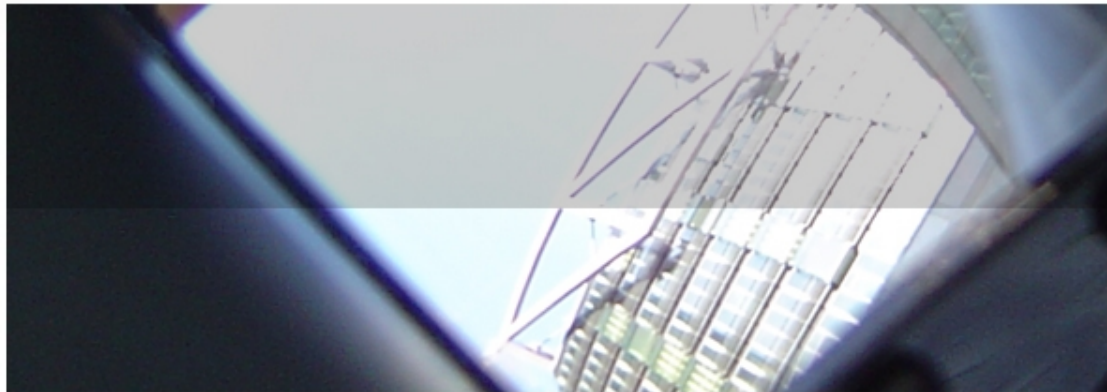




IPCity: Overview

Rod McCall | Vienna | September 2009



Agenda

- IPCity Project structure
- Project Research Objectives
- Background Technologies
- Example systems and studies
 - Urban renewal
 - City Wall
 - TimeWarp
 - Street Beat
- Future
- Summary

IPCity Partners

- Fraunhofer Institut für Angewandte Informationstechnik FIT
- Vienna University of Technology
- Graz University of Technology
- University of Oulu
- HITLAB, New Zealand
- University of Cambridge
- University of Applied Arts Vienna
- Université Marne la Vallée, Champs sur Marne
- Helsinki Institute for Information Technology HIIT
- Imagination Computer Services GesmbH
- Aalborg University

Project Objectives

- To move mixed reality from the lab to the street:
 - Extend frameworks on presence and interaction to include urban spaces
 - Develop platforms for authoring and prototyping tools
 - Create technical building blocks to support mobile through to semi-stationary environments
- We test our theories and technologies within four showcase systems:
 - Urban renewal
 - Environmental Awareness
 - TimeWarp
 - CityTales

Project Structure

- Presence aspects via our conceptual framework
- Base Technical Elements
 - Authoring and orchestration Tools
 - Mixed Reality Infrastructure
- Example showcases





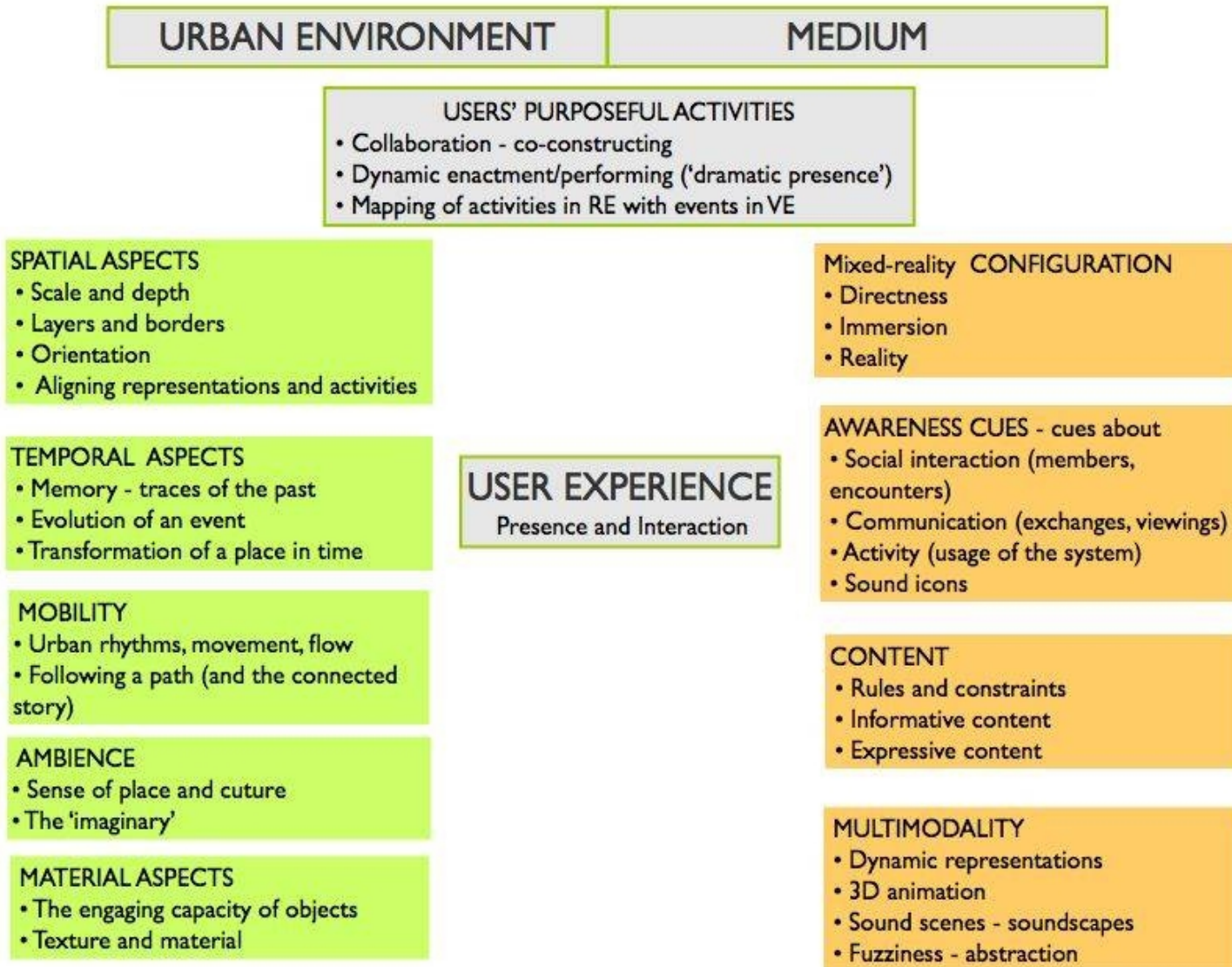
Mixed reality technologies and applications

- An environment for MR interaction prototyping
- Device abstraction and independence
- Developing a platform and toolkit for cross reality content authoring
- Configurable infrastructures

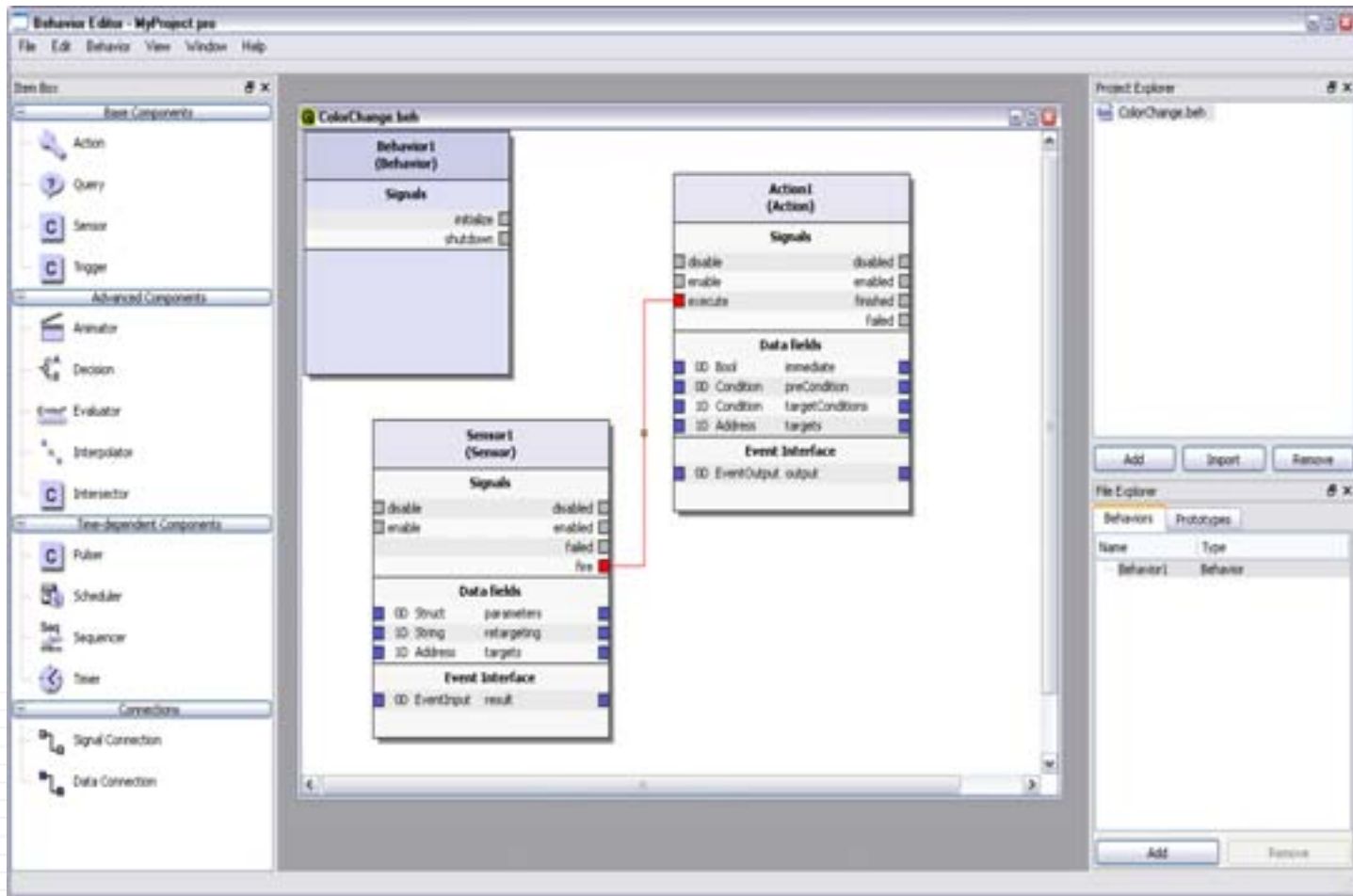
Scientific Concepts

- Participation and Social Presence
- Space and place
- Temporality
- Design for non-disruptiveness/Intrusions
- Social dimension of Memory

Conceptual Framework



Authoring and Orchestration



The screenshot displays the Behavior Editor interface for a project named "ColorChange beh". The interface is divided into several panes:

- Left Pane (Toolbox):** Contains various components categorized into:
 - Basic Components:** Action, Query, Sensor, Trigger.
 - Advanced Components:** Animator, Decision, Evaluator, Interpolator, Intersector.
 - Time-Dependent Components:** Filter, Scheduler, Sequencer, Timer.
 - Connections:** Signal Connection, Data Connection.
- Central Canvas:** Shows three components:
 - Behavior1 (Behavior):** Signals: enable, shutdown.
 - Sensor1 (Sensor):** Signals: disable, enable, failed, fire. Data fields: ID Struct parameters, ID String retargeting, ID Address targets. Event Interface: ID EventOutput result.
 - Action1 (Action):** Signals: disable, enable, execute, finished, failed. Data fields: ID Bool immediate, ID Condition preCondition, ID Condition targetConditions, ID Address targets. Event Interface: ID EventOutput output.
- Right Pane (Project Explorer):** Shows the project structure with "ColorChange beh" selected.
- Bottom Right Pane (File Explorer):** Shows a table of behaviors:

Name	Type
Behavior1	Behavior

Mobile Media Collector (MMC)



Hei Antti!

Nauhoita ääntä ja jaa se muille

Kerro tarina

Ota kuva

Valinnat

Takaisin



MultiTouch Display



Computer Vision Tracking Techniques



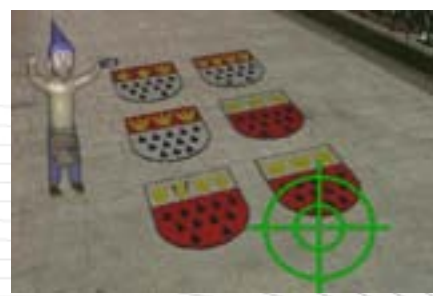
AR Scouting



Urban Renewal Technologies



TimeWarp



Environmental Awareness

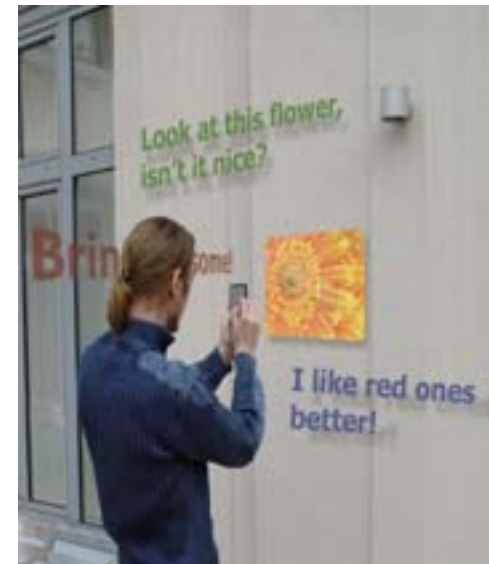




MR-Player



Walking Explorer



Wall Blogging

Presence Work

- Conducting field trials with emphasis on task based and deeper understanding of presence related issues
- Consolidation of results
- Revision to the conceptual map
- Development of generic design guidelines (perhaps through design patterns)

IPCity The Final Year

- Completing studies, with emphasis on linking actions and behaviour to sense of place and presence
- Improving underlying technologies to support the showcases
- Improve showcases to allow for more thorough studies and to meet IPCity goals