Evaluating the success of applications from a summative perspective is essential to many industry researchers’ roles, yet a thorough understanding of what to measure and how to bridge business frameworks remains elusive. New technologies and novel ways of interacting with applications have garnered domain-specific interest in the evaluation of these experiences, but there is yet to be clarity or a path forward for a general methodological approach. While experience outcomes, UX OKRs, UX metrics, etc. are essential elements in HCI research and design, it has not become a core topic in HCI courses. This workshop is intended to address this gap by bringing together academics and industry researchers involved in the measurement of success around large-scale applications – applications with a large user base. The objective of this workshop will be to engage in stimulating discussions around current evaluative experiences, how we move forward to produce useful and unified updates to this space, and a plan to do so. The workshop will specifically look at the value of writing a State of the Union paper, developing a community (e.g., SIG), and exploring education and training opportunities around this topic.

CCS CONCEPTS • Human-centered computing • Human computer interaction • HCI design and evaluation methods

Additional Keywords and Phrases: Summative research, Experience outcomes, KPIs, UX metrics, UX health, OKRs, UX outcomes, user-centered metrics
1 BACKGROUND

Measuring the success of large-scale applications from a summative perspective is a critical part of many HCI/UX research teams’ objectives. Large-scale applications offer the ability to collect data from a large user base and thus enable the collection of large volumes of behavioral data. The collection of such data is important as it can be leveraged in different and unique ways that smaller usability sample sizes cannot. When discussing UX metrics, experience outcomes, UX OKRs and general UX health, we are referring to the broadest possible view of UX. This includes social constructs like trust, credibility, value, diversity, and inclusion, etc., in addition to more traditional constructs like satisfaction, usability, engagement, ease of use, and usefulness. In our perspective, these metrics could be described as UX, user-centered or HCI-focused with the importance being that they measure the human experience and not business outcomes.

This space has introduced significant and common challenges that include, but are not limited to, how to select metrics that truly measure your users’ experience (e.g., not business outcomes, but experience outcomes), how to capture the data (e.g., which mechanisms to use for which metrics and their user interactions), what is the cadence for collecting the data, how to store the data (e.g., GDPR – data privacy and security laws required to follow by organizations around the world), how you govern the data, how you use the data to influence product (getting from insights to action), how to navigate social and cultural challenges (e.g., getting buy-in to your well-crafted experience outcomes), how to track meaningful data over time, and how to ensure consistency in sampling and when capturing data (e.g., variations in product and usage both between products in the same company and across companies). Moreover, additional challenges often arise when getting buy-in from organizations that tend to focus primarily on fiscal health (e.g., revenue and subscriptions) rather than human-centric outcomes (e.g., improving users’ experiences). As such, researchers need to establish a general methodological approach to measure user impact and to communicate its long-term value and UX success achieved.

Over the last several years, this complex problem space has had little advancement within the HCI space. Instead, there has been a trend to focus on specific contexts and domains (e.g., mixed reality [1], disabled children [3], aging populations [8], and surgery [2]). This leaves general foundational works, situated almost ten years ago, as the primary contributions to this space (e.g., [4][6][7]). Further, these foundational works focus primarily on selecting metrics and methods for collecting data. They do not discuss several challenges mentioned above (e.g., socializing, aligning with business metrics, and current organization culture). There is one exception to this trend, a case study by Hillman et al. [5] published in CHI 2022. This case study is authored by two of the workshop organizers and discusses the process employed and the lessons learned while designing and implementing a user-centered in-product feedback system within a family of large-scale applications. The paper identified challenges and opportunities around aligning with business outcomes, navigating current frameworks, unlocking self-serve data [9] to stakeholders, informing strategy, and feeding additional research [5]. We see this workshop as an extension to the Hillman et al. [5] case study, where we will explore others’ academic and industry lived experiences of mapping experiences to metrics, reflecting on the nuances and complexities, and the knowledge gained.

With the above gap identified and using the past case study as a guide, we see this topic well positioned for a coordinated and focused effort to bring new insight and direction. The proposed workshop will bring practitioners and academics together to discuss the status, challenges, and successes and forge a common direction forward in this space.
Bringing together such a group will enable stimulating discussions to clarify current challenges and understand real opportunities in both academia and industry, leading to actionable, useful results.

2 BENEFITS TO THE COMMUNITY

This workshop offers several benefits to the CSCW community. Primarily, we see an opportunity for healthy and future-focused conversations between academic and practitioner communities around this space that needs strong alignment and forward movement. Secondarily, we see strong potential to explore new ways of overcoming the challenges mentioned above by coming together as a community rather than trying to solve them in silos. Further, we recognize that the value of new methods and approaches to evaluation is determined not only by the strength of their theoretical underpinnings but also by their practical applicability.

3 WORKSHOP GOALS

We intend to bring academic and industry researchers together reflecting on the workshop participants’ diversity of perspectives and challenges around experiences, such as engaging with business frameworks like OKRs, as well as establishing and socializing UX metrics. We also have a goal to create an ongoing community. This would involve evaluating the need for a Special Interest Group (SIG) for ongoing collaboration and contribution to the space, publishing findings from the workshop, and looking to establish education and training opportunities through HCI courses. To foster a community on this topic, we will ask participants to provide preferred methods of communication (e.g., email/Slack/social media). Our workshop goals are purposely broad to reflect the widespread challenges faced by evaluators and to attract a wider group of practitioners and researchers.

4 PARTICIPATION, INCLUSIVITY & ACCESSIBILITY

As we prioritize diversity and inclusion within our workshop, we will design a strong hybrid experience. This will include efforts to both passively collect applications for participation (e.g., via the CSCW 2023 workshop webpage, CSCW 2023 social media) and proactively seek out representation by directly contacting potential participants. We aim to include both experts and those less-experienced researchers with an interest in evolving the space. The former may not have current experience in the space but will be screened for high enthusiasm for shaping its future direction and a strong indication of applying the findings. Thus, potential participants may include academics, industry researchers, professors, artists, graduate students, designers, data scientists, developers, project managers, etc. During the workshop, the virtual audience will be supported by one of the organizers dedicated to facilitating strong communication between the environments.

For accessibility, we will be following the McGill guidelines [10] around accessible workshop design. For example, we will ask participants for feedback on accessibility both before and after the workshop, provide a clear agenda and goals in the pre-package, schedule breaks every 2 hours, offer a hybrid workshop design, and include closed captioning.

We believe the above efforts will allow us to bring strong representation from academic and industry professionals and to provide an inclusive, safe space for sharing and action. To attend the workshop, participants will be required to complete all pre-activities detailed below.
5 PRE-WORKSHOP & WEBSITE

To participate in the workshop, a 2–4-page position paper will be required. After acceptance, participants will be asked to review all selected position papers before the workshop and complete an activity sheet to help jumpstart workshop activities during the workshop. These three requirements are listed below with additional details and deadlines:

1. Call for proposal live on our workshop website: July 6th
   The website will display the goals, structure, and expectations of the workshop outlined in this document. We will ensure all important information is not represented in images, and we will follow color contrast guidelines.

2. Participant position papers: Due August 15th; notification of acceptance September 10th
   To be accepted into the workshop, interested participants will be asked to submit a 2–4 page position paper. They will be asked to reflect on their involvement in the space, past experiments and learnings, the successes they have achieved, the challenges they have faced so far, and their objectives or plans for future initiatives. The following prompts will be given to help guide position papers; however, there is no requirement to answer them:
   - What has been your experience measuring and evaluating the summative success of large-scale applications?
   - What was your involvement in the process? Who else was involved, and how?
   - What challenges have you faced? If you did address them, how did you address them?
   - How would you describe the journey you undertake to identify the metrics you use to evaluate the UX of your products or services?
   - How would you describe the journey you have undertaken to socialize your UX health metrics and/or the process of implementing them with business metrics?
   - Have you explored unlocking self-serve data to stakeholders? If so, how? If not, why not?
   - If you completed the process, what has transpired after implementation?

   While we recognize that the term “large-scale” can be subjective, we encourage participants to determine if different applications apply based on the varying domains and industries and the volume required to measure UX outcomes. We also look forward to exploring the “large-scale” definition within the workshop and encourage the participation of all definitions of “large-scale”.

   Submissions will be reviewed based on quality, originality, and potential contribution to achieving the workshop goals. The submissions will be reviewed by the Workshop Organizers as well as the Program Committee (see list of PC members below).

3. Pre-workshop package: Distributed on September 15th; participants complete and submit by October 10th
   Accepted papers distributed to participants with detailed expectations around reviewing before completing the activity sheet.
   - Completion of activity sheet (see appendix for the draft)
   - Accessibility statement requesting accessibility feedback

6 WORKSHOP STRUCTURE

The day of the workshop will be divided into five sections. These sections will be shared with attendees within the workshop package. Asynchronous support is also identified below. These sections include:

   1. Introduction
   2. Presentation of position papers
3. Define objectives & discuss frameworks
4. Understanding & framing bigger problems
5. Identify and plan the next steps

See Appendix for draft of detailed overview of these five sections.

7 OUTCOMES & CONCLUSIONS

While the exact outcomes and conclusions will be dependent on details collected during the workshop, there are several potential outcomes we expect and will design the conversations to drive towards. As mentioned above, we intend to evaluate the need for the formation of an Experience Outcomes Special Interest Group, to focus on the broader idea of what experiences mean and how we evaluate them, as well as to establish clear communication lines in developing a community of practice. Fostering this newly formed community will be our primary outcome.

Second, we will identify potential authors to publish the findings from the workshop in a “State of the Union” paper. These goals will be mentioned in the call for proposal, within the introduction, and then an action plan will be derived in Section 5: Identify and plan for the next steps. Content for the State of the Union paper will be captured and discussed in Sections 3 and 4, as well as the pre-workshop package activity as a primer. This paper will focus on describing the current challenges, success, and discussion around future research the community has identified as the next steps.

Finally, we see an opportunity to explore education and training around this topic as both a workshop outcome and a long-term outcome of these efforts. For example, how do we train industry researchers who need to understand collecting and activating data around these topics? How can students learn how to understand and analyze these complex datasets in the context of a classroom setting?

In summary, our workshop has five concrete outcomes:

1. Identify potential authors to publish the findings from the workshop as a State of the Union Paper.
2. Evaluate the need for the formation of an Experience Outcomes SIG.
3. Establish clear communication lines for the development of this community of practice.
4. Identify interested community members for long-term interest in the space.
5. Explore education and training opportunities around this topic.

Sharing these goals, objectives, and schedules will also be within the pre-workshop package, so participants have clarity on the workshop’s purpose.

8 ORGANIZERS

Workshop organizers have helped architect this proposal, plan the workshop, and will help run the workshop either remotely or on-site at CSCW.

Dr. Serena Hillman (she/her) is currently a Senior Research Manager at Microsoft, where she supports a team of researchers who help drive the future of data and analytics services and applications such as Power BI, and Azure’s data warehousing and analytics products. Her research has spanned analytics applications, video games, social computing, e-commerce, and educational technologies – all of which involved large-scale applications and the measurement of experience outcomes.
**Samira Jain** (she/her) is currently a researcher with Microsoft’s Data Cloud Studio, focusing on large-scale data analytics services and tools. Before moving to Seattle, she lived in seven different cities across the U.S. and India, consulting on various design and research challenges across various industries. For the past three years, she has been helping drive the implementation of a large-scale in-product feedback system across Azure Data products and services.

**Dr. Craig MacDonald** (he/him) is an Associate Professor in the School of Information at Pratt Institute, where he developed the Master of Science in Information Experience Design program and directs the Center for Digital Experiences, a student-driven, faculty-led UX consultancy, and academic research lab. His research focuses on building organizational UX capacity in practical settings, strengthening HCI/UX education, and building a community of practice for HCI educators.

**Dr. Elizabeth Churchill** is a Director of UX at Google. With a background in psychology, Artificial Intelligence, and Cognitive Science, she draws on social, computer, engineering, and data sciences to create innovative end-user applications and services. She has built UX teams at Google, eBay, Yahoo, PARC, and FujiXerox. Her current focus is on the design of effective developer tooling.

**Dr. Carolyn Pang** (she/her) is a Senior Researcher with Oracle and brings over 15 years of experience working with enterprise resource planning (ERP) systems, including Oracle and SAP products. Her research has spanned social and urban computing, with a focus on building experiences that foster connection and a sense of community amongst large user bases in digital cities.

**Dr. Jofish Kaye** is Senior Director of User Research & Interaction Design at Carelon Digital Platforms, part of Elevance Health, formerly Anthem.ai. He runs teams that focus on building better tools to empower doctors, clinicians, and patients to manage their healthcare, and draw insights from large health datasets.

**Dr. Erick Oduor** is the Vice President of UX at the User Strategy Group in Toronto, Canada. He focuses on understanding the social practices around technology use through interdisciplinary research. Erick previously worked at IBM Research and has also published several research papers on healthcare, financial inclusion, and AI for Information and Communication Technology for Development (ICTD).

**9 PROGRAM COMMITTEE**

In addition to the main group of workshop organizers, we have also engaged a group of experts to help shape the workshop program as members of the program committee (PC). The PC includes representatives from both academia and industry and each member brings deep expertise or experience in one or more areas relevant to our workshop topic. In addition to helping the organizers build the final workshop program, PC members will also be involved in promoting the workshop as they see fit (e.g., via their professional networks and soliciting submissions).

**Dr. Carman Neustaedter** (he/him) is the Dean of the Faculty of Communication, Art, and Technology (FCAT) and Professor in the School of Interactive Arts and Technology at Simon Fraser University. He has collaborated with more than twenty organizations - including small to large companies, municipal governments, and community organizations - with an emphasis on technology evaluation.
Dr. Barry Brown is a research professor at the University of Stockholm, where he helps to run STIR: the Stockholm technology and interaction research group. He is also a Professor at Copenhagen University, within the HCC group. He has published over 100 papers in human computer interaction and social science forums, along with five ACM best paper nominations, one ACM best paper award, and a recent 10-year impact award from the Ubicomp conference.

Dr. Mark Hancock (he/him) is the Interim Chair and Professor in the Department of Management Sciences at the University of Waterloo. He recently developed and taught a new course on Analytics and User Experience and evaluates technology through the collection of large-scale data frequently in his own research.

Dr. Mark Schlager (he/him) is a Staff UX Researcher on the Google Fitbit UX team. His work spans health activities, metrics, and privacy for aging adults, informal caregivers, and parents. Before finding a home in industry, Mark spent several years at the SRI International Center for Technology in Learning, leading NSF-funded grants on technologies for teachers and teacher educators.

Dr. Dongwook Yoon (he/him) is an Assistant Professor at the Department of Computer Science, University of British Columbia, and a member of Designing for People (DFP) and CAIDA. His overarching goal is to make computer-mediated social interactions richer, more inclusive, and more humane.

Angela Moulden is the Director of UX Research for Google Assistant. She brings people and insights together to build partnerships and develop successful product experiences. Prior to Google, she led research for Microsoft’s Digital Transformation Platform Group: Dynamics 365, Power Platform, AI, Product Insights, and Mixed Reality at Work.

Dr. Kostas Kazakos (he/him) is the UXR Lead for Identity Verification in Google Payments Platform. His work focuses on ensuring we are building the right set of identity verification-related experiences for users as they navigate within the Google ecosystem.

Dr. Jessica Tran (she/her) is a Staff Human Factors Engineer at Apple. Her Ph.D. is at the intersection of electrical and computer engineering, HCI, and accessibility from the University of Washington, Seattle.

Devesh Desai is a Director of Design Research at Oracle where he reframes user understanding into business opportunities. He leads an interdisciplinary team of researchers that translates users' words, keystrokes, clicks and actions into meaningful stories.

Eric Liu (he/him) is currently a Staff UX Researcher at Meta. He has a Master’s Degree in Information Studies from UT Austin. Over the last 10 years, he has measured UX success at companies like Microsoft, AT&T, and IBM.

10 REFERENCES


APPENDIX

A. Call for Participation

Are you implementing, or trying to implement, the evaluation of large-scale applications against user-centered outcomes? Join us at CSCW to discuss Understanding and Evaluating UX Outcomes at Scale and build a plan to drive direction in this space. Share your challenges and successes.

To Attend

Applicants will submit a 2–4-page position paper (including references) in the single-column ACM Master Article Submission Template. Papers can discuss past work, propose future work, and/or raise new ideas. We are looking for both experienced researchers in the space as well as those interested in developing the direction. You can reflect on your involvement around past experiments and learnings, the successes achieved, challenges faced so far, interest in the space, and/or objectives or plans for future initiatives. For prompts, refer to Section 5 of the workshop proposal. At least one author of each paper must attend the workshop virtually or in person. Acceptance will be based on quality, relevance, and diversity. We hope accepted papers will collectively represent a diverse set of perspectives, domains, and methods.

**Key Workshop Details**

<table>
<thead>
<tr>
<th>Date/Time:</th>
<th>TBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshop format:</td>
<td>Hybrid</td>
</tr>
<tr>
<td>Duration:</td>
<td>1 day</td>
</tr>
<tr>
<td>Workshop proposal link:</td>
<td>uxoutco.me/call-for-proposal</td>
</tr>
<tr>
<td>Workshop website:</td>
<td>uxoutco.me</td>
</tr>
<tr>
<td>Questions/Submission:</td>
<td>Email: TBD</td>
</tr>
<tr>
<td>Submission deadline:</td>
<td>August 15th, 2023 (anywhere in the world)</td>
</tr>
<tr>
<td>Notification:</td>
<td>September 10th, 2023</td>
</tr>
</tbody>
</table>
Key Workshop Details

<table>
<thead>
<tr>
<th>Max # of Participants</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment required</td>
<td>WiFi, Projector</td>
</tr>
</tbody>
</table>

B. Pre-Workshop Package Outline (WIP)

Welcome Statement
Overview document illustrating agenda for workshop day.

Participant Questionnaire
Authors:
Title of Paper Submitted:
Summary of experience with summative UX health measurements:
Summary of future research you are interested in:
Your goals for this workshop:
The workshop organization committee is committed to making our workshop as accessible and barrier-free as possible. Please let us know if you have any accessibility needs or require accommodation to participate:
For questions about accessibility, please contact [contact name, email address].

C. Workshop Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 6th</td>
<td>Call for proposal is live on the workshop website and CSCW 2023 communications.</td>
</tr>
<tr>
<td>August 15th</td>
<td>Deadline for position papers to be submitted.</td>
</tr>
<tr>
<td>August 16th</td>
<td>Position papers are reviewed by organizers and assigned to PC members for review.</td>
</tr>
<tr>
<td>September 5th, 2023</td>
<td>PC members provide recommendations to the organizers around acceptance.</td>
</tr>
<tr>
<td>September 10th, 2023</td>
<td>Participants are notified of acceptance.</td>
</tr>
<tr>
<td>September 13th, 2023</td>
<td>Participants receive the pre-workshop package.</td>
</tr>
<tr>
<td>October 1st, 2023</td>
<td>Participants submit their pre-workshop package.</td>
</tr>
<tr>
<td>October 2nd, 2023</td>
<td>Organizers review work packages. Take into consideration accessibility feedback.</td>
</tr>
<tr>
<td>October 15th, 2023</td>
<td>We have the best workshop ever! &lt;see workshop schedule &gt;</td>
</tr>
</tbody>
</table>

D. Draft of Workshop Schedule
<table>
<thead>
<tr>
<th>Section</th>
<th>Covered Topics</th>
<th>Accessibility Support</th>
<th>In-Person Experience</th>
<th>Virtual Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2) Presentation of position papers</strong></td>
<td>5 min presentations +2 minutes of questions for each position paper Sharing out of an analysis of the activity sheet data.</td>
<td>Papers are provided for printing in early March. Verbal descriptions of visual content will be required. PDFs/Word docs will be reviewed for accessibility.</td>
<td>Presentation Live, broadcast via Teams. Discussion/Questions via Teams.</td>
<td>Presentation and questions via Teams. Discussion/Questions via Teams. A dedicated organizer to facilitate the Virtual experience.</td>
</tr>
<tr>
<td><strong>3) Define Objectives &amp; discuss frameworks</strong></td>
<td>Review, discuss, and align on pre-submitted objectives. Engage around participants' past experiences with business frameworks, measurement paradigms, and challenges.</td>
<td>To be identified from pre-workshop accessibility feedback.</td>
<td>Activities are done through FigJam or similar collaborative software.</td>
<td>Activities are done through FigJam. A dedicated organizer to facilitate the Virtual experience.</td>
</tr>
<tr>
<td><strong>4) Understanding &amp; framing bigger problems</strong></td>
<td>TBD</td>
<td>To be identified from pre-workshop accessibility feedback.</td>
<td>The discussion will be hybrid.</td>
<td>A dedicated organizer to facilitate the Virtual experience of the discussion.</td>
</tr>
<tr>
<td><strong>5) Identify &amp; plan next steps</strong></td>
<td>Decide on communication methods going forward. Decide on the next steps for the State of the Union paper. Decide on the next steps towards a SIG and address any other identified topics and next steps.</td>
<td>Feedback on accessibility will be captured at end of the workshop to share with the community and to incorporate into any future events.</td>
<td>The discussion will be hybrid.</td>
<td>A dedicated organizer to facilitate the Virtual experience.</td>
</tr>
</tbody>
</table>

* Closed captions will be enabled during the workshop and every 2 hours there will be a minimum 15-minute break to support self-care.