Working in partnership to build a Research Information Management System at the University of Westminster

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Today’s session

About the University of Westminster and the business processes
- Who is involved in supporting this software and the research lifecycle

The software (the Virtual Research Environment or VRE)
- The original use case, engagement, an agile approach, the long road
- Haplo Architecture, Workflows, Forms, Reporting

The modules
- Graduate Education Manager
- Research Governance and Ethics
- Researcher Profiles
- Implementing ORCID
- WestminsterResearch: the single (open source) repository for all research outputs
- REF Admin
- Funding

Benefits and challenges

Lessons learned

Next steps – Data management planning, Reporting
About the University of Westminster

4 campuses centrally located in and around the London area

Over 19,000 students from 169 countries

866 academic staff (with just over half engaged in research) and 800 support staff

World leading research in Art and Design and Media and Communications; Internationally excellent research in English, Architecture and the Built Environment and Allied Health; Excellence in Psychology and Neuroscience, Politics, Area Studies and Law (Research Excellence Framework, 2014)
University of Westminster
Selective structure chart
Research lifecycle
What (business) processes is the software supporting?
The original use case for the software (2012)
Review business processes and support systems relating to research

Initial focus on Research Data Management (RDM) and its integration into University systems

Interviews with researchers and University professional support staff to understand needs and priorities

Outcomes

- a single portal - the need to join up processes and take the solution to the researcher — streamlined administrative processes, increased visibility of research work, increased collaboration

- A technical platform to enable application to be developed quickly and flexibly, to interface with other systems, future-proofing to enable the adding of extra research support functionality and sustainability
Engagement
Researchers and research support staff

- Built in from the beginning – got buy-in from the community early on and we have brought them with us
- Almost completely researcher-led to begin with – have moved to a business-led approach with researcher representation
- Understanding of pain-points and priorities
- Collaborative approach – with community and supplier
An agile approach
From small project to core university system

- Rapid development (by Haplo) of software but built up the product slowly and incrementally
- Platform hosted by Haplo
- Under the radar...to IT project management...to business ownership working in collaboration with IT
- Current working group led by Student and Academic Services as the Business Owner
- Includes representatives from Registry, Information Systems & Support and Researchers

Image by Dirk Wouters from Pixabay
The (long) road...to Haplo Research Manager, Ethics Monitor and Graduate Research Manager

“A current research information system (CRIS) is a database or other information system to store, manage and exchange contextual metadata for the research activity funded by a research funder or conducted at a research-performing organisation”

Haplo Architecture
Future proofing

Supervision meeting - 06 Mar 2018 - Ms Ellie Coleman

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<th>Title</th>
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Meeting

**Participants**
- Ms Ellie Coleman
- Prof Rivi Jackson
- Dr Rikki Abbott

**Date, time and location**

**Meeting date**
Edit Examination report: Post-examination:
Examination - Ms Ellie Coleman

Recommendation of the panel

**The examination panel recommends:**

- The candidate is awarded the degree of PhD, with no typographical errors, corrections or amendments.
- The candidate is awarded the degree of PhD, after satisfactory completion of corrections and minor modifications as specified in this report.
- The candidate is awarded the degree of PhD, after satisfactory completion of substantial amendments as specified in this report. All the examiners will check the amendments made.
- The candidate should be permitted to re-submit the thesis for re-examination and re-viva for the degree of PhD, after major revision as specified in this report.

**The examiners responsible for checking revisions will be:**

- Dr Hyatt Ahmed
- Dr Karlyn Glover

Deadline for revised submission

Save and continue  
Save for later
Annual Progress Review overview

179
PGRs who have submitted an APR

10
PGRs who have not submitted an APR

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Modules
Areas of the business

Supporting researchers

- Research Funding
- Research governance & ethics
- Repository of Research Outputs
- Graduate School
- REF
- Researcher profiles
- Virtual Research Environment

Sign up for ORCID now!
ORCID IDs provide a unique international identifier to each individual researcher to enable greater accuracy and visibility of their research output.

Want to find out more about ORCID IDs? Read more here.
Graduate Education Manager
(formerly known as PhD Manager)
Doctoral researchers and supervisors manage the doctoral researcher record

- Management of administrative processes associated with the doctoral researcher lifecycle
- Manage doctoral researcher’s personal development and engagement with the Doctoral Researcher Development Programme
- Went from many paper-based processes and workflow
  - Increased transparency
  - Streamlining of process made it easier for people to engage
- More effective reporting dashboards
Research Governance and Ethics

- Moving away from paper-based processes and introduction of forms underpinned by conditional logic to guide applicants through the process
- Automated workflows so that the right people see appropriate applications at the right time
- Dynamic questions with in-built logic specific to the institution
- Forms based on specific external requirements (e.g. NHS)
- Oversight at University level as to where the application is within the workflow
- Reporting – dashboards rather than having to manually collate data
- Features include an audit tool, adverse events reporting and the identification of governance issues
Researcher profiles
Or staff profiles?

- Increased visibility of research activity carried out at the University
- Consistent way of displaying information
- Gave researchers and doctoral researchers control over this data
- Feed from Haplo to Drupal
- Tension between ‘staff’ and ‘researcher’ profile
Enhanced user interface
WestminsterResearch profiles

- Phase 1: enhancement of user interface
- Researcher and doctoral researcher profiles will display within WestminsterResearch (repository)
- Colleague profiles will sit within Drupal on University website
- Phase 2 underway
Implementing ORCID
Capture (the ORCID iD) and propagate (to other systems) use case

ORCID: a persistent digital identifier (an **ORCID** iD) that a researcher owns and controls, that distinguishes them from every other researcher

Who? Researchers, Doctoral researchers, professional services colleagues engaging in research

Where? SAP, EPrints, Haplo?

Capturing it within Haplo associates that ORCID iD with the researchers VRE profile

Import of data from ORCID to VRE and data push from Haplo to ORCID
Westminster Research
Moving from a hybrid Haplo-EPrints repository to an ‘All Haplo’ repository

Hybrid repository solution (Haplo user interface – EPrints public repository) went live in November 2014

- Benefits included move to self-deposit (away from mediated deposit), better reporting via OA compliance dashboard

Why change?
- Flexibility of the Haplo data model
- Hybrid model resourcing focused on maintaining this rather than enhancing functionality
- University going through cost saving exercise at the time

Perceived risks of moving vs not moving

![Number of Outputs included in WestminsterResearch 2006 to Present](chart.png)

Data source: WestminsterResearch
Building a repository
Requirements gathering, user testing, post-go live feedback

Aim: to build a standards-based ‘all outputs’ repository useful for the entire repository community

Repository and Open Access Advisor has over 10 years repositories experience

Focus on our practice-based arts research community

Input from the two other universities committed to implementing a Haplo repository

Evans, J., Watts, N. and Renner, T. 2019. Building a single repository to meet all use cases: a collaboration between institution, researchers and supplier. Open Repositories Conference. Hamburg, Germany 10 - 13 Jun 2019
Repository

Data repository use case

- Existing hybrid solution unable to support both ‘publications’ and ‘research data’
- Haplo repository can support multiple schemas within the same application so datasets and outputs can be stored in the same system
- Meet external funder data requirements
- Unlike ‘research publications’ – datasets need different levels of access – with a managed access workflow – and secure storage
- More sophisticated role-based access control mechanisms, per-file and per-record level permissions based on those user roles
- Planning to pilot digital preservation integration with Arkivum
Public interface

Post-migration
Repository: Average monthly downloads
Before and after migration

Data source: IRUS-UK
Brings together all of the benefits of the software

- One conversation – portfolios of outputs and their associated documentation
- Flexible metadata model enabled us to not only listen to but deliver on requests for templates that reflect the vocabulary these
- REF template
- Connected to REF Admin workflows
- Closed deposit option has helped with engagement
- Collaboration with Haplo
REF Admin
Continuous improvement

- Started with process mapping
- Change in approach from top down to more management at local Unit of Assessment (UoW) level
- Very much ‘REF outputs administrative data’ a CRIS function – re-using repository output records
- Seen a broader range of users interacting with the software
- Haplo’s plug-in based architecture keeps the module flexible for other institutions approaches
- REF-specific roles – The REF Manager role can see REF-related data for all UoAs – each UoA Lead can only see data for the people in their Unit
- Able to generate useful reports / check dashboards at a glance
Funding
London South Bank University

- Enables academics a place to input their ideas easily and directly (reducing data input for support staff and increasing control for academics)
- Simple interface; web based so can access on any device
- Automated approval workflows make it easy and auditable
- Central management of all key documents with clear version control
- They are now able to capture more data giving them better insight
- February 2020 implemented the Costing tool for fully client funded projects
- They are about to go live using the Costing tool for 90% of all proposals (get rid of the spreadsheets, yay!) and applying more complex funder templates
- Dashboards and reporting provides them an easy view of how proposals and projects are tracking however it has taken us some time to get these right
- Feedback from their academics and staff has been really positive
Being a development partner
Benefits and challenges

- Influencing development
- Being the first also has meant a commitment to sharing experiences with other institutions
- Now much better at requirements gathering
  - Tend to work with requirements rather than completely off the shelf

- Building software that is bespoke is expensive to continuously improve on) – moved to community driven approach (configuration not customisation)
- Legacy architecture - having to migrate to the core platform – complicated exercise
- Constant state of development
- Lack of documentation as we build and go live
- Catching up – newer clients get functionality sooner

Image by Gerd Altmann from Pixabay
A single system managing many processes
Benefits and challenges

- Our researchers only have to think about (and engage with) one system
- Effective communication across the University
- Holistic approach
- Reduced data entry

- Conversations need to involve range of stakeholders
- Reliant on where the business priorities have been – influenced order of development work

Image by Gerd Altmann from Pixabay
Lessons learned

- Process mapping (understanding as-is model) to enable planning and mapping of to-be processes
- Requirements gathering can be never ending – need to understand when to stop
  - Flexibility of the software means that it can be adjusted post go-live
- Documenting what is agreed
- Getting better at understanding requirements reduces likelihood of scope creep
- Having regular supplier meetings
- Some years have been quite ambitious

“The road to uselessness is paved with flexibility”
Unknown, 2004-5
Data management planning (DMP)

Future developments

- **Aim**: to create a living (form) that can be used when we implement post-award.
- **Encourage researchers to think about data collection (type of data, expected size, personal data)**.
- **Embed guidance and links (e.g. to ISS Service Desk)**.
- **Create new roles to enable tasks to be pushed to appropriate person**.
- **Will share data with Ethics and Funding modules therefore reducing data entry**.
- **Can also be exported into Funder DMP template requirements**.
Reporting
Future developments

Existing dashboard view and reports provide a view of data and are downloadable.

LSBU working on PowerBI implementation for more visual reporting.

Westminster looking to set up feed to in-house data warehouse to enable Qlikview integration.

Example Power BI visualisation.
Thank you!

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