

Preface

During November 22–27, 2015, a seminar entitled “Evaluation in the Crowd: Crowdsourcing and Human-Centred Experiments” (no. 15481) took place at the International Conference and Research Centre for Computer Science, Dagstuhl Castle, Germany. The centre was founded by the German government to promote computer science research at an international level and quickly became established as a world-leading meeting centre for informatics research. It seeks to foster dialog within the research community, to advance academic education and professional development, and to transfer knowledge between academia and industry.

Human-centred empirical evaluations play an important role in the fields of human-computer interaction, visualisation, graphics, multimedia, and psychology. Researchers in these areas often involve users in their research to measure the performance of a system with respect to user comprehension or the perceived quality or usability of a system. A popular and scientifically rigorous method for assessing this performance or subjective quality is through formal experimentation, where participants are asked to perform tasks on visual representations and their performance is measured quantitatively (often through response time and errors). When evaluating user perceived quality, users undertake tasks using the system under investigation or complete user surveys. Other scientific areas like psychology use similar tests or user surveys. A common approach is to conduct such empirical evaluations in a laboratory, often with the experimenter present, allowing for the controlled collection of quantitative and qualitative data.

The advent of crowdsourcing platforms, such as Amazon Mechanical Turk or Microworkers, has provided a revolutionary methodology to conduct human-centred experiments. Through such platforms, experiments can now collect data from hundreds, even thousands, of participants from a diverse user community over a matter of weeks, greatly increasing the ease with which we can collect data as well as the power and generalisability of experimental results. However, when running experiments on these platforms, it is hard to ensure that participants are actively engaging with the experiment, and experimental controls are difficult to implement. Also, qualitative data is difficult, if not impossible, to collect as the experimenter is not present in the room to conduct an exit survey. Finally, the ethics behind running such experiments require further consideration. When we post a job on a crowdsourcing platform, it is often easy to forget that people are completing the job for us on the other side of the machine.

The focus of this Dagstuhl seminar was to discuss experiences and methodological considerations when using crowdsourcing platforms to run human-centred experiments to test the effectiveness of visual representations. We primarily target members of the human-computer interaction, visualisation, and quality-of-experience research communities as these communities often engage in human-centred experimental methodologies and have already deployed crowdsourcing experiments. We also engaged researchers who study the technology that makes crowdsourcing possible. Finally,

researchers from psychology, social science and computer science who study the crowdsourcing community brought another perspective on this topic.

The inspiring Dagstuhl atmosphere fostered discussions and brought together the researchers from the different research directions. This book is an output of Dagstuhl Seminar no. 15481, and will provide information on (1) crowdsourcing technology and experimental methodologies, (2) comparisons between crowdsourcing and lab experiments, (3) the use of crowdsourcing for visualisation, psychology, QoE and HCI empirical studies, and (4) the nature of crowdworkers and their work, their motivation and demographic background, as well as the relationships among people forming the crowdsourcing community.

We would like to thank all participants of the seminar for the lively discussions and contributions during the seminar. The abstracts and presentation slides can be found on the Dagstuhl website for this seminar¹ and an online document reports on all activities during the seminar². We are grateful to all the authors for their valuable time and contributions to the book. The seminar and this book would not have been possible without the great help of the Schloss Dagstuhl team. We would like to thank all of them for their assistance.

Last but not least, we would like to thank John Hamer for his help in editing and polishing the final version of the book.

May 2017

Daniel Archambault
Helen C. Purchase
Tobias Hoßfeld

¹ Dagstuhl seminar website: <http://www.dagstuhl.de/15481>.

² Report of the Dagstuhl seminar: <http://dx.doi.org/10.4230/DagRep.5.11.103>.

Evaluation in the Crowd. Crowdsourcing and
Human-Centered Experiments

Dagstuhl Seminar 15481, Dagstuhl Castle, Germany,

November 22 – 27, 2015, Revised Contributions

Archambault, D.; Purchase, H.; Hossfeld, T. (Eds.)

2017, VII, 191 p. 15 illus., Softcover

ISBN: 978-3-319-66434-7