Bridging the Gaps Between Software Engineering and Human-Computer Interaction

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Abstract

The First International Workshop on the Relationships between Software Engineering and Human-Computer Interaction was held on May 3-4, 2003 as part of the 2003 International Conference on Software Engineering, in Portland, OR, U.S.A. This workshop was motivated by a perception among researchers, practitioners, and educators that the fields of Human-Computer Interaction and Software Engineering were largely ignoring each other and that they needed to work together more closely and to understand each other better. This paper describes the motivation, goals, organization, and outputs of the workshop.

1. Motivation

Almost half of the software in systems being developed today and thirty-seven to fifty percent of efforts throughout the software life cycle are related to the system’s user interface. For this reason problems and methods from the field of human-computer interaction (HCI) affect the overall process of software engineering (SE) tremendously, and vice versa.

Yet despite these powerful reasons to practice and apply effective SE and HCI methods there still exist major gaps of understanding both between suggested practice and how software is actually developed in industry. Similarly there exist major gaps of understanding between the best practices of each of the fields. The standard curricula for each field make little if any reference to the other field and certainly do not teach how to interact with the other field. There are major gaps of communication between HCI and SE: the architectures, processes, methods and vocabulary being used in each community are often foreign to the other community. As a result, product quality is not as high as it could be, and (avoidable) re-work is frequently necessary.

2. Goals

The theme of this workshop was to bring together educators, practitioners and academics in the two fields in an attempt to enumerate and understand these gaps of understanding and communication, with an eventual goal of proposing practical techniques—shared processes, shared architectures, shared notations, etc.—for bridging these gaps.

3. Participant Selection

Participants were invited to submit brief position papers (up to 8 pages) describing their views on the interactions, problems, and connections between SE and HCI and on any proposals that they had for improving these relationships in terms of research, practice, education, tools, methods and processes.

These papers were reviewed by the program committee. A maximum of 30 people were to be selected for participation in the workshop as a result of this process. 16 papers, of very high quality, were eventually accepted.

4. Program Committee

The program committee was drawn from an international community of experts in the areas of HCI and SE. It consisted of the following people:

Organizers:
- Len Bass (SEI/CMU, USA)
- Jan Bosch (U. of Groningen, The Netherlands)
- Rick Kazman (SEI/CMU and U. of Hawaii, USA)

Program Committee Members:
- Rémi Bastide (University of Toulouse 1, France)
5. Workshop Structure and Activities

Participation in the workshop was based on invitation. Invitations were extended to the authors of submitted position papers, all of which were presented during the course of the two days. A few other invitations were extended to individuals who expressed an interest in the learning more about the workshop topic, but who did not feel qualified to present a position.

All papers were distributed to the participants before the workshop started. The papers were grouped into panels and each presented paper was discussed by the other panel members and, of course, by the other members of the workshop.

During the first day, participants proposed issues to be discussed at the end of the day. During the second day in the morning we broke into working sub-groups and discussed the issues. In the afternoon we once again met in plenary to discuss our findings.

6. Workshop Outputs

The workshop led to a list of issues discussed, conclusions reached, disagreements identified, topics to be researched further, and an agenda for both research and advocacy.

All papers, commentaries, and discussion summaries were made available electronically at the workshop website at http://www.se-hci.org/bridging/ soon after the workshop.

The parent site, http://www.se-hci.org is the home page of IFIP Working Group 2.7/13.4. It exists, in part, to be a repository that highlights research and outstanding issues in areas that bridge the concerns of human-computer interaction and software engineering.