

Reverse Engineering in Industry

(Panel Paper)

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Abstract—This extended abstract gives a description of the panel “Reverse Engineering in Industry” which forms part of the 20th Working Conference on Reverse Engineering (WCRE 2013).

ABOUT WCRE

The Working Conference on Reverse Engineering (WCRE) is the premier research conference on the theory and practice of recovering information from existing software and systems. WCRE explores innovative methods of extracting the many kinds of information that can be recovered from software, software engineering documents, and systems artifacts. WCRE examines innovative ways of using this information in system renovation and program understanding.

PANEL TOPIC

WCRE has a tradition of organizing an effective interaction between industry and research. In particular, an industrial keynote may be typically invited to represent the industrial point of view on software reverse engineering at the conference. Along these lines, WCRE 2013¹ features an extended panel² with excellent panelists from diverse areas of the software industry with key relevance for the conference topic.

The panel aims at a reflection of the *status quo* of software reverse engineering in industry, the relationship between *industry vs. research* in the reverse engineering context, the *adoption potential* for available reverse engineering knowledge, the actual or conceived relation between reverse engineering and other ‘*related*’ *paradigms* in software engineering, and finally, the diverse set of *industrial realities* that call for or impede software reverse engineering.

Software reverse engineering is typically defined as the process of analyzing a software system to create representations of the system at a higher level of abstraction. However, very much the same techniques that feed into such a process are also useful and readily used in other software engineering processes that do not focus on representations at a higher level of abstraction, rather software analysis may be used to inform complex software engineering processes (at all levels of abstraction) as in the case of software quality assurance, software migration, or enterprise transformation.

Perhaps, this panel will help in arriving at an updated, generalized definition of software reverse engineering.

PANEL QUESTIONNAIRE

The panel is centered around the following questions:

- **Status quo:** What forms of software reverse engineering are in use in industry in a significant manner? What are the use cases? What is the workflow? What are the tools? What are the stakeholders? What is the significance?
- **Industry vs. research:** How technically or methodologically advanced is software reverse engineering in industry when compared to the state of the art in research? Assuming that there is gap, how can it be explained?
- **Adoption potential:** What’s next with regard to adoption of software reverse engineering in industry? What are the underlying assumptions and the time frame? How could research help in realizing such adoption?
- **Related paradigms:** How does software reverse engineering integrate with and relate to paradigms such as quality assurance, model-driven engineering, and enterprise engineering/transformation?
- **Industrial realities:** What are those industrial realities that specifically call for reverse engineering or that actually impede it. Some factors that appear to be mentioned frequently are these: system complexity, software decay, standard software, modern platforms, advanced frameworks, technological diversity, organizational structures, and legal issues.

The WCRE community is encouraged to submit additional questions ahead of the panel.

PANEL FORMAT

The panel lasts for 90 minutes with 30 minutes or more being reserved for interaction with the audience. The panel begins with a short 3 minutes introduction by the moderator so that the panel questions and the panel format are explained. The panel continues with a round of the 4-5 panelists where each panelist’s statement is limited to 7-10 minutes. Most of the remaining time is spent on getting input from the audience in the form of questions or ultra-short (less than 1 minute) statements to which panelists respond as appropriate. The panel closes with a short round of the panelists for a final statement, if any.

EPILOGUE

The panel continues on the WCRE theme of connecting industry and research up to the point of supporting networking.

¹<http://wcre.wikidot.com/2013>

²<http://wcre.wikidot.com/2013:panel>