Towards a Holistic Methodology for Engineering 3D Virtual World Applications

Ingo Seidel

Vienna University of Technology
3D Virtual Worlds

- Realistic/immersive experience
- Millions of people regularly connect to online 3D Virtual Worlds
- Second Life, IMVU
- 3D Virtual Worlds have specific properties and characteristics (spatial environment, content creation)
Related Work

- **Usability Engineering based**
  - Gabbard et al., Tromp et al.

- **Automatic generation**
  - Molina et al., (IDEAS) Gonzalez-Calleros et al., Menchanca et al.

- **Cover whole life cycle**
  - Wilson et al. (VEDS), Sanchez-Segura (SENDA), Molina et al. (TRES-D)
Goals

- Provide a holistic process model that
  - covers all stages of development
  - enables 3D VW novices to develop applications
  - can be applied in different 3D environments

The Process Model

- Related Work
- VR/3D VW Processes
- Research Project Experiences in developing 3D VW Applications
- Related Work
- SE Processes
Software Engineering Processes

- **Agile Processes**
  - Iterative and Incremental
  - User Involvement

- **Rational Unified Process**

- **Three characteristics**
  - Use case driven, Architecture centric, Iterative and Incremental

- Has been used to derive more specific processes (AUP, BUP)
The iterative/incremental cycle

7 Disciplines

3 Types of Iterations
## The Phases

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- Internal Release
- External Release
Conclusion & Outlook

- A Process Model for Engineering 3D Virtual World Applications
  - Based on the process model of the RUP
  - Iterative, user centered, architecture centric
  - 8 disciplines and 3 types of iterations

- Validation
  - Case studies
  - Expert interviews
  - Further refinement and improvement
Thank you

Ingo Seidel

iseidel@itchy-feet.org

www.itchy-feet.org