Designing Mobile Low-Resolution Media Architecture: Challenges, Opportunities and Goals

Marius Hoggenmueller

Design Lab

School of Architecture, Design and Planning

The University of Sydney, Australia
marius.hoggenmueller@sydney.edu.au

Alexander Wiethoff

Media Informatics Lab

LMU Munich, Germany
alexander.wiethoff@ifi.lmu.de

Abstract

The fusion of digital media and the built environment is commonly summarized under the umbrella term *Media Architecture,* a field where we have conducted intensive academic research during the past eight years. To connect our research expertise towards new application areas we want to share approaches designing a highly aesthetic form of mobile Media Architecture visualized via Low-Resolution (low-res) lighting displays, we hereafter refer to as Mobile Low-Resolution Media Architecture (MLRMA) where we mainly focus on civic open data application areas. In this MAB 2018 workshop we will therefore outline how our previous research informs and connects to MLRMA and present a design tool led by a set of challenges to pave the road for further investigations.

Author Keywords

Prototyping, Media Architecture, Low-Resolution, Display

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous;

From static to highly mobile and temporary media architecture:

Figure 1: Low-resolution media façade of the ARS Electronica Center in Linz, Austria.

Figure 2: Concept car by Mercedes Benz equipped with a low-resolution display. Photo: ©Mercedes Benz
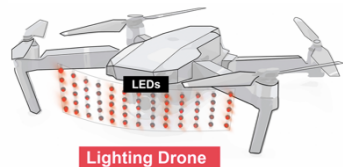

Figure 3: Envisioned low-resolution drone interface.

Introduction

Our past research dealt with the implementation and evaluation of ambient low-resolution lighting displays interconnected with the built environment, a domain commonly summarized as "Media Architecture" [3]. We believe in potential benefits expanding this field for certain civic application areas by making open city data visible directly in the context, instead of a distribution solely on mobile devices. Low-res displays connected to cars, drones and robots have been explored in recent academic research and several application and interaction concepts [1] outlined. As mobile low-resolution lighting displays provide rich ambient and aesthetic qualities that can potentially utilized for safety improvements on, for example, way-finding or road-safety, we consider MLRMA in our future investigations. In our MAB workshop we are interested in a fusion of various research fields to provide mutual benefits through extended application areas. During the workshop we we want to explore and address the following key topics:

- Encoding information in a low resolution
- Interaction concepts for MLRMA
- Aesthetic qualities, including treating low-resolution lighting displays as a design material
- Multimodal mobile media architectural interfaces, including alternative non-visual ambient interfaces

Workshop Format and Target Audience

To elaborate MLRMA in the workshop, we will provide a blend of lecture talks focusing on our previous research [2, 3], a design tool presentation and a hands-on breakout session where the participants will be able to brainstorm and prepare a poster presentation which will serve as a basis for further discussion.

Conclusion

Our main aim with this MAB workshop is to provide guidance for researchers and designers how to enable co-designing and evaluate MLRMA interfaces by means of purpose-built toolkits and methods adapted to this particular context.

Workshop Agenda (Half-Day)

- Welcome and Introduction (30 min)
- Talk: Designing Low-Res Media Architecture (45 min)
- Design Tool Introduction (25 min)
- Breakout Session (60 min)
- Discussion & Wrap up (30 min)

References

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