Research Software Sustainability is essential to Open Research

Recommendations and an update on developments

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1. Summary

A recent Knowledge Exchange workshop on software sustainability recommended a number of technical and societal changes and the overall need to raise awareness of researchers' reliance on software. The importance of these findings and first steps to explore European coordination and cooperation of national initiatives will be addressed in the presentation.

2. Abstract

Without software, modern research would not be possible. We tend to marvel at results rather than the tools used for research, which means the fundamental role of software in research has been largely overlooked. This puts at risk the reliability and reproducibility of research and its results. The practices of software sustainability minimises these risks and help to increase trust in research results, increase the rate of discovery, increase return on investment and ensure that research data remains readable and usable for longer.

A recent Knowledge Exchange workshop on software sustainability recommended a number of technical and societal changes and the overall need to raise awareness of researchers' reliance on software. It also led to steps to explore European coordination and cooperation of national initiatives.

The presentation will explain the value of sustainable software to research, the measures that can support the sustainability, and the steps currently explored to establish a Software Sustainability Initiative in each European country and to have these initiatives linked to share knowledge and expertise through a European Software Sustainability infrastructure. Most of the content of this presentation can be found in a report on the workshop issued by Knowledge Exchange[1]

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[1] Hettrick, S. (2016). *Research Software Sustainability Report on a Knowledge Exchange Workshop*. Knowledge Exchange. Retrieved May 10, 2016, from

http://www.knowledge-exchange.info/event/software-sustainability

3. Author's biographies

Simon Hettrick is the Deputy Director of the UK's Software Sustainability Institute. He is responsible for the Institute's policy team which investigates the use of software in the research community and campaigns for changes that will improve the software that is used in research. He has a particular interest in the people who develop software in academia - Research Software Engineers - and has been a passionate advocate for greater recognition and reward for this group.

Before working for the Institute, Simon conducted research into waveguide lasers, worked as a patent attorney and then moved into communications. He still considers himself a physicist, but can no longer do maths.

Dr. Matthias Katerbow is working as a Programme Officer at the "German Research Foundation" (DFG) and he is responsible for the funding programme e-Research-Technologies. He is also representing the DFG in the "Knowledge Exchange" initiative. He has a particular interest in the development of information infrastructure, IT services for science and humanities as well as enabling of Open Scholarship.

Before working for the DFG, Matthias has worked as a linguist at the research center "Deutscher Sprachatlas" at Marburg University. He received his doctoral degree from the Marburg University for his work on Language Acquisition and Language Variation. He studied Linguistics, Phonetics, Informatics and Linguistic Engineering. He is still concerned with research, but without being a researcher.

Bas Cordewener is the Coordinator of Knowledge Exchange, an initiative in which DEFF (Denmark), DFG (Germany) SURF (Netherlands), Jisc (United Kingdom) and CSC (Finland) work together. Engaged in establishing, funding and policy development of IT Infrastructures for Higher Education and Research, Knowledge Exchange partners focus on Open Access, Research Data and Open Scholarship.

Before working for Jisc (who host the Knowledge Exchange office), Bas worked for SURF in several management positions addressing IT related educational innovation, innovation of research and international collaboration.