

COURSE PROJECT {September 30, 2015}

The course project can be done individually or in two-person teams. The decision as to team membership must be worked out before the project proposal is submitted on **October 2, 2015**.

This document provides general suggestions for the course project and project due dates. Students are free to submit any reasonable proposal, but the course project should be interesting and one the students can undertake. The following lists suggested project types:

1. An actual implementation and performance analysis using the TelosB sensors. This involves a real Wireless Sensor Network (WSN) and performance measurements.
2. A simulation study of a WSN that runs using Contiki and the associated protocol stack. This simulation project would use the publically available Cooja simulator.
3. An in-depth research paper/term paper on some aspect of the Internet of Things **NOT** covered in detail in this course. This is the least technical choice in that no programming or building of hardware is required. The paper could be of a survey nature with an extensive literature search or it can be an in-depth probe into a specific issue in computer networks.

Other types of IoT projects are possible but all proposals must be approved by **October 5th**.

Project Due Dates and Schedule

Each project team needs to meet with Professor Kinicki to discuss possible projects prior to submitting a proposal.

Proposal**Due: October 2, 2015**

Each group must submit a project proposal electronically. The proposal includes: an explanation of the project including: expected outcomes, a description of the work to be done, resources needed to do the project, and a discussion of the value of the project relative to the research focus areas and to the objectives of this course.

The proposal is either accepted or returned for revision, but it is not a graded assignment.

Progress Report or Design Report**Due: Friday, November 13, 2015**

This report clearly states the current status of your project. If the project involves building something (e.g. software, hardware or conducting experimental data collection), the progress report is a **complete design report**. If the project involves algorithm analysis or an in-depth

investigation of some aspect of the Internet of Things, this progress report must include a clear discussion of the problem, include the current state of your analysis or investigation. The progress report must include your **completed bibliography (properly formatted)**. The expected length of this report is between 10 and 20 pages (not counting pages with figures or diagrams).

This report will receive a letter grade based on all the standard criteria of a professional technical report (i.e., technical organization, grammar, writing style, typos/misspellings and content will **ALL** be considered). pseudo-code is **unacceptable** in a design report. Professional technical prose is expected. The penalty for late submissions is the lowering of the grade one + or – level per week late (e.g., If a team turns this report in one week late on November 17th and it deserves a B+ letter grade, then the late penalty would mean the report would receive a B grade.

Note: This report can easily be the basis for the final report. The key is to demonstrate that a sufficient amount of work has been done at this point.

Project Presentation

Due: December 15, 2015

Each team must give a PowerPoint presentation of their project. More details on the expected time length for these presentations will be provided once we know the final class size.

Final Project and Report

Due: December 18, 2015 at 4 p.m.

The final report should be a well-presented technical report discussing your project. If your project is primarily a programming effort, you should explain how the program works, give specific sample runs and analyze the results using appropriate graphs and tables. You must turn in a electronic copy of your program which must conform to standard commenting expectations. **The analysis of results is the most important component of the final report.**

The final report may include parts of your progress report. The written report should be 15 to 30 pages in length. You **must** turn in your graded progress report with your final report. If the group feels a live demo would help explain the project, then a live demo should be scheduled on or before December 18th.