

Implementing usability-improved data management plans in interdisciplinary engineering projects

Soo-Yon Kim, Steffen Hillemacher | DBIS, SE, DSMA (RWTH Aachen University) NFDI4Ing Conference 2022 | October 26-27, 2022



Where did we start?







Steffen Hillemacher

- Two data stewards
- Active in the Cluster of Excellence "Internet of Production"
- Cluster vision: Making data available along the whole production chain
- Highly interdisciplinary environment



- What are our aims?
- Meaningful RDM structures to work on?



Aims

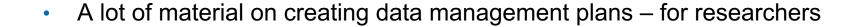
- Raising general awareness of RDM among researchers
- Strengthening comprehensibility and reproducibility of research
- Making data available
- Creating measurable quantities
 - Types and volume of research data in the cluster
 - Degree of persistently identifiable and sustainably stored research data
- Having a DMP created by each project
- Implementing a data management plan template/tool for the cluster



Initial State



Vorlage Datenmanagementplan für die RWTH Aachen University



- Material lacks on implications for the work of data stewards
- Initial impressions via try-out and exchange with RDM network:
 - Practical barriers
 - Motivational/acceptance barriers
 - Variety of templates, tools
- Input by researchers needed to derive requirements









Interview Series with Researchers

Setting

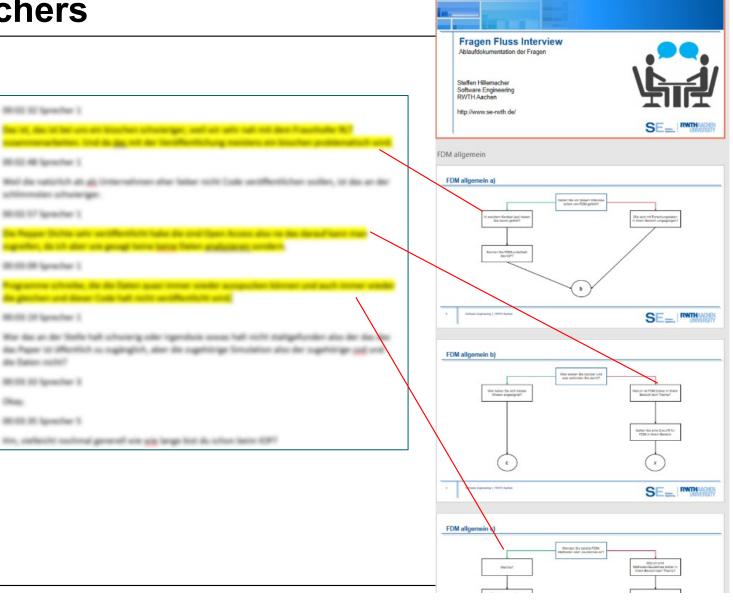
- Over three months
- 28 interviews with Cluster researchers

Topics

- Types of research data
- RDM knowledge
- Perceived barriers and incentives

Methods

- Semi-structured interviews
- Predefined question flow
- Qualitative analysis via tagging in transcripts







Derived Requirements



CR1: Elaborating on relevant topics



CR2: Ensuring comprehensibility and unambiguity



OR1: Top-down structure specifications



OR2: Reducing overhead



(OR3: Integrated of further RDM functionalities)



Implementation

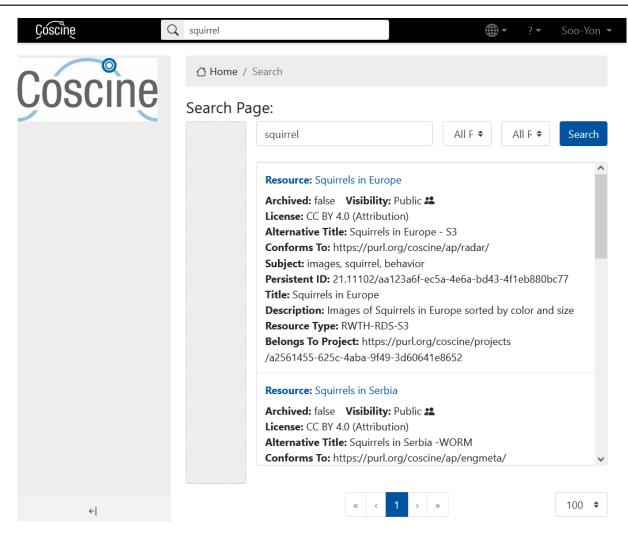
- Addressing cases such as business-sensitive data (CR1)
- Writing help-texts and examples for the DMP (CR2)
- Creating material/instructions for working with the DMP (CR2)
- Close coordination with and communication via cluster management (OR1)
- Fixed response options (OR2/OR3)
- Tags (OR2/OR3)
- Summarizations (OR2)
- Tool Research Data Management Organiser (RDMO) (OR3)

Next Steps

- Organizational specifications with cluster management (OR1)
- DMP training for all researchers on Research Summit (CR2/OR1)
- Cluster-wide roll-out with feedback iterations (OR2)



Outlook: Linkage to further RDM services (OR3)



- Tool Coscine
 - Searchable repository
 - Assignment of identifiers
 - Storage and archive
- Challenges: "Double" workload, metadata profiles, ...
- Working on possible automatic integration
- Further exploration of possible tools, functionalities, ...

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