Sustainable Research Software Through Software Management Plans

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1. Central Objectives for SMPs

- Support scientists with the reproducibility and sustainability of research software
- Offer service for scientists and research software engineer
- Management tool to promote explicit use of research software

2. Normative Framework

- Software is often necessary for the reproducibility of scientific results
- Reproducibility of results is in terms with the Good Scientific Practice, so it should be available
- DFG Guideline 13: "*Software programmed by researchers themselves is made publicly available along with the source code.*"
- Internal guidelines and/or general regulations might require or recommend the publication of software
- Increasing focus on software by third-party funders as an important project outcome

3. SMPs in the Discussion

- Chue Hong et al. (2014): "Writing and using a software management plan", https://www.software.ac.uk/resources/guides/software-management-plans.
- Alves et al. (25.10.2021): "ELIXIR Software Management Plan for Life Sciences", https://doi.org/10.37044/osf.io/k8znb.
- Martinez-Ortiz et al. (27.10.2022): Practical guide to Software Management Plans, https://doi.org/10.5281/zenodo.7248877.
- Giraldo et al. (31.05.2023): Workshop machine-actionable Software Management Plans. https://doi.org/10.5281/zenodo.8087357.
- and more...

4. Definition of an SMP

"According to a DINI/nestor AG Forschungsdaten definition, software management plan (SMP) includes general and technical information about the software project, information about quality assurance, release and public availability, as well as legal and ethical aspects affecting the software."

https://forschungsdaten.info/praxis-kompakt/glossar/#c822402

5. Advantages Through SMP Use

- Transforming implicit knowledge into explicit knowledge
- Tool for project management with focus on research software
- Use for consulting services, e.g. by local IT, scientific computing unit, third-party funding office
- Quality management and assurance
- Can be used for third-party funding applications
- Better overview of which software projects are running in parallel at an institution
- …

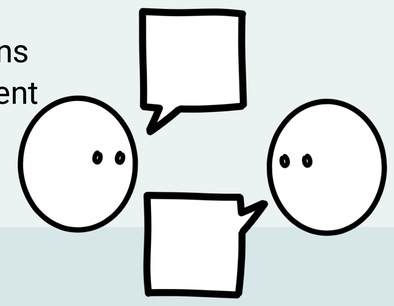
6. Target Groups

Scientists, who:

- have not yet dealt much with software management
- would like to achieve quality in research software with little time investment

Also colleagues from:

- IT, Scientific Core Unit
- Third-party funding applications
- Project and quality management
- Research coordination
- ...



7. Context of The Project

- https://rdmo.mpdl.mpg.de
- Team from MPDL Collections
- Period July 2022 to December 2022
- RDMO as a technical basis
- Result: CC0 push of an SMP catalogue as a contribution to the RDMO community

8. Details On the RDMO Catalogue

- Title: Software Management Plan for Researchers
- in German and English
- 50 questions in total
- 1 additional RDMO condition
- 44 new RDMO attributes
- 2250 lines xml
- under CC0: https://github.com/rdmorganiser/rdmo catalogue available
- all questions are additionally available as .docx at https://doi.org/10.17617/2.3481986

9. Structure

1. General
- a.o. persons involved, resources

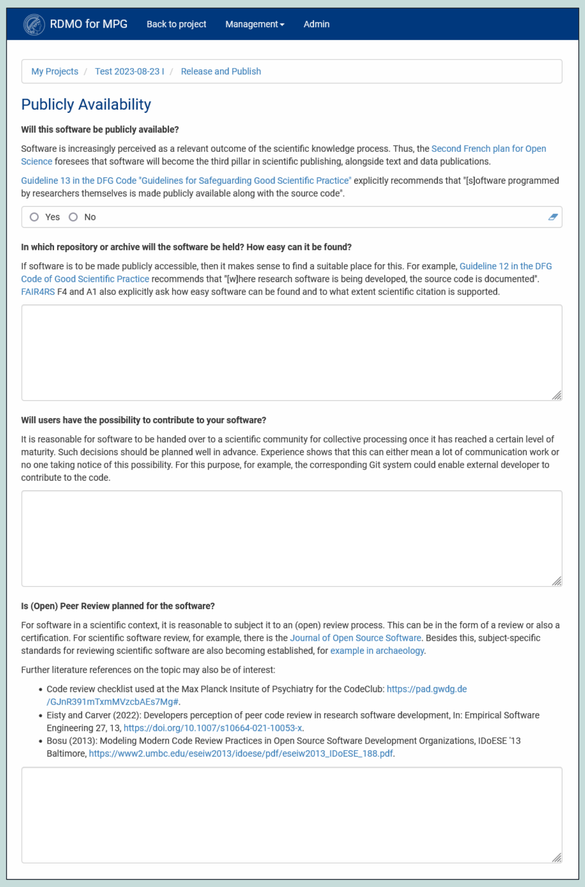
2. Technical information
- i.a. code, infrastructure, security

3. Quality assurance
- Testing, documentation, etc.

4. Release and public availability
- a.o. releases, metadata

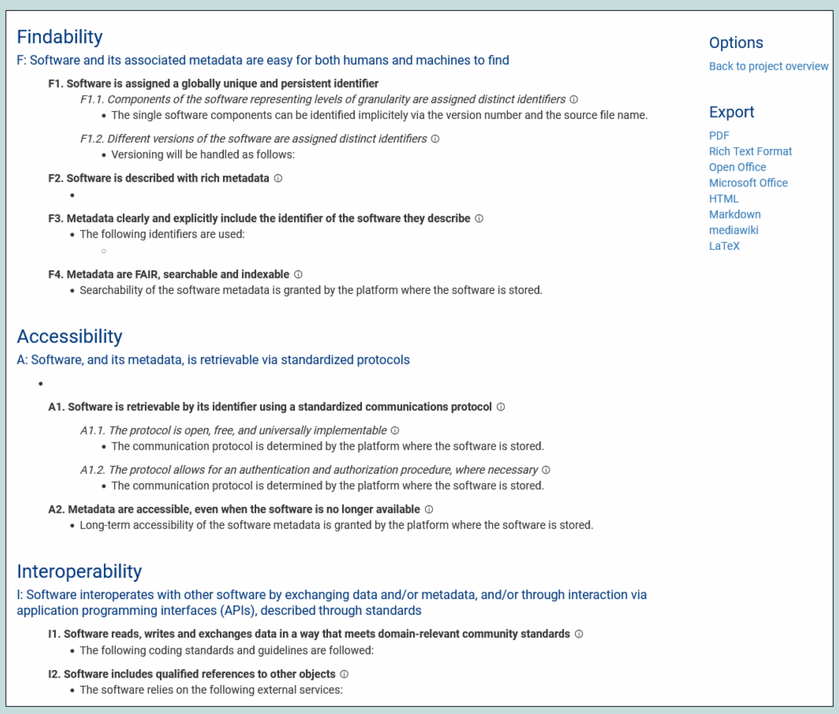
5. Legal and ethical issues
- i.a. copyright, licences, dual use

10. Screenshots



11. FAIR4RS-Viewer

- Presentation of own answers according to the FAIR4RS principles
- Quick way to FAIRify your research software
- Free available on GitHub as well



MAX PLANCK GESELLSCHAFT

Graphics by Julian Kücklich, CC0, https://doi.org/10.5281/zenodo.3674561

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https://doi.org/10.17617/2.3525108