

Institutional Change through Exposing Data: the James Cook University Research Portfolio

Introduction

Even within a single department, research-related data exists everywhere: different formats, inconsistent databases, disconnected environments.

In a typical setting, this data is unlikely to be directly accessible or visible to the person or group it pertains to, yet is utilised in some manner. This leads to a number of problems:

- ◆ **Access** - a difficult, disjointed experience for those who seek the information;
- ◆ **Quality** - information that is not maintained tends to be incomplete or of poor quality;
- ◆ **Consistency** - different uses of the data may lead to multiple, inconsistent versions.

Through exposing useful data from primary sources in a logical and consistent fashion, significant improvements across a research institution - both anticipated and unexpected - are possible.

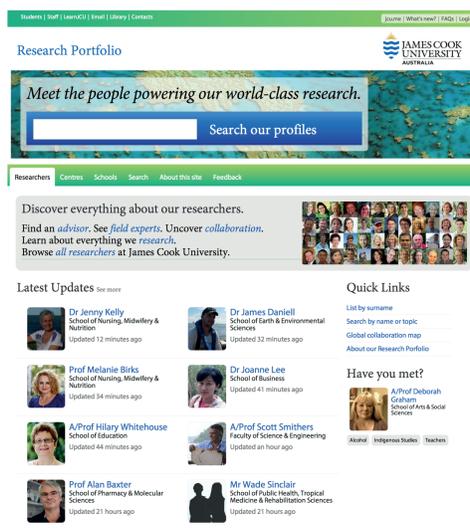


Figure 1: The Research Portfolio

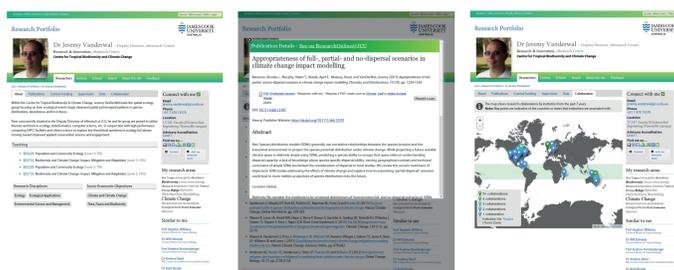


Figure 2: Individual profile

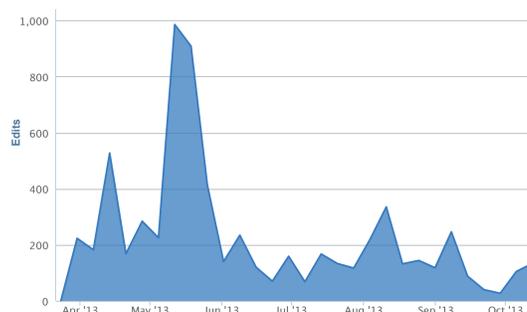


Figure 3: Profile edits per week

Quality through visibility

The public nature of the Research Portfolio encourages high-quality and consistent record entry by researchers, and encourages data integrity by optimising underlying data structures. This is demonstrated by:

- ◆ 6700+ profile edits since launch (see Figure 3)
- ◆ 61% of researchers have edited their profile
- ◆ 84% of feedback has related to incorrect data

From an individual perspective, it is clear that attention is being paid to the data used to build these profiles.

Having access to easily edit profile data that immediately translates to a perceivable change invokes the need to correct, add, and extend this information. This ability coincides with the influence and inspiration from a researcher's peers to populate and improve their appearance to the world in line with their colleagues.

Information and database fields that may have seen little use or maintenance previously now become extremely important as their validity actively affects researchers on professional and personal levels.

Change from data

A demonstrated need drives creation of new data stores. By considering the usefulness to an individual's professional career and activities, the Research Portfolio has been an example of such a force. In the six months since inception:

- ◆ 8 new databases created to support profiles
- ◆ 5000+ new records self-entered by researchers
- ◆ Several existing University projects accelerated to completion in support

Capturing previously recorded aspects of a researcher's profile, such as interests, experience, honours and awards, and external identifiers, improves the richness of a public page to readers, and the researcher's visibility in searches.

These new and refined stores of data are owned beyond the Research Portfolio, opening opportunities for use in day-to-day reporting capacities, and allowing the University to draw upon the data in future works.

Future

Whilst change is a concept that can be interpreted in numerous ways, future procedural improvements via increased activity and interest are expected as a result of the Research Portfolio's underlying data. As applications and extensions are constructed utilising the newly-captured and recently-refined researcher metadata, areas for further improvements in data quality and institutional processes will be identified.

For example, the capture of publication-centric identifiers allow expansion of research publication and citation information from online sources. Similarly, association of social network identifiers against researchers is beginning to be used to improve marketing and engagement.

The presence of new types of information illustrates uses in the institution, which will highlight previously unseen requirements, and encourage development and innovation.

Background

The JCU Research Portfolio (<http://jcu.me>; see Figure 1) has been developed to address the need for improved visibility of academic staff, and to ensure data associated with researchers is displayed consistently.

The resulting solution provides an open-access, web-accessible research directory that exposes all valuable known research metadata in a systematic manner.

On an individual level, a researcher's biography, interests, experience, publications, grants and funding, student supervision, collaborations, and research data are displayed. Information is drawn from existing data stores, directing users to improve data in where changes cannot be made directly. Separately, external web-based systems are integrated directly into researchers' pages for a seamless user experience (see Figure 2).

The resulting tool opens access to research data and enhances communication between researchers and the world.

Policy and process

The Research Portfolio streamlines administrative processes and has refined institutional policies. Careful attention is now paid to information from research grant applications as this data becomes exposed to the public via the portal. Descriptive data fields previously thought of as unnecessary are now completed in detail with diligence as the text is publicly associated with researchers' profiles.

Beyond easing maintenance on individual web pages, dynamic listings of researchers and groups eliminate manual administrative tasks. Manual research advisor lists are now always up-to-date, lists of staff can be customised on multiple criteria, and on-request reports are now always accessible. Data validity is ensured as information is continually reviewed by researchers.

On an institutional level, the academic promotions policy has been amended to rely on information present on portfolio pages. This eliminates manual efforts collating data for applications, whilst at the same time simplifying the process for academic committees.

Conclusion

Since inception, the JCU Research Portfolio has caused individuals and groups to rethink how they appear to the world. This web-based view exposing source data has instigated significant change across the University.

A consistent layout and an automated approach to data construction and ingestion provides clear access to research metadata. This improves an individual's awareness and understanding of institutional data sources. Key processes and policies have been simplified and revised, reducing administrative overhead. Through researchers improving their public appearance, data integrity has improved, and instigated expansion of data held by the University.

Exposing useful research-centric data in a consistent, easy-to-understand format is beneficial to all stakeholders, and provides a firm basis for future improvements in data quality and reuse.

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