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Designing Interactive Computer Systems within the Framework of Sensorimotor Realities

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Abstract—This keynote provides an overview of the new concept of Sensorimotor Realities (SRs) and exemplifies applications involving wearable and ambient devices.

Keywords—sensorimotor reality; augmented reality; mixed reality; mediated reality; human-computer interaction

I. INTRODUCTION

Sensorimotor Realities (SRs) [1] are a new type of computer-supported reality with distinctive features from AR [2], MR [3], and XYR [4]. By focusing on users' abilities undergoing mediation, SRs employ wearable and ambient devices [5] for interactions in hybrid worlds.



Figure 1. The Possi(A)bilities system (top) extends the human body with a virtual hand and the FingerHints system (bottom) delivers on-body kinesthetic feedback via hyper-extensions of the index finger.

Examples of SRs are the Possi(A)bilities [6] and FingerHints [7] systems (Figure 1) that extend sensorial

perception and motor action towards on-body interactions performed in the conjunction of the physical and the virtual. We envision applications of SRs for various living environments [8,9] and assistive computing [10]. This talk presents an overview of SRs and exemplifies applications.

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