Developer Community Supporting Innovation (DevCSI)

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For the last two years, the JISC\(^1\) has funded UKOLN\(^2\) to establish a community of software developers working in higher education in the UK. This initiative is called DevCSI\(^3\).

Software developers are important to higher education. They are needed to develop and implement local institutional solutions, to build out e-infrastructure, and to support research by innovating and developing ideas and prototypes that can be exploited by others. They also play an important part in the development and uptake of open standards and interoperability. JISC-funded projects in particular rely heavily on software developers to enhance existing software, produce new technology and experiment with new ideas.

With the increasing accessibility and affordability of first class development tools, collaborative environments and industrial-grade infrastructure, the potential for even a single software developer to advantageously affect a wide range of activities in and around research, teaching and learning has never been so great. Yet, in higher education, developers are rarely treated as valuable resources to be developed and deployed strategically. Instead, developers are generally treated as undistinguished, basic, interchangeable resources. Typically, a problem is identified and a certain amount of ‘developer resource’ is allocated to solving it. This tends to mean that developers actually become engaged in a continuous loop of problem solving: even when they have a larger perspective to offer they find themselves locked into fairly straightforward, functional roles.

DevCSI was formed in 2009 to address an issue which had gradually become apparent – that the higher education sector in the UK did not pay enough attention to its software developers and, consequently, was not well placed to exploit their value effectively. The role of the software developer in higher education institutions (HEIs) in the UK is often not a clearly defined one – especially in research. In the worst case, software development might be described as an activity undertaken either by people who would not describe themselves as developers – such as researchers – or by people who are regarded as fairly undifferentiated resources to be deployed as necessary. While the profile of the software developer has been fairly low (or even invisible) within many institutions the need for HEIs to engage in technical innovation has tended to grow, especially in two areas:

- Data-driven research
- Institutional competitiveness in more challenging market conditions

DevCSI has focussed on community-building for its first two years. A significant part of DevCSI activity has been concerned with the delivery of a large number and a wide range of events, bringing together developers together with their peers, with funders and with other stakeholders – notably ‘users’. Many of these events have involved a degree of training – often peer-to-peer, and many others have been built around the 'barcamp' or 'hackday' approach, with developers getting together to develop prototypes in real time. While the software outputs of this latter type of event are of secondary importance compared to the community development and learning activity, some of the outputs have been, nonetheless, interesting and valuable in their own right. DevCSI provides a showcase of these activities and outputs.\(^4\)

As DevCSI has grown, the importance of knowledge-exchange has become apparent. We have been able to demonstrate the considerable value of peer-peer training – sometimes in significant monetary terms. We are exploring the potential for knowledge transfer from software developers to researchers – especially those working in data-driven research fields.

Examples of opportunities in this area range from the particular and pragmatic - such as close understanding of version-control systems, to the more generalised – such as the notion of computational thinking.\(^5\)

In a more recent phase, DevCSI has developed approaches to measuring the relative value of locally employed developers in HEIs. We are developing a case for the HEI to not only maintain a local development capacity, but to actively invest in it. In parallel with this, we are developing the notion of the Strategic Developer.\(^6\)

DevCSI is gaining an international reputation, and we have received expressions of interest from Australia and New Zealand in particular (developers from both of these countries have participated in several of our events).

This presentation will describe all this work, outlining some of its successful outputs and, in particular, demonstrating its relevance to publicly-funded research. The presentation will also outline some plans for the future, and indicate some opportunities for international collaboration – with an open invitation to delegates at the conference to engage with us and explore this potential. In this spirit, DevCSI will also be support a developer event which will be delivered by the Australian National Data Service\(^7\) alongside the conference.
REFERENCES

1 JISC Homepage, available at http://www.jisc.ac.uk, accessed 29/06/2011
2 UKOLN Homepage, available at http://www.ukoln.ac.uk, accessed 29/06/2011
3 DevCSI Homepage, available at http://devcsi.ukoln.ac.uk/blog/, accessed 29/06/2011
4 DevCSI Showcase, available at http://devcsi.ukoln.ac.uk/blog/category/showcase/, accessed 29/06/2011
6 Blog post about the Strategic Developer on the JISC Corporate blog, available at http://www.jisc.ac.uk/blog/developers/, accessed 29/06/2011

ABOUT THE AUTHOR(S)

Paul Walk is Deputy Director of UKOLN, based at the University of Bath in the UK, where he has worked since 2006. Prior to this he worked in the academic library at the University of North London and went on to lead the technical development in eLearning systems and related software at London Metropolitan University.

At UKOLN, Paul is primarily engaged in developing UKOLN in its role as a JISC-funded 'Innovation Support Centre'. He gives technical advice to the JISC with a particular focus on the standards and technologies related to resource discovery, and leads the Developer Community Supporting Innovation (DevCSI).