in 2014.