

Sustainable Research Software –Managing a Common Problem of SSH Infrastructures

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Research software enabling digital scholarly tools and services are major building blocks of open science in today's research environment. This is apparent also for Research Infrastructures (RI) in the Social Sciences and Humanities (SSH) community.

These RIs, such as *CESSDA*, *CLARIN* and *DARIAH*, have been set up to support scholars in their research and have a long tradition of supporting open science, particularly through their FAIR data management solutions. One of the major challenges emerging from the operation of these digital RIs is the sustainable management of the research software used to build the components. While general consensus reigns about the need to apply state-of-the-art software engineering principles and industry standards to the development and maintenance of software and services, the implementation proves hard.

Continuing from a joint workshop in 2017 we are currently undertaking measures to align existing efforts towards a common understanding of technical requirements and recommendations. This includes the Software Maturity Modelling developed by CESSDA, the Software Quality Guidelines developed by CLARIAH and the Technical Reference originating from DARIAH.

Building upon these technical foundations, we also want to help promoting software best practices in teaching and education, ideally as part of curricula, to widen awareness of software quality requirements throughout the research community and their software engineers. While adding further requirements to software projects invariably leads to increased development cost and time, re-usability of software and thus reproducibility of the results must become an everyday research practice. Just as classic publications and increasingly research datasets are subject to quality assurance, the softwares used to create them must be as well in order to fully support the research process to advance scholarly and scientific knowledge through open science. This cooperation is being streamlined under the umbrella EURISE Network, where research infrastructures meet research software engineers, to strengthen the combined foundations for future collaborations of e-infrastructures and the emerging EOSC. We present the current state of this initiative and explain ongoing efforts towards a common set of guidelines and evaluation criteria. We explain why and how our emphasis on improving software quality will ultimately benefit openness and re-usability of science and research data.

Type of abstract

Lightning Talk

Summary

One of the biggest challenges that the open science community faces in the operation of digital Research Infrastructures is the sustainable management of research software.

To address this, the application of state-of-the-art software engineering principles and industry standards are considered fundamental. Among the infrastructures CESSDA, CLARIN and DARIAH the collaboration towards a common understanding of technical requirements, improved compatibility for future projects and cross-domain interoperability (EOSC, GEANT, OpenAIRE, etc.)

We give an overview of EURISE Network, which is our approach to apply standards and a common set of guidelines, as well as evaluation criteria.

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