CSE 125
Software System Design and Implementation
Spring 2018
Lecture 1: Introduction
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CSE 125: Spring 2018

- Course page: http://cse125.ucsd.edu/2018
- Instructor
  - Geoff Voelker (voelker@cs.ucsd.edu)
  - Hours: Mon 3-4pm in CSE 3108
    » By email, also drop by
- TA
  - No TA this year (!)
History

• This course is modeled after a UW course
  ♦ Created by John Zahorjan (UW prof) and Dennis Cannady (MS program manager of VisualBasic at the time)
  ♦ Dennis was the original inspiration for the goal & style of the course, John chose games
  ♦ I was the TA for the first two classes (’97, ’98)
    » (>20 (!) years already…sigh)

• UCSD
  ♦ Have taught a version at UCSD since 2001
  ♦ Projects are on the Web (for those hosted here at UCSD)
  ♦ You are the 18th class!
Why isn’t this course titled, “Game Design …”? 
- There are many other factors to game design that we will not touch on (e.g., AI, playability, etc.)
  » More on this later

By the end of the course, you’ll hopefully realize that what you learned in doing the project will apply to any large software project that:
- Distributed, has performance constraints, has real-time constraints, has actual users other than the developers, etc.
- The game provides great motivation

Another perspective: This course is an opportunity to apply everything you’ve learned in the major
Class Format

- Lectures
  - First week: Intro + tips and techniques

- Group meetings
  - Once a week meetings (30 mins) with us in lab
  - Groups *and* individuals will submit progress reports
  - We will discuss progress, problems, plans, changes
  - We can fit schedules
    - Try to use class periods
    - Try to be contiguous across groups
    - We’ll organize by email

- Guest lectures
  - From local games companies during lecture slots
Class Sketch

- Specification, schedule, milestones: 1.5 weeks (1-2)
- Preliminary development: 2 weeks (3-4)
- Project development: 4 weeks (4-8)
- Spec freeze, alpha testing: 1 week (9)
- Beta testing: 1 week (10)
  - Ship at end of beta testing
  - Demo at seminar
- Review document: 1 week (11)
  - Due during Finals week
- Guest lectures sprinkled in
Your “Final”

- We will have a seminar, open to the public, where each team will demo their game
  - Four players drawn from the group and the crowd
  - Makes you look like totally awesome cool hackers
  - But it’s also “for real” → everyone will be watching!
    » (Last thing you want is a blue screen of death…)

- Friday afternoon of last week of class
  - Afternoon of Friday, June 8 (4–5:30pm)
    » Reserve this date now!
  - Invite your family and friends!

- Written project report due at end of finals week
  - Low key, hard part is already over with
Atkinson Hall Auditorium
Facilities and Platforms

- Class lab: CSE B220
  - P4 3.2 GHz w/ 2 GB RAM – aging, but workable
  - All have *had* GeForce 8600GT 512MB video cards
    - Now have GTX 960s
    - We’ll demo on i7 quad-core @ 1600x1200
    - Available last 2-3 weeks for development
  - Windows 7, Visual Studio, git, svn
    - C++ by default, but can use any language by group agreement
  - Maya, 3D Studio Max, MilkShape3D
  - DirectX June 2010 (Win7)
  - OpenGL
- You should be able to work from home, too
  - Win7/8.1/10, Visual Studio
Lab Use

• Consider the lab your home
  ◆ But don’t move out of your apartment (yes, it’s happened…)

• Lab is dedicated for CSE 125
  ◆ Front door locked (but fire door in back is not)
  ◆ Only CSE 125 accounts active on machines

• Locked cabinet, only accessible by folks in the class
  ◆ Store books, controllers, etc.
  ◆ Please lock up
Books and Controllers

- Many books in the lab locker
  - List is on course Web site
- Hardware
  - Xbox360 controllers (force feedback)
  - Portable speakers
    - But expect to use headphones much of the time
  - Microphone
- I can always buy more
  - Let me know if there are some we should get
Art

• You already have skillz, or …

• Troll the Web
  ◆ There is artwork for many games out there
  ◆ Usually in some kind of “standard” format
    » Produced from modeling software
  ◆ Can usually load directly into game using DirectX functions
  ◆ If not, look at the code in the game editors to help figure out how to manipulate

• Find an artistic friend
  ◆ Seriously…has happened successfully in the past
Speaking of Art...
Intellectual Property

- Speaking of trolling the Web…
- Many things are posted as “use freely”
- But if it isn’t
  - Ask before using…just takes an email, and people are usually flattered to have their stuff used

- Also, note that you own the copyright on the code that you write – not UCSD
  - Because you pay for your education
  - Not the same for grad students, staff, or faculty
- You can do whatever you want with your project
Group Web Pages

- Each group will maintain Web pages
  - Schedule, milestones, comments, pictures, blatherings, etc.
- Think of your group Web page as a living design document for your project
- More to come
  - Once we get the groups established
Collaboration and Competition

• Everyone is in this together
• I want you to help each other out, even among groups
  ◆ Especially solving bugs
  ◆ Share code tips
    » e.g., this is how I created a frame buffer with these properties…
  ◆ But not classes, modules, or files
    » Each group has to develop

• How?
  ◆ Piazza
  ◆ In the lab – the lab is there for your exclusive use

• Use the lab!
  ◆ Repeat: Use the lab!
Grading

• A non-goal of the course is to worry about grades
  ◆ Everyone *can* get an A in the class…
  ◆ …as long as you *contribute* *and* *collaborate*

• We will be meeting with each group weekly
  ◆ We will be able to determine whether you are a functioning
    and contributing group member

• Marital problems
  ◆ Come to me if your group is having “issues”
    » The earlier, the better
  ◆ We will solve these problems as a group
  ◆ Working to support a group, engaging, and compromising are
    all part of your grade – *do not compartmentalize*
Going Forward...

• Outside of class
  ◆ Meet with your groups
  ◆ Start discussing what you want your project to be
  ◆ Look at the projects that have been done in the past
  ◆ More details online

• Signup on Piazza

• **Thu:** Project architecture
• **Tue:** Discuss games in group mtgs

• And the countdown begins…
Questions

- Any questions?
Groups

• Form groups
  ◆ Choose team members
    » Primary constraint: Need graphics folks on each group
  ◆ Choose a team name

• Work in pairs!