Evaluating HCI Research beyond Usability

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Abstract

Evaluating research artefacts is an important step to showcase the validity of a chosen approach. The CHI community has developed and agreed upon a large variety of evaluation methods for HCI research; however, sometimes those methods are not applicable or not sufficient. This is especially the case when the contribution lies within the context of the application area, such as for research in sustainable HCI, HCI for development, or design fiction and futures studies. In this SIG, we invite the CHI community to share their insights from projects that encountered problems in evaluating research and aim to discuss solutions for this difficult topic. We invite researchers from all areas of HCI research who are interested to engage in a debate of issues in the process of validating research artefacts.

Author Keywords

Evaluation; Research Methods; Validation; Sustainable HCI; HCI4D; Design Fiction; Futures Studies.

ACM Classification Keywords

H.5.2 Information interfaces and presentation (e.g., HCI): User interfaces—Evaluation/methodology.

Introduction

Due to the interdisciplinary nature of the field, research in HCI often engages with problems of and develops solutions for various application domains. Some of those domains have spawned vibrant subdomains of research within the CHI community, such as sustainable HCI (SHCI) or HCI for development (HCI4D) [9]. Research in those domains is subject to the same review process that asks to validate proposed solutions to identified problems, but this often proves to be a difficult task for a variety of reasons: the established evaluation methods that focus on evaluating the usability of an HCI research artefact do not apply; engaging with the target audience and environment which the artefact was designed for might be challenging; the artefact might not be mature enough for a formal evaluation or is subject to a future context that does not exist yet.

In this SIG, we aim to start an active and open-ended debate within the HCI community how to solve those evaluation challenges. We find motivation in recent efforts to identify solutions addressing this issue, such as in sustainable HCI [10, 12, 13, 20] or information visualization [3]. However, this SIG is not limited to one particular application area and the evaluation thereof; we welcome any CHI attendee who has encountered such evaluation challenges in their own research or who is interested in discussing the issue on a broader scope. Our goal is to establish a common ground within the community, formulate a concrete problem statement, and identify avenues for future research how to solve issues in evaluating HCI research. To this end, we envision an engaged and active discussion with all participants and aim to follow up on this SIG's topic after its conclusion.

Background

In the traditional usability process, evaluation is an important step to check whether or not an implemented solution addresses the requirements and needs of users [e.g., 6, 11]. While there is a large collection of methodologies and established processes within the realm of HCI [e.g., 2, 7, 14, 17] those methods focus on evaluating the usability aspect of the solution. Those evaluation methods evolved over time and have been revisited or debated in the past [e.g., 1, 4]. For solutions addressing HCI research problems that require a validation beyond traditional usability metrics, such a repository of knowledge does not (yet) exist.

In addition to the goals being different to usability, other circumstances such as unknown future context of use [e.g., 15] or ambiguity of evaluating certain metrics, such as sustainability [19] further complicate the evaluation process. In the field of sustainable HCI the community decided that a one-size-fits-all approach is not possible [18] and the evaluation process should be developed on a per-project basis; however, this puts the burden entirely on the researcher and severely hampers acceptance of novel research in the peer review process as the evaluation method itself is not an established one. This issue has also been subject of debate in other disciplines such as design fiction [8], information visualization [3], or action research [5].

Agenda

We invite researchers from all areas of HCI to join us in this SIG to debate about evaluation issues for HCI research projects that go beyond traditional usability contributions. Following a brief introduction into the problem space and examples by the organizers to provoke thoughts of the attendees, we want everyone

to engage in an open-ended discussion, reporting on similar stories of problems in past research projects or ideas for solutions. While the organizers' common background is in sustainability and we lean on ideas from recent efforts to solve this issue [10, 12, 15] we will not limit our discussion to this application area, as the evaluation issue permeates other research domains at CHI as well. We aim to conclude the SIG with avenues to go forward and identify potential solutions that can be applied to practice in future projects or be subject of more nuanced debate in future workshops.

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