**Senior Project Proposal**

**Fall 2019**

**Due: Tuesday, September 17, 1:00 p.m.**

**Moodle drop and hard-copy brought to class**

As we discussed in class, your project proposal must be approximately 3 but no more than 5 double-spaced pages (not including references or the timeline). It must be a **word document**, in 12 point Calibri font with the default margins. It must include at least one diagram, most likely in the section related to system design. If, due to the theoretical nature of your project, a system design diagram is not appropriate, you should decide what aspect could be most usefully represented with a diagram and make one for that purpose instead. One diagram is the minimum. If there are other aspects of your project that you think can be well-served by being explained in a diagram or image, add more. Do not forget to have a centered title with your name and the name of your advisor(s) below the title.

Reminder: The librarians and the writing center are excellent sources of help. Use them. And don’t forget the read-again-revise-again cycle.

**IMPORTANT PROJECT BOUNDARIES**

**Your project is to be your own work completed within the boundaries of the time specified in your timeline**. If you will be making use of work you have already completed, you must explicitly identify that work (including in your proposal) and its use must be approved by your project advisor. The project is not to be cooperatively created unless cooperation is an integral part of it (such as if you are working on an open-source project). If there is an aspect of cooperation in creating the project, those aspects must be explicitly identified (including in your proposal) and approved by your project advisor.

**WHY?**

Remember, as discussed in class, imagine me a someone who is going to give out $10,000 for the best idea. The goal of your proposal is convincing me why I should give it to you. That “Why?” is really two parts:

1. Why is this a great idea?
2. Why am I the person to do it?

Your proposal should answer Question 1 with a compelling motivation and description of what problem or need your project is addressing and how it is going to address it. Question 2 is answered by convincingly outlining the steps that will be taken and developing a thorough, well-planned and achievable timeline for completing the work.

**Appropriate Technical Writing Style**

Remember, this is a formal document, so it should not sound informal or conversational. Think of it as if you are using the proposal to ask for a million dollars in start-up money (up from me giving you $10,000). The proposal should convey not only the idea of the project to the potential investor, but that the author is sufficiently competent/intelligent/mature to manage and complete the project. So, keep the following points in mind:

* Do not use the personal pronoun “I”. Your project is the subject of your proposal not you. So, for example, do not write “I will use 3 weeks to design the layout”, but “Three weeks will be allocated for layout design”. Also note that the second rendition sounds more formal (to the point above) than the first rendition. If you absolutely must refer to yourself, generally the third-person “the author” is used or, in true asking-for-money fashion, “the PI” (for principle investigator).
* Don’t use don’t…or any other contractions (so use *do not*, *will not*, *has not*, *they will* etc., rather than *don’t*, *won’t*, *hasn’t*, *they’ll*).
* Do not include personal opinions. Use facts or documented findings, with references. For example, do not write “All college students love playing video games”. First, it is an over-generalization and not true and second it really is an opinion. Instead, for instance, find a study that shows the number of college-age individuals who play video games and refer to it in your work. So, for example, a more appropriate statement would be: “A study by the We Know It All Research Coalition found that 85% of college-age students play a video game at least once a day [citation]”. Signs that your writing is tipping into opinion: using words like “think”, “feel” and “seems”, or extravagant language such as “outrage”, “embarrassment”, “terrible”, “fantastic”, “amazing”. If something really is amazing, find a reference to quantify it.
* Avoid generalities. Be specific and provide justifications. For example, do not write “The existing application for managing equipment reservations is inefficient” and leave it at that. Rather write something like “The existing application for managing equipment reservations is inefficient for several reasons. First, the equipment managers must continually check their e-mail accounts for…”. If discussing existing approaches, always give specific reasons why they are lacking. Doing so also gives you the opening to justify why your idea is needed and great. Be sure to give specific justifications for any generalizations you may be making.
* Also, in line with justifications, give reasons why you have chosen the technology you have chosen. As discussed in class, please do not make one of the reasons “because I want to learn it”, even if that is a reason.
* Remember basic grammar rules and writing style. Avoid using run-on sentences (one sentence that should really be at least two sentences). Make sure your verb tenses agree. Do not just randomly pick a synonym from a thesaurus without really knowing what it means. Avoid repeatedly using/over using the same word in a sentence or sequence of sentences, unless you are specifically using that technique to make a point.

**References:**

Yes, you must have references, particularly when it comes to justifying why your idea is a great one. Remember your First Year Seminar days. Your sources should be legitimate/reliable sources. The ACM style guide is to be used for reference formatting:

<https://www.acm.org/publications/authors/reference-formatting>

Your list of references should appear as a separate section under the heading “References”.

**Timeline:**

As noted in class, this is really the opportunity for you to sit down and realistically think about what needs to be done to complete your project, in what order those things will be done and how long each will take to complete each of them.

* Be sure to build into your timeline sufficient time for testing and getting feedback. In the spirit of agile development, it is best if the testing is as incremental as possible. In that way, problems can be detected and corrected early, before they get baked into the project to the point that they cannot be addressed. Thinking of development in terms of incremental testing is also helpful in identifying deliverables for your timeline. Also, don’t assume you know best. Ask the area experts. If you are writing software intended to help elementary school teachers manage their lesson plans, consult with elementary school teachers early and often. And build doing so explicitly into your timeline.
* As stated in class, your timeline should be in two parts. The first should end by **November 26** (the Tuesday before Thanksgiving) and be specified in 2-week increments. The first increment should end on September 17, with the deliverable being the first draft of your proposal. Good news. You are on your way to completing your project already. The second timeline should realistically include winter break (yes, you will no doubt need to work on your project over break), but at the latest it should start at the beginning of the term (**January 21**) and be in 3-week increments. It should end (yes, that means your project should be complete) by **April 17**, which is before the last day of classes. At the beginning of next term, you will refine and adjust this second timeline, but again you want to have a general idea of what needs to be done and how long it will take to do it.

**Turn In**

You are to submit a **Word** version of your proposal (which includes both text and timeline) to the Moodle drobox, and must bring a printed version to class Tuesday, September 17. This version will be graded, as well as the revised version (which you will create after receiving feedback). Also, you must email your timeline (not your complete proposals) to your advisor for feedback by that due date as well.

Each proposal version will contribute equally to the overall proposal grade. What is the grade based on? Like all papers: the overall effectiveness. The ideal is a proposal which heeds the points above and those discussed in class, and convincingly and as completely as possible answers the questions “Why is this a great idea?” and “Why am I the person to do it?”.