| Fall 2009 | **CSC 590:** Thesis Seminar | Alexander Dekhtyar |
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Thesis Reading and Critique

**Due date:** Friday, October 16, in-class

## Assignment

Your first (real, besides the wiki survey) assignment in this course is to read through a number of M.S. theses, and to present your critique and analysis of them. The assignment has two parts: the reading part and the critique part.

**Reading Part.**

Each of you will receive four different M.S. theses out of a pool of approximately 9-10 theses selected by your instructor. The thesis pool for this course is composed of relatively diverse theses spanning most of the topics typically covered by M.S. theses at the CS department: Software Engineering, Databases, AI, Programming languages, Systems, Graphics. The theses will be distributed relatively randomly, except I will try to make certain that each of you gets at least one thesis in your selected research area.

**Assignment.** Do the following:

1. **Register** your theses on the wiki. The url for the appropriate wiki page is

   http://wiki.csc.calpoly.edu/590/wiki/Reading

   Put your name next to the theses you have received.

2. **Study** the theses. You are expected to

   (a) Have read at least two theses completely (one of them should probably be closest to your area of research).

(b) Have read introductions and background/related work sections of all four theses.

(c) Have looked through the contents of the theses you have not read completely. You are expected to demonstrate a certain level of understanding of what each thesis is trying to accomplish, as well as the understanding of the actual accomplishments of the thesis.

(On the wiki page above put a "*" next to your name in the list of theses for those theses that you decided to read completely)

**Note:** I expect that each thesis will be read by at least two people, and, in addition, looked at by another 2-3.

**Critique/Analysis part**

For this part of the assignment, do the following:

1. Analyze/Understand the structure of each thesis. Think of the following:

   - Do you think the structure of the thesis was successfully chosen?
   - Would you choose similar structure?
   - If the structure is imperfect, in your opinion, how would you improve it?

   Create a stub wiki page for each thesis. The stub should contain the following information:

   - Title of the thesis
   - Author of the thesis
   - Thesis advisor
   - Research Area of the thesis
   - Type of thesis (theoretical, experimental, project, survey)
   - Thesis structure (sequence of chapters).

   You will later complete these pages with analysis.

2. For each thesis you read completely, collaborate on the wiki with other students who read it in creating a thesis analysis/critique document which evaluates/critiques the thesis based on a the issues outlined in Section "Thesis evaluation" below.

3. For each thesis you have received but looked at only cursory, inspect the evaluation given to it by other students, and, if necessary suggest improvements/changes.

As a result of this exercise, I expect a full analysis for each of the theses offered to you, authored/co-edited by at least two people, and inspected/reviewed/corrected by another 2-3 people.

**Note:** One of the theses presented to you was done under the instructor's supervision. The instructor has also been a committee member on at least two more theses presented to you. Please be aware that while the instructor has his own opinions about the theses in question, he has no intention of forcing those opinions on you. Your assessments of the theses will be judged valid and will fulfill the assignment even if your opinion is different from the instructor's, as long as you properly argue your position and provide support for your opinions.

**Collaboration notes.** This part is purposefully designed to make you collaborate on-line with your peers in this course. I expect that certain things (e.g., creation of a stub page) can be done by just one person who read the thesis, and ok'ed by the other person/people. At the same time, I expect the analysis of the thesis to be collective work of all students who read it. You may agree that different people assess different criteria about each thesis, however, you are expected to read and correct, if needed, the text written by your peers.

In general, the final text of each analysis/critique will be considered the consensus document among all those who had the thesis (those who read it, and those who only skimmed it). If two or more people have irreconcilable differences of opinion, please include all opinions, and clearly delineate (a) the authorship of each opinion and the arguments for it.

## Thesis Evaluation Criteria

You shall evaluate each thesis based on the following criteria:

1. **Problem Definition.** Is the problem properly defined? Is it clear?
2. **Writing Quality.** Is the thesis written in good language? Is the flow of the presentation easy to follow? Are there numerous typos, grammar errors in the text?
3. **Contribution.** Does the thesis advance the state-of-the-art in the field? How significant is the thesis to the field? (use your best guess on this. rely on the related work/background information provided in the thesis and your common sense, if the thesis is not in your area of expertise/research)
4. **Originality and innovativeness.** Are the ideas in the thesis novel? Does the attempted/completed work have analogs in research? Does the thesis break any new ground?

5. **Technical Depth.** How much technical depth does one need to understand the work described in the thesis? How well is this depth reflected in the text?

6. **Implementation.** Is there an implementation? How through does it appear to be? How well is it described?

7. **Validation.** Is there any validation to the main ideas of the thesis? How well-designed is the validation? How thorough is it?

8. **Potential for publication.** Did the research yield publishable results? How strong is the work presented and where can it be published?

9. **Potential of future research.** Does the research have natural extensions? Are there interesting unsolved problems raised by the thesis work?

10. **Overall quality of the project.** What is your overall impression of the work done by the student?

11. **Overall quality of the thesis.** What is your overall impression of how well the student captured his/her work in a thesis document?

Your thesis analysis page shall score the thesis on each criterion. For simplicity use 1 – 5 scale:

| Score | Meaning |
|---|---|
| 1 | Really Poor |
| 2 | Below Average |
| 3 | Average |
| 4 | Good |
| 5 | Excellent |

(Feel free to use decimal values, e.g., 3.2, 4.5, 2.8).

## Deadlines

| Assignment Part | Due Date |
|---|---|
| Register papers | October 2 |
| Study theses | October 9 |
| Thesis wiki stubs | October 9 |
| Analysis/Critique | October 16 |