Deliverable #2: Phase #1 Prototype
Due: Thursday, November 6, 10:00 AM

Selected Features

Within the platform provided by the official COMP 3004 virtual machine (**32-bit** version), you will implement the complete working source code for:

- the server-side Application Programming Interface (API) for all *cuTPS* features available to the student user and the content manager user's "add content" feature
- test drivers on the client-side to completely test each API call

Client

On the client, you will implement the source code for test drivers that will thoroughly test the server API:

- you will design a set of test cases required to test the server API
- a simple GUI will allow the user to view test case descriptions and to select a test case to execute
- each test case will exercise a different call to the server API with pre-configured values
- the test driver will examine the data returned by the server and assess its correctness with a pass or fail indicator

Server

On the server, you will implement the source code for the API required for the *cuTPS* student user features and the content manager user's "add content" feature.

- API:
  - you will design a set of API calls required for all *cuTPS* features available to the student user and the content manager user's "add content" feature
  - the API code will allow the client process to retrieve and update data accessed by the server process
  - the Phase #1 prototype will support a single user running the test case GUI on a client process
  - the server process will execute on the same host as the client
- Data storage:
  - the server process must manage all updates and retrievals of the data
  - data may be stored in flat files, or any other mechanism available in the COMP 3004 virtual machine
- Inter-process communications:
  - the client process will communicate with the server process using TCP/IP sockets

Grading

Breakdown:

Test cases:	20%
API:	30%
Storage:	20%
Communications	20%
Presentation:	10%

Format

The content of this deliverable will be discussed in class. The CD or DVD must be submitted on or before Thursday, November 6 at 10:00 AM sharp, in the boxes in 3115 HP or in the classroom. The presentation slides must be uploaded in cuLearn before the same date and time.

Deliverable #2: Persistent Storage Design
In class: November 11 and 13

Presentations discussing each team's design for persistent data storage in the Phase #1 prototype will take place in class on November 11 and November 13. Each team will be given 5-10 minutes to discuss and justify their strategy for persistent data storage for the Phase #1 prototype. The presentation slides must be uploaded in cuLearn before Thursday, November 6 at 10:00 AM.

Each presentation will cover the following:

- a description of your design for persistent data storage in the Phase #1 prototype
  - describe what data must be saved in persistent storage between sessions
  - describe how the data is organized into separate files or tables, and how these relate to each other
- a justification of your strategy for persistent data storage
  - discuss the advantages and disadvantages of your storage design
  - justify why you chose your design and how your approach promotes the principles of good software engineering -- you must be specific!