CFP:
IEEE ISMAR 2022 workshop on Perceptual and Cognitive Issues in XR (PERCxR)

Apologies for cross-postings. Please redistribute appropriately.

CALL FOR PAPERS / PERCxR workshop
In conjunction with IEEE ISMAR 2022
Monday, 17 October 2022 online
https://percxr.com

Deadlines
Paper submission deadline (2-4 pages, see below): **Friday, 29 July 2022**
Notification of acceptance: **Monday, 8 August 2022**
Camera-ready: **Wednesday, 31 August 2022**

The IEEE ISMAR 2022 Workshop on Perceptual and Cognitive Issues in xR (PERCxR) is the seventh installment of the previous successful PERCAR workshops held at the IEEE VR conferences 2015-2020, and the PERCxR workshops held at IEEE ISMAR 2021 and IEEE VR 2022

The crux of this workshop is the creation of a better understanding of the various perceptual and cognitive issues that inform and constrain the design of effective augmented reality systems. There is neither an in-depth overview of these factors, nor well-founded knowledge on most effects as gained through formal validation. In particular, long-term usage effects are inadequately understood. However, mobile platforms and emerging head-worn display hardware ("glasses") ignite the number of users, as well as the system usage duration. To fulfill usability needs, a thorough understanding of perceptual and intertwined cognitive factors is highly needed by both research and industry: issues such as depth misinterpretation, object relationship mismatches and information overload can severely limit usability of AR applications, or even pose risks on its usage. Based on the gained knowledge, for example new interactive visualization and view management techniques can be iteratively defined, developed and validated, optimized to be congruent with human capabilities and limitations en route to more usable AR application interfaces.

Topics and submission
We expect researchers to submit early work, such as initial analyses of user studies or experimental visualization techniques, although position papers that comprise several pages and summarize a range of previous experiments or experiences (survey) also fall inside the scope of the workshop.

Papers should be between **2 and 4 pages** in length (excluding references) and may cover one or more of the following topics:

- Depth perception in AR
- Color perception issues
- Issues related to visual search / information processing
- Situational awareness
- Studies related to selective, focused or divided attention
- Just noticeable differences, signal thresholds, and biases
- Individual differences in perception & cognition
- Comparisons between AR and VR perceptual issues
- Cognitive load, mental workload or other cognitive issues related to perception
- Multisensory issues (sensation, perception & cognition in non-visual AR)
- Visualization techniques addressing perceptual or cognitive issues
- View management techniques
- Novel visual display devices that target specific perceptual issues
- Validation methodologies, benchmarks and measurement methods, including eye tracking
- Novel capturing and processing techniques (like HDR) that address perceptual issues
- Techniques for conducting longitudinal studies

Submitted papers will be evaluated through a double blind reviewing process of the submissions by the PC committee members.

Blind submissions should be made through the PCS system at:
https://new.precisionconference.com/submissions

ORGANIZERS
Richard Skarbez, La Trobe University
Missie Smith, Reality Labs Research
Nayara de Oliveira Faria, Virginia Tech
Étienne Peillard, IMT Atlantique