

An Introduction to the Fourth International Workshop on Requirements Engineering Visualization (REV'09)

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Abstract

The 4th international workshop in the Requirements Engineering Visualization (REV) series was held in conjunction with the 17th IEEE International Requirements Engineering Conference (RE'09). It comprised an invited presentation, six peer-reviewed technical research papers and structured discussion sessions. This extended abstract outlines the goals and structure of this annual series of workshops.

1. Motivation for REV

With the increasing complexity of software requirements, problems of traditional requirements engineering techniques, including the use of unstructured text and lists, are becoming increasingly apparent. Allowing a large amount of unstructured textual information with redundancy, these approaches typically suffer in understandability, scalability and analysis. Visualization techniques have long been used to overcome these problems in other fields. In the field of education, diagrams are regularly used to aid learning. In various classical engineering disciplines, visualization is used heavily in modeling and simulation. While software engineering has begun to follow in the footsteps of these disciplines with the emergence of model-based development techniques, visualization has largely been at the design level. The REV workshop series was established in 2006 to explore visualization techniques in the context of requirements engineering.

2. Themes of REV

There are many potential use cases of visualization in the context of requirements engineering. Visualization may improve the understanding of requirements by showing the overview, providing navigation facilities for incremental exploration, and by conveying a rich set of information through concise and intuitive syntax. Visualization may also allow the same set of

information to be viewed from different perspectives by customizing concepts and relationships according to stakeholder interests. This could promote collaborative development, and support the negotiation and prioritization of requirements, leading to a scalable methodology. Visualization may also facilitate the analysis of structured requirements, for example, by providing incremental guidance in formal verification. Visualization, as an intuitive practice, may facilitate requirements elicitation and analysis in many other innovative ways.

However, while innovation is admirable, practicality is almost always a necessity to be accepted. The fact that the software industry largely uses traditional requirements elicitation and analysis techniques suggests that practicality is a trait that is hard to achieve. Thus an important theme of the REV workshop series is to examine the practicality of visualization techniques.

3. Typical REV Topics

Typical topics of interest at REV include, but are certainly not limited to: visualization languages and techniques for requirements elicitation, analysis and specification; visualization languages and techniques for the formal verification and validation of requirements; visualization languages and techniques to facilitate the management and evolution of requirements; visualization support for existing requirements engineering techniques; heuristics and metrics for visualization.

4. The REV Format

The REV workshop series aims to provide a collaborative environment in which ideas related to the visualization of requirements, and ways of making them practical, are shared, reviewed and debated. It offers a forum that is used to identify future work, issues, problems and priorities, and to propose recommendations for future requirements engineering visualization research and practice.