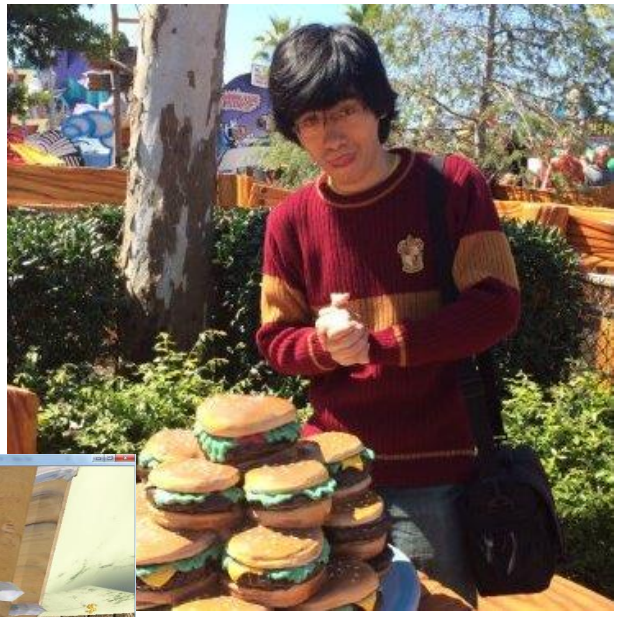

CSE 125
Software System Design and Implementation
Spring 2016
Lecture 1: Introduction
Geoffrey M. Voelker

CSE 125: Spring 2016

- Instructor
  - Geoff Voelker (voelker@cs.ucsd.edu)
  - CSE 3108
  - Hours: Mon 3-4pm
    - » By email, also drop by
- TA
  - Ruiqing Qiu (rqiu@ucsd.edu)
  - 2015 veteran (Triton One: Battle Blocks)



History

- This course is modeled after a UW course
  - Created by John Zahorjan (UW prof) and Dennis Cannady (MS program manager (VisualBasic))
  - 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)
    - » (>15 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 15th class!

Software System Design and Implementation

- 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:
  - Is 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 3 (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

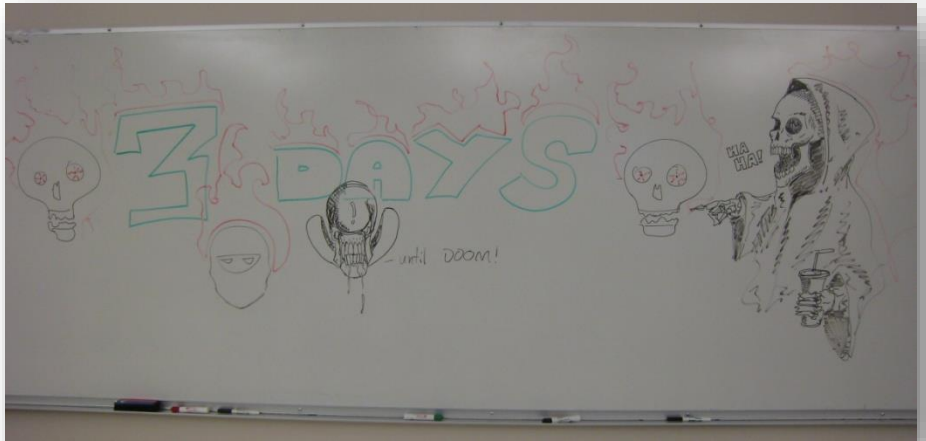
- High-res projector
- Excellent sound
- Great atmosphere

Facilities and Platforms

- Class lab: EBU3B 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 i7quad-core, GeForce 460s @ 1600x1200
    - » Available last 2-3 weeks for development
  - Windows 7, Visual Studio, svn
    - » C++ by default, but can use any language by group agreement
  - Maya, 3D Studio Max, MilkShape3D
  - DirectX June 2010 (Win7)
- You should be able to work from home, too
  - Win7/8.1/10, Visual Studio from MS
  - Note: MS software for personal use, NOT for resale

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 for the project
  - 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?
  - Email (there will be a class list)
  - 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
- Thu: Ruiqing's survival lecture
- Fri: Project architecture (11am?)
- Tue: Discuss games in group mtgs

- And the countdown begins…

Questions

- Any questions?