

Project #2

Project 2: Your choice

Handed out: 11/7/06

Due: 11/16/06, 12/7/06

This project has two components. First you will have to come up with a suitable project and prepare a 10 minute presentation of this project. The second part of the project will be to actually implement it. Below are the specific requirements for these two components.

Note: The current project description assumes the deliverable is a program. If you would rather not code for this project I'm willing to allow a "discovery" project, e.g. run a bunch of experiments with existing software to tune parameters or find something biologically interesting, as long as there will be some programming component to it, such as software to automate the experiment or to convert between file formats. If you choose this path, an additional deliverable will be a 2-page report detailing your findings.

Project defense (25 points)

By now you should have talked to at least one biologist and have some idea of what they use alignment tools for. This interaction will be useful in helping you decide what project you will implement for this second project. If you are unsure, please contact me as soon as possible and I can provide you with some ideas.

This first part of the project requires you to try to convince me, and your colleagues of four elements:

1. The project you have chosen is relevant (i.e. biologists might actually use your code)
2. The project you have chosen is related to material covered in class (i.e. it has something to do with alignments and biological sequences)
3. The scope of the project is consistent with the time available to you and with your abilities (i.e. you will be able to complete the project in the allotted time).
4. The project is challenging enough.

Think of this as a grant proposal: you want to show that what you will do is non-trivial, interesting, useful, and you are the right person to do it. Make me and your colleagues believe our money would be well spent if we were to fund this endeavor.

Deliverables for the project defense:

1. One-page summary of the proposed project
2. 10 minute in-class presentation of the project (powerpoint or otherwise).

Grading criteria:

1. Clarity of the summary - is it easy to read and understand, does it get across the three points mentioned above?

2. The fit of the proposal within the criteria mentioned above.
3. The quality of your “sales pitch” - is your presentation convincing?

Project implementation (75 points)

Based on the material presented during the defense I might suggest some changes to the scope of the project to make it better fit the four criteria. Once this scope is clear you will have to implement it in a programming language of your choice. Note that since you picked the project, presumably taking into account your strengths and weaknesses, it is very important you do a good job on the project, more specifically the penalties of not completing the project will be much higher than for the first project.

Deliverables:

1. Source code
2. Documentation (manual on how to run this program)
3. Test data - data-sets I can use to verify your program works

Note: I might generate my own test data, so don't rely on the fact your program works for the data you've provided me with.

Requirements:

1. The source code compiles and executes on a Linux machine (Mac OSX or cygwin under Windows is OK). **IMPORTANT:** if your code doesn't compile or run as “advertised” I will not try to debug it and will consider the project failed.
2. The output is correct (should go without saying).
3. The source code is readable: formatted nicely, and contains comments.

Grading: Maximum grade is 100 points. Failure to achieve requirement 1 results in an automatic score of 20 for the implementation part of the project. Requirement 2 is worth 30 points. Requirement 3 is worth 10 points.

Final comments:

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