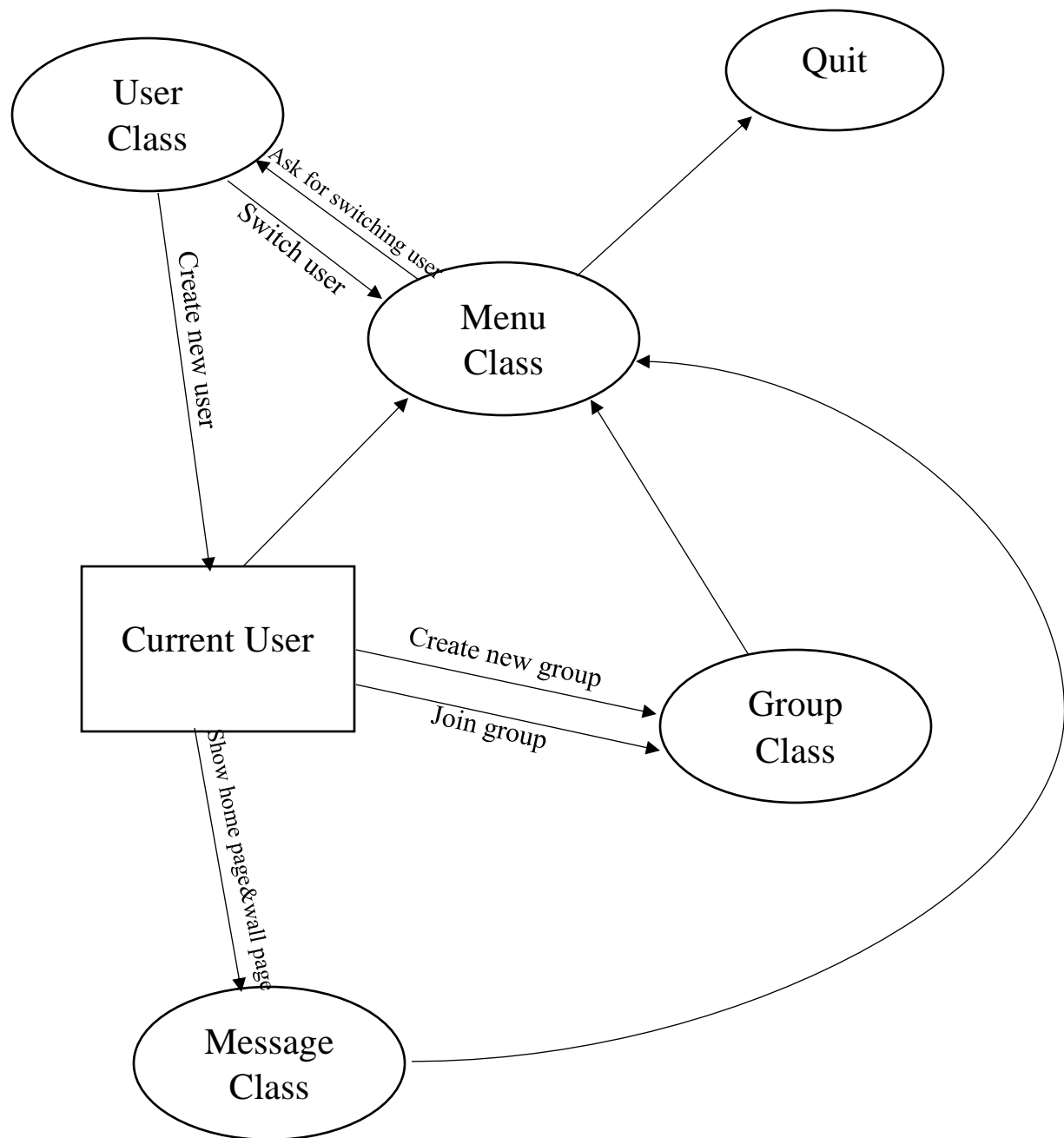


# Lab 1 Analysis

Use cases:

1. Input “n” to create a new user and store the data into Current user. After creating the new user, the program will show a welcome banner surrounded by a box at the center of the screen.
2. Input “b” to broadcast a message to all users and store this message in the message buffer class. User can type in multiple lines of messages. Type a string “^!” to end the message.
3. Input “m” to multicast a message to a group. The program will ask for a group name first and then send it to that group. User can type in multiple lines of messages. Type a string “^!” to end the message.
4. Input “u” to unicast a message to a user. The program will ask for a user name first and then send it to that user. User can type in multiple lines of messages. Type a string “^!” to end the message.
5. Input “w” to display the wall page. The program will display a title at the top, showing whose wall page it is, then display the two latest messages that the user received with group or recipient or “#All” in reverse chronological order. Then the program will ask if user want it to show more messages depending on the user’s response is “yes” or “no”.
6. Input “h” to display the home page. The program will display a title at the top, showing whose home page it is. When displaying the message, it will display the sender name followed by group name or recipient name or “#All” in parentheses and followed by a string “>” and a ‘/n’ and then followed by the message, in reversed chronological order. Messages from different users must be separate by a blank line. Then the program will ask if user want it to show more messages depending on the user’s response is “yes” or “no”.
7. Input “g” to create new group. The program will ask for the name of the group and check if the group’s name is already an existing group. If so, it will display an error message and prompts for another group name.
8. Input “j” to join an existing group. The program will ask for the name of the group and check if the group’s name is already an existing group. If not, it will display an error message and prompts for another group name. Next, the program will add the current user name to the group.
9. Input “s” to switch user. The program will ask for the user name and check if the name is a valid user. If so, it switches by user class. If it is not, it displays the error message and repeatedly asks for the user name.
10. Input “q” to quit this program. The program will exit.

# Lab 1 DFD



Test cases:

1. Enter “c” to create a user then enter an existing user name. Success when it fails. Fail when it creates successfully.
2. Enter “b” or “m” or “u” to broadcast a message with no valid user. Success when it fails. Fail when it posts messages successfully.
3. Enter “w” or “h” to display the wall page or home page with only 2 or fewer messages. Success if the program does not prompt for more messages. Fail if it does.
4. Enter “g” to create a group then enter an existing group name. Success when it fails. Fail when it creates successfully.
5. Enter “j” to join a group that does not exist. Success when it fails. Fail when it joins successfully.
6. Enter “s” to switch user then enter another existing user name. Success when it does switch to that user. Fail when it does not switch.
7. Enter “q” to quit the program. Fail if it does anything other than quitting the program.