User Centred Evaluation in Experimental and Practical Settings

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Abstract

The objective of this thesis is to obtain knowledge regarding how effective user centred evaluation methods are and how user centred evaluations are conducted by IT professionals. This will be achieved by exploring user centred evaluation in experimental and practical settings. The knowledge gained in these studies should inspire suggestions for further research and suggestions for improvements on the user centred evaluation activity.

Two experimental studies were conducted. One compares the results from using three user centred evaluation methods, and the other examines two factors while conducting heuristic evaluation. The results show that the think-aloud evaluation method was the most effective method in finding realistic usability problems of the three methods. The number of critical problems found during think-aloud evaluation increases, if heuristic evaluation is conducted prior to the think-aloud evaluations.

Further, two studies of user centred evaluation in practical settings were performed. The IT professionals participating in those studies were using the software development process Scrum to plan their work. The results show that user centred evaluation is infrequently conducted in Scrum projects, compared to testing activities like acceptance testing. The main type of evaluation is qualitative. Few participants measure user performance or use surveys to gather quantitative results on the usability and the user experience. IT professionals get feedback from users in an informal way and gather informal feedback from peers. Many participants use a mixture of methods for gathering feedback on their work.

The outcome of this thesis shows that IT professionals should be encouraged to include users whenever possible when evaluating software, for example by using the think-aloud method. Using heuristic evaluation prior to conducting think-aloud evaluations is also recommended. In addition, IT professionals are encouraged to evaluate their software in an informal way frequently, rather than waiting for the right time to conduct a thorough quantitative evaluation.

To advance this field further, researchers who want to improve the evaluation activity for the IT professionals should study how user centred evaluation methods could be combined in an efficient way and how the use of qualitative evaluation methods could be made more effective.

Keywords
User centred evaluation, Scrum, evaluation methods, agile software development