Gameplay Programming
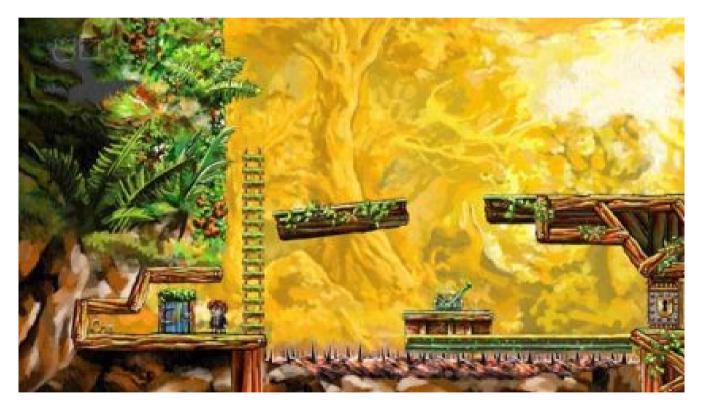

Image source: http://en.wikipedia.org/wiki/Braid_%28video_game%29

Lecture Organization

Wednesdays, 8:15 - 9:45 am

- Theoretical lectures

- Jointly evolve practical approaches

- Wednesdays, 10:00 - 11:30 am

    - Practical exercises

    - Development of a gameplay prototype

- First lecture: March 26, 2014 (today)

- Last lecture: July 9, 2014

- Practical work (gameplay prototype)

- Information, Slides, Announcements:

    - Mailing list (E-Mail)

    - Personal schedule

Contents

- What the lecture is about

    - Learn how to program core gameplay mechanics using an existing game engine.

    - These include camera, movement, animation, interaction, decision-making, combat and others.

1. Scripting	1. Lua Basics 2. Lua Binding 3. Lua Object-Oriented Programming
2. Gameplay Subsystems	4. Objects and Components 5. Events and Messages 6. Game States
3. Core Gameplay Mechanics	7. Camera 8. Character Animation 9. Character Movement 10. Object Interaction 11. Decision-Making and Behaviour 12. Combat Systems

Exercises and Prototyping

- First half of the semester

    - 3 exercises about Lua scripting

    - 3 exercises about specific gameplay subsystems

- Second half of the semester

    - Build a gameplay prototype in Lua (and optionally C++)

        - Should answer specific gameplay-related questions

        - Must be configurable (balancing)

        - Technical- and design-documentation

        - Presentation at the end of the semester

Technology

- Lua

  - http://www.lua.org/download.html

- Microsoft Visual Studio 2012 / 2013

  - Available on DreamSpark

- DirectX SDK

  - Windows 8 → included in the Windows 8 SDK

  - Windows 7 → must be installed manually

    - http://www.microsoft.com/en-us/download/details.aspx?id=6812

- Havok Physics & Animation

  - http://www.havok.com/try-havok

- FMOD Studio

  - http://www.fmod.org/download/

- How To

  - Installation guides are available in your personal schedule

Literature

- Mike McShaffry, David Graham, **Game Coding Complete**, Course Technology, 2012, ISBN 978-1133776574

- Ian Millington, John Funge, **Artificial Intelligence for Games**, Morgan Kaufmann, 2009, ISBN 978-0123747310

- Jesse Schell, **The Art of Game Design**, Morgan Kaufmann, 2008, ISBN 978-0123694966

- Other resources will be listed at the end of the respective presentations.