

CS306 – Introduction to Perl

Spring 2007

Final Project

Last Day to Get Proposal Approved: April 13<sup>th</sup>, 2007

Presentation Slides Due: May 3<sup>rd</sup>, 2007

Code Due: May 4<sup>th</sup>, 2007

### Final Project Assignment

Write a cool program in Perl.

Ok, it's a little more involved than that. You are to propose, develop and present a project implemented in Perl. The subject matter is of your own choosing. The project should incorporate several of the topics and techniques we have discussed in class **as well as modules and concepts not specifically covered in class lecture or homework**. It should be complex enough that it would be reasonable to expect that it will take at least 12 hours to implement. It should include input, output, storage and computational aspects. Your project proposal will be reviewed and adjusted to the appropriate complexity before you are to proceed with the program development.

I will help you identify Perl modules that might help you. For instance, I encourage you to try a program that is web-based, or a client-server program, a program that interacts with a database, one that manipulates photos, and other such topics.

As always, your work should be solely your own. Particular emphasis will be placed upon this point during this project. You are responsible for four “deliverables” related to this final project. These are outlined below.

### Project Proposal

This is a ½ to one page informal summary of the project which you propose to complete. It should include a paragraph or more of text describing the project, and a bulleted list of the technical components of the project. You will not be graded specifically on this proposal, but you cannot proceed with your project until your proposal has been approved. Email is an acceptable form of submission. I may alter the project to achieve the desired complexity.

## **Project Slides**

You should submit a maximum of 5 slides (not counting title or introductory slides) in Powerpoint or OpenOffice format. These need to be submitted ahead of time so that the presentation can be prepared before class. The slides should very briefly present your ideas, the major Perl constructs and techniques that you used, and sample output.

## **Project Presentation – “Lightning Talks”**

Each class member will have 5 minutes to present their project. You will give a talk to accompany your slides. You may also perform a live demo with the slide presentation, but it all must fit within 5 minutes. You will be abruptly cut off at the 5 minute mark, so practice your talk beforehand. The goal is to quickly communicate the main ideas of your projects, show any particularly spiffy code, and perhaps a live demo if there is time.

## **Project Code**

You will submit your completed code. Your code must:

- Be completely your own work
- Be thoroughly documented
- Be modular, exhibiting code reuse through the use of subroutines wherever possible
- Perform error handling to validate input, file operation success, etc... and operate under use strict and use warnings
- Utilize several of the Perl constructs we've learned about this semester. Examples include but are not limited to file/directory I/O, references, complex data structures, regular expressions, control structures, proper scoping of variables, subroutines, OO

## **Example Projects**

As this project is rather open-ended, you are limited only by your imagination and my requirement that the project be sufficiently complex to demonstrate that you have a good grasp of Perl across a wide range of the concepts we've discussed in class.

Below are some examples of projects which would be appropriate in scope.

**Golf Score Tracker** - This program tracks records your rounds of golf and generates

various statistics about your performance and trends. The program allows the user to enter details about each course (total length, par and length of each hole) and each round (which course, total score, score on each hole, time and date of round). The data is entered through a web interface. The program can then calculate your current handicap, your average performance on a particular course or type of hole (Par 5's, for example). The user can also retrieve reports of past performance.

**Chat Room** - This program allows multiple clients to connect to the same port on a server and communicate with each other in real time. The server acts as a broker between the clients, receiving a message from one and redistributing the message to the rest of the clients. The program also allows the user to message just one other user through a special command syntax. It allows the client to retrieve a list of other clients and whether they are currently away from the keyboard or inactive (based on time since last message sent).

**Photo Gallery** - This program can take as input a directory full of image files, and generate a web photo gallery, complete with thumbnails, mid-sized and full-sized pictures with optional captions. It can either generate a set of static pages for uploading to a remote server, or be run on the web server to dynamically serve the content (although the resizing of images has been completed offline).