

System Programming

9th Laboratory (3th and 5st May 2017)

Continue the implementation of the project.

In the last laboratory students should have implemented the basic architecture, with minimal functionality:

- gateway
 - contains a list of peers
 - updates this list with new peers
 - forwards clients to one of the available peers
- simple Peers
 - simple program that only notify the gateway when starts
 - receives connections from the clients
- clients
 - that only have the connect function implemented

In this laboratory students should continue the implementation of the adding the following functionalities:

- gateway -
 - should be able to remove a peer from the list
 - students should start to think about synchronization of the list of peers)
- peer
 - receive some simple commands from the clients (for instance `gallery_add_photo`)
 - at this moment it is not necessary to perform replication
 - each client should be served by a independent thread
- client
 - start implementing the `gallery_add_photo` functionality

The next laboratories should be used to implement the missing functionalities (replication for instance) and start defining the correct synchronization on the linked lists (peers and photos)

API information

- http://www.gnu.org/software/libc/manual/html_node/Sockets.html
- <http://www.cs.rpi.edu/~moorthy/Courses/os98/Pgms/socket.html>
- http://pubs.opengroup.org/onlinepubs/9699919799/functions/V2_chap02.html#tag_15_10
- <http://beej.us/guide/bgnet/>
- <http://tldp.org/LDP/lpg/node7.html>

SOCKETS

- `man socket`
- `man 2 bind`

- man 2 accept
- man 2 connect
- man unix
- man 7 signal