CIS 551 HW2 Phase I

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1. Steps to Execute

-make server generates the executable for server called “badbuf”, make client generates the executable for client called “client”.

-The server executable(“badbuf”) is deployed on the drone using gcc cross compiler.

-The client is invoked by typing two parameters in the command line: ./client <host> ,i.e., ./client 192.168.1.1

- Both the server and the client commmunicate on the port number 10551, which is hard-coded in both server and client modules.

2. Implementation Details:

The file “names.txt” contains a table with existing <username,password> pairs.

The client enters a name and password after connecting to the server. The server checks checks the table contained in “names.txt” to verify whether authentication is successful or not.

If Authentication is successful, the user is presented with a menu containing the following options:

1 - add user

2 - update password

3 - execute shell

4 - quit

1- As the name suggests, add user allows the client to add a new user and this leads to a new <username,password> entry in the table contained in “names.txt”

2- Update password is used to update the password of the user who is currently logged in.

3- Execute shell is used to simulate a shell through the program. This method calls a system(“command”) of the command entered by the user in the client. This functionality doesn't work with “cd” command

4- Quit closes the connection.

If authentication is not successful, The user is allowed to enter the login details for a maximum of 5 times. If the <name,password> pair turns out to be invalid after these attempts, a message “Invalid Identity” is displayed on the screen and the current connection closes.

The <name,password> pair addition and updation of password is done by performing update a linked list and by adding a node in a linked list, respectively.