

## CS491A Software Design Lab

Course Overview

Chengyu Sun  
California State University, Los Angeles

## Class Goals

- ◆ An individual project
- ◆ Oral communication skills
- ◆ Written communication skills

## Oral Presentation

- ◆ 20-25 minutes long
- ◆ Two presentations this quarter
  - On a selected topic (5%)
  - On your project (10%)

## Project Report

- ◆ 12 to 16 pages
- ◆ Two drafts this quarter
  - 1<sup>st</sup> draft (5%)
  - 2<sup>nd</sup> draft (10%)

## Class Format

- ◆ Meet once a week on Friday
  - Presentations
  - Individual discussion
- ◆ Additional individual discussion during office hours or by appointment

## Project

- ◆ Ideas
- ◆ Execution
- ◆ Evaluation

## Project Ideas

- ◆ Something you enjoy doing
- ◆ Play to your strength
- ◆ Nontrivial, i.e. appropriate for 20 weeks of work
- ◆ CS related
  - Software development
  - Algorithm/theory development
- ◆ *Approved by the instructor*

## Where Do Ideas Come From?

- ◆ Check out what other students have done
  - <http://sun.calstatela.edu/csns/projects.html>
  - Personal projects
  - Things related to your hobbies
  - Things related to your future career
- ◆ Work related
  - Make sure it's an individual project

## Where Do Ideas Come From?

- ◆ Talk to faculty
  - Know the specialties of the faculty
  - Especially good for graduate students
- ◆ Talk to other people
  - Projects from other department or organizations
- ◆ Extend an old project
  - Make sure there's enough work for this course

## Bad Project Ideas

- ◆ Not enough work for 20 weeks
  - Bad for presentation and report as well
- ◆ IT related
  - E.g. system administration, customer service and support
- ◆ Pure learning project
  - *This is not a learning course!*

## Tips for Project Execution

- ◆ Have a vision, as detailed as possible
- ◆ Make realistic plans
  - Take into account your other workload
  - Take into account your capabilities
- ◆ Leave time for evaluation and refinement

## Tips for Project Execution

- ◆ Start implementation ASAP
  - Find crucial implementation roadblocks early
- ◆ Work at a constant pace, i.e. don't leave everything to the last two weeks

## Tips for Project Execution

- ◆ Find and use the right tools
  - Libraries
  - IDEs
  - Version control systems
- ◆ Utilize other resources
  - School servers
  - Faculty knowledge
  - Discussion with fellow students

## Tips for Project Execution

- ◆ Avoid pitfalls of “real-world” projects
  - Customer ignorance
  - Management constraints
  - Communication delay
  - The Solutions:
    1. Don't do it (as the class project)
    2. Figure out the situation early
    3. Do a “dual project”

## Project Evaluation

- ◆ Originality
- ◆ Significance
- ◆ Complexity
- ◆ Polishness

## A Successful Project

- ◆ Solve a problem or fulfill a need
- ◆ Showcases four years of your undergraduate study
- ◆ Resume builder
- ◆ *Something to be proud of*