

ECEn 528

Prof. Penry

Final Project

Proposal due: Nov 17, 2015 in class

Paper due: Dec 8, 2015 in class

Project presentation: Dec 17, 2013, 7 pm

THESE DUE DATES ARE STRICT. LATE WORK WILL NOT BE ACCEPTED.

Overview

The purpose of the final project is to demonstrate your understanding of architectural concepts and your ability to understand the literature of computer architecture. A further purpose is to provide opportunities to practice professional written and oral communication.

Scope of the Project

For this project you will write a short survey article. A survey article provides a guided tour through the literature, explaining the basics of a topic and the current state of the art. An example of a typical survey paper (this one deals with phase change memories) can be found at:

<http://dx.doi.org/10.1145/2480741.2480746>

To write this article, you should choose a topic in computer architecture which has interested you and find out what the latest work on that topic is. A suggested way to proceed might be to look at the most recent proceedings of one of the major architecture conferences, pick an interesting session and/or paper, read those papers, and look for papers they reference. Major architecture conferences include:

- International Symposium on Computer Architecture (ISCA)
- International Symposium on Microarchitecture (MICRO)
- International Symposium on High-Performance Computer Architecture (HPCA)
- International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)
- International Conference on Computer Design (ICCD)

If you have more of an embedded systems interest, you might look at:

- International Conference on Compilers, Architecture, and Synthesis for Embedded Systems (CASES)

If you'd like to look at low-level compilation:

- International Symposium on Code Generation and Optimization (CGO)

While a typical survey article ends up referencing dozens of papers, to keep things manageable, you should be looking at a small enough topic to keep to about 10 papers.

The Proposal

The proposal (1 page) should clearly describe the following:

1. What topic you are interested in writing about
2. A bibliography of the relevant work

The Paper

The final written product is the survey paper. The paper should be written in ACM Small Standard Format. **YOU MUST USE LATEX TO PREPARE YOUR PAPER.** Templates for Latex can be found on the Learning Suite site under Assignments/Final Project. An abstract is required. The paper will be given a final grade based upon the rubric listed at the end of this document.

The In-class Presentation

You will give a 12-minute presentation on your final project, followed by a 2 minute question-and-answer session during the final exam period. The order of presentations will be chosen randomly on the day of the presentations. Presentations will be judged based upon the rubric listed later. Note that 12 minutes translates into at most 9 slides. **Don't forget to bring a laptop or arrange for a classmate to bring a laptop for you to use!**

Collaboration

Discussion of the issues you encounter in the course of your project with your colleagues in this class is highly encouraged, but each project will be unique and must be your own work.

Grading Rubric

<i>Element</i>	<i>Ineffective</i>	<i>Effective</i>
Proposal	not meeting specifications	Turned in on time and meeting specifications
Final Paper		
Support and quality of thought	Feeble or fallacious argument; mostly vague, unsupported generalizations; repetitions assertions; lack of evidence; lacks understanding of topic; insufficient exploration of the literature	Relevant and sufficient evidence is presented to support the conclusions; no important issues are overlooked; no padding; solid understanding of topic.
Arrangement and style	No apparent organizing pattern; paragraph divisions show little or no reason; non-existent or inappropriate transitions; discourages reading.	Well-organized with clear sense of direction; paper invites reading; suitable word choice, appropriate figurative language; clear, precise meaning.

<i>Element</i>	<i>Ineffective</i>	<i>Effective</i>
Writing mechanics	Incorrect or confusing mechanics frequently interfere with meaning; distracting accumulation of errors.	Punctuation, capitalization, spelling, and grammar are used consistently and effectively to enhance meaning.
Data presentation	Unclear presentation; unlabeled axes; no explanations of graphs; no graphs.	Data is clearly presented and reader is helped to understand the presentation.
Presentation		
Gets audience interested	Doesn't show why work is important; substitutes for the paper	Clear motivation for the work and its importance; makes audience want to read the paper
Quality of slides	Lists of bullet points, too many slides	Illustrates important points; graphics dominate words
Delivery	Staring at screen, verbal distractors, reading slides, negative tone	Well-rehearsed; eye contact; clear descriptions
Content	Lacks some major topic; attempts too much detail	Highlights background, related work, and the project's work in appropriate detail; comes to a conclusion

Revision History/Acknowledgments

- 2015 - dpenry - begun