

CPSC 444 Project Milestone I: Proposal

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Overview

You have approximately **1 week** to complete this milestone. See course schedule for exact dates.

Milestone Deliverables

A. Project Concept/Project Brainstorming
(up to a 1/2 page)

A.1. Project topic short list

B. Preliminary Task Analysis and Design Direction

(up to 3 pages, not including appendices, which have no page limit)

B.1. Problem Description

B.2. Task Examples

B.3. Task Analysis

B.4. Design Direction

+ Part B Appendices (B.I – B.II)

Appendix B.I – Bibliography of cited references.

Appendix B.II – Supporting images and figures (from steps 4 – 6).

After Milestone Submission

Team formation and mini design review with course staff.

Introduction

This first milestone is an *individual assignment*. You will begin by proposing a topic idea that could form the basis of your course project by performing a preliminary task analysis. The course staff will then select the most promising ideas to be used for this year's project topics. Teams will be formed around those topics and all remaining milestones will be team based.

The theme and constraints for this year's project will be discussed in the lecture. With respect to this year's theme and project constraints, you may work on any topic idea that centers on: (a) the creation of a new interactive technology to support a human activity, or (b) the substantial improvement of an existing interactive technology so that it better supports a human activity. Alternatively, (c) you may also consider redesigning an existing system to make it appropriate for a different user population. You are encouraged to be creative and innovative.

Example topics will be provided in lecture.

A. Project Topic Brainstorming

You will start by brainstorming possible topic ideas. (If necessary, refer to the 344 brainstorming notes: <http://www.ugrad.cs.ubc.ca/~cs344/current-term/resources/supp-brainstorming.html>)

A constraint on your project topic is that you *will have to involve representative users in both the design and evaluation stages*. To comply with the CPSC 444 Approved Ethics you may only recruit people who you or one of your team members knows personally – friends, classmates, acquaintances, or family members. You may only recruit people who are 18 years of age or older. Assume that you will require a minimum of 10 representative users over the course of this project. (The one exception is that if you work with a difficult-to-recruit population such as the blind, you may be permitted to involve fewer than 10 users.) Therefore, select a project topic for which you are confident that your team could recruit appropriate users.

Be aware of your own experience and skills when considering possible topics, as well as those of potential teammates. Also be sure that a team could acquire the appropriate tools to do the job. (Note that the focus here is on the user interface design and not on developing all the other technological pieces that would be required to get your project working in the real world. Some backend functionality is needed so that you can appropriately evaluate your system, but the whole system does not have to be "production ready.")

Your proposed project topic should be as specific as possible. The more specific you get during brainstorming, the more likely that your team (to be formed after this milestone is submitted) will be able to design, implement, and evaluate the user interface for your project within the course timeframe.

From having taken 344, you are already familiar with those resources available to you in the HCI Learning Studio. If you have other resources at your disposal, you are welcome to use those. You are encouraged to think "out-of-the-box" and include new or different interaction techniques (e.g., speech interfaces, vision-based interfaces).

<p>Deliverable A.1. Project topic short list: a list of three of your <i>best</i> project ideas from brainstorming. Provide a 1 – 2 sentence description of each.</p>
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B. Preliminary Task Analysis and Design Direction

Step 1: Choose your proposal topic

Choose *only one topic* from the short list of potential topics you generated in Part A to use for your proposal. Consult with your TA if you need guidance on which of your ideas have a high likelihood of success.

Tip: Strongly consider choosing your most novel idea, so long as it can be prototyped.

Step 2: Preliminary research & references

Do a preliminary search in the research literature on your chosen topic. This will allow you to assess the novelty of your design idea and set your idea in the context of related work. Key sources include: the HCI Bibliography (www.hcibib.org), the ACM digital library (<http://portal.acm.org/dl.cfm>) and Google Scholar (<http://scholar.google.ca/>). As a starting point, try to find **at least three pieces of related work**.

You should cite any sources that you have used (e.g., for quotes, general reference, or images), including books, magazines, journals, and URLs in **Appendix B.I**. Depending on how the sources relate to your proposed idea, it may be appropriate for them to appear anywhere in part B.

Appendix B.I: Bibliography of cited references. Any clear, professional citation style is acceptable, e.g., APA style (http://www.apastyle.org/).

Step 3: Problem Description

- Identify the *human activity/practice* which your proposed system is intended to or needs to support
- Identify the *people or users* who will or should be performing the activity, as well as *other important stakeholders*

Deliverable B.1. Problem description: A short and specific description about the high-level goals of your proposed project including the two bullet points above. This will act as an introduction to the rest of the proposal, preparing the reader for details to come.
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Step 4: Identify task examples

In order to illustrate the potential utility of your chosen system, your proposal will include a set of representative task examples (which you learned how to do in 344: <http://www.ugrad.cs.ubc.ca/~cs344/current-term/resources/supp-taskExamp.html>). The task examples should be directly related to the human activity you are trying to support. Identify and describe *at least three task examples*, using a range of stakeholders. Make each example as succinct as possible, using images or figures where appropriate.

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Remember, task examples are interface-independent; or as much so as you are able to make them. That is, they should not include details about a particular interface design, but should be defined more broadly so that more than one interface could potentially be used to perform any given task.

Deliverable B.2. Task examples: Succinctly present at least 3 task examples in your report.

Appendix B.II: Supporting images and figures

Step 5: Task analysis

You need to analyze each task example and determine to what extent it is supported in current practice (perhaps through existing technology, or through non-technological means), identifying both the positive and negative aspects of this practice.

Deliverable B.3. Task Analysis: Document your analysis of each task (as described above) to give more background for the problem or new idea.

Appendix B.II: Supporting images and figures

Step 6: Design Direction

Identify a specific high-level design approach for resolving the problem or implementing the new ideas described earlier and briefly explain why you believe the approach will work. Use images or figures to clarify your suggested approach where appropriate. Low-level design (e.g., a specific graphical user interface layout) is not expected at this stage, but a detailed description of the design direction is required. You should note any additional infrastructure (software, hardware or other materials) that you expect you might need for your system, and identify where it might come from (course staff, personal stocks, other?). Of course this may evolve and change in a later stage of the project.

Deliverable B.4. Design Direction: Write up your design direction as described above.

Appendix B.II: Supporting images and figures

Milestone Specific Marking

General project marking criteria can be found on the course page. In addition to the usual marking criteria, you will be marked on:

- The quality of your preliminary literature search

Tentative High-Level Marking Scheme

- | | |
|---|-----|
| A. Project brainstorming | 20% |
| B. Preliminary task analysis & design direction | 80% |

- Design direction is worth approximately 35% of this section

Milestone I Mini Design Review

Course staff will mark the proposals soon after the deliverable's due date, and will select the most promising ideas to be used for this year's project topics.

Shortly after the topics are posted you will have a team formation lab, in which the author of each selected proposal will give a brief 2-minute pitch about their idea. You will then participate in a short team formation exercise, forming teams around the selected project ideas.

Course staff will then conduct a mini design review with each team. The intent of the design review is to provide feedback to the teams on their selected idea, and discuss the plan for proceeding to the next project stage.