Computational Geometry Project

February 8, 2013

1 Project Description and Timeline

The goal of the project is to study in depth some issue related to computational geometry or topology. Projects may range from an investigation of an open problem in computational geometry (solution not required for a good grade...) to experimental studies of known algorithms. Project topics will be selected by the student (in consultation with the instructors). Projects may be done with partners (of course, more will be expected than if the project is done individually). The project will be completed in the following phases:

1.1 Proposal (10%)

due: 13 February 2013
The proposal should be 1-2 pages, and include a description of what you would like to do. Please clearly articulate your overall plan as well as the next steps that you must take. Relevant references should be provided. This report should also include your github usernames and the name of your project repository.

Note: The milestones for this project will be graded, so please take the time to proofread them.

1.2 Progess Report I and II (10% each)

I due: 27 February 2013
II due: 3 April 2013
In 1-2 pages, please describe the current status of your project. You should include a description of the project (noting any changes from a previous report), a description of your accomplishments to date, as well as the milestones for the rest of the semester.

1.3 Completed Project (40% presentation, 30% webpage)

due: 29 April 2013
The final project is a webpage (or website). Please email both instructors with a link to your final webpage. The amount of time for each presentation will be determined by the number of groups. You may choose to extend the webpage

to a website. For the presentation, you may use slides (although this is not required).

2 Project Ideas

1. Visualizing a geometric or topological algorithm (see Spring 2010 class projects).
2. Synthesizing several approaches to solving the same geometric problem.
3. Investigating an open problem (see the Devadoss and O'Rourke book for ideas).
4. Improving an implementation of a geometric algorithm from a paper.
5. ...