


Exploring the Use of Mixed-Reality for the Design & Innovation of Future Ubiquitous Devices & Intelligent Environments


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Research Motivation

- ▶ Make computers work for humans
- ▶ The Theory of Affordances
- ▶ Physical artifacts in digital domains
- ▶ Distributed Cognition
- ▶ Embodied Cognition



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Identifying Future Attributes

- ▶ Function and non functional Attributes
- ▶ Integration of feature sets
- ▶ Usability, Marketability, & Aesthetics
- ▶ Attributes for different roles
- ▶ Collaborative Iterative design process



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Virtual Reality

- ▶ Virtual reality extend physical space.
- ▶ Immersive vs. Desktop VR
- ▶ Feedback ???
- ▶ Augmented Realities
- ▶ Simulate in a cost effective manner
- ▶ Automated Visualizations
- ▶ Interaction and collaboration



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Virtual Prototyping

- ▶ Virtual Prototyping for design innovation
- ▶ CAD based tools for user centric devices
- ▶ Computer Gaming Industry is leading the way
- ▶ Ubiquitous & Pervasive systems are already making intelligent environments



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APPLICATIONS

- ▶ **Robotics**
- ▶ **Intelligent Environments**
- ▶ eLearning
- ▶ Social networking
- ▶ Brainstorming
- ▶ Product design



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Special Thanks to

- ▶ Institute of Social and Economic Research
- ▶ Brian Johnson of Intel



Questions & Answers

