CSCE 496/896-003: Real-Time Systems Final Project

Assigned: 2016-01-25
Due: presentations - last 2 weeks of semester
paper - day of final

Project Overview

This is your opportunity to put into practice some of the many concepts we've talked about. The goal is for you to apply RTS design techniques and research to your own research problems. Additionally, you will prepare a proposal, paper, and a presentation. Several homework assignments will provide you opportunities to make progress toward this goal. The objective is to prepare you to write papers, prepare proposals, and make presentations in the future, something that will likely be a part of your career.

Undergraduate Students

Undergraduate students *may* (but are not required to) accomplish this project (and homeworks related to the project) in a team of up to two people.

Graduate Students

Graduate students must do your **own** work. You may **not** work in teams or groups.

Sources

You can use virtually any resource available to you as long as your work is your own. You can get advice, input, information, help, or anything else from any source you deem appropriate as long as you give that source credit somehow (preferrably a citation, or footnote, etc.). This doesn't mean you need to document all correspondence, but you should be generous in acknowledging help and sources. There are several mechanisms for this:

- Give authorship credit to those who either did a portion of the work or who mentored you in a significant way (this does **not** necessarily mean you should include the instructor as an author if you didn't consult with them regularly or they didn't influence your ideas or work)

- Use citations/references to acknowledge websites and published work you consulted

- Use an "Acknowledgments" section to mention individuals who offered advice, consulting, or who did a very small amount of the work

- Use footnotes in the text to mention personal communication with someone which justifies a conclusion, assumption, etc. These should be used **very** sparingly, as most of your justifications should be published papers

Note that virtually **every person** has their own views of the list above. This is an opportunity for you to think clearly about your views and behave accordingly.

Project Details

This project counts for 40% of your grade. So make sure you spend quality time on it.

Presentation - 100 points

- 50 points - clarity, clean slides, organization

  - avoid slides with **only** words, **only** maths, or **only** pics; mix it up
  - utilize space effectively
  - organization, or conceptual "flow" from one slide to the next

- 10 points - adhere to time limits (not too short or too long)

  - 25 minutes for presentation; 20 minutes to present, 5 minutes for questions (conference-style)
  - presentations will occur during the last 2 weeks of the semester

- 40 points - professional presentation - make it obvious to me that you've practiced this several times

  - appropriate dress (for an engineering or CS conference this is usually business casual)
  - your speech flows nicely from one slide to the next with few long pauses or interruptions

Paper - 300 points

- 25 points - adhere to page limits

  - 5 pages minimum and 8 pages maximum (including references)
  - I will dock you more points for going under the page limit than for going over

- 50 points - adhere to formatting requirements (please indicate somewhere on your paper what formatting requirements you followed)

  - formatted according to whatever major society/organization/club/etc. you generally ascribe to. This could be IEEE, ACM, AIAA, ASM, etc.
  - indicate somewhere on the front page of the paper what formatting you're using
  - I will be forgiving (since I'm not an editor) of small deviations from the formatting guidelines. I'm not going to get out my ruler and measure everything. But I know the general guidelines for most publication societies so it should definitely look like it follows the guidelines without major deviations
  - if you use LaTeX this will already be done for you for the most part if you set up the preamble properly. If you use another tool, some societies have templates for other tools

- 100 points - strong introduction

  - the most important part of the introduction is to provide context for how your work fits into the grander view of the research/development
  - motivating example - why should anyone care about what you've done?
  - related work - this is part of context but you absolutely must study the literature and indicate what others have done and how your work fits into the larger narrative of technological progress
  - this needs to be the **best** part of the paper

- 50 points - easy to understand description of the research problem and your proposed solution

  - this is where you describe your method, your maths, your algorithms, or whatever technical material is needed to understand what you're doing
  - if you make an assumption of what the reader knows, please indicate that expectation. Otherwise very carefully and clearly walk the reader through what you've done. It's usually best to assume they know less than you think

- 50 points - results

  - present your results with clear plots, diagrams, pictures, tables, etc.
  - **discuss and analyze** the results. Walk the reader through what the plots mean and the main "take-away" message from the results

- 25 points - sufficient number of citations/sources; 15 citations **minimum**

  - giving credit to people is both honest and complimentary to those whose shoulders you've stood on to do your work
  - cite everything you've seriously used to develop your ideas: webpages (use fewer of these), research publications (use more of these), workshop papers, personal communication (use a footnote to cite personal communication with an expert). See the "Sources" section above for more details