Testing Open Science Tools
Machine-actionable DMPs

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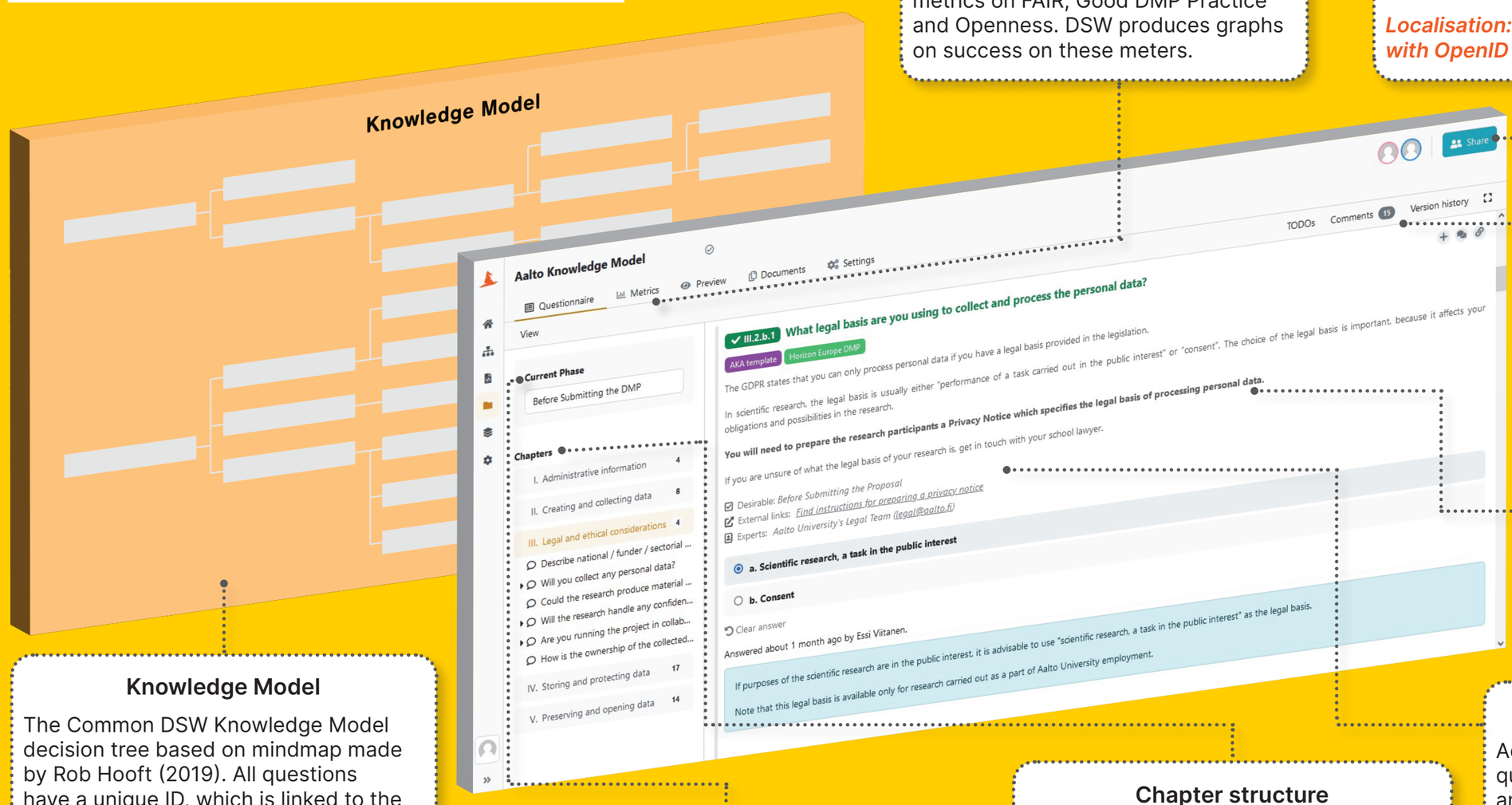
Background

- Desire to utilise and reuse metadata from DMPs more efficiently, especially for the use of the university's IT, research and legal services.
- Use DMP information to better identify the support required during projects, and prompt planning for legal and ethical considerations early on in the process.
- A wish to offer researchers a more guided way of creating a DMP, which ensures all relevant issues are covered in the planning stage.
- Comparing six tools and testing out one, Data Stewardship Wizard, in more detail to understand requirements of localisation.
- DSW was selected for testing due to its guidance and communication functions, and ease of use. Argos was the second runner up, but the emphasis on datasets was considered a potential challenge at the start of projects.

	DSW	argos	DMP ONLINE	easyDMP	DataWiz	RDMO
Guidance for questions	✓	✓	✓	✓	✓	✓
Commenting function	✓	✓	✓	×	×	×
Funder templates	✓	✓	✓	✓	limited	✓
Template editing	✓	✓	✓	limited	x	✓
Export formats	.json, .pdf, .doc, .html, .odf, .tex	.json, .pdf, .doc, .xml	.pdf, .doc	.html	.odf	.xml, .csv
Sharing/co-writing	✓	✓	✓	✓	✓	✓
Allows adding instructions	✓	✓	✓	✓		
Admin rights	✓	✓	✓	✓	×	✓
Versioning history	✓	✓	limited		limited	limited
Machine-actionable	✓	✓	limited	limited	limited	limited
Plan metrics	✓	×	×	×	×	×



Metrics

Questions are tagged with weighed metrics on FAIR, Good DMP Practice and Openness. DSW produces graphs on success on these meters.

Sharing

Allows sharing DMP with other researchers.

Localisation: Institutional identification with OpenID supported.

Communication

Commenting with collaborators, TO DO checkbox for unfinished tasks and full change log and version history that allows going back to earlier version of DMP.

Questions

Question types include: List, Options, Multichoice, Value (i.e. text field) and Integration (ROR, FAIRsharing).

Localisation: Altering the questions and answer options to reflect what is available at Aalto University.

Knowledge Model

The Common DSW Knowledge Model decision tree based on mindmap made by Rob Hooft (2019). All questions have a unique ID, which is linked to the document template, that determines how exported content appears in final DMP document.

Localisation: All edits to questionnaire and answer options were done here. The biggest change was reducing the number of questions.

Project phase

The questions are arranged by project phase. DSW's five phases according to the development of the project are: Before submitting proposal, Before submitting DMP, Before finishing the project, After finishing the project.

Chapter structure

Questions are divided under chapters, and are set in a decision tree structure.

Localisation: Grouping all legal questions under a new chapter Legal and ethical considerations to correspond with the Research Council Finland template.

Guidance

Advice and guidance are built into the questionnaire, both at question stage and for each answer if wished. DSW's guidance is based on Mons' (2018) work. Separate fields for expert contact details and external links to further information.

Localisation: Altering the guidance, expert help and links to correspond with Aalto University RDM guidelines and documentation.

✓ Pros

- Test group enjoyed the ease of use, clicking through the questions.
- There was no dreaded empty white paper as the tool closely guided researchers through the process.
- The ability export the same project questionnaire into various funder templates was met with enthusiasm - similarly possible applications of this for privacy notices, DPIAs etc.
- Positive surprise how well questionnaire answers transferred to the funder templates.

× Cons

- Questionnaire is very thorough and can feel never-ending.
- Questions do not link across the waterfall, i.e. if in first chapter one says they will collect sensitive personal data, they can still claim to open the data unanonymised.
- There is some overlap between questions in different chapters.
- Some questions are very advanced and difficult to answer, prompting the urge to just pick something to move on.

Findings and questions

- Adjusting the Knowledge Model to fit university-specific guidance is laboursome.
- Mapping the new questions and answers to funding template model is time consuming.
- Developing new funder templates for national funders will be required.
- Potential of integrating information via API links is an exciting prospect.
- Implementing the tool in institutions will require marketing as well as adapting existing workflows for checking and commenting DMPs.

Background information

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Contributors

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