

Springer Quality and User Experience Journal - Topic Collection:

# **"Crowdsourced and Remote User Studies for Quality of Experience and Usability Research"**

## Motivation and Objectives

Laboratory studies are an established and essential tool for Quality of Experience (QoE) and User Experience (UX) research. However, they required well-equipped test rooms built following international standards and personnel for the supervision of the test participants. Therefore, they are often cost- and time-intensive. Further, the number of test candidates is often limited due to the sparse laboratory space and the need for participants to be physically present in the test environment. In the last 1,5 years, the COVID-19 pandemic has resulted in more significant challenges to conduct laboratory studies by increasing the organizational overhead and limiting potential participants.

Two possibilities to overcome the current situation are crowdsourcing and remote user studies. Microtask crowdsourcing has been successfully used for QoE and UX research in the past years. It offers a faster, cheaper, and more scalable approach compared to laboratory tests. It may also provide a more ecological valid environment for the experiment but come at the cost of less control compared to a laboratory test. Researchers developed best practices to quickly collect a large number of subjective ratings from a diverse set of participants and applied the crowdsourcing approach in many domains of QoE research. Some of the main challenges are ensuring the suitability of the test environment/system, eligibility of participants, and controlling the reliability of responses in the absence of a test moderator.

Other potential possibilities that have not drawn much attention in the past years are supervised or unsupervised individual remote test procedures. They can be viewed as a hybrid-procedure of crowdsourcing and traditional laboratory environments. While the tests are still conducted online, the participants are not anonymous but pre-registered participants who might even be guided via a chat or video conferencing system. Such an approach can benefit from the broader reach of the online study while diminishing the challenges of a completely anonymous and unsupervised/untrusted setting.

In this context, the topic collection aims to foster contributions concerning optimizing and designing crowdsourced subjective studies for QoE and UX research. In addition, another motivation is to raise awareness and promote new research directions with respect to crowdsourcing and remote evaluations of QoE and UX. The topic collection encourages researchers to submit works on how to apply best practices from crowdsourcing studies in

the context of remote user studies, with non-anonymous test takers and vice versa. Also, works on shared best practices or summarized experiences based on multiple studies are very welcome.

The topic collection also accepts submissions that extend and enhance previous published conference and workshop papers. In such scenarios, the submission should clearly state that it is an extended version of a published paper, cite the previously published work, and contain at least 40% new content.

# Specific Topics of Interest

- Crowdsourcing for quantitative and qualitative subjective studies
  - Novel applications
  - Limitations of current crowdsourcing systems
  - Quality control mechanism and reliability metrics
  - Large scale crowdsourcing studies and diversity of participants
  - New subjective test methodologies
- Reproducibility of results
  - Reproducibility and cross-platform studies
  - Assessment of hidden influence factors / Impact of hidden influence factors
  - Bias estimation and bias reduction
  - Automation and workflows
  - Standardization of crowdsourcing test methods
- Usability and User Experience of crowdsourcing tasks
  - Optimization of task designs, interfaces, and workflows
  - Relation to result quality and worker motivation
  - Enhancing workers' UX (e.g., by means of gamification of tasks)
  - Quality of complex crowdsourcing workflows (e.g., combination of AI and Crowds)
- Interconnection of test concepts
  - Studies comparing results from lab, crowdsourcing, and/or remote testing
  - Adaptations of established test standards to the crowdsourcing or remote testing environments
  - Benefits of outside of the lab tests
- Remote user studies
  - Supervised remote user studies
  - Remote studies with non-anonymous users
  - Best practices for remote user studies
- Shared best practices
  - Impact of the COVID-19 pandemic on the design and performing user studies
  - Lesson learned from multiple studies
  - Lessons learned from combined remote, crowdsourcing, and/or lab studies

# Proposed Time Schedule

We expect submission from 01.01.2022 until 30.06.2022. On paper submission the following process/timeline will be triggered:

- First-round review decisions: 2 months
- Deadline for revision submissions: 6 weeks
- Notification of final decisions: 2 months
- Camera-ready Manuscript: 1 month

Example for latest possible submission:

- Submission deadline: 30.06.2022
- First-round review decisions: 30.08.2022
- Deadline for revision submissions: 15.10.2022
- Notification of final decisions: 15.12.2022
- Camera-ready Manuscript: 15.01.2023

# Contact Information for the Guest Editors

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# Short Biography of the Special Session Organizers

**Matthias Hirth** studied computer science at the University of Würzburg and received his Diploma in 2009. Since 2010, he has been working at the Chair of Communication Systems at the University of Würzburg where he was heading the research group on Future Internet Applications & Overlays since 2014. In 2016, Matthias Hirth finished this PhD on modelling and optimization of crowdsourcing platforms and mechanisms for crowdsourcing. Since 2019, he is junior-professor with tenure-track at the TU Ilmenau and heading the group on User-centric Analysis of Multimedia Data. His main research interests cover mechanisms, methodologies, and applications for crowdsourcing, as well as the subjective evaluation of web-based applications, business applications, and games. Since 2018, he is leading the Qualinet taskforce on Crowdsourcing together with Babak Naderi.

**Babak Naderi** is a senior research scientist in the Quality and Usability Lab, Technical University of Berlin. He obtained his PhD on the basis of his thesis about analyzing Crowdsourcing platforms in September 2017. His research interests are crowdsourcing, crowd working, subjective (speech) quality assessment, gamification and text complexity analysis. Since 2016, he has been a co-leader of the Qualinet taskforce on Crowdsourcing. Babak is also actively contributing in standardization activities of ITU-T Study Group 12, which led to work items and recommendations on conducting subjective media quality assessment using crowdsourcing approach.

**Niall Murray** is a lecturer & researcher with the Faculty of Engineering and Informatics, in the Athlone Institute of Technology (AIT), Ireland. He is founder (in 2014) and principal investigator (PI) in the truly Immersive and Interactive Multimedia Experiences (tIIMEx) research group in AIT. He is a Science Foundation Ireland (SFI) Funded Investigator (FI) in the Confirm Centre for Smart Manufacturing and an FI in the SFI Adapt Centre for AI enabled Digital Content. He is an associate PI on the Enterprise Ireland funded Technology Gateway COMAND. His current research interests include immersive and multisensory multimedia communication and applications, multimedia signal processing, quality of experience, and wearable sensor systems. Further information available at: [www.niallmurray.info](http://www.niallmurray.info)

**Kjell Brunnström** (Adjunct Prof.) is a Senior Scientist at RISE Research Institutes of Sweden AB and Adjunct Professor at Mid Sweden University. He is an expert in image processing, computer vision, visual perception and video quality assessment having worked in the area for more than 30 years, including work in Sweden, Japan and UK. Currently, he is leading standardisation activities for video quality measurements as Co-chair of the Video Quality Experts Group (VQEG). His research interests are in QoE for visual media in particular video quality assessment for 2D,3D and immersive media, as well as display quality related to TCO Certified. He is associate editor of the journal of Signal Processing: Image Communication and has written many articles in international peer-reviewed scientific journals and conference papers (> 100).