

Q-Rapids: an EU project for managing quality requirements in rapid software development

The Q-Rapids project, with an €5M of EU funding under the *Research and Innovation action from the Horizon 2020* program, kicked-off on November 2016. Partners from academia and IT companies are working together with the overall aim to release the Q-Rapids software platform, with associated methods and processes, fully available at October 2019.

Q-Rapids is framed in the context of software quality, which is an essential competitive factor for the success of software companies today. Q-Rapids wants to improve software quality management through the appropriate integration of requirements about quality aspects like security, performance and usability, in the software life-cycle. Current software development methodologies, including rapid software development processes, still provide limited support to the management of such quality requirements.

With the purpose of improving this situation, Q-Rapids defines an evidence-based, data-driven quality-aware rapid software development methodology. Q-Rapids will exploit data gathered from software repositories, project management tools, system usage and system quality of service. This data will be analysed and aggregated into quality-related key strategic indicators (related to aspects like faster time to market, risk mitigation or productivity increase) which will be presented to decision makers using a strategic dashboard supporting advanced treatments (what-if analysis, suggestion of mitigation actions, etc.). Quality requirements will be scheduled according to the result of such analysis.

The Q-Rapids consortium is composed by seven partners of five different European countries. The Universitat Politècnica de Catalunya (Spain) acts as project coordinator and shares the main research responsibilities with the University of Oulu (Finland) and the Fraunhofer Society for the Advancement of Applied Research (Germany). The industrial perspective is brought to the project by one large corporative (NOKIA, Finland), two mid-caps (SOFTEAM, France; BITTIUM, Finland) and one SME (ITTI, Poland), which provide different use cases to gather requirements and evaluate the results of the project:

- BITTIUM: Attaining holistic transparency in quality requirements over embedded software systems life cycle.
- SOFTEAM: Improving the quality of a long lifetime software product line (the MODELIO tool).
- ITTI: Reconciling improved quality checking process with a rapid releases approach.
- NOKIA: A process change for engineering quality requirements with focus on security.

As a result, it is expected that Q-Rapids will: 1) increase the levels of quality in software due to the thorough consideration of quality requirements in the life-cycle; 2) bring a significant productivity increase by analysing runtime data and software repositories and thus automating some aspects related to quality; 3) shorten time to market through the reduction of quality-related defects and better decision making in the planning of release cycles.

In order obtain more information or get in touch with the project consortium, please visit us on <http://www.q-rapids.eu>.

Please stay tuned through twitter at QRapids.

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