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Figure 1. The workshop participants share their performative prototypes with peers. © HKU MAPLAB 2014

# Media and Performance Laboratory:
# Learning by doing, making by playing, sharing by performing

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## Abstract

The Media and Performance Laboratory (MAPLAB) at the HKU University of the Arts Utrecht is an innovative learning and research environment, focusing on creative processes involving performativity and interactive technology. The MAPLAB projects engage art students and educators, professional artists, and various external partners in disciplines such as theater, dance, puppetry, music, and visual arts. These projects typically combine the MAPLAB core activities of education, research, and technological development, stimulating students and professional practitioners through rapid prototyping and agile development learning modes. In addition, MAPLAB trains educators to guide creative processes in technologically enhanced environments.

## Keywords

Creative process, art education, interdisciplinarity, interface, mixed reality, performance, rapid prototyping.

## Introduction

The Media and Performance Laboratory (MAPLAB) at the HKU University of the Arts Utrecht was founded in 2012 by Joris Weijdom as an interfacultary learning and research environment, in close collaboration with the Research Centre Performative Processes (RECPEP). During its initial years, the MAPLAB team has established methods to merge education, teacher training, professional artists' projects, and technological development trajectories. The need for platforms such as MAPLAB emerges from an educa-

tional and professional landscape in which interactive technologies are often too complex, inflexible, and expensive for use in creative stage productions and hands-on learning. MAPLAB is constructed in a modular and open-source fashion to enable the rapid prototyping and improvisational ways of working typically inherent in performative arts. Within the organization, MAPLAB is positioned as an interfacultary research environment for collaborations between HKU's different schools and research groups. It also functions as an important meeting point between arts education and research and external partners from the cultural domain and creative industries.

## Rapid prototyping 'onstage'

One of the core methods employed in MAPLAB's teaching and research activities emerges from the idea of rapid prototyping. This means that training or workshop participants, divided into small interdisciplinary groups, explore the artistic possibilities of the technological tools by creating interactive 'sketches.' These sketches are subsequently presented to peers either through a brief group performance or by inviting a peer to navigate the sketch in a performative user-testing situation (Figure 1). This is followed by a short feedback session with the whole group, reflecting on the elements of the given mixed reality space, the temporal aspect of the experience, and the design of its interactivity. The feedback session focuses on the dramaturgy of the participant or audience experience, rather than on details of its technological solution. The iterative process of creating a new sketch and then sharing and evaluating it is often

compressed into a very short timeframe: two complete cycles are typically realized in four hours. Through this 'pressure cooker' type of learning, participants are encouraged to not overthink their concepts beforehand, playfully explore possibilities, allow mistakes to be part of the process, and dare to share and evaluate a 'work in progress.'

## Research trajectories

In the context of longer research projects, with either students or professional artists, similar onstage improvisations and sketching are performed at selected moments of the process, stretching over a period of time. Such a research trajectory begins with the design and preparation of the modular lab environment to support the given research question and aims. Analogue and digital 'raw materials,' such as physical décor, video clips, and various interfaces, are also prepared and embedded in the space. The following phase is typically a four-day lab session, wherein the prepared materials and setups are explored to create an initial prototype of the performance or installation. On the final day of the lab session, the prototype and its progress are demonstrated to a live audience. Additionally, a wide range of media is used to document and reflect upon the findings during such a process. This three-step cycle may be iterated several times within a longer research project, whereby the first iteration is more explorative and follow-ups become more focused on testing and refining a given performance, interactive installation, or mixed reality experience.

## Bringing students and professionals together

The MAPLAB training and research activities are divided equally between educational programs within the HKU and collaboration with external professional partners. Outcomes of all these projects flow back into the educational activities in the form of inspirational practice cases, new technological tools, and know-how of practice-based research strategies. Conversely, students participate in professional research activities as trainees supporting the preparation and execution of the lab sessions, and conducting their own associated research projects through an excellent junior researcher program. Finally, MAPLAB provides several trajectories for teachers to develop their expertise in the context of using interactive mixed-reality technology in both their teaching and their own professional practice.

## Team and facilities

MAPLAB is an integrated concept involving people, resources, and methodology. The professional functions within the MAPLAB team manifest in three distinct aspects: management and public relations, research and development (R&D) of the facility and tools, and research coaching and lab assistance to support education, research, and training. The management team consists of the head of MAPLAB, a coordinator, and a lab manager. The R&D team, largely consisting of freelance specialists, research existing technological innovations and develop an infrastructure in which these tools can be dynamically connected. The coaches and lab assistants include senior teachers who lead the training and research activities, and junior assistants, often art school alumni, who help to facilitate these activities while being trained to become coaches themselves.

MAPLAB has two main lab spaces: a large theatre studio for full-scale setups and a small studio for brainstorming, preparation, and small-scale experiments. The infrastructure of both the lab spaces and technical tools are designed to be modular, user-friendly, and immediate. The modularity of the spaces means that their functions vary to accommodate a broad range of uses, and dedicated setups can be built in a relatively short time span. The technical tools are designed to be used by creative people without programming skills, and can be dynamically connected to each other with relative ease. MAPLAB implements both high- and low-technology, enabling research possibilities on a professional level while maintaining student and artist access to low-cost equipment for use in their own practice.

More information: http://www.maplab.nl

## Authors' biographies

Joris Weijdom is the founder and director of MAPLAB. Joris' background is 3D computer animation, and he obtained his MA in Interactive Multimedia from the HKU University of the Arts Utrecht in 1998. Joris is deeply involved with education and curriculum development; he is a core team member, senior lecturer and advisor of individual student projects in the bachelor program Interactive Performance Design since 1999. Between 2008 and 2012, Joris led the research group Virtual Theatre of HKU, within which he initiated and supervised a number of research projects exploring the mix of real and virtual spaces in the context of performing arts. Joris is currently the leader of the research group Performativity and Media in the HKU Research Centre Performative Processes (RECPEP).

Kaisu Koski graduated from the Faculty of Art and Design at the University of Lapland and the Amsterdam School of the Arts, where she studied media and performance arts. In 2007, Kaisu earned her doctoral degree by defending her dissertation on interactive performances at the University of Lapland. Her art practice is intertwined with academic research, focusing on the dialogue between art and medicine and the methodology of arts-based research. Kaisu is currently affiliated as a research fellow with the HKU Research Center Performative Processes (RECPEP).