Demonstration

For demonstration, all of the screenshots are taken on Nexus 6 running Android 11.

User profiles shown were generated from randomuser.me.

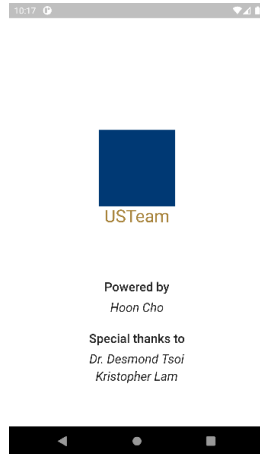When the application starts, the user will see the splash screen as below in Figure 1.

Figure 1. Splash Screen

In the background, the user's authentication state is being processed. A new user or a logged-out user will be redirected to the login screen as in Figure 2 while a logged-in user will be redirected to the search screen (by default) as in Figure 5.
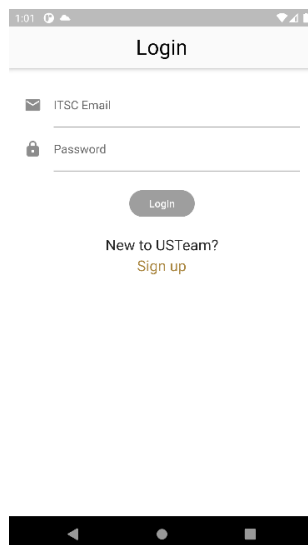

Figure 2. Login Screen

A registered user can simply enter his or her credentials to login. A new user can tap on "Sign up" to create an account, as in Figure 3.

Figure 3. Signup Screen

Once a user registers for an account, Firebase automatically handles password encryption by hashing and generates a unique id for the user. The user will be redirected to a profile form to submit basic information, as in Figure 4.

Figure 4. Profile Form

After the user submits basic information, the user will be redirected to the search screen as in Figure 5. On this same page, the user can access three screens: search, match, and chat screen. The search screen will initially be empty since the user has not yet updated information for group formation (henceforth referred to as "group information"). Submitting group information during signup was avoided in order to minimise the signup procedure.
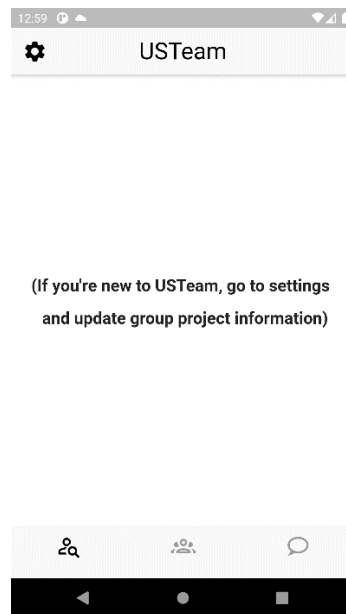

Figure 5. Search Screen at the start

In the settings screen (Figure 6), the user can update profile picture, some basic information, and group project information (Figure 7).
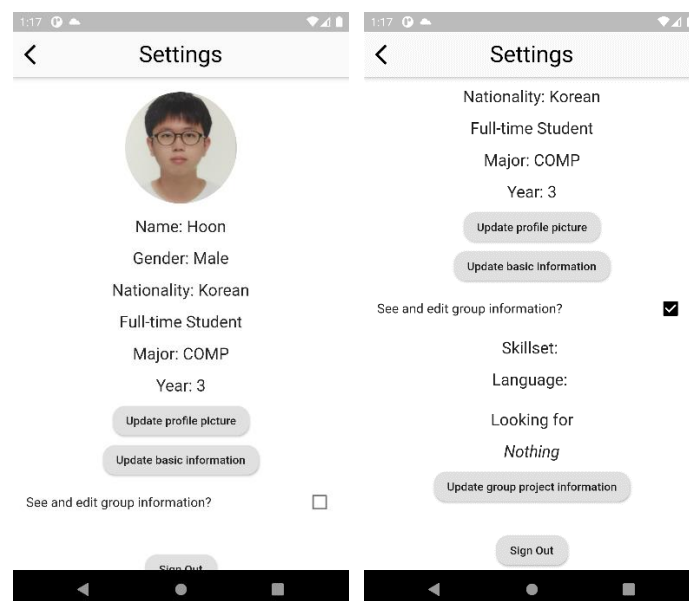

Figure 6. Settings Screen at the start

Group project has been categorised into five main categories: Final Year Project, Course Project, Course Study, Extracurricular Project (e.g. Hackathon), and Extracurricular Study (e.g. research group). The user can specify which category of group work he or she is looking for and enter related information, as in Figure 7.

Figure 7. Updating Group Information

For basic information, major and year are to be manually updated by the user as in Figure 8, for the following reasons. A student's major can change if he or she is becoming a Year-2 student or decides to change his or her major. For year of study, it varies by major and by student. Moreover, a student may decide to take study leave for various reasons. On the contrary, other basic information do not need to be changed.
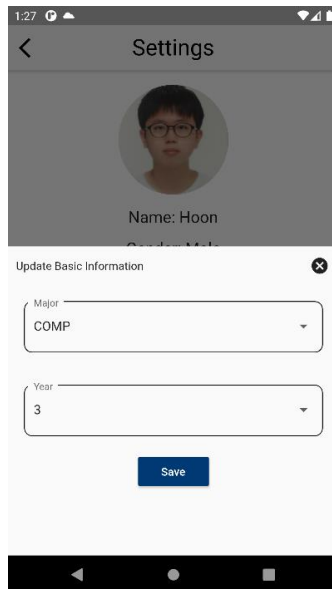

Figure 8. Updating Basic Information

The user may choose to sign out by tapping on the sign out button in the settings screen. To prevent accidental sign out, the application asks the user for confirmation that he or she wishes to sign out, as in Figure 9.
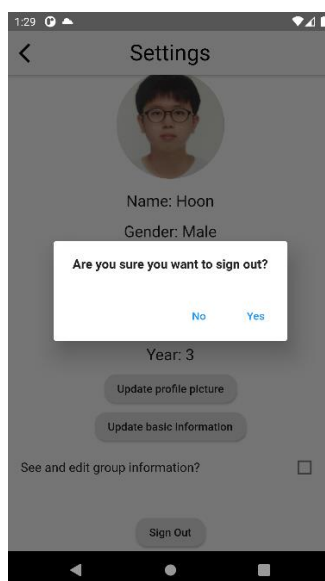

Figure 9. Sign Out Confirmation

After the user submits group information, then they will be able to see all other users with mutual interests as in Figure 10, if there are any. For example, if user A is looking for COMP3111 project group and COMP3711H study group, then user A can see all other users looking for COMP3111 project group or COMP3711 study group or both. If there are no users with mutual interests, the search screen will be the same as in Figure 5.
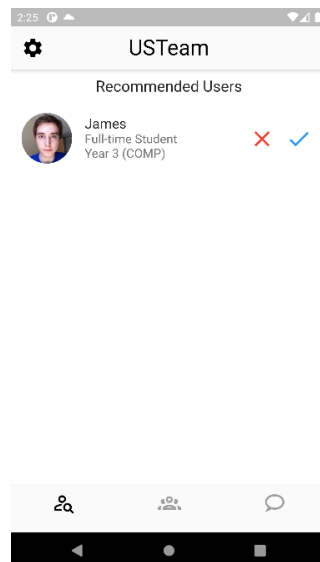

Figure 10. Search Screen

As shown in Figure 10, the user can express interest in working with this user on the list by tapping on the tick button. This is analogous to sending a friend request on Facebook. Otherwise, the user can tap on the cross button to ignore this user who appeared on the search screen. To make an informed decision, the user can see detailed information by tapping on the profile picture. Figure 11 shows detailed information about the user of interest.
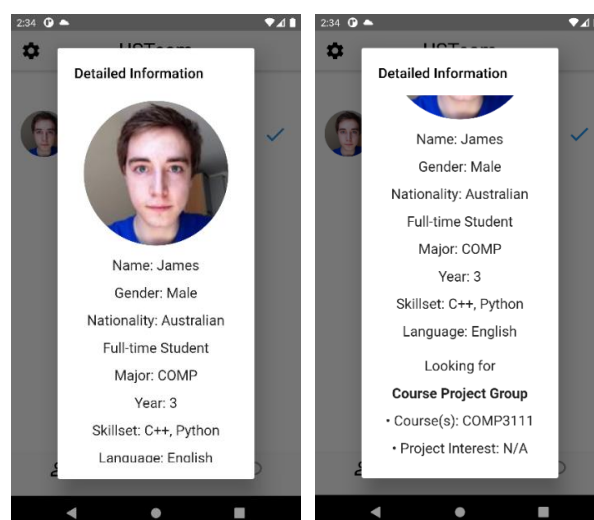

Figure 11. Detailed Information

Next is the match screen (Figure 12). "Users who chose you" are analogous to friend requests page on Facebook. If user A is interested in working with user B, but not vice versa, a request from user A will be sent to user B. In such a case, user A is the "sender" and user B is the "receiver". The receiver can decide whether to accept the request or not.
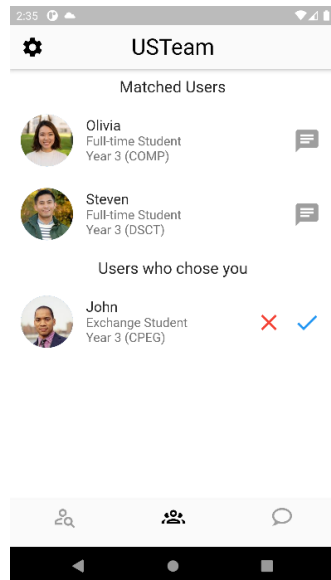

Figure 12. Match Screen

"Matched Users" are analogous to friends in Facebook. If user A expresses interest in working with user B, and vice versa, then they will be matched together and will be able to chat with each other. The user can initiate chats with matched users by tapping on the chat button in Figure 12. This redirects the user to chat, as in Figure 13.

Figure 13. Chat

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Once the chat is initiated, then the user can access this chat using the aforementioned method, or through the chat screen as below in Figure 14.
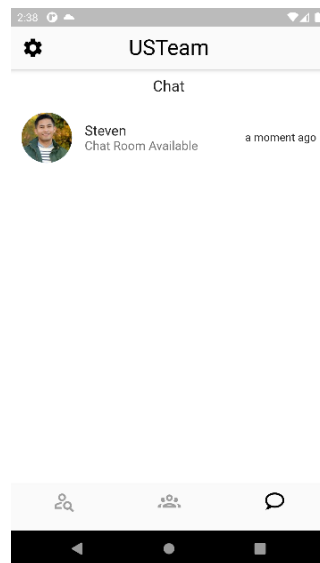

Figure 14. Chat Screen

In chat, users can send text messages or images. All chat contents are stored in the database instead of storing locally, so that users can still see their previous chat even if they change their mobile phones. Furthermore, this can be useful if the application is to be extended to web application as well. Users can also see detailed information by tapping on the profile picture in the top bar of the screen.
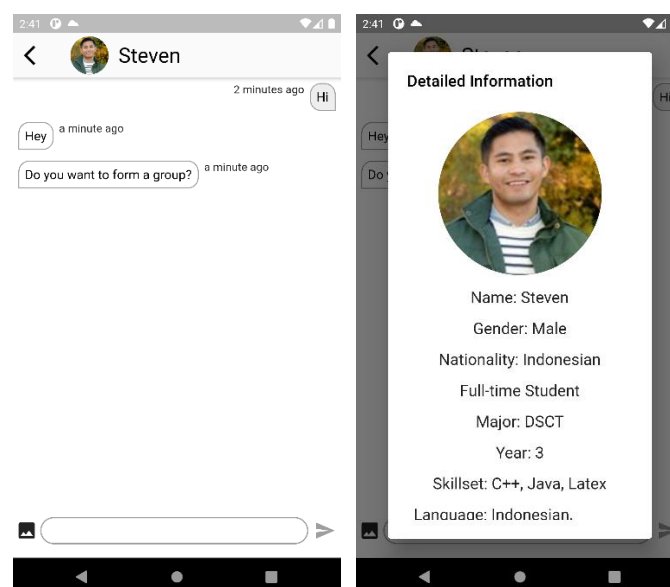

Figure 15. Chat & Detailed Information