

COE 485 – Senior Design Project (1-6-3)

M: 1:10-2:00 PM, Room: 24-162 (Section 02)

Spring 2007 (Term 062)

Projects Guidelines

1 Project Deliverables

The following are the deliverables expected from each team and the due date for each.

	Deliverables	Due date	Grade's weight
1	Project proposal and action plan	Monday, March 5 th , 2007	5%
2	Progress report	Monday, April 9 th , 2007	5%
3	Demo of the first prototype	April 9 th -11 th , 2007	10%
4	Report	Monday, May 21 st , 2007	20%
5	User manual	Monday, May 21 st , 2007	5%
6	Final demo of the system	May 26 th -27 th , 2007	30%
7	Presentation	Monday, May 28 th , 2007	20%
8	Attendance	Feb. 19 th – May 28 th , 2007	5%

Your grade will be based on the work accomplished and the efficiency of the components implemented. The demonstration represents 40% of the overall project grade.

A working prototype is expected at the end of this project, in addition to a report and a user manual.

1.1 Project proposal and action plan

By the third week the students are required to submit a project proposal detailing, in their own words, their project description, deliverables and the action plan. The project proposal and action plan is a document of 2-3 pages that includes a section on the project description and another on the project plan of implementation.

Project proposal

In this section you should define the project goal and scope. You should also include a detailed description of the project you plan to work on. This should include the expected final product to be delivered, the main components to be implemented, the tools to be used, and the overall work to be accomplished.

Project plan

In this section you should include a detailed plan of the project:

- A detailed tasks description
- Duration and due dates
- Clear deliverables
- Responsibility assignment
- Overall organization

1.2 Project Progress Report

By the eighth week, a progress report detailing the work accomplished is to be submitted. The progress report (2-3 pages) should include:

- Introduction
- Updated plan
- Description of accomplished work
- Description of unaccomplished work
- Any issues or problems encountered
- Conclusion

A meeting with the instructor will be scheduled during the same week to discuss your progress, and to demo the first prototype of your system.

1.3 Demo of the First Prototype

The first demo will be evaluated based on the functionality and the limitations, problems, and errors in the prototype and the following criteria will be used:

- Scope (is the project according to planned) **25%**
- Progress (how much is implemented) **25%**
- Code/demo (how much is working) **50%**

1.4 Final Report

You are expected to submit the report, the user manual, and the code commented by the deadline. You can either have everything in a CD or send it to the instructor by email as a .zip file (if the file size is not very big). You need also to submit a hard copy of the report and the user manual by the same deadline.

The final report will be evaluated based on the following:

- Clarity of the problem description and proposed solution (how well did the student communicate his design effort?) **60%**
- General Format, work documentation and presentation, referencing existing work, usage of appendices ...etc. **40%**

The report should include the following main sections:

- Introduction
- Objectives and Motivations
- Background and Related Work
- System Architecture (high level view, etc.)
- Components Design (modules, interfaces, and interactions between them)
- Implementation (including tools used, classes, etc.)

- Evaluation (testing, scenarios, experiments & results)
- Engineering Approach (system design approach, tradeoffs, critiques, choices, etc.)
- Functionality and Utilization (including how the system can be used, for which applications, and by which companies, etc.)
- Problems Faced
- Tasks Distribution
- Future Directions
- Conclusion
- References

1.5 User Manual

The user manual should include the steps for starting, configuring, and running your application (including snapshots). It should include all information and steps necessary for someone to install and use your system. If this requires installing and configuring tools/applications which are not usually installed by default, then you should include the configurations steps for these as well. You may also include snapshots as needed. For example, you do not need to include the steps to install JCreator (you may however provide a Web site reference for that), but you need to show the steps for configuring the JDK profiles, etc.

The user manual will be evaluated based on the following:

- User manual content. **50%**
- Implemented code (structure & logic). **25%**
- Implemented code (commented). **25%**

1.6 Final Demo and Accomplishments

The final demo will be evaluated based on the level of accomplishment and the efficiency of the components implemented. The following criteria will be used:

- Engineering Approach (were different approaches examined, and one selected based on some criteria?) **25%**
- Completion of the design **25%**
- Work Habits: organization and motivation (did the student take initiatives, exhibited self-reliance, systematic approach to design problems?) **20%**
- Design verification: Simulations, modeling, emulation, prototyping, and testing (whatever appropriate) **20%**
- Planning & Teamwork (whenever appropriate) **10%**

1.7 Presentation

The presentation will be evaluated based on the following:

- Clarity of the problem description and proposed solution (how well did the student communicate his design effort?) **50%**
- General Presentation skills **30%**
- Discussion (how well did the student handle questions?) **20%**

2 Items and Policies Affecting the Grades:

1. Quality of Action plan (Week 3) and Progress Report (Week 8)

2. Project Implementation

- Engineering approach: System design, critical examination of different approaches and justification for the selected approach(s). The utilization of basic engineering science in the design
- Completion of the design
- Design verification and testing: simulations, modeling, emulation, prototyping (when appropriate) and testing

3. Work habits

- Motivation
- Organization
- Self-reliance
- Planning
- Critical thinking

4. Project Documentation and Final Report (Week 13, 14)

- Compliance with the report writing guidelines
- Clarity of the problem description and proposed solution
- System design, approach selection and design segmentation
- Implementation/Testing report and any 'product manuals' if the project requires it

5. Final Presentation (Week 14, 15)

- Clarity of stated problem and solution
- Quality of presentation (organization, body language ...etc)
- Discussion (how the student answers questions; which demonstrate his understanding of the project and its socio-economical aspects)
- All Project presentations must be done using PowerPoint. Presentations are usually 15-20 minutes