

# CS181, Programming Languages

## Assignment 7

(due: 12-11-2000)

### **Problem one:**

For this homework you may work in pairs. The objective is to create a simple news server and the corresponding client. The server should keep all news in a database. For every message it should store a unique id, the name of the sender, the subject and of course the body. The database could consist of a single text file, or multiple text files, one per message (it is up to you to decide how to store them.) You have to implement a graphical user interface for the client. It should be able to show the sender and subject of all the news posted on the server and the body of the selected message ( so the client has the ability to request for a particular message or for a list with all id, sender and subject tuples.) You should also implement a cache mechanism to store already downloaded messages in client memory, to minimize network utilization. The packet specification is given below (you may change it if you like):

- Client sends one integer. It is either 0 meaning “give me all id-sender-subject tuples” or a specific id number for a message.
- The server should respond with a packet containing the appropriate information. The first byte of the reply could conform to the following specification:
  - 0 means that the rest of the packet contains a sequence of id-sender-subject tuples.
  - 1 means that the rest of the packet contains a specific message (id, sender, subject, body.)
  - 2 means that the packet contains an error message (for example “requested id not found”).

The specifics of the system implementation are up to you to decide. You may use all the tools from previous homework or the solutions that will be posted on the web site.