Chapter 6

Results and Discussions

6.1 Test Report

The purpose of testing was to make sure that the application would function properly allowing the users to view reported items, contact other users via messages, report new items, update the details of the reported items, update their profile and delete their profile. Manual Unit testing and manual unit regression testing were the primary approach used for testing as it scrutinizes each individual module and gives immediate feedback whether the module is functioning as desired. Unit testing tests isolated functionality while unit regression testing ensures that the module was unaffected on addition of a new module. Both these approaches combined validate the reliability and correctness of each module and make sure they are that the previous modules are resilient to changes and new modules introduced by each iteration. The following areas were not included in testing: -

- Fetch all chats
- Verify that the chat displays the latest date and message
- Fetch categories
- Fetch FAQs
- Fetch security questions and answers
- Notifications.
- Not yet tested on browsers

The testing process started by defining test cases for each module. The test cases include input and the expected output to be seen after entering the values. After designing the test cases, the test cases were checked by actually entering the inputs and checking from different users whether they are getting the expected output or not. If the expected output matched the actual output, then the test cases were remarked as successful or else remarked as failed. Testing was carried out on the following devices: -

- Redmi Note 7S running on Android 10
- Motorola G10 Power on Android 10
- Pixel 6 Pro running Android 11 on Emulator

The current status after performing testing highlights the following: -

Open defects: -

- Test case 33- When the user wishes to view his/her profile in low network connectivity conditions, then the details are not fetched properly and the page keeps refreshing as the network keeps on fluctuating. This gives a bad user experience.
- Test case 44 – When all the chats are fetched, the latest date and time needs to be displayed if the two users have exchanged messages. But the latest message and time are not always displayed even though there are messages that have been exchanged between the respective users.

Closed defects: -

- Test case 19 – Student/Faculty login issue
- Test case 24 -View items issue. The issue was in the MySQL query.
- Test case 40 – Edit item details of reported items issue
- Test case 44 – Delete multiple items issue. The same issue was faced by Test

The testing can be summarized into

- Total test executed: 45
- Total passed: 39
- Total failed: 6
- Percentage passed: 86%
- Percentage failed:14%

In conclusion, the application performed well in a majority of the test cases, ensuring proper functionality. However, the application lacked stress testing, making it challenging to simulate actual working conditions and evaluate its capacity for handling a large number of users simultaneously. Database constraints, such as the "Max User limit reached" and a 10MB storage limit, need addressing. Additionally, testing on browsers is necessary to ensure accessibility for iOS users. While the application successfully allows users to report items, display reported items, and facilitates communication, certain areas require attention. Stress testing, database constraints, and compatibility with iOS devices and browsers need to addressed.

6.2   User Documentation

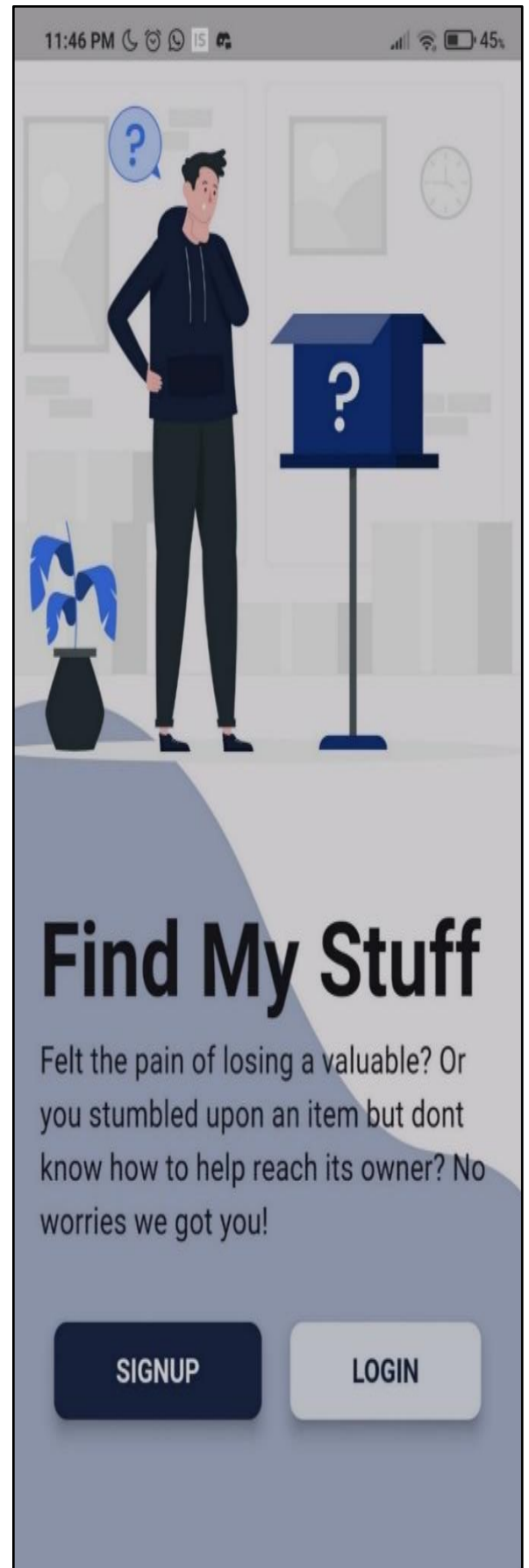| Figure 6.1 Splash Screen | Figure 6.2 Landing page |

When the app is first opened, the left-hand side screen is seen and if the user is not logged in, then the app displays the landing page of the application which gives the option to "LOGIN" or "SIGNUP". If you have already registered, then click "LOGIN" to continue using the app. Else click on "SIGNUP" to register.
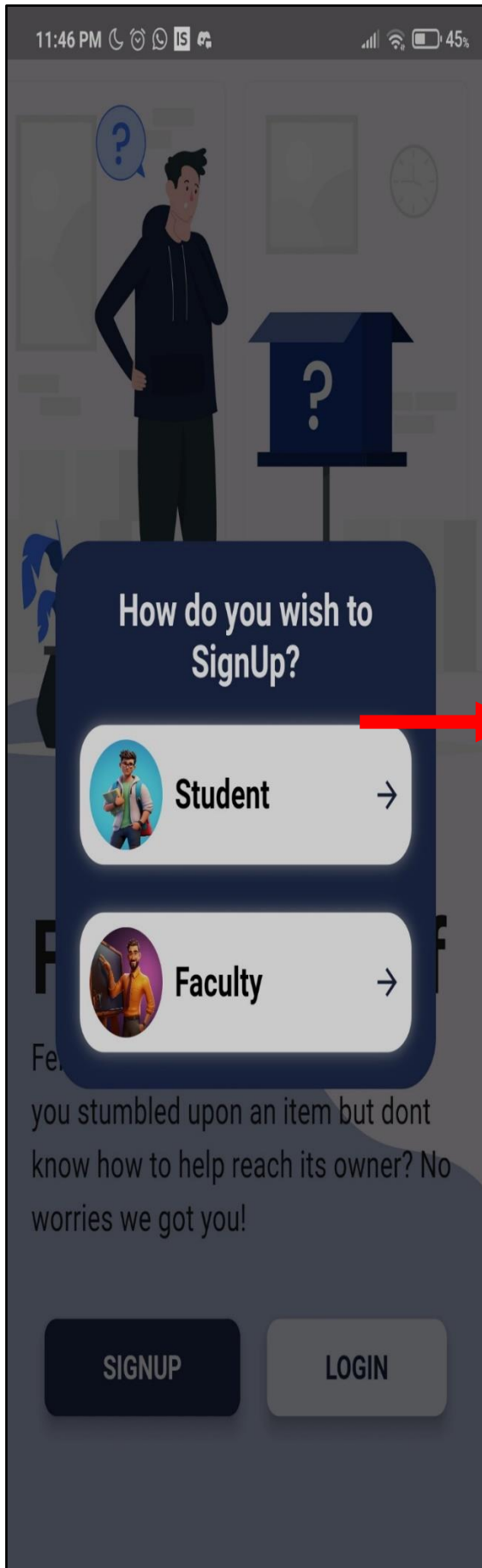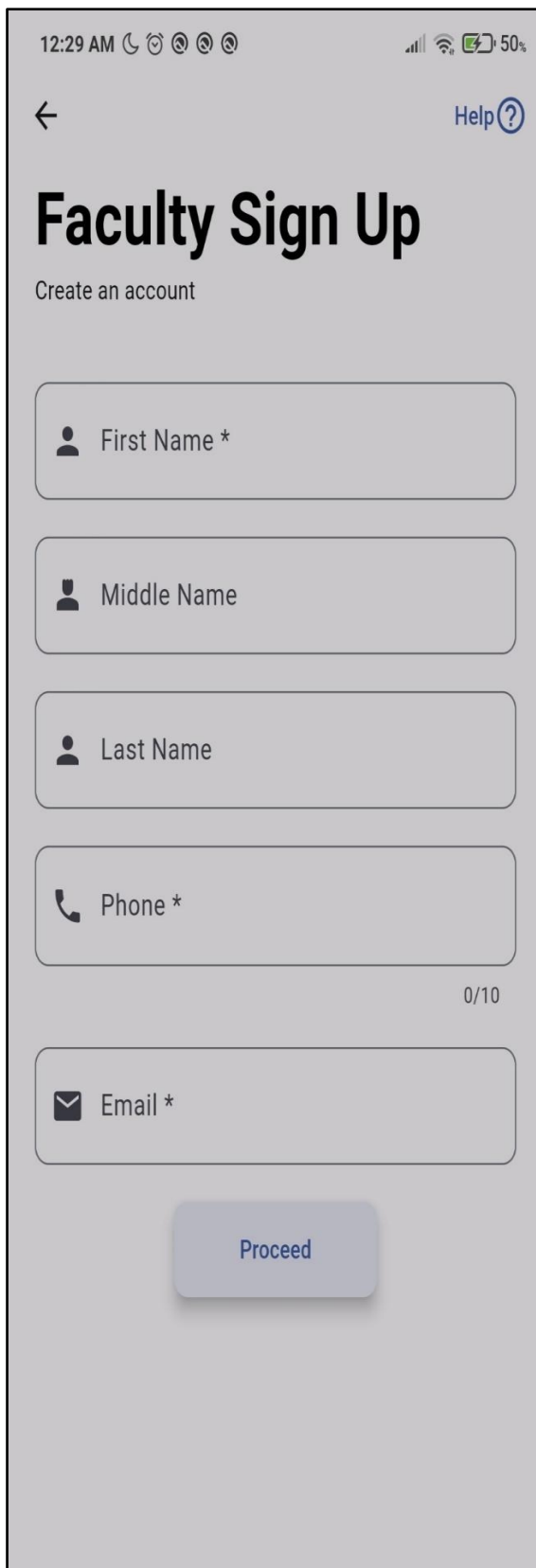
Figure 6.3 Sign up dialog box

Figure 6.4 Student Registration Page

When you click on "SIGNUP" button in Figure 6.3, a pop up is displayed to ask how are you connected to the college. If you are a current student of the college, then click on "Student", to register as a student, else click "Faculty" if you are a faculty.
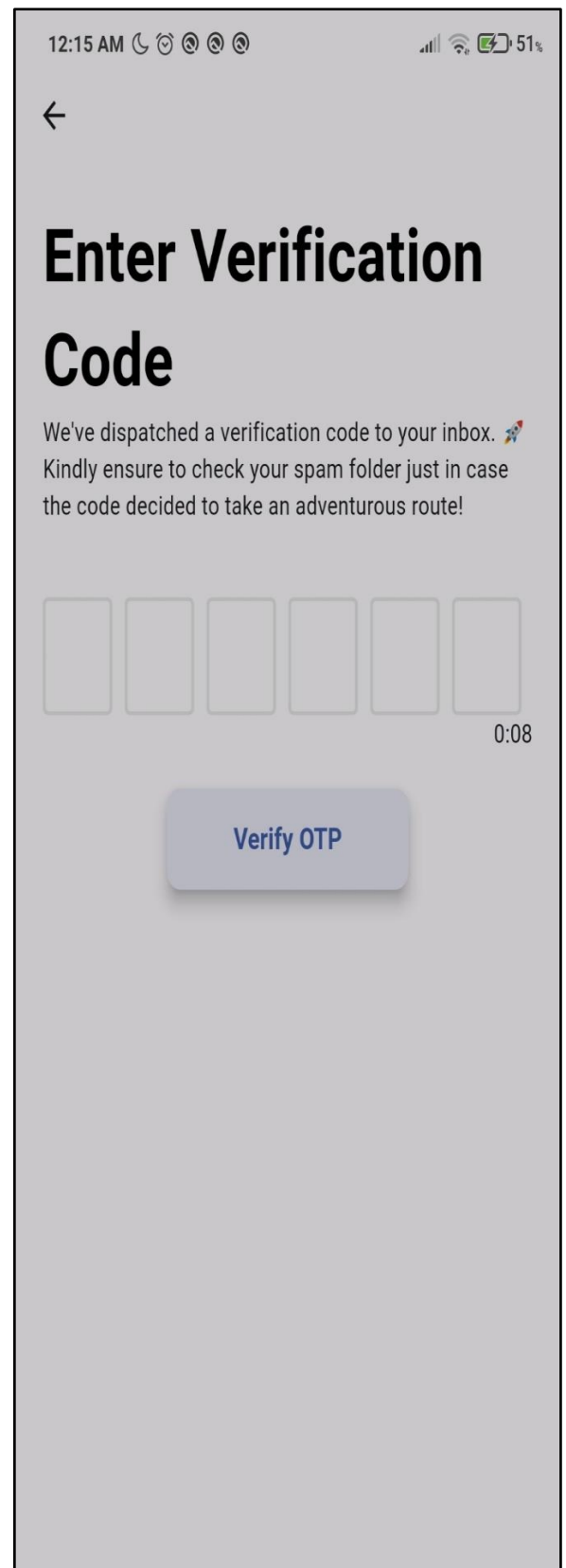
Figure 6.5 Faculty registration page   Figure 6.6 Enter OTP page

Depending on the option selected from the "SIGNUP" dialog box, you are directed accordingly. Fill in all the required fields which are marked with "*" to indicate that they need to be filled in order to proceed further. After entering the details click on "Proceed". An OTP will be sent to the email entered by you. If you didn't receive the OTP, wait for the timer to countdown before you can see the option to resend the OTP. Once you receive the OTP enter it and click on "Verify OTP". If the OTP is valid then you will be taken to the next page.
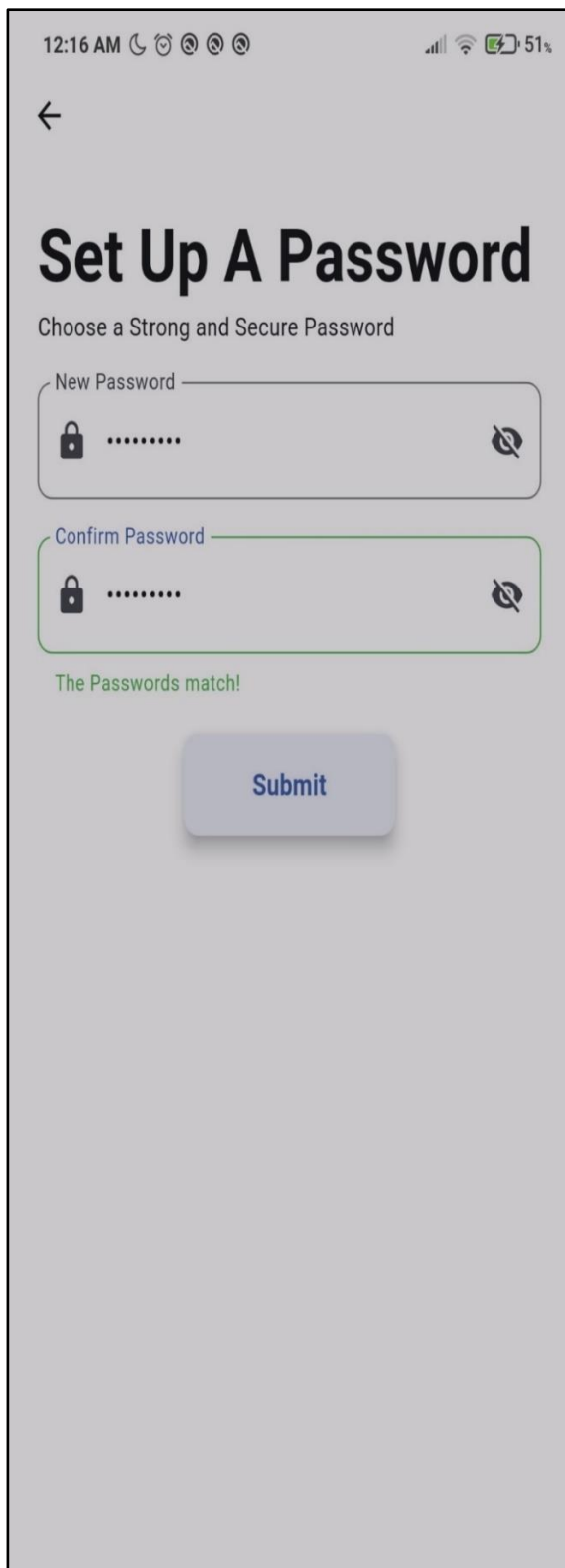
Figure 6.7 Set password page   Figure 6.8 Registration successful
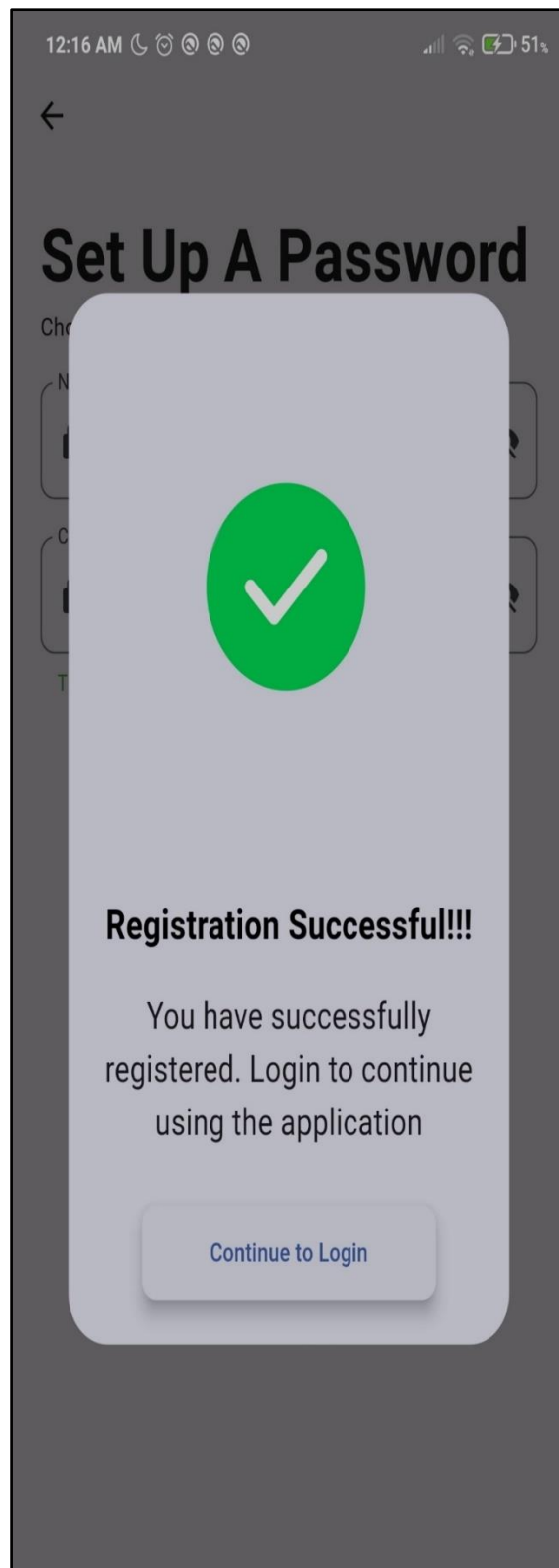
If you entered the correct OTP, you will be asked to set your password. The password should meet the following criteria: -

- It should be minimum 8 characters in length
- Should contain at least one digit, one lowercase alphabet and one uppercase alphabet.

Enter the same password twice in the "Enter password" and "Confirm password" fields. If the passwords match, then "Passwords match" message is seen. Then click on "Submit" to complete the registration process. The system will verify the user, and if everything is successful, the "Registration successful" message is displayed. You can click on "Continue to Login" to start using the application.
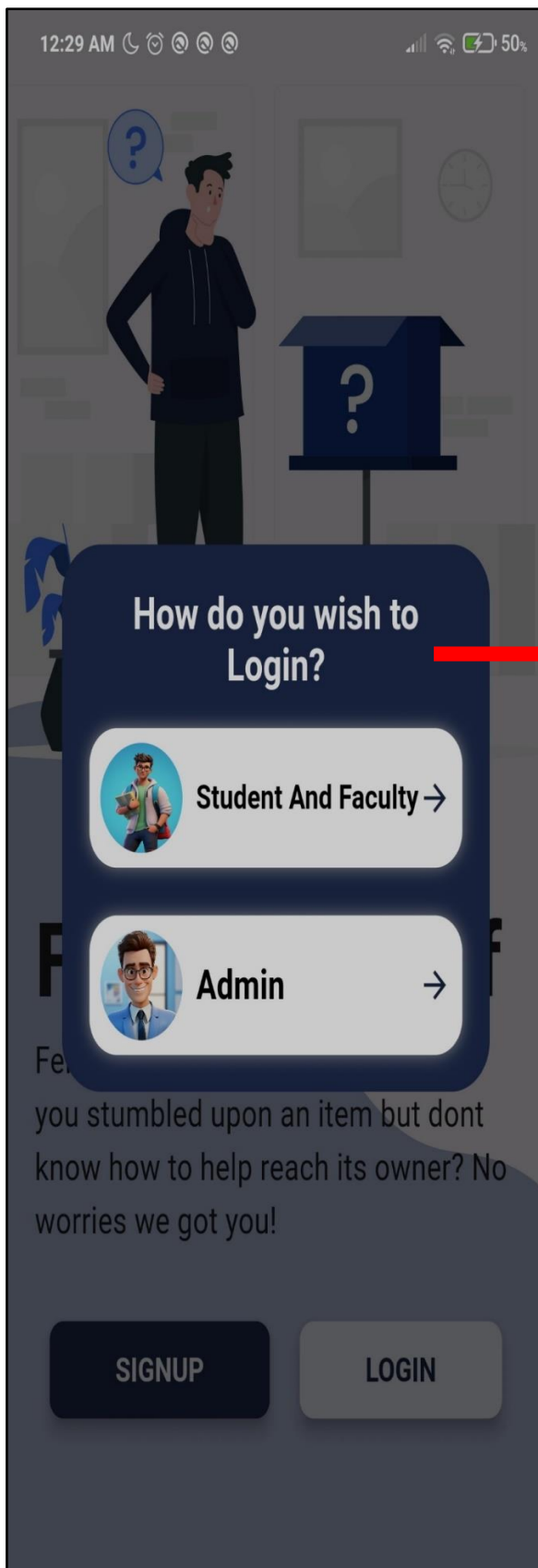
Figure 6.9 Login Dialog Box   Figure 6.10 Student/ Faculty Login

After successfully registering or if you have already registered, you can login in to the application. Click on the "LOGIN" button in Figure 6.9 to see the Login pop. Here, choose "Student and Faculty". You will see the login page. Enter your details correctly to successfully log in to the application. In case you forget your password, you have the option to reset your password by clicking on "Forgot Password". If you haven't signed up then you can click on "Sign up here" to take you to the sign-up page where you can register and then continue to login.

Figure 6.11 Forgot Password page
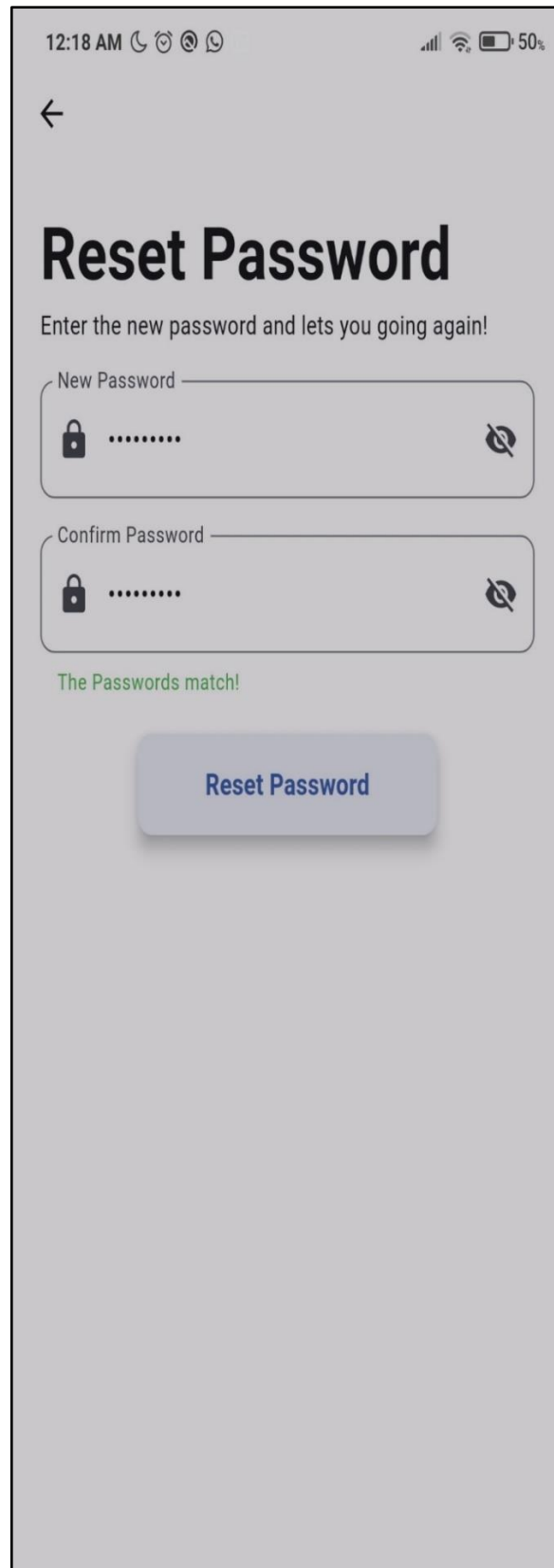
Figure 6.12 Reset password page

If you click on "Forgot Password", then you are directed to page shown in Figure 6.11. Enter the email with which you have registered and click "Verify Email". If the email is registered with us, you will receive an Email with the OTP. Then you will be shown the "Enter OTP" page which is not shown here. Enter the correct OTP and hit "Verify OTP". If the OTP is valid you are taken to the page shown in Figure 6.12. Enter your new password which is different than the previous password. If it same as the previous password then it wont reset your password. Once the passwords match, hit "Reset Password". If the password is reset successfully, then the "Password reset successfully" message is seen.
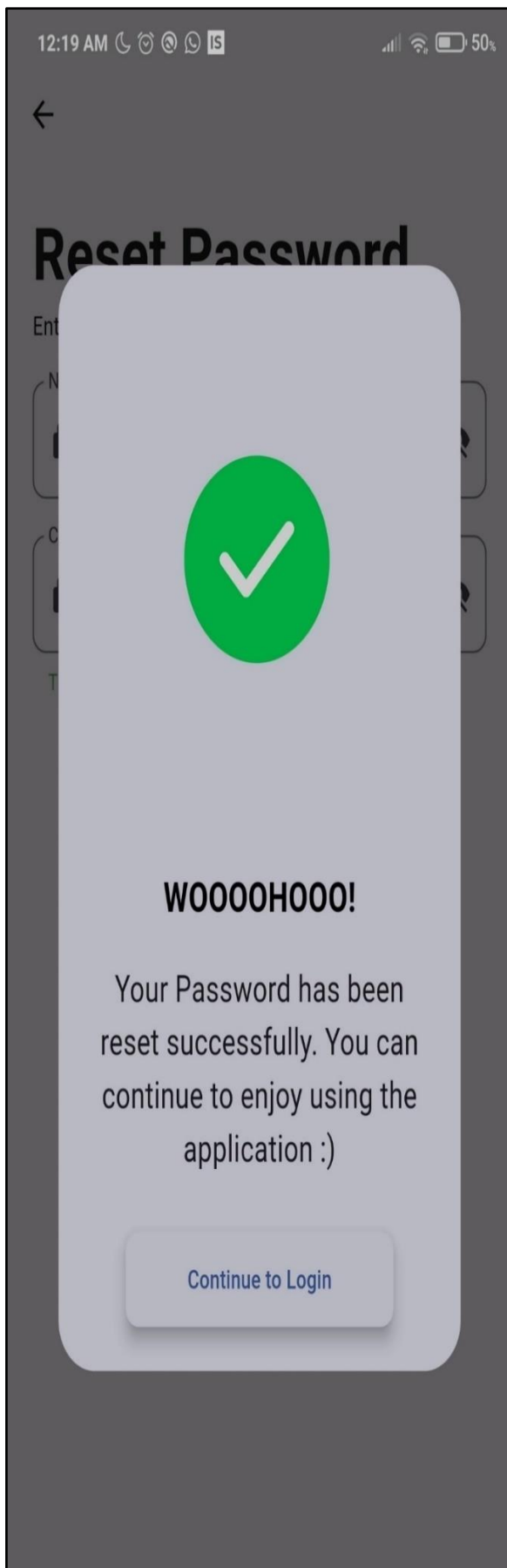
Figure 6.13 Password reset successfully   Figure 6.14 FAQ page
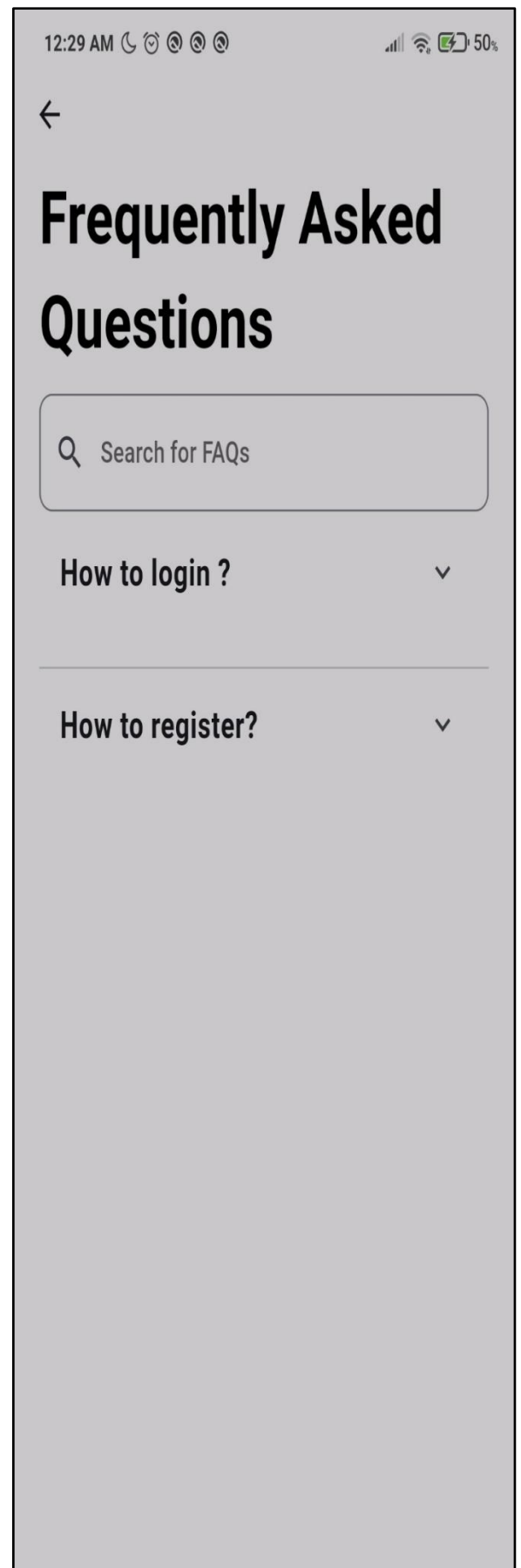
Once your password has been reset successfully, a message indicating the same is displayed. Click on "Continue to login" to proceed with the logging in. In case you have any queries during the "SIGNUP" procedure, there is a help button shown in the right-hand side top corner. When you click it, you are shown all the FAQ's that can help you with your problem.
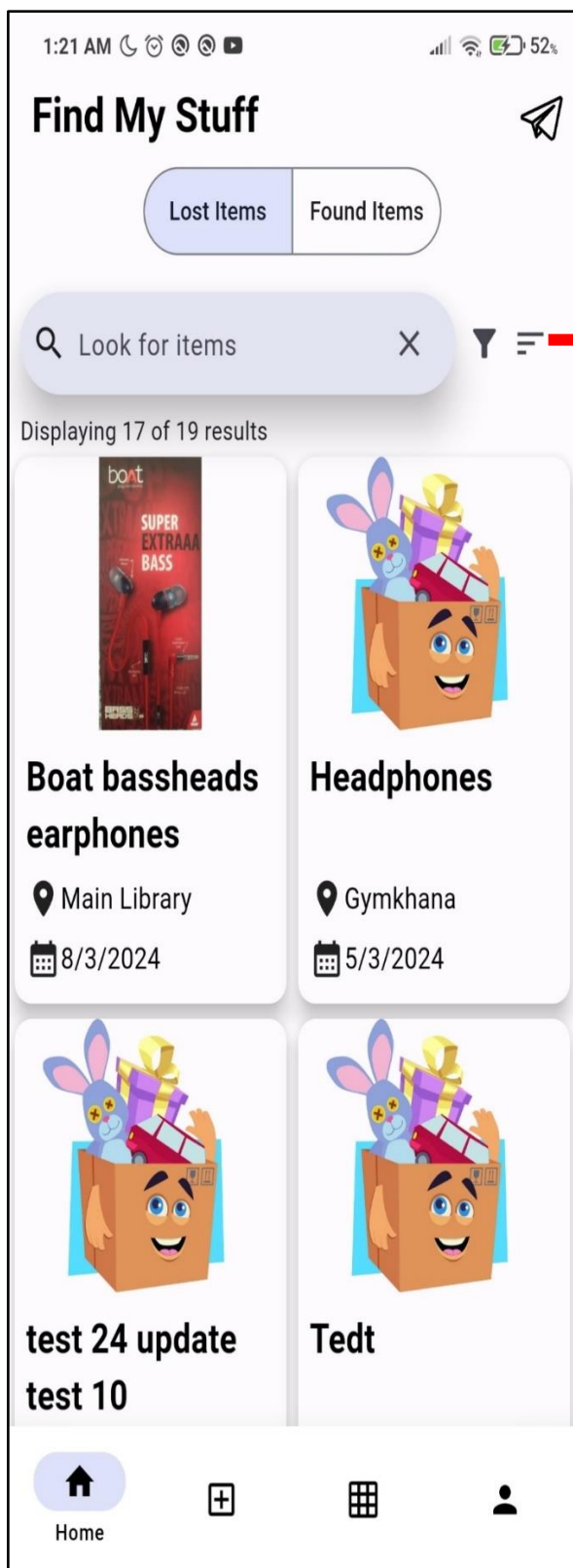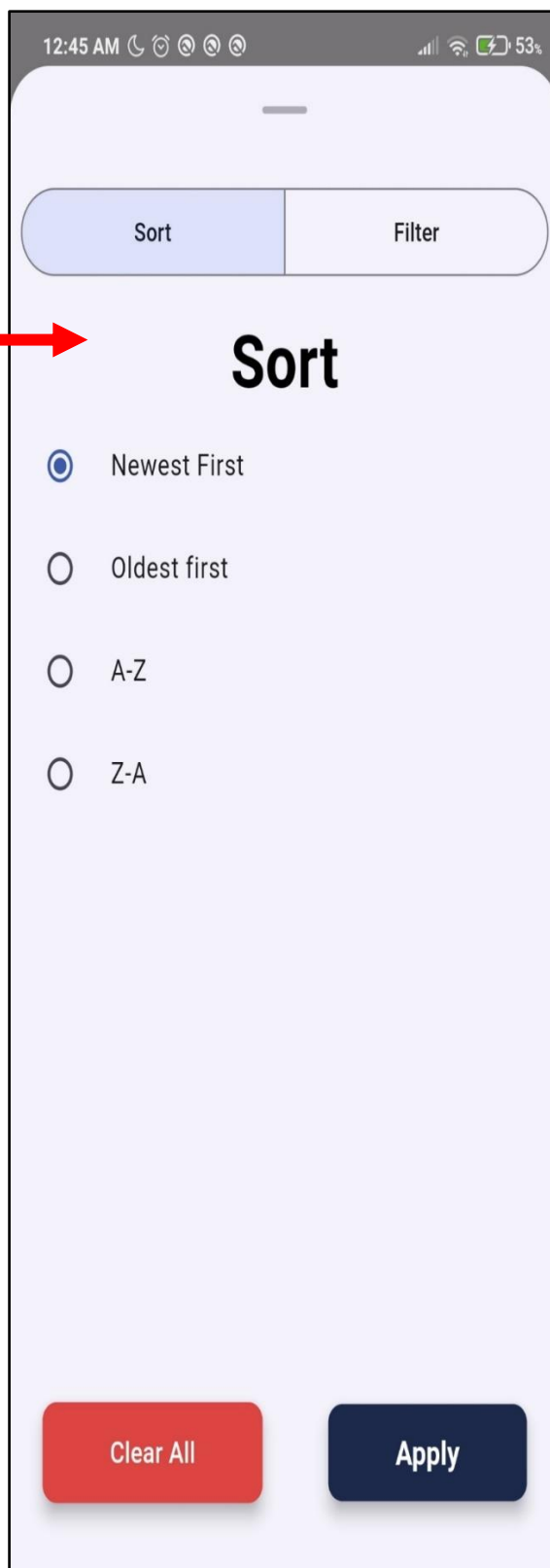
Figure 6.15 User home page

Figure 6.16 Sort option

After logging in successfully, you can all the reported items that have been posted between today and the date one month prior. In the top right-hand corner, you can click on the messaging icon to see all your chats. You can see all the lost and found items separately and can switch between them. Below that, you can search the items or you can choose to filter the items by click on the "Sort and filter icon" next to the search-bar. You can click on the reported item to know more about it or to contact the user. At the bottom you have options to report an item, see items reported by you and see your profile.

You can choose to sort the items or filter the items. Click on "Apply" after choosing your sorting or filtering option. You can click on "Clear All" to clear the selected filters.
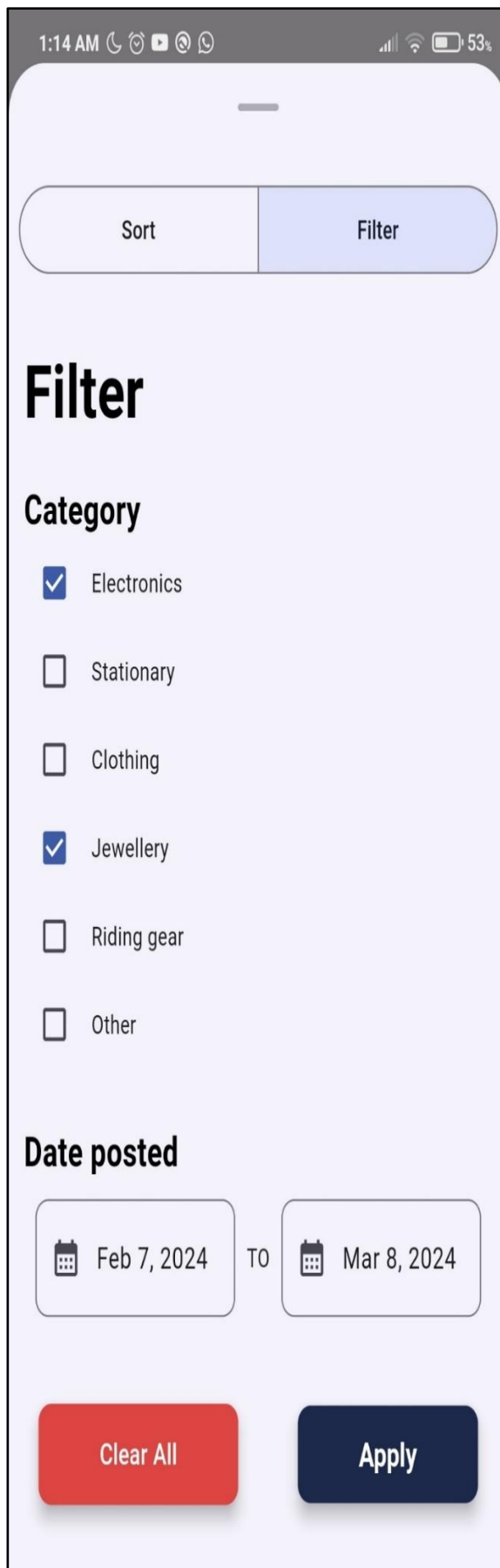
| Figure 6.17 Filter option | Figure 6.18 Specific reported item |

You can also choose to "Filter" the reported items visible to you. Choose the filtering options and hit "Apply" to apply the filters. Click "Clear all" to clear the selected filters.

In figure 6.18, you can see a specific reported items details. Click on the "Contact user" button to start a chat with the user who reported the item.
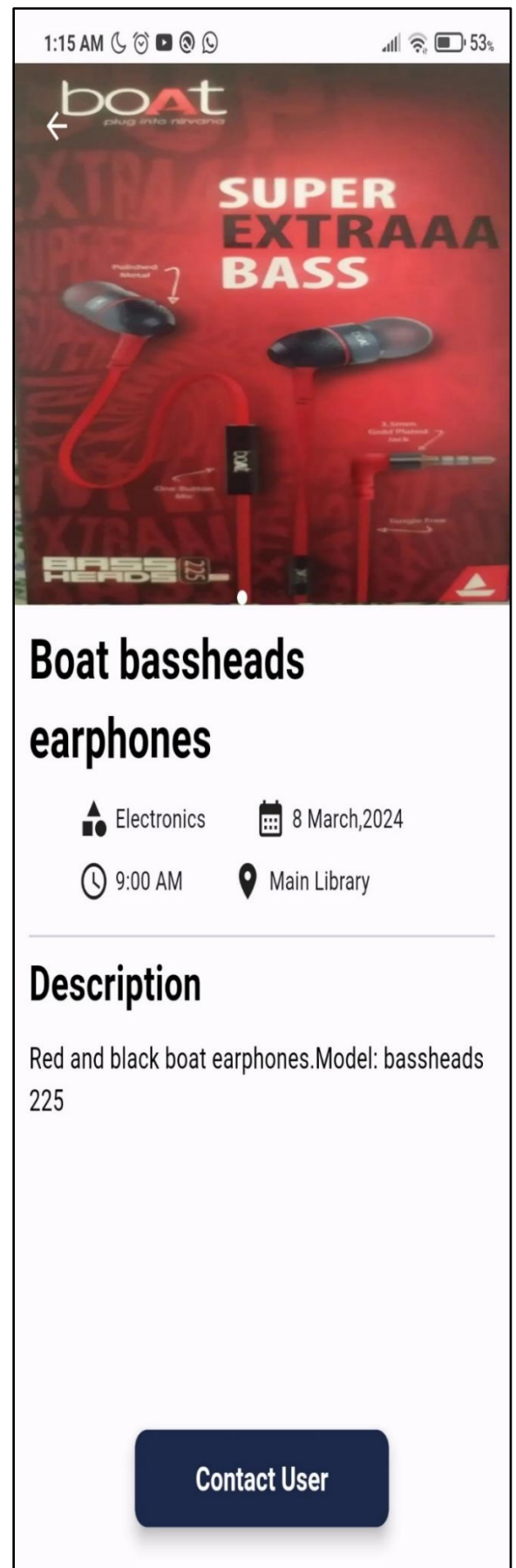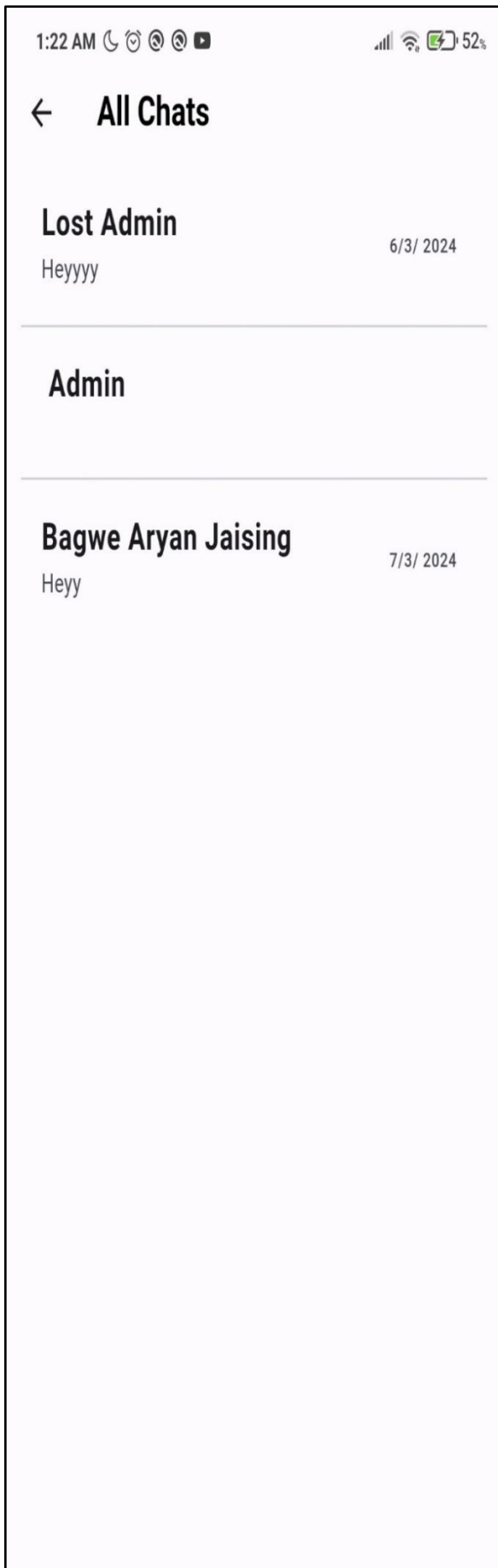
Figure 6.19 All chats page

Figure 6.20 Specific chat page

On the left-hand side, you can see all your chats along with the latest message and its date. On the right-hand side, you can see all your messages sent and received with the user. In figure 6.20, in the top right corner you can click on the "Call" icon to contact the user.

Figure 6.21 Report item page 1

Figure 6.22 Report item page 2

When you select the option to report an item in the bottom navigation bar ("+" icon), you can see the option to upload the images regarding to the item. It's an optional step and you can choose skip. You can upload a maximum of 3 photos. After choosing your photos, click on "Next".

In figure 6.22, you arrive at step 2 to report an item. Fill in all the details required fields marked by the "*" symbol. Once all the details are filled, click on "Next" to proceed to final step.
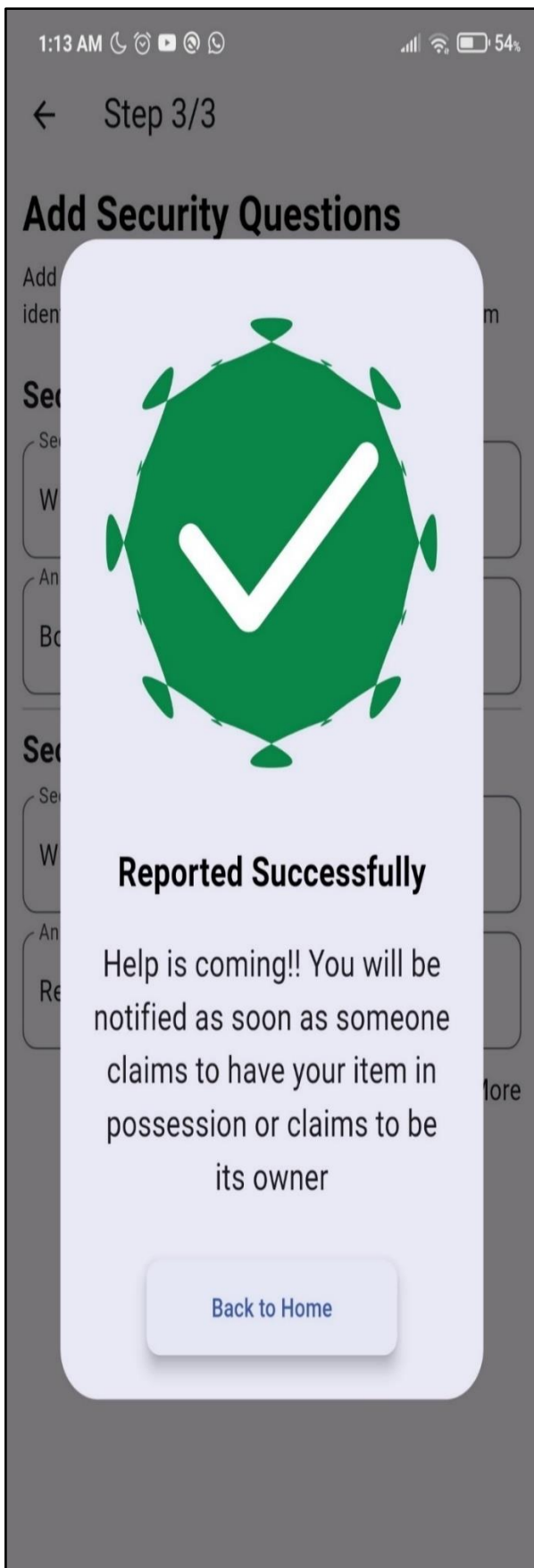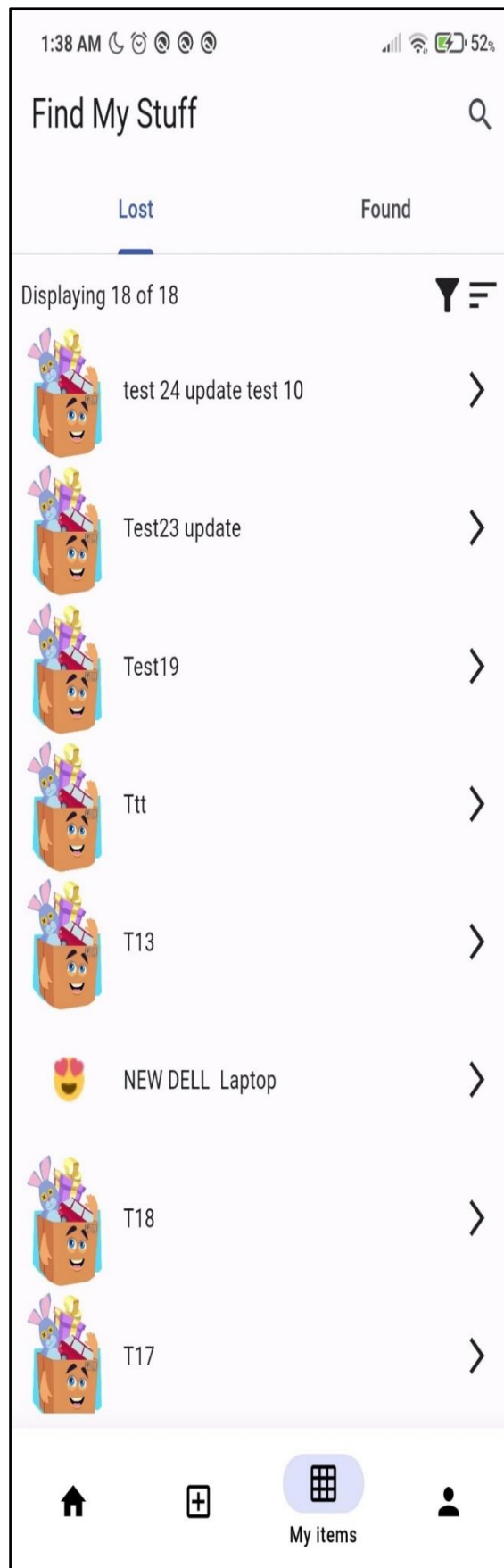
Figure 6.23 Report item page 3

Figure 6.24 My reported items

In Figure 6.23, you fill in the security questions and answers for the item you are about to report. You are required to fill in minimum 2 of these security questions and answers. After filling it in, click on "Submit" button and if the item is reported successfully, you will the appropriate message. When you click on "Back to Home", you are directed to "My items" page as seen in Figure 6.24 which shows all the items that you have reported.
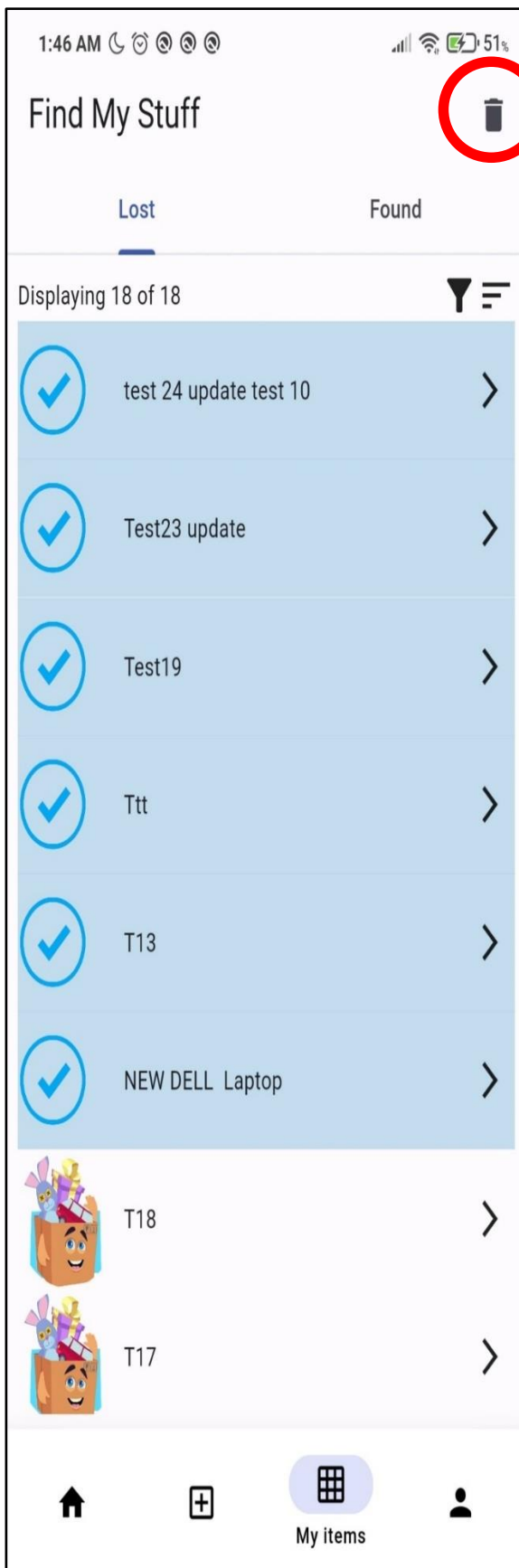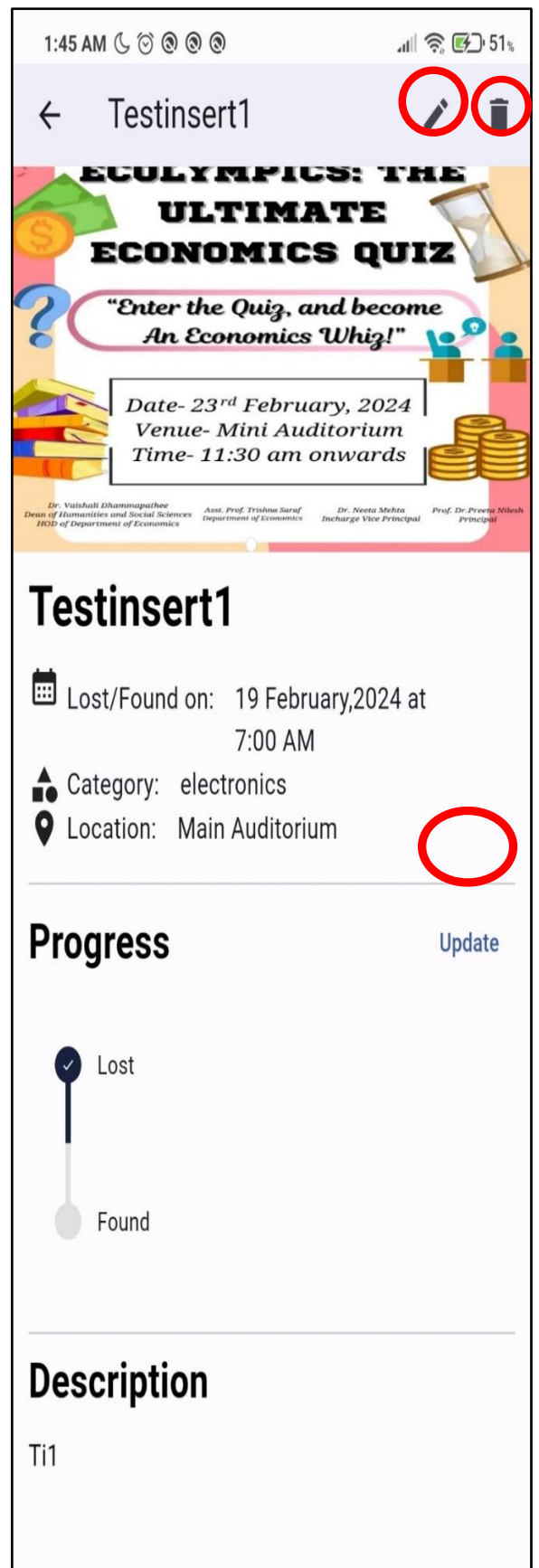
Figure 6.25 Delete my reported items

Figure 6.26 My specific reported items details

In figure 6.25, it demonstrates how you can long press on a item in order to delete it. The "Delete" icon is located in the top right corner.

In figure 6.26, it displays the details of the item reported by you. You can choose to edit the details or delete the item, by clicking on the appropriate icon. Additionally, you can also update the progress of the item to notify other users that you found your item.
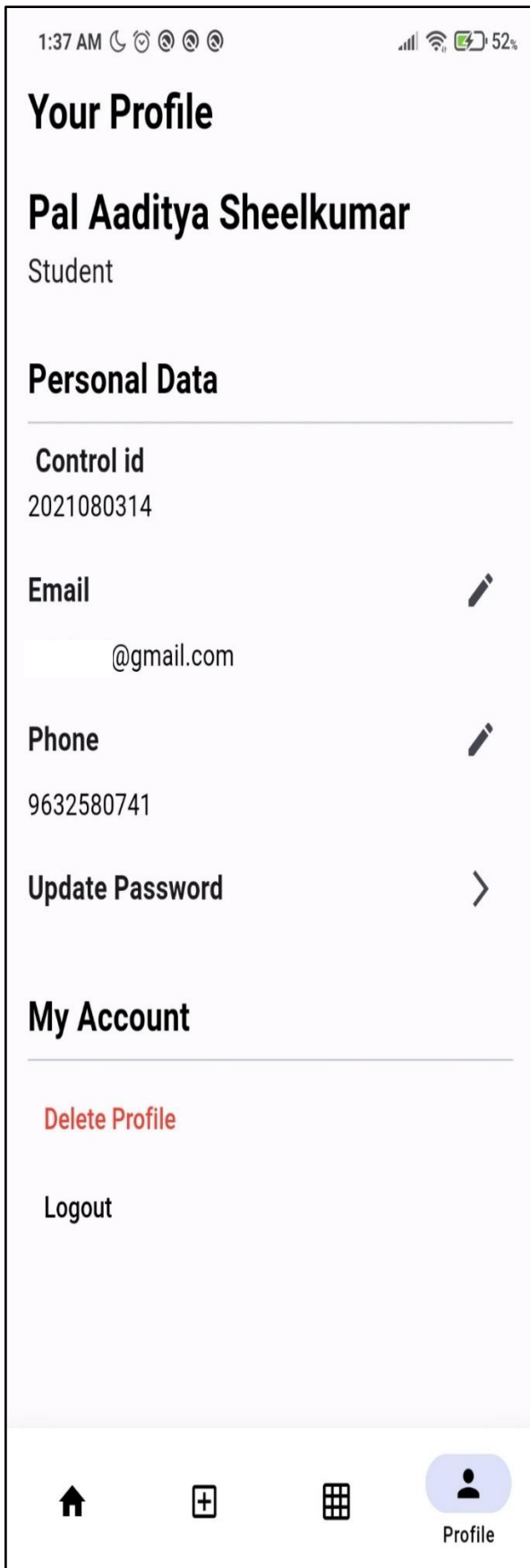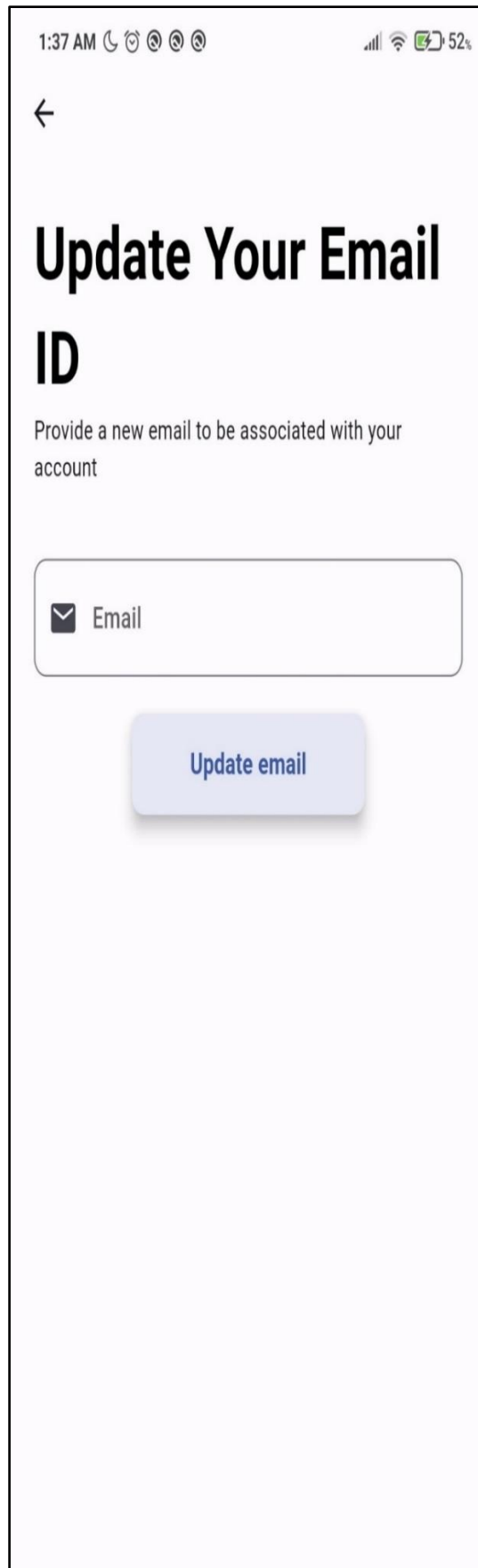
Figure 6.27 Profile page

Figure 6.28 Update email page

The last tab in the bottom nav bar is the "Profile page". You can see all your details here. If you wish to update any of your details, you can do so by clicking the edit icon. If you wish to update your email, enter your new email and then click "Update email". This will take you the "Enter OTP" page where you will be asked to enter the OTP sent to your new email. Enter the new OTP and your email is updated.

Figure 6.29 Update phone page

Figure 6.30 Update password page

Similarly, you can update your phone and your password. Fill in the updated details and click on "Update". This will update your details.
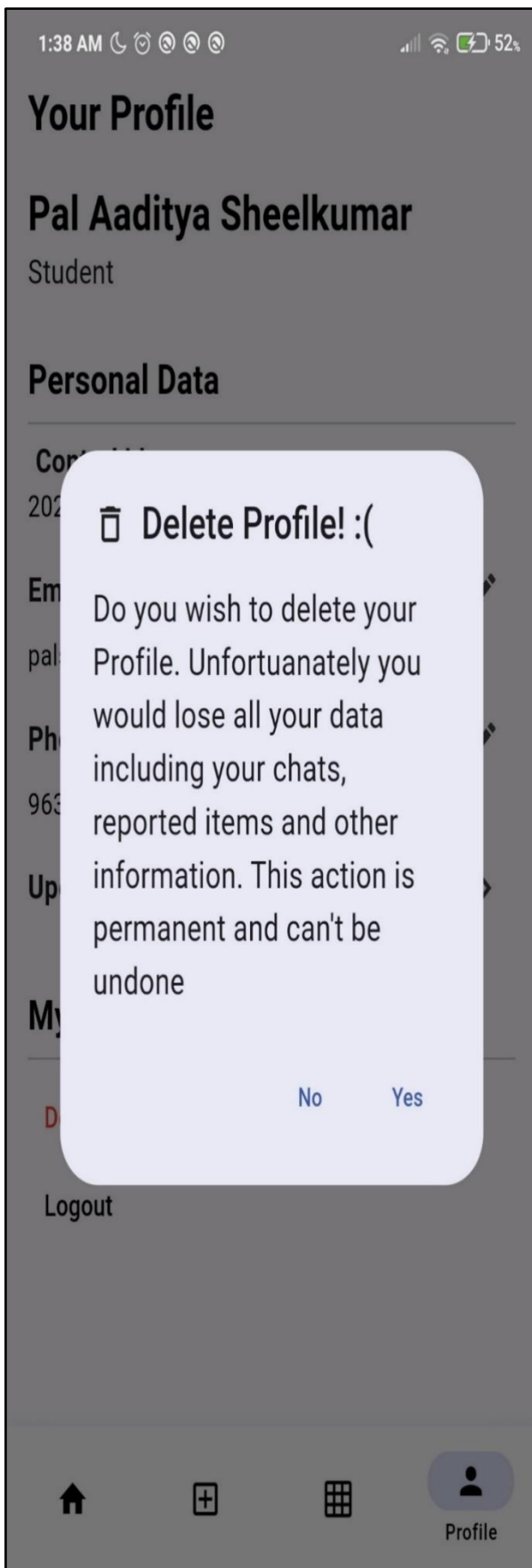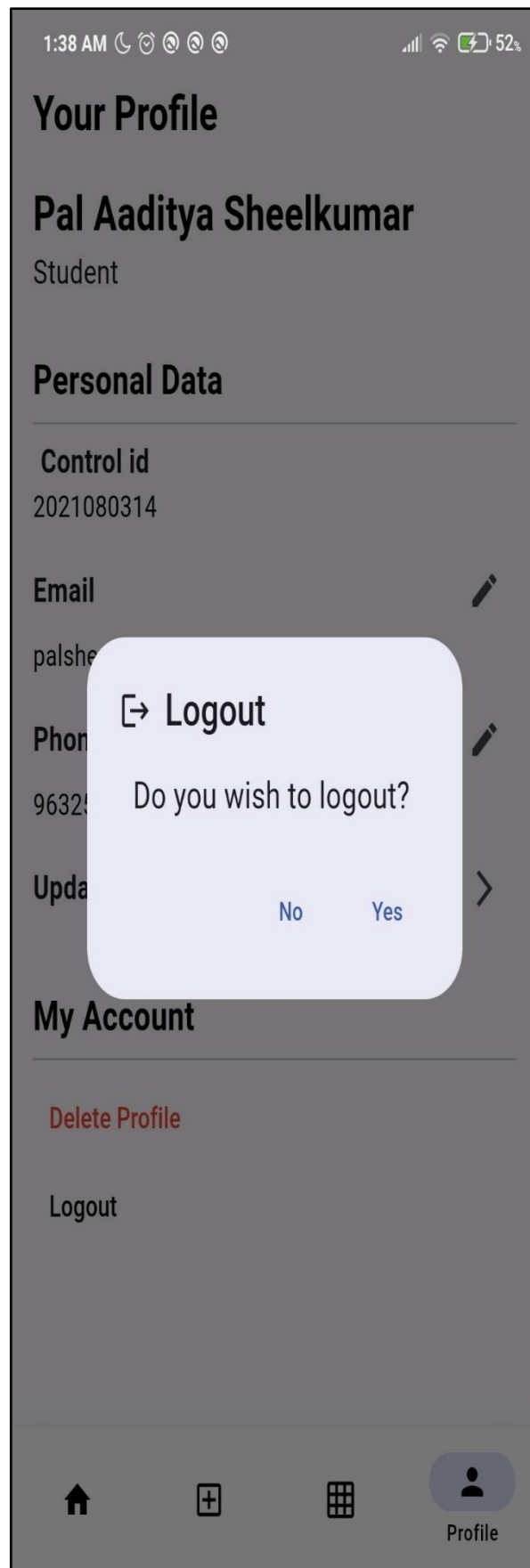
Figure 6.31 Delete profile page

Figure 6.32 Log out

You can also choose to delete your profile. If you choose to do so, you will shown a confirmation prompt. If you select "Yes", your profile will be deleted along with all your messages, items reported and other details.

Also, you can choose to "Logout".