Theory and practice of
VIRTUAL ENVIRONMENTS

class web site:
http://cadia.ru.is/wiki/public:t-vien-12-1:main
(or find it at cadia.ru.is through external wiki)

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- 1991-1994 B.Sc. (CS), University of Iceland
- 1994-1995 Raflind
- 1995-2003 M.Sc./Ph.D. (MAS), MIT Media Lab
- 2003-2006 Information Sciences Institute, USC
- 2005- Alelo Inc.
- 2006- Reykjavik University
- 2009- MindGames
Topic

- **Theory and Practice of Virtual Environments**

  “Simulations that engage the senses and...
  ...create an experience of presence within an artificial world”
Learning Outcomes

• Know the **what, why and hows** of VEs
• **Critical** thinking and design considerations
• **Understand** how to measure effectiveness
• **Use** principles of good interaction in VEs
• **Know** types and techniques for characters
• **Build** VEs using a range of technologies

(for a full list see wiki page)
Outline

• Part I: Context
• Part II: Immersion
• Part III: Interaction
• Part IV: Special Topics
• Part V: Student Projects
Classes

• Theoretical talks / Discussions
  – Tuesdays 13:10-14:45
• Technical talks / Demonstrations
  – Wednesdays 12:15-13:55
• Student labs
  – Wednesdays 14:00-15:40
Discussion Prep

• You do research before the class

• During the class, you share your findings with other students in pairs or small groups and get ready to present a conclusion to the full class

• Sometimes in the form of questions you work on in class and sometimes open discussions
Evaluation

- Discussion, Labs: 10%
- Programming assignment: 20%
- Final project proposal: 5%
- Final programming project: 30%
- Final project report: 5%
- Final written exam: 30%

100%
Availability

• In person
  after classes
  or by appointment (599 6323 or 618 6323)
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VIRTUAL ENVIRONMENTS

a glimpse
A VE / VR system is a human-computer interface that provides interactive immersive multisensory 3-D synthetic environments.

– Rory Stuart, 1993
Assassin’s Creed, UBISOFT, 2006

Mirror’s Edge, DICE, 2008
“A consensual hallucination experienced daily by billions legitimate operators, in every nation, by children being taught mathematical concepts...

A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding…”

— Neuromancer by William Gibson 1984