

CS491A Software Design Lab

Course Overview

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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
 - 1st draft (5%)
 - 2nd 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://cs.calstatela.edu/abet/cs491/index.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*