Final Project Proposal

Out: Tuesday, 7 November 2017
Proposal Due: Thursday, 16 November 2017

Overview: In this assignment, you will produce a plan for your final project and an in-class presentation on Thursday, 7 December (students registered for COMP.5490) or Tuesday, 12 December (students registered for COMP.4510).

Guidelines

The final project is worth 40% of your overall class grade.

Here are the things that will make a high-quality project:

- Explicit connection to ideas that were introduced in the course
- Explicit connection to some real-world domain
- An interesting overall concept
- Something that you personally are interested in and care about
- An implementation in which you learned something carrying it out
- Demo that lets people (or yourself) interact with your project
- A well written paper that explains what you accomplished

The Proposal

The proposal itself is a written document that explains what you are going to do. It should have the following sections (as well as your name(s)):

- **Project title.** No more than ten words. Really.
- **Problem statement.** What is the problem and why is it interesting?
- **Problem analysis.** Explain what approaches from the class you will bring to bear on the problem. Be explicit.
- **Related work.** (Required for students registered for COMP.5490; optional for students in COMP.4510.) Cite 2-3 research papers that are related to your proposed project, along with summaries of the papers written in your own words. How does what you are proposing to do relate to these papers? Given that this class project does not have to be original research, it is okay if your proposed project is quite similar to one or more of the papers that you cite. You can use the online databases on the UML Library website. IEEE and ACM will likely be the best databases to search.
- **Data set or other source materials.** If you will be working from existing data, where will you get the data (e.g., will you download it from a web site, will you create it via a simulation that you build, etc.)? How will you convert it into a form that is usable for your project? Do your homework here: if you are pulling a data set off the web, actually download it and look at it. Explain in some detail your
plan for accomplishing the necessary data processing. If you are using some other starting materials, explain what they are.

• **Deliverable and Demonstration.** What exactly will you produce by the end of the project? Of course, there will be a piece of software, but what will it do? Is it a batch-mode kind of thing, and you will present some analytical results? If so, how would your program be re-run on different source data? Will your program be interactive, and you can show it at work? There will be a demonstration, so interactive/live programs will be good. Explain exactly what you'll have at the end.

• **Evaluation of results.** How will you know if you are successful? It would be wonderful if this included some kind of quantitative analysis.

• **Major components and schedule.** Explain how you will go from proposal to finished product. Explicitly define at least three major components of the project. Put them in logical sequence as to the order they will be created. Indicate dates that they will be done. Remember the final code, demonstration, and presentation is due either Thursday, 7 December (for students registered in COMP.5490) or Tuesday, 12 December (for students registered in COMP.4510).

In short: You should be proposing something that you have high confidence that you can achieve, and the proposal should project that confidence.

The proposal should be no longer than necessary, but long enough to include critical detail. Three to four pages is appropriate. Diagrams are welcome.

**Teams**

Teams of two are acceptable. The key is that the team must propose a joint product, but with each of the two individuals responsible for clearly separable parts. It is expected that a team project would be significantly larger (i.e., double the work) than a single person project.

In the Deliverables section, the project must be described in a modular way, so that each person his responsible for different pieces.

In the Major Components section, there should be two columns, one for each partner, showing parallel work. Please make sure to leave time for integration.

You are welcome to help your teammate with your teammate's portion, but you will be evaluated on the part that you specified that you are responsible for (in the proposal), so please make sure to specify the separate pieces that each of you will be working on.

If you do your part, but your partner totally bails, I should still be able to evaluate your work independently.

Teams should submit one proposal with all of your names on it. Teams will give a single presentation on the class presentation day (teams that are mixed with student who is registered for COMP.5490 and one student who is registered for COMP.4510 will
present on Thursday, 7 December). However, each person will be required to write the
final project paper individually.

**In-Class Presentation (12/7 for COMP.5490 and 12/12 for COMP.4510)**

Create three to five slides that present your idea. Students enrolled in COMP.5490
(graduate credit) will present in class on Thursday, 7 December and students enrolled in
COMP.4510 (undergraduate credit) will present in class on Tuesday, 12 December.

You should either show a live demo of your system or a movie that you made of your
project working.

The presentation should take five minutes. Practice your talk several times to make sure
you can give the talk and show your demo (or demo movie) in this amount of time.

If you are working in a two person team, the presentation will be given jointly but can
last for up to 8 minutes.

**Project Paper**

Details of the final project paper will be handed out after the proposals are submitted.
The project papers will be due by noon on Tuesday, 19 December in hard copy in Olsen
206. (Note: You may see that the registrar has scheduled a final exam for the morning
on that date. This class does not have a final exam, so there will not be an exam in that
slot.)

**Grading**

The following factors will be used to evaluate the final project:

- Quality of the proposal document (see above for what it should include)
- Degree/quality to which project makes use of class concepts (please be explicit
  about this in both the project proposal and the final project paper)
- Accomplishing project itself
- Quality of in-class presentation and demonstration of project
- Quality of final project paper