CS 283: Computer Networks  Spring 2012

Course Project

The purpose of this project is to provide you an opportunity to build a cool networking application or solve a real computer network issue. There is some flexibility in what you do and how you do it. This document outlines the requirements and the milestones of this project. Please read all sections of this document and the suggested topics and start early.

This project is divided into three phases. Each phase provides a well-defined point for the instructor to provide feedback and evaluate your team’s effort. Here are the details of what is expected and what needs to be delivered for each phase.

Grading: This project accounts for 20% of the final course grade, allocated among the three phases as follows: Phase I (3%), Phase II (7%), Phase III (10%).

• Phase I: Project Proposal and Team Forming [Due Feb 17]

Each project is undertaken by an individual or a team of 2 to 5 students. It is strongly recommended that you work in a team. You can greatly benefit from the discussions with other team members and accomplish a project with better quality in a team. Moreover, after graduation you will most likely work in a group. So working on a team project will help you to become an effective team player in your future working environment.

Your team can propose to conduct any networking-related project of your interest. For you reference, a list of suggested topics are provided at the OAK system. The instructor will assess your proposed topic. And if it is believed to have suitable scope and difficulty, the proposal will be approved and you can go ahead for the next phase. Otherwise, you have to revise or refine the topic. For this reason, it is strongly recommended that your team schedules an appointment with the instructor to go over your proposed topic before you submit the proposal. By the due date, you need to submit a proposal which includes the following information.

– Title of your topic.
– Names of your team members.
– The goal of your project. If the project aims to build a networking application or system, explain what the system will do. If the project explores a networking issue, explain what problem your project will research.
– Your approach to conduct the project. For system-oriented project, describe how you would implement your system and what experiments you would like to conduct to test your system. For research-oriented project, describe how you plan to analyze the network problem. Please present a rough timeline and milestone of your project.

• Phase II: Progress Report and Design Review [Due March 19]

You are required to finish the design of your system by the due date of phase II and report your progress. The progress report should describe your design and the challenges you
have faced in designing your solution. For system-oriented projects, present the system functional specifications, modules and interfaces. For research-oriented projects, present your method/algorithm.

- **Phase III: Final Report, Presentation and Demonstration [Due April 25]**

In this phase, you will evaluate your design and wrap up your project. The final deliverables are listed as follows.

- *Final report.* Submit the final report of your project by **April 25.** The final report extends the progress report with the evaluation results. It needs to be well-organized, and well-written. For research-oriented project, this final report counts for a major portion of the final grade. For system-oriented project, the final report and the system demo are considered jointly for your final grade.

- *Team member peer evaluation.* A brief evaluation report of each team member’s contribution in this project needs to be submitted along with your final report [Due **April 25**].

- *Presentation and Demo Session.* A presentation session will be organized in the class at the end of the semester, either in the format of a poster presentation or an oral presentation using Powerpoint slides, depending on the time availability and the number of projects that we will have in the class. Your project should: (i) tell us what your system does, (ii) describe what design or implementation innovations were required to complete the project, (iii) the final results.

If your project is a system-oriented one, you team need to show a demo of the system during the session. Your team will be asked about your system – functionality, design choices, and related work. Questions may be directed to any member of the group. Your team needs to hand in the code of your project after the presentation session.

If your project is a research-oriented one, your team will be asked about your solution and the results. Questions may be directed to any member of the group. Your team needs to hand in the code of your project, if any, after the session.