Business Oriented Design of Collaborative Applications
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Outline

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[2] Workshop vs. Laboratory
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Introduction

- New interaction technologies:
  - Need for novel concepts
  - Experimenting with new technology
- Synergies between university and business partners
  - Expensive technology, provided by business partners
  - Infrastructure provided by university [1]
- Evaluation of benefits and disadvantages of different education models
Workshop vs. Laboratory
Conceptual Differences

Benefits of the workshop
- Condensed format: better guidance and interaction with students
- Direct mentoring by companies

Drawbacks
- Time pressure and conceptual weaknesses due to small amount of time
- Only small teams due to organizational overhead
- No experience with format, optimization during following iterations

Comparison to laboratory
- More time for elaboration on concepts
- Breaks every week disturb workflow
- More time needed for adjustment to technology
## Conceptual domains

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Results
Marble Run

- Collaborative game focusing on tangible interaction
- Tangible User Interfaces contribute to collaboration [2]
- Users have to guide a marble ball from start to exit and overcome obstacles
- Physical tangibles such as walls, planks, magnets
- Pausing enables placing tools and looking for solution
- Use of multiple tangibles at once improves collaborative character
Results

SampleSurface

- Multi-touch application for collaborative music arrangements [3]
- Inspired by MTSeq [4] and reacTable [5]
- Arranging and cutting of audio samples
- Use of easily discriminable gestures
- Reduced UI should entice users to experiment with sounds
Results
SurKiLab

- Collaborative maze-game using Microsoft® Kinect™ and Microsoft® Surface®
- Concepts of immersive and emersive interaction [6]

- Escapist:
  - Avoid obstacles and reach exit within given duration
  - Tracked by the Kinect™
  - Immersive view of maze (1st Person)

- Commander:
  - Prevent opponent from escaping the maze
  - Can place obstacles by interacting with the tabletop
  - Emersive view (map)
Results
Punchinello

- Collaborative interactive theatre
- Tabletop as interactive display for stage director
  - Spatial movement of characters
  - Creation of sounds
- Tangibles underline the role-play character
- Up to 2 players in front of Kinect as actors
- Spontaneous play includes interaction via screen and tabletop but also “analogue” interaction between users
Conclusion and Future Work

- Workshop as business-friendly format
- Laboratory with focus on research questions
- Students should participate in courses of both formats

- Further development of concepts
- Switching focus new technologies
- Detailed evaluation in EmplIT-Project (Employability for IT) [7]
Conclusion and Future Work

Interdisciplinary project of Computer Science, Technical Design and Engineering Psychology

Main aspects

- Interaction with avatars
- Interaction in Virtual Environments
- Attention-Centered User Interfaces [8]
Thank you for your attention.

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References


