Designing Gestures for Interactive Systems: Towards Multicultural Perspectives

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Abstract. This practice-based workshop aims at exploring various methodologies and tools to design gestures that could be used in interactive systems. We argue that *gesture design*, which can be seen as being a smaller part of the interaction design process, is generally overlooked. Our goals are to develop various methods, some being inspired by performing arts practices, and to discuss the multicultural aspects of gesture design.

Keywords: Gesture · Design · Multi-Modal interfaces · International and cultural aspects of HCI · Interactive systems

1 Context and Objectives

We address in this workshop the problem of designing gestures in interactive systems. Current multi-touch and motion sensing technologies allow for capturing a large scope of gestures and movements that can be used to interact expressively with various media. Yet, the common use of gestures remains limited to few well-known strokes such as wipes and pinches. The use of hand or body movements is even more rare, with the exception of some video-game systems using the Wii or the Kinect.

Several issues can be invoked to explain the difficulties to include rich and expressive gestural input in interactive systems. First, the choice of possible gestures is generally imposed by manufacturers that focus on easiness of use (and even patent them). Only few systems let users to propose their own movement vocabularies. Second, we argue that shared methodologies for *designing and learning* gestures and movement are generally lacking in the engineering fields.

Our aim is precisely to explore the questions of *gesture and movement design* in a participatory workshop. In particular, we wish to guide the discussion on differences in cultures and contexts, and how these elements might affect either positively or adversely the appropriation of shared gestural interaction paradigms.

2   Workshop Program

This one-day workshop is practice-based. After a short presentation of the different methods, the participants will be asked to collectively participate to the elaboration of gesture/movement vocabularies. The creation of the gestures will be guided using different methods and technologies, from the use of game-like scenarios to technological tools such as interactive machine learning [1, 2]. Tools and methods are to be submitted by the participants before the workshop, documented by an extended abstract and video materials that will be made available.

3   Target Audience

The workshop is open to participants of diverse backgrounds, including engineering, human and social sciences, design and the performing arts. We will particularly encourage culture diversity and gender balance.

4   Expected Outcomes

The outcome of the collective experiments will be documented by video recording and collecting material such as sketching. The different artefacts produced will be made available on the website (http://gesturedesign.ircam.fr), and possibly displayed during the whole conference (with the consent of the participants). We believe that this workshop will trigger stimulating discussions and provide for the participants new design methods and tools. The gather material could be used for subsequent collective publications. Moreover, we ambition that this workshop will initiate a series of international events and multicultural collaborations on this topic (including India).

5   Key Organisers

The organizers have recently led participatory design workshops, hackathons and gamejam. Anne Dubos is an anthropologist and a transmedia artist, with expertise on the gesture transmission in contemporary theatre in Kerala (South India). Frédéric Bevilacqua and Joseph Larralde are researchers on the development of gesture-based interactive systems and movement-sound interaction. Joël Chevrier is a physics professor currently developing new methodologies to introduce science and technology to broad audiences. Jean-François Jégo is an artist-researcher, expert on virtual reality & augmented reality.

References

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