CIS 372 - Fall 2003
University of Delaware

Group Project 2
Due Dates:
Deliverable 1: start of class, Tuesday, November 4, 2003
Deliverable 2: start of class, Monday, November 17, 2003 (by noon)
Deliverable 3: presentation time, either Dec 2,4, or 9, 2003

1 Overview of Project

Final Deliverable: Short oral presentation on a programming task commonly found in applications and how it is typically parallelized.

2 The Project Process

1. Create a group of 2-3 people in the class to do this project.

2. **Deliverable 1:** Choose a problem from the list below (or another problem approved by the instructor), and send email to the instructor (pollock@cis.udel.edu) with the following information:

   1. The names of the people in your group.

   2. Your first 3 choices, in priority order, highest to lowest.

   3. The source of information that you have found on each of the problems, in order to start preparing for your presentation. Web site addresses, textbook pages, or articles for each one is fine. An article from a journal, magazine, or conference is also fine. For an article or textbook, list the full citation.

   Problems List:
   - n-body problem and the Barnes-Hut Algorithm
   - sorting
   - searching
   - dynamic programming
   - traveling salesperson problem and branch and bound search
   - Gaussian elimination
   - Fast fourier transform
   - genetic algorithms
   - graph algorithms
   - grid algorithms
   - image processing problems
   - hill climbing

3. Reserve a presentation time by signing the chart in class on Tuesday, November 18, 2003.

4. **Deliverable 2:** Create an outline for a 15-20 minute talk on paper, focusing on the items listed below. From the outline, create a first draft of the contents of each slide. Decide how you will share the responsibility of the preparation and presentation. Each person should give part of the presentation. Hand in your outline, first draft of your slides on paper, and the responsibility delegation of your group.

5. Create the overheads in the final form, printed on overhead slides or using a laptop.

6. Practice your talk aloud at least twice before presenting it on your scheduled presentation date.

7. If possible, spend 10-30 minutes going over your talk as close to your presentation time as possible to refamiliarize yourselves with what you want to say.

8. **Deliverable 3:** Give your presentation to the class.

3   General Suggestions

1. Organize your talk well in advance.

   A typical organization for a talk on the topics for this presentation is as follows:

   (a) The problem explained: General overview of the problem. In what applications does the problem appear? (1-2 slides)

   (b) Sequential solution: Overview of how the problem is solved sequentially. (1-2 slides)

   (c) Parallelization Motivation and Issues: How is parallelism important to this problem? What are the issues in parallelizing for this problem? Is it trivially parallel, or what kind of communication/coordination is needed? Is it prone to good load balancing or what needs to be done to keep it load balanced? (2-3 slides)

   (d) Parallelization Method: What kind of parallelism is most appropriate? Overview of a parallel approach to the problem, preferably one that is popular for this problem. You need not show actual code, but pictures of data decompositions and communication might be more useful. (2-3 slides)

   (e) Any experimental performance results that you could find reported on solutions to this problem? (1 slide)

   (f) Citations of where you got your information on the parallel approaches, and any Closing Remarks (1 slide)

2. Put some thought into what you want to put on your slides. They will drive the flow of your talk.

3. Take on the challenge of capturing the audience's attention with your introduction, keeping them interested through your slides and possibly some light humor, avoiding burial in a pile of details, and teaching them the most important points/issues about your topic.

4. Practice your talk aloud to yourself or to a group of colleagues. This is the only way that you can be sure that you have the appropriate amount of material to cover no more and no less than 15-20 minutes. This also gives you confidence in what you are going to say.

5. If possible, spend 10-30 minutes going over your talk to yourself as close to your presentation time as possible to refamiliarize yourself with what you want to say. I always go over my talks and lectures within the hour of when I am going to do the presentation. It makes a world of difference.

4   Delivery of the Talk

1. Eye contact: You should glance around the room, making eye contact with various people. The talk should not be directed to the ceiling, floor, the slide projector, or only a small portion of the class. If you do not want to look at anyone, just look over their heads.

2. Voice: Be sure to talk at a pace that the audience can follow. Most of us tend to talk very quickly when we are nervous. You need to consciously be aware of how fast you are talking. Be sure to talk loud and clear enough that people in the back of the room can hear and understand you. If you think people are going to have trouble understanding your English, talk slower than normal.

5   Slide Preparation

You should take no more than 8 slides total. Powerpoint is preferred but not required. I will have a laptop available for use with Windows XP on it, and a diskonkey to transfer files. You can bring a floppy or email your presentation to me ahead of time so I can put it on the laptop. You can bring your own laptop if you want instead. Otherwise, you can prepare slides with markers or print them out.

1. The rule of thumb is 2 minutes per slide. Therefore, a 15-20 minute talk should not consist of more than 8 slides.

2. Plan your slides on notebook paper first with careful consideration of white space and the size of the letters. A good rule is 2 tablet lines height for a letter to insure that everyone can read your slides. Or, use slitex or WORD to create your slides. 18 point is the normal slide pointsize for readability.

3. Begin each slide with a centered title that states in 1-4 words the contents of that slide.

4. For a text slide, use outline style with short phrases as opposed to paragraphs of full sentences. Put no more than 4-5 main points (bullets) on a single slide. If you are worried that you might forget to say something if you do not have it written on a slide, write it on a separate sheet of paper that you can use as backup. When I first started giving talks, I used the sheets of paper separating the slides for this purpose. It is comforting to know that it is written down somewhere in front of you, but the audience does not have to see all of that writing. DO NOT PUT WHOLE PARAGRAPHS ON A SLIDE.

5. Break up your talk with pictures and color whenever possible.

6. Different font sizes, boldness, italics, and underlining should be used to demonstrate the relative importance of different points.

6   Evaluation of Presentations

Each student in the class will fill out an evaluation form for each presentation. These evaluations will be anonymous, and given to the students as feedback at the final exam. The instructor will independently grade each oral presentation. Both the student evaluation and the grade will be based on: the speaker's perceived understanding of the topic, organization of the material, presentation of the material, quality of visual aids, treatment of questions, enjoyment level of talk, and overall effectiveness of the presentation. The set of students in charge of a given topic will receive the same grade for the presentation.

7   Using Others' Work

You are free to cut and paste pictures and graphs from other sources to place in your presentation as long as you cite your sources on the last page of the presentation. You should not be using actual text slides from online talks that you might find.