Project: Social Networking Site
Due date: 26th June, 2016

Instructions:

Points highlighted in red **are to be compulsorily attempted by CSE students.** However, ECE and CB students can skip that part (Bonus if you attempt).

Project Requirement:

You are required to simulate a subset of operations generally found on prominent social networking sites.

Detailed Project Description:

Social Networking is the way people are connected in 21st century. You have to build a mini version of a fully functional Social Networking Site. Let us call this application ConnectBook (or any cool name that you can come up with :-)). ConnectBook is a place where people can sign up for an account and meet their friends, family, and acquaintances online. Each account has a 'Wall' where people can post their status messages (text messages). A person 'A' can see another person 'B's' status messages only if 'B' is in 'A's' friend list. To befriend someone, one has to send the intended person a friend request. Once this request gets accepted, they both become each other's friend and their names appear in each other's friend list. After two people become friends, their Walls show the status updates from each other.

A person can have several friends on ConnectBook. Further, whenever a person updates her status, all her friends are notified of this change and every friend's wall shows the status update (please note that Wall in this project is different from the Wall of the Facebook). One can see her Wall by logging into her account. Once she logs out, the general screen of the ConnectBook is displayed which has two options: Sign up and Log in.

To sum up, following operations must be performed for the implementation of ConnectBook:

1. **Sign-Up**: Design a form with the necessary fields in order to create a new account. To begin with both the Wall and friend list are empty. **Upload a profile pic** while signing up.
2. **Sign up validation** should be implemented. Two users with the same email ID cannot exist.
3. **Email Notification (ECE & CB):** After clicking on "Signup" button, an email notification should be sent on the newly registered email ID containing a welcome message.
4. **Email Notification (CSE):** After clicking on "Signup" button, an email notification containing a random verification code should be sent on the newly registered email ID. You need to enter the verification code in a text box on the signup page itself or on a different page (in between signup page and the homepage) in order to complete the registration process. In case of failure an appropriate error message should be displayed and the user should again be asked to enter the correct code.

5. **Log-In / Log-Out:** You should be able to see your 'Wall' after logging in. Wall contains status messages from your friends in descending chronological order (latest to oldest). After logging-out, you should navigate back to the front page with two options: Log-In or Sign-Up.

6. **Search a Friend:** You should be able to search for a friend (existing ConnectBook users only). All matching search results should be displayed. Further **partial name searching** should be allowed. The search results should display the name and email ID of the users along with a "Send Friend Request" button on each row. **However, such a button will not appear on rows which correspond to your existing friends.** Additionally each row should have a "View Profile" button.

7. **Add Friend:** A friend request is sent to the other person upon clicking the "Send Friend Request" button as explained above. The other person can either **Accept** or **Reject** the friend request. It is evident that the two become friends only if the other person accepts the friend request and hence become eligible to see each other's status updates. However, if the other person rejects the friend request, then no notification needs to be sent back to the requestor. Please make sure that even if 'A' sends a friend request to 'B' multiple times, only a single notification should appear on 'B's' profile page regarding 'A's' request.

8. **View Profile:** You should be able to click on the "View Profile" button on a particular row from the search results of point 6 above and view his / her profile. The profile page should display a person's profile pic, name and email ID.

9. **Unfriend:** In addition to the point 8 above, if a person is your existing friend, then you must keep a button "Unfriend" on his / her profile page in case you want to unfriend that person.

10. **Post Status**: You can post a new status update / message on your Wall by writing your message in a text box and clicking on a "Post status" button. Immediately your friends should be notified of your recent updates and the same should reflect on their respective Walls as well.

Also, please note the following items:

1. The home screen of any user (the screen you see immediately after logging in) consists of the following:
   a. Wall in the center.
   b. Post status text area just above wall.
   c. Notification area on the left side of the wall. This should display all the friend requests with accept and reject button for every request. The list should further be empty if there are no pending requests.
   d. Friend list on the right side of the wall, with Search a Friend box and button. The search results should be displayed as explained above on a separate page.
   e. Profile pic of the user on the top left corner & display name of the user next to it.
   f. Logout button on the top right corner.

g. Please consider to add "Back" buttons on the pages to be designed (wherever necessary) for smoother navigation.

2. All the status updates/ messages from your friends should be appended with their names.

3. Whenever the server restarts, previously generated data should be retained. For this, you need to use simple text files for storing status messages of the Walls for respective users (while writing into file you need to maintain the same order as they were posted i.e. latest to oldest), and you can use Databases for storing other details such as personal information and friendship details.

4. Make use of appropriate design pattern for notifying all the friends about any change on the wall.(Functionality point 10).

ALL THE BEST!!!