

## Final Project Proposal

Due: February 17, 2009

### 1 Final Project Goals

Ideally, your final project should be a research-like project, something that is an extension of previous work, or a new idea. It should also have a snazzy demo, and we might even use the atrium for the final demo space. These two goals are often antagonistic, do your best to maximize both of them. Each group will generate a conference-paper-like final report: It will be six to eight pages, with figures and a proper set of references.

### 2 “The Literature”

“The Literature” is your friend. Too many students avoid properly researching a topic, only to spend two weeks in the lab to avoid two hours in the library. The way to avoid that is to do a little bit of research into what has already been done.

I ask myself a few questions when I read a paper: Is the problem interesting? Is it obvious how to solve it? (obvious papers are boring) Do they use real robots? Look at the figures and pictures, are they interesting? (or pretty?) Look at the experiments. Can you do something like that with our hardware? If the answers to these questions are “yes”, then this might be a good paper. Read it.

Use the papers I’ve referenced in the lecture notes to start to research the literature. If you use Google Scholar or Citeseer while on campus, you can find the full papers. UW has paid subscriptions to all the major journals, and you can browse and download anything you want. If a paper seems promising, look at its references to find something more basic, more modern, or more interesting. I usually survey about fifteen papers for each lecture, print about six to read more carefully, then assign two for you to read. You should spend about as much time on your references. I use Firefox and Zotero to keep my references organized. Don’t be ashamed to use Wikipedia to get started, but don’t even think about using a Wiki article or web page as a reference.

### 3 Proposal Guidelines

Your proposal should be no longer than two pages. You should have at least six references to the literature. The proposal should be divided into five sections:

**Introduction:** The reader should be able to read only this and know what you will do.

**Related Work:** What have other people done. Refer to the references.

**Problem Statement:** What problem will you solve. Note that this is *not* what you are going to do, this is the problem you will address.

**Approach:** How you will solve this problem. This *is* what you are going to do.

**Schedule:** Provide a rough schedule with dates of completion. Identify the key difficult challenges, and the major sources of uncertainty. Be sure to list these clearly, we will discuss them during the review.

Although you can use Word to generate technical documents, Latex does a much better job. If you plan on going to grad school, learn Latex now. Miktex and WinEdt are useful for Windows users. Zotero can generate a Latex .bib file. In any case, use PDFtex, and never, ever, generate a .eps file.