CG Mixed Reality Architectural Workspace

Solar Simulation, Sampling and virtual 3D-Walk-Through For Single Family Detached Houses using Unity in a Kommerz MRI Framework

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Collaborative Virtual Environments (CVE’s),
Integrative Workflow and Perspectives

01 Virtual Environments | Time, Space and Organization
02 Project Development | CG Mixed Reality Architectural Workspace
03 Conclusion | Perspectives
01 Virtual Environments

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Virtual Environments | Time, Space and Organization

Requirements of CVE’s according to MAHER:

- Managing collaborative design processes
- What you see is what I see (WYSIWIS)
- Chance meetings
- Peripheral awareness
- Non-verbal communications
- Designing for two worlds (digital and physical)

01 Virtual Environments

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Virtual Environments | Time, Space and Organization

Basic Schemes of CVE´s:

- Single User Workspace
- Synchronous and local Group Workspace
- Asynchronous and non-local Group Workspace

Derived Versions up to a Multi User and Multi Data Base
CVE Network using multiple Interface Integration

DAVE, Bharat (2011):
Spaces of Design Collaboration,
Collaborative Design in Virtual
Environments, Springer Science +
Business Media B.V.,
S. 143 – 151.
Types of CVE Workspaces and Application Areas:
- Indoor / Outdoor Visualization
- Architectural Design and Construction
- Energetic Optimization
- Design Collaboration and Shared Display
- Applications for Trainings
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**Project Development | Task**

Customer Interview Tool for “Haslerhaus”
Company from Upper Styria / Austria
Highly customizable wooden prefab houses

Benefit of the use of innovative and immersive technology?
Project Development | Motivation

Limitations of the traditional design process:

- Iterative, slow and non customer oriented
- Involves Several Steps by Different Professionals
- Specialized Computer Knowledge

Critical issues to overcome:

- Intuitive Interaction Setup
- Optimized Software Pipeline
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Project Development | System Description

- 3D-Walk-Through
- Virtual Sampling
- Solar Simulation
- Hot Spots and Details
03 Conclusion and Perspectives

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**Virtual Construction Kit and Further Integration**

- Further Integration of Interfaces and Data Bases (Touch Table Device, e.g. MRI Projection, Desk or IPad)

- Virtual Construction Kit | Interactive Preliminary Drafting

- Integration of Environmental Conditions

- Workflow Integration respecting Standard Software and Design Processes

- Up to a new Design Process: Interactive and Playful
Virtual Construction Kit and Further Integration

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Thank you for your attention!
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