Eye Movements in Programming Education

Analyzing the expert's gaze

Workshop at the 13th KOLI CALLING INTERNATIONAL CONFERENCE ON COMPUTING EDUCATION RESEARCH

Joensuu, Finland, November 13th - November 14th, 2013

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Computer Science Education Research and Teaching mainly focus on writing code, while the reading skills are often taken for granted. Reading occurs in debugging, maintenance and the learning of programming languages. It provides the essential basis for comprehension. By analyzing behavioral data such as gaze during code reading processes, we explore this essential part of programming.
This first workshop gives participants an opportunity to get insights into code reading with eye movement data. However, as this data only reflects the low level behavioral processes, the challenge to tackle is how to make use of this data to infer higher order comprehension processes. We will take on this challenge by working on a coding scheme to analyze eye movement data of code reading. The links between low and high level behaviors will help computing science educators to design, realize and reflect on the teaching of code reading skills.
Furthermore, we aim to open discussion about the ways of explicit teaching of readership skills in computing education. Therefore we will discuss the role of reading skills in teaching programming, facilitated by position papers of each participant.

To participate send a mail to teresa.busjahn@fu-berlin.de. It is possible to participate independent of attending Koli Calling. Participants will get eye movement data of reading and comprehension processes of expert programmers, and a coding scheme for annotating the process. You will annotate the video, and reflect on the (perceived) intentions behind the visible pattern. Applying and refining the coding scheme on the data gives insight into the higher order comprehension strategies of the reader.
A short individual reflection and position paper of the results and perspectives for teaching programming is required by the participants [max. 2-3 pages]. As a result, participants will jointly prepare a paper with the data and the refined coding scheme.

IMPORTANT DATES

- Making data and tools available for participants, as well as instructions for coding and position paper: beginning of September 2013
- Deadline for submissions: October 7, 2013
- Notification of acceptance: October 14, 2013
- Workshop: November 13th (evening) – November 14th

Visit www.mi.fu-berlin.de/en/inf/groups/ag-ddi/Gaze_Workshop/ for details.