CS248:
Interactive Computer Graphics

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Plan for today

- Course logistics
- Why interactive computer graphics
- Course content and objectives
Staff and review session

- **Professor:**
  - Vladlen Koltun, Gates 374, Thu 1:30-2:30

- **Course assistants:**
  - Rahul Agarwal, Wed 2:30-3:30
  - Ming Jiang, Mon 2:30-3:30
  - Kevin Montag, Tue 2:00-3:00

- **Review session:** planned for Friday around 1:00-2:00
Textbooks and Web site

- **Textbooks**
  - Edward Angel, Interactive Computer Graphics (5th ed.) - **required**
  - Alan Watt, 3D Computer Graphics (5th ed.) - optional
  - Dave Shreiner, OpenGL Programming Guide (7th ed.) - optional
  - T. Akenine-Moller et al., Real-Time Rendering (3rd ed.) - optional

- **Web site:** cs248.stanford.edu
Prerequisite

- CS148 is a prerequisite. Essential material that I will not be covering.
Grading

- Assignments (3x20%)
- Final project (30%)
- Exam (10%)
Assignments policy

• Three late days (day = 24 hours) for the quarter, no exceptions

• No late days on final project, no exceptions

• Ok to discuss algorithms and general approaches with others, but do not share code with others, or examine (or copy) others’ code
Final Exam

• Test basic understanding of the material

• In class on Wed, March 10

• Alternate exams only in extraordinary circumstances covered by the registrar. Arrange now.
Final Project

- Build game in teams of 1-3
- Code infrastructure based on Ogre
- Video game competition
  - Final competition probably on Fri, March 12
  - Eminent jury panel
  - First prize: trip to SIGGRAPH
Interactive Computer Graphics

• Entertainment
• Social life
• Art and creative expression
• Design and architecture
• Training and simulation
• Medicine (medical imaging, surgery)
• Virtual and augmented reality
Call of Duty: Modern Warfare 2

Bioshock 2

Images from gamespot.com
Oculus yacht by E. Kevin Schopfer, image from designshoot.com

CATIA by Dessault Systèmes

Hawk concept car by Alex Hodge, image from designshoot.com
ARMA II gameplay - http://www.youtube.com/watch?v=5HZ0ubja-34
Flower™ - Official Trailer - http://www.youtube.com/watch?v=nJam5Auwx1E
Syllabus

• Graphics pipeline, graphics APIs
• Transformations, viewing and projection
• Rasterization
• Lighting and shading
• Texturing
• Advanced rendering effects
• Animation
What this course is not

• Course does not cover
  - Geometric modeling (cs348a)
  - Global illumination, off-line rendering (cs348b)
  - Image and video processing (cs448a)
  - Interaction techniques (cs147)
  - Research topics (cs448e)
Questions?