CMPSC 580
Topics and Research Methods in Computer Science
Spring 2015

Assignment 11
Proposal Writing Workshop, Part 1
Outline due at the end of class Tuesday, 10 February

During class on Tuesday and Thursday of next week, you will be working in teams of three to produce an outline and first draft of your Module 1 proposal.

How Peer Editing Works

You and your partners will go through a cycle of "discussion," "development," and "review" modes. During discussion mode, you will present to each other a small component of the proposal and talk about it—"bounce ideas" off each other, ask questions, and take notes on one anothers' comments and concerns. This will be followed by a period of writing (development) when you will each try to create a small portion of formal text that solidifies some of the ideas you have discussed. Following this will be a period of review when you read over each others' writing and comment on it.

Each partner should have a fresh copy of the senior thesis proposal template (there is a copy in the `cs580s2015-share/proposal-template` repository folder).

Quick Review of LaTeX, BibTeX, and Formal Writing

The first few minutes of Tuesday's class will be given over to a quick review of some helpful concepts and shortcuts, ensuring that you can include references in your proposals.

Tuesday—First Round

Discuss: Share your idea for a senior project with your editing partners and listen carefully to your partners' idea. If you are unclear about the nature of the project, try to ask strategic questions about it that will elicit more specifics. Examples of good questions (you can think of more!):

- What would be a good title that summarizes the purpose and goals of the project?
- What will be the main "deliverable" of the thesis—a computer program or a mobile app? an experiment? an empirical study? a set of recommendations? a public Web site? an analysis of an existing program, process, or system? a piece of hardware? a case study? ...
- How will the correctness, validity, effectiveness, efficiency, etc., of the project be evaluated and measured—through experiments? using established benchmarks? through human subject testing? by mathematical analysis? ... (The word "metrics" is often used in conjunction with this—what metrics will be used?)
- Is there a very simple example of the problem or the form of the proposed deliverable?
- Is there a body of professional literature (e.g., books, journal articles) dealing with the topic?

Develop: Following this discussion (no more than 15 minutes initially), each writer should spend 10 or 15 minutes attempting to write a brief introductory paragraph describing the project. Please eliminate filler text, diagrams, and tables from the template so that only your new text appears.

Review: All of the team members should review one anothers' description, making suggestions about both the technical content and the writing style.

Tuesday—Second Round

Discuss: Each student should try to outline the major components of a proposal on his or her chosen topic and should listen to and ask questions about the partner's outline. This should be a specific, rather than a generic, outline. For instance, "Review of Literature" is too general—instead, mention specific publications that should be reviewed. Examples of questions:

- What is the chief motivation for studying the proposed topic? Can this motivation be conveyed to the reader using statistics, anecdotes, hypothetical examples, recent news articles, or other means?
- Who will benefit from the proposed research—Web users? programmers? businesses? artists? environmental researchers? students in programming classes? ...
- Is there a concept that has not been discussed in the course that is central to understanding the proposal? If so, should it have its own section in the proposal?
- Is there a backup plan in case the proposed work turns out not to be feasible?

Develop: Try to organize the section headings in the proposal template according to the outline you and your partner have discussed, filling in text wherever possible. Remember that LaTeX allows subsections, so several levels of outlining are possible.

Review: Critique each others' outlines, then print out your skeleton document and hand it in at the end of the class. Remember to place a copy in your personal `git` repository and make sure that you have shared it with all members of the faculty.

Preparation For Thursday

Between Tuesday and Thursday, try to develop some of the sections you outlined in class on Tuesday. This would be an excellent time to track down some references and give them a first reading, and begin to format them BibTeX-style. It would also be an excellent time to expand the introduction of your proposal based on the questions and suggestions you received from your partners.