

<https://events.gwdg.de/event/658/abstracts/> -> deadline 29th May 24

Might best fit into that one: Basic Services, Basic Service incubators and networking activities (e.g. How are existing Basic Services developing in Initialisation and Integration stages? How can interoperability of Basic Services be ensured?)

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Software repository for the NFDI

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Abstract:

Software is tightly linked to data management and its development constitutes a fundamental aspect within most NFDI consortia. The collaboration among contributors, whether local or global, spanning from individual developers and researchers to interdisciplinary and cross-institutional cooperation, necessitates appropriate services and working environments. Thus, a key objective is to establish common public services to facilitate collaborative endeavors across the research community. Furthermore, beside software many digital objects utilized in research stand to benefit significantly from versioning and traceability throughout the duration of a project. Provenance tracking plays a critical role in ensuring the FAIR (Findable, Accessible, Interoperable, and Reusable) principles are upheld in both code and data management practices.

We suggest to utilize GitLab for this purpose as it is widely used in many institutions albeit not as a public service available to all NFDI participants and member institutions. Services like OpenCode (<https://opencode.de/en>) already exist for the public sector and provide a showcase for a well visible common initiative. The NFDI as a major driver of RDM in Germany should provide such a common service and well visible platform or at least moderate the creation of such to fulfill its mission.

For the NFDI to effectively control the software development processes and ensure its long-term sustainability, it is essential to thoroughly test the fitness of the available offerings, business and operation models and make informed decisions regarding the most suitable license. Linking to the NFDI AAI will streamline access and facilitate user authentication, thereby enhancing ease of use. Identifying suitable service providers (within or outside the NFDI) is crucial for obtaining the necessary infrastructure support which includes basic provisioning of storage and computational resources, as well as allocating resources for continuous integration and development processes. Thus, developing a sustainable business and refinancing model is paramount to ensure the long-term viability of such a service. Further, establishing a robust support and training infrastructure is essential for providing assistance to users and ensuring they can effectively utilize the resources.

Various points should be discussed, defined to create such a service inside or outside the Base4NFDI initiative:

- Suggest a proper working group in the Common Infrastructure section to advance this topic - most probably the well established RSE is the best fit
- Define the role of various types of software within the NFDI
- Create a new service from scratch modeled after the NFDI requirements
- Extend some existing service for the whole NFDI community (and beyond)
- Define the operation and business models to allow both broad participation and solid and long-term operation
- Deploy the Base4NFDI service proposal procedures to achieve this goal (or modify, extend them to

GitLab4NFDI (naming suggestion for such a service) can become a solution designed to establish a centralized platform for versioning and sharing research software and datasets across the NFDI and beyond. It would foster better collaboration and the support of the OneNFDI spirit. In the end, establishing a robust support and training infrastructure is essential for providing assistance to users and ensuring they can effectively utilize the resources.