CS491A Software Design Lab
Course Overview

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Class Goals
◆An individual project
◆Oral communication skills
◆Written communication skills

Oral Presentation
◆30 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 Monday
   ■ Presentations
   ■ Individual discussion
◆Additional individual discussion on
  Wednesday 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](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