CPSC 479/579 Advanced Topics in Computer Graphics
Spring 2015

Final Project

Overview

The final project is a chance for students to design and build a system incorporating one or more ideas that have been studied in class. Projects can performed individually or in teams.

Detailed Written Proposals (due Tuesday 3/31):

Each team of students should submit a detailed 2-3 page written project proposal. The proposals should convince a reader that you've found a good problem, you understand how hard it is, you've mapped out a plan for how to attack it, and you have an idea about which experiments or examples you might develop to test the success of the implementation. Following is a brief outline you might follow…

Goal – What are we going to do?

Previous Work – What related work has been done?

Approach – What approach are we going to try? Why do we think it will work well?

Methodology – What steps (task list) are required? Which of these steps in particular is hard? Contingencies – what to do if the hard steps don't work out?

Metrics – How we will we know when we're done? How will we know whether we have succeeded?

Role of each Participant – How will you divide up the work among the members of your team? Note that testing and creating examples are a valuable part of any good project.

Summary – What we will learn by doing this project?

In-Class Progress Report (Tuesday 4/7)

Each team of students will give a 5-minute overview of their project (with slides as needed). You should be sure to convince the class that 1) you are addressing an important problem, 2) you understand various approaches to the problem, 3) you have found an interesting approach to attack the problem, 4) you have a *specific, detailed* plan, 5) you have made some progress developing that plan, and 6) you have a way to evaluate your

results. Five minutes is a short presentation, so please come with a presentation that is concise and to-the-point.

Demo Day (Tuesday 4/28 – reading week)

Each team of students will give a short presentation describing their project. Your goal should be to demonstrate and describe for the class in 5-7 minutes what you have done and why it is interesting. In addition to demonstrating the project, you should describe the guts of your project, possibly using slides or other props.

Final Written Reports (due Wednesday, May 6)

Each team should submit a written final report. You are more than welcome to include new results, beyond what you showed at the demo day. The report should include descriptions of the goals and execution of your project. You should include a review of related work. You should write detailed descriptions of the approach you've chosen, the implementation hurdles you've encountered, the features you implemented, and any results you generated.

- Introduction
  - Goal
    - What did we try to do?
    - Who would benefit?
  - Previous Work
    - What related work have others done?
    - When do previous approaches fail/succeed?
    - What sources did we draw on – and in what ways? (Be sure to cite all sources of code or ideas.)
  - Approach
    - What approach did we try?
    - Under what circumstances do we think it should work well?
    - Why do we think it should work well under those circumstances?
- Methodology
  - What pieces had to be implemented to execute our approach?
  - For each piece…
    - What sub-problem is being addressed?
    - Were there several possible approaches?
    - Which approach(es) did we try? Why?
    - What did we implement? (include detailed descriptions)
    - What didn't we implement? Why not?
  - Results
    - How did we measure success?
    - What experiments did we execute?
    - Provide detailed results.

        - What do our experiments and/or examples demonstrate?
    - Discussion
        - Overall. Is the approach we took promising?
        - What different approach or variant of the approach is better?
        - What follow-up work should be done next?
        - Reflection. What we did we learn by doing this project?
    - Conclusion
    - Effort – each report should include a list of individual team members, indicating the percentage each student contributed to the final project.

Grading

Projects account for 50% of the final grade. Criteria include:

Originality
Technical soundness
Completeness and depth, considering:
    difficulty of goal and
    number of participants
Presentations and write-up, for:
    proposal
    final

In-Class Progress report (10%)
Final presentation and final report (40%)