Quality-Aware Rapid Software Development

Introducing the Q-Rapids project

Dear colleagues, as Q-Rapids coordinator, it is my pleasure to welcome you to the first issue of the project newsletter.

Q-Rapids is a 3-year research and innovation action funded by the EU as part of the H2020 programme. It started the 1st of November 2016 and the kick-off meeting was held in Barcelona on the 8th and 9th of November 2016.

Q-Rapids defines an evidence-based, data-driven quality-aware rapid software (SW) development methodology. Quality requirements are incrementally elicited, refined and improved based on data gathered from SW repositories, project management tools, system usage and quality of service. This data is analysed and aggregated into quality-related key strategic indicators, which are presented to decision makers using a highly informative dashboard. Quality requirements scheduled for the next cycle are integrated with functional requirements for their uniform treatment in the rapid software development (RSD) process.

To achieve results, Q-Rapids is run by the consortium composed of 3 research organisations, 1 SME, 2 mid-caps and 1 corporative from 5 European countries (Table 1.) The consortium combines long research tradition in SW development and cutting-edge technological knowhow in versatile ICT sectors. The companies provide four use cases of diverse nature aimed to gather requirements and evaluate results. The visits to the premises of use case providers have been started. The goal is to understand their needs to be addressed in the project.

Please do not hesitate to contact me for further information about the project.

Best regards,

Xavier Franch
Q-Rapids project coordinator

Table 1. The Q-Rapids consortium and their roles. Short name bolded.

Organisation	Role
UNIVERSITAT POLITECNICA DE CATALUNYA **(UPC)**	Project coordinator, WP3 and WP6 leader
UNIVERSITY OF OULU **(UOULU)**	Scientific coordinator, WP2 leader
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	WP1 and WP5 leader
BITTIUM WIRELESS OY	WP8 leader
SOFTEAM	Tool provider
ITTI SP ZOO	WP4 leader, tool provider
NOKIA SOLUTIONS AND NETWORKS OY	WP7 leader, dissemination & communication manager

The Vision of Q-Rapids @ REFSQ'17

We are proud to inform that our first Q-Rapids article has been accepted for publication in REFSQ'17 – the 23rd International Working Conference on Requirements Engineering: Foundation for Software Quality, which will take place in Essen, Germany, on February 27th to March 2nd, 2017 (http://refsq.org/). Our article, entitled *"How Can Quality-Awareness Support Rapid software development? - A Research Preview"*, presents the vision of the Q-Rapids project. We argue that despite the numerous information sources related to product quality that the RSD process provides, there is lack of mechanisms to support a continuous quality management throughout the whole RSD process. Then, we introduce the Q-Rapids framework (Figure 1) as a solution that aims to increase software quality through continuous data gathering and analysis, as well as continuous management of quality requirements. We propose Q-Rapids as a data-driven, quality-aware RSD framework in which quality and functional requirements are managed together. Quality requirements are incrementally elicited and refined based on data gathered at both development time and runtime. A project, development and runtime data is aggregated

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into quality-related indicators to support decision makers in steering future development cycles. REFSQ'17 is a leading venue for presenting novel ideas and techniques that enhance the quality of RE's products and processes, reflections on current research and industrial RE practices, as well as new views on RE.
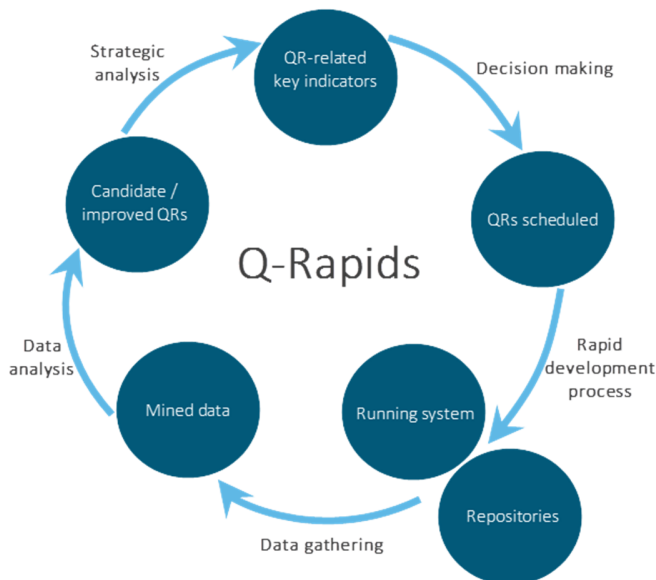

Figure 1. The Q-Rapids framework.

Software Quality Workshop @QRS'17

We are happy to announce the approval of the workshop on software quality that was submitted to the 2017 IEEE International Conference on Software Quality, Reliability and Security (QRS'17). The workshop is co-organized by Xavier Franch (Q-Rapids coordinator) and Barry Boehm from the University of Southern California, USA. Prof. Boehm is well-known in the software engineering community by his work on software economics, process models and software quality.

The workshop includes topics such as techniques to understand the effect of software quality interactions in the satisfaction of quality requirements, and data-driven discovery of software quality interactions. The organization of such workshops on topics related to Q-Rapids is a key instrument for discussing scientific progress and gathering useful insight.
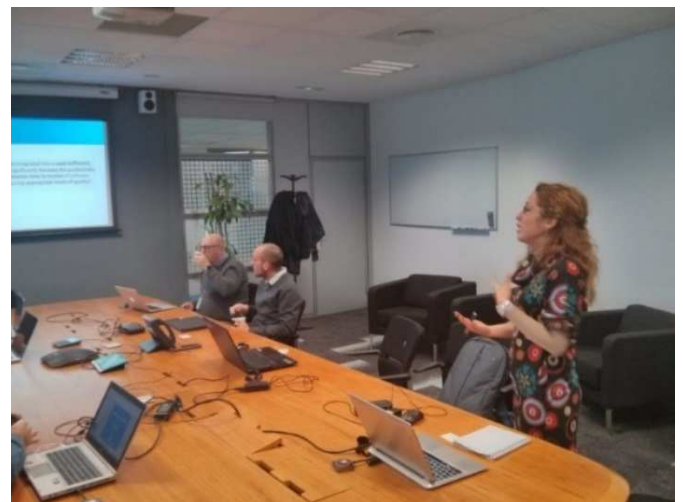
More information will be available at http://paris.utdallas.edu/cssrq17/. Please consider it in your agenda!

Presenting Q-Rapids to Computer Associates

On January 10th 2017, researchers from the Technical University of Catalunya (UPC), Claudia Ayala and Xavier Franch, visited Computer Associates Technologies in their premises in Barcelona, Spain. In the context of the meeting and to foster the industrial visibility of the Q-Rapids project, Claudia and Xavier provided an overview of the main goals of the project.

Although Q-Rapids is still in a very early stage, Victor Muntés-Mulero (Vice President of strategic research of CA Technologies) and Peter Matthews (Lead research scientist of strategic research), showed their interest in Q-Rapids and their willingness to collaborate and eventually experiment the developed Q-Rapids framework.

We expect to foster a fruitful collaboration with CA Technologies, stay tuned!

Follow Our Progress

This newsletter is an example how we plan to keep you posted on the project advances. It will be delivered quarterly. You may subscribe it now through our public website: http://www.q-rapids.eu/contact. You may reach us also through the following channels:

https://twitter.com/QRapids

https://www.linkedin.com/in/q-rapids

http://www.slideshare.net/QRapidsEUproject

https://www.youtube.com/

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