

PROJECT#3 (FINAL)

Due Dates: March 27 and May 01

CS 4/56101 DESIGN & ANALYSIS OF ALGORITHM

Spring 2000, Department of Math and Computer Science, Kent State University

This is the final and most exciting part of this course. I hope by now most of you have a rough idea of the project that you want to do for this class.

Bonus: On project day May 01, a select set of slots will be provided to present few of the projects. Each qualifying project will receive 10% bonus mark. To be qualified your project should be demonstrable and you should be able to complete it at the earliest, and try to take feedback from me as early as possible.

What can be a suitable project? I want you to select a small self contained and achievable idea which involves (i) an algorithm design requiring at least two of the topic areas of the course and (ii) its performance analysis. Decide on an idea and see me/ or email me to check the suitability. I will help you in focusing the goal and reducing the work so that it can be completed within the specified time. If you plan it right, and work ahead then you can easily avoid the hard work typical in a CS projects, and still get the credit and have fun! You need to keep in mind the following due dates one of them is really immediate:

Proposal Due (by email on March 27 Midnight: (10%))

Proposal should be in HTML format and have the following parts. Each should be limited to 1 paragraph at most. And the total proposal should be limited to 1.5 pages.

1. idea (problem description)
2. background, (significance)
3. problem specification.
4. solution approach (must involve two algorithms).
5. performance analysis approach.
6. methodology (step by step implementation plan).
7. **Half way goal** and halfway date (A good halfway goal the first simplest version of your program. You select a halfway deadline).

What if you cannot decide? If you cannot come up with a suitable project idea by the proposal due date, I will email you a default project . Then you can start working immediately.

Final Project Home Page & Project Report: May 01 (5=60%)

The final project will require you to create a subdirectory in your home page and store the codes and the report there. After creating this home page, you just need to submit the URL to TA and me via email.

The "index.html" page of your project home page, must however conform to a template given in the web-book. The project report should be in the following format, which should describe:

1. Summary
2. Problem specification
3. Plan/ Architecture/ Approach of your method (include diagrams to explain your idea).
4. Possible alternates to your approach.
5. Justification for the selected plan/architecture with reason for rejecting the alternates.

6. Space & time complexity analysis of the key algorithms.
7. Proof of correctness of your algorithm
8. Result of performance/ analysis from experiments (include EXCEL files, with graphs).
9. Relative advantages/limitations/innovations of your project.
10. Possible future work/improvements.
11. Appendix-A: How to install your code.
12. Appendix-B: How to run your code.

Note: Even after quite an excellent implementation, you may end up with very poor grade if you do not write a report exactly according to the format above. Grader will not be able to judge your work, no matter how good it is, without the report.

Final Project Code May 01 (30%)

TA should be able to install and run all of your code from aegis (or any other previously agreed platform).