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
  - 30~60 minutes presentation
  - Individual discussion
- Additional individual discussion on Wednesday by appointment
- *-5% for each class meeting missed*

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?

- Personal projects
  - Things you always wanted to do
  - Things you are going to do it anyway
- Work related
  - Make sure it's an individual project
- Talk to faculty
  - Be aware of the specialties of the faculty
  - Especially good for graduate students

Where Do Ideas Come From?

- Talk to other people
  - Projects from other department or organizations
- Extend an old project
  - Make sure there's enough work for this course
- Check out what other students have done
  - http://sun.calstatela.edu/~abet/cs491/index.html

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!*

Some Project Ideas

- http://cs.calstatela.edu/wiki/index.php/Project_ideas
  - Including Curve Bank (http://curvebank.calstatela.edu/)
- Web development projects (Sun)

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

Project Categorization

- Starting grade for different projects
  - A Projects: 100%
  - B Projects: 85%
  - C Projects: 75%

A Successful Project

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