RDM Roadmap to the Future

or:

Lords and Ladies of the Data

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Library & University Collections
University of Edinburgh
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An intrepid journey to the future...
Information Service’s base in the Shire – Argyle House, University of Edinburgh, Scotland
An enchanting cast of characters to work with

- A service owner (data librarian)
- Data curators & user support staff
- Software engineers
- Computing infrastructure staff
- Senior managers
- Academic stakeholders
- Hobbit
- Elves
- Trolls
- A wizard, if we’re lucky
University of Edinburgh Roadmap – in 3 parts

• Building on (mostly) success of earlier two Roadmaps, starting 2012

• Research Data Service Roadmap: August 2017-July 2020, approved by academic-led steering group

• 32 challenging objectives with associated actions, milestones and deliverables

https://www.ed.ac.uk/is/rdm-roadmap
Many tools & forms of support make up the single Research Data Service

Based on a simplified data lifecycle
Unification of the service

Theme A
<table>
<thead>
<tr>
<th>Objective</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devise a unified look and feel to the service components, as part of Digital Research Services.</td>
<td>High</td>
</tr>
<tr>
<td>Create a coherency to service as a whole and its underlying components.</td>
<td>High</td>
</tr>
<tr>
<td>Offer a simplified user journey starting from the home page.</td>
<td>High</td>
</tr>
<tr>
<td>Investigate and deliver on options to allow interoperability between systems, e.g. to transfer data easily from one system to another.</td>
<td>High</td>
</tr>
<tr>
<td>Horizon scan on options for replacement/merging of system components.</td>
<td>Low</td>
</tr>
</tbody>
</table>
Theme A, Milestones & deliverables

• All access points have same branding
• User testing completed and revisions made
• New brochures
• Single service description
• Service Level Agreement
• Consistent documentation across service
• Promotional video, whole service
• Service component ‘how-to’ videos
• Case study interview videos

• Interactive solution on website and tested
• FAQs and/or decision trees for self-help available
• Demonstrated interoperability improvements
• End to end service
• Report on benchmarking endeavours
• Test instances set up (e.g. other repository platforms)
• Written requirements documented across service
Research data management planning

Theme B
## Data management planning

<table>
<thead>
<tr>
<th>Objective</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Increase the <strong>number of fully-costed plans</strong> written by researchers across schools, including University-funded research.</td>
<td>High</td>
</tr>
<tr>
<td>Increase the number of schools/departments that require a simple <strong>DMP as part of a PhD research proposal</strong> (from zero).</td>
<td>Medium</td>
</tr>
<tr>
<td>Encourage <strong>software management</strong> planning as part of DMP.</td>
<td>Medium</td>
</tr>
<tr>
<td>Explore and evaluate possibilities for ‘<strong>active’ data management plans.</strong></td>
<td>Low</td>
</tr>
</tbody>
</table>
Theme B, Milestones & deliverables

• Number of plans created known and increasing.
• Diverse set of plans available.
• Annual revision of standard text and University DMP template.
• User tests completed.
• Advocacy leads to new school or centre templates in DMPOne.
• Evidence of working with schools/centres on data management procedures.
• Measure turnaround time of requests. No request ignored due to timing.
• Procedure in place and being followed for contacting PIs at start and end of projects.

• Evidence of outreach to doctoral programmes.
• Number of bespoke DMP templates created.
• More annual invitations for bespoke training to PhD students in schools.
• Software management text for DMPs available.
• Events organised with SSI and others focusing on software management.
• RDM training materials updated appropriately.
• Ensure team stays informed on developments.
Working with data
## Working with data

<table>
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<tbody>
<tr>
<td>Provide <strong>secure setting for sensitive data</strong> and set up controls that meet ISO 27001 compliance and user needs.</td>
<td>High</td>
</tr>
<tr>
<td>Modernise the <strong>code versioning service</strong> component.</td>
<td>High</td>
</tr>
<tr>
<td>Ensure usable interface for researchers and their <strong>collaborators to share storage space</strong> for research data.</td>
<td>Medium</td>
</tr>
<tr>
<td>Advocate and understand how lab-based research settings can move to <strong>electronic lab notebooks</strong>.</td>
<td>Medium</td>
</tr>
<tr>
<td>Ensure researchers doing <strong>database</strong> activity have secure, networked backed-up resource.</td>
<td>Medium</td>
</tr>
<tr>
<td>Provide coherent, safe solution for University researchers who need to <strong>encrypt their data</strong> in Research Data Service systems.</td>
<td>Medium</td>
</tr>
<tr>
<td>Ensure the stability of the University shared storage space and <strong>plan for growth</strong>.</td>
<td>Low</td>
</tr>
<tr>
<td>Assist researchers who require <strong>datasets for analysis</strong> from all disciplines.</td>
<td>Low</td>
</tr>
</tbody>
</table>
Theme C, Milestones & deliverables

• Data Safe Haven launch
• Compliance check and reporting mechanisms in place.
• ISO 27001 certification.
• Known process for incorporating non-research related projects into Data Safe Haven.
• Gitlab available to researchers.
• Decision made on Subversion service.
• Options considered and decided for dealing with the bug.
• Improvements to documentation about sharing data with collaborators.
• Written and/or video examples available from website.
• Uptake of RSpace known.
• Project outcomes reported to steering group.
• Additional resources for ELN tools available.
• Database as a platform launched.
• Online user support for databases tested and available.
• Scoping study completed.
• Additional steps taken as recommended by steering group.
• Continuous improvement gains for DataStore.
• Requirements gathered for finding data portal.
• Key datasets obtained and made available.
Sharing and preserving research data

Theme D
### Data stewardship options (1of 2)

<table>
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<tbody>
<tr>
<td>Provide <strong>enhanced display</strong> and preview of multimedia files held in repository.</td>
<td>High</td>
</tr>
<tr>
<td>Alternative to open sharing exists with immutable, replicated <strong>secure long-term storage.</strong></td>
<td>High</td>
</tr>
<tr>
<td>Embrace new technologies and metadata standards for curating and providing access to <strong>research images.</strong></td>
<td>Medium</td>
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</table>
## Data stewardship options (2 of 2)

<table>
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<tr>
<td>Communicate options to researchers for data sharing and curation customised to their situation (discipline, funder, project longevity).</td>
<td>Medium</td>
</tr>
<tr>
<td>University repository that provides FAIR (findable, accessible, interoperable, reusable) principles in line with emerging funder and international principles (EU Open Science Cloud etc.).</td>
<td>Medium</td>
</tr>
<tr>
<td>Repository makes best use of metadata standards and citations to improve impact for researchers.</td>
<td>Medium</td>
</tr>
<tr>
<td>Repository continues to meet trusted digital repository requirements for researchers and actively migrates supported file formats for long-term preservation.</td>
<td>Low</td>
</tr>
</tbody>
</table>
Theme D, Milestones & deliverables

- Enhanced display of files in repository.
- DSpace options investigation.
- Usability investigation.
- Full solution in place following end of project.
- Interim service vaults migrated to full solution.
- Functionality from useful open source code adopted.
- Usable documentation exists for researchers and team members on choosing between data stewardship options.
- Guidance materials and case studies available via UoE website or Sharepoint.
- Conference papers and other evidence of impact in the international RDM field.
- At least one funded collaboration with external parties.
- DataShare release reflects outcome of metadata study.
- DataShare release reflects outcome of subject classification evaluation.
- DataShare ORCiD ID field.
- DataShare release for Altmetrics.
- Image server requirements gathered.
- Evaluation written for use of IIIF in Research Data Service systems.
- Office format file migration completed in DataShare.
- Workflows and documented procedures on wiki.
- One-page evaluation of Archivematica experiment.
- Certification received from CoreTrustSeal.

• Conference papers and other evidence of impact in the international RDM field.
• At least one funded collaboration with external parties.
Training and support

Theme E
## Training and support

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<tr>
<td>Refresh <strong>Communications Plan</strong> to ensure key messages are getting out to all stakeholders in line with Digital Research Services objectives.</td>
<td>High</td>
</tr>
<tr>
<td>Vibrant <strong>network of data managers</strong> and curators speaking about their use of data with service representatives and each other.</td>
<td>High</td>
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<tr>
<td>Forward-looking <strong>training on data protection</strong> in light of General Data Protection Regulation.</td>
<td>High</td>
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<tr>
<td>Conduct <strong>privacy impact assessments</strong> on service components and/or service as a whole.</td>
<td>High</td>
</tr>
<tr>
<td>Training on and offline is responsive to user needs, new tools, <strong>open science / digital scholarship</strong> new norms for transparency and reproducibility.</td>
<td>Medium</td>
</tr>
<tr>
<td>Ensure researchers have access to expert advice in <strong>anonymising</strong> and pseudonymising their data.</td>
<td>Medium</td>
</tr>
<tr>
<td>Alignment with College and School <strong>Ethics committees</strong> for data-related guidance.</td>
<td>Medium</td>
</tr>
<tr>
<td>Revisit <strong>statistical training</strong> and consultancy offerings with relevant parts of IS in light of Innovation Project outcome (Scoping Statistical Support).</td>
<td>Low</td>
</tr>
</tbody>
</table>
Theme E, Milestones & deliverables

- Communications Plan enacted.
- Successful annual Dealing with Data events.
- Topical meetings are scheduled and attended.
- Regular RDM Forum meetings.
- Periodic GDPR training sessions.
- Working with Personal and Sensitive Data training courses redesigned and tested.
- Income from external training/consultancy.
- GDPR and personal data guidance approved by DPO and Information Security team.
- DPIA assessments completed as required.
- Bi-annual data / software carpentry courses with SSI/EPCC.
- DCC trainers run University courses.
- Design two courses on Data Science topics.
- Database training delivered in RDM context.
- Scoping report on an Anonymisation advisory service.
- Successful pilot anonymisation advisory service.
- Service team members attend some REIRG meetings (Research Ethics and Integrity Review Group)
- Service team members speak to college and school ethics committees and report back.
- Suite of sample consent forms augmented for Vault suitability.
- Findings disseminated; meetings held.
- Next steps identified, with User Services Division involvement.
Challenges (1)

• Getting through the sheer volume of work in a coordinated way
• Managing stakeholder expectations as we go
• Keeping up with developments in data science and data stewardship and being responsive to signals of change
Challenges (2)

- Reaching beyond early adopters to majority of researchers
- Publish or perish culture; data as second class research object;
- Scholarly publishing commercial giants competing for the data space
- Making data FAIR in era of GDPR
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