Syllabus for CSC-436
Winter 2010

Instructor Information:
- Dr. Michael Farmer
- Office Hours: Mon. 1:00-2:30, Wed 11-12, Tues. 3:00-4:00
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Course Information:
- CSC-436 is the Capstone class for the Systems and Networking track in the CSC program. It is a chance for you to tie together everything you learned in 382, 365 and 336, and possibly 377, as well as all the programming classes you have taken to date. Consequently, the Capstone is *not* simply a large programming project. (Recall only 5-10% of the effort in a software project is programming, the rest is analysis, design, and testing). The Capstone project will be an opportunity for you to tie all these classes together.

Course Objectives:
- The goal of the class is to afford you the opportunity to demonstrate through a well-defined set of deliverables that you understand the issues in developing a either a standalone computer system or a networked based system to solve a specific need. You will demonstrate through a well-defined set of deliverables that you understand the technical issues and trade-offs associated with such a design.

- The specific course objectives are as follow:
    o Be able to clearly articulate a computer science-related project scope,
    o Be able to realistically estimate the effort of the task,
    o Be able to develop a schedule for a set of tasks,
    o Be able to perform the system level requirements analysis and describe them clearly
    o Be able to perform the required system architectural definition
    o Demonstrate you understand the key technical issues of a computer system design
    o Be able to prototype a computer-based system.

Class Format:
- The format of the class will be for you to form small groups (3-5 students per group) and then work as a small software company to define, analyze, design, code, test, and deliver a small software application. Every week each team will turn in a status report detailing the work expected to be completed and the work actually completed.

- The final outcome of the class will consist of three parts:
    1. A project report
    2. A prototype system demonstration
    3. A project presentation

Assessment Mechanisms:
- Your understanding of the course objectives will be assessed by your writing and my reviewing the following deliverables:

    o Project Scope Document (1-page)
    o Abbreviated Project Plan (includes scope, list of deliverables, assignments of responsibilities to the group members, and most importantly a schedule)
    o Abbreviated System Requirements Document (this should include a Context Diagram, possibly a collection of Use Cases and a brief introductory explanation of overall system requirements)
    o Developed System (this will be a prototype to demonstrate the requirements defined above were met at some level)
    o Project Write-up (a detailed write up that summarizes the scope, requirements, and the design details. This is *not* simply a listing of the source code written)
    o Project Presentation (This will include MS Power point slides reviewing the materials defined above, and will also include a demonstration of the system).

- The project report will be at least 50 pages long and consist of the following major sections:
    o Introduction and Project Scope
    o Project Management Overview
        ▪ This section includes schedule, staffing plan, key deliverables.
    o System Requirements
        ▪ This section includes all Use Cases, CRC Cards, Class Diagrams, and Sequence Charts, for an OO approach or Software Context Diagram, DFDs, and PSPECS if using a Structured Analysis approach.
    o System Design
        ▪ This section should include an additional Class information or DFDs for providing more detail, and should include pseudo-code PSPECS for all functions or OCL specifications for all Class Methods.
    o Prototype Details
        ▪ This section should include all screen shots of the system as it is stepped through its functionality, and any other useful diagrams (e.g. diagrams of any hardware, etc.)
    o Conclusions

Prerequisites:
- CSC-382, CSC-365 and CSC-336

Book:
- None.

Tools:
- *Visible Analyst Diagramming tool (purchase student copy for $49)*
- *Microsoft Word* – available everywhere
- *NOTE:* Any other tools you find on the Internet to do the job are also fine.

Grading:
- Project Plan (15%), Requirements Specification (15%), Design Document (15%), Final Design Presentation (25%), and Final Project Write-up (30%).

- Scale:

A's	B's	C's	D's
97-100: A+	87-89: B+	75-79: C+	65-69.9: D+
92-96.9: A	82-86.9: B	72-74.9: C	62-64.9: D
90-91.9: A-	80-81.9: B-	70-71.9: C-	60-61.9: D-
			0-59: E

Attendance:
- We will meet every week, where you will present your schedule and show your progress relative to the schedule. If you cannot attend be sure to update your team members and also notify me ahead of time. Continual absences will be deemed lack of participation in the project and result in an E grade. With every in-class status presentation you must turn in a status report (see format on Blackboard).

Late Homework Policy:
- You have one semester to complete this project. All of the deliverables are due on the last day of the semester. It is recommended that you complete many of the deliverables early to ensure a timely completion. **Late projects will result in an E grade, no exceptions.**

Academic Misconduct:
- Copying others work, plagiarizing external references without giving due credit, and cheating in exams are strictly forbidden. Please take pride in your own work, and feel free to ask me if you need help or assistance to maximize your learning.

Proposed Schedule: (Note this schedule is subject to change)

Week	Tuesday
Week 1 (1/4)	No class (start Wed)
Week 2 (1/11)	Initial Meeting & Team Formations
Week 3 (1/18)	Project Definitions formalized and delivered as 1-page scope statement (also presented)
Week 4 (1/25)	**Project Plan Submitted**
Week 5 (2/1)	Project Status Report & Results Presentation
Week 6 (2/8)	**Interim Draft of Requirements Specification Submitted**
Week 7 (2/15)	Project Status Report & Results Presentation
Week 8 (2/22)	Project Status Report & Results Presentation
Week 9 (3/1)	*Spring Break*
Week 10 (3/8)	**Interim Draft of Design Document Submitted**
Week 11 (3/15)	Project Status Report & Results Presentation
Week 12 (3/22)	Project Status Report & Results Presentation
Week 13 (3/29)	Project Status Report & Results Presentation
Week 14 (4/5)	Project Status Report & Results Presentation
Week 15 (4/12)	Project Status Report & Results Presentation
Week 16 (4/19)	**Project Presentations Final Report Due**