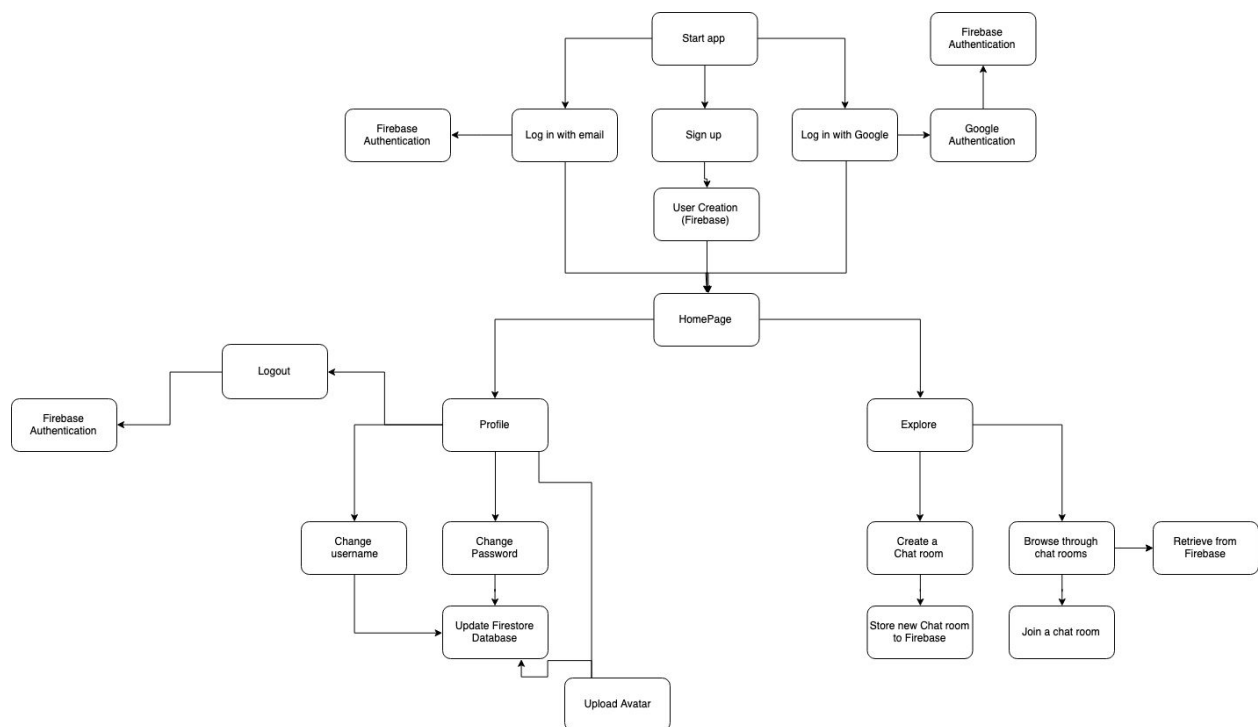


Sprint 1 - Incremental And Regression Testing

Team 4: ChatChat

Zhenmu Gong, Yiting Du, Canyu Yang, Shikang Fan, Siyu Jiang

1. Classification of Components



1.1 Define all components

Start

- Input: None
- Output: None
- Parent Dependency: None
- Child Dependency: Google Sign in, Login, Signup, Forgot password

Login:

- Input: email address, password
- Output: None

- Parent Dependency: Start, Signup
- Child Dependency: Main page, Forget Password

Logout:

- Input: None
- Output: None
- Parent Dependency: Profile Page
- Child Dependency: Login

Signup:

- Input: email address, password, username
- Output: None
- Parent Dependency: Start, Login
- Child Dependency: Image Upload

Google Sign in:

- Input: None
- Output: None
- Parent Dependency: Start
- Child Dependency: Main Page, Create Profile

Forget Password:

- Input: email address, temporary password, a new password
- Output: temporary password (sent to the email entered)
- Parent Dependency: Start
- Child Dependency: Login

Main Page:

- Input: None
- Output: show messages about this action
- Parent Dependency: Login
- Child Dependency: Profile Page, Explore

Explore:

- Input: None
- Output: Chat room categories
- Parent Dependency: MainPage
- Child Dependency: Create chat room, Browse through chat rooms

Profile Page:

- Input: Avatar Image, User Email, User ID
- Output: Show options for changing user information
- Parent Dependency: MainPage
- Child Dependency: Image Upload, Change Username, Change Password, Logout

Change Password:

- Input: password, new password, confirm new password
- Output: show messages about this action
- Parent Dependency: Profile
- Child Dependency: None

Change Username:

- Input: new username
- Output: Show confirmation about this action
- Parent Dependency: Profile
- Child Dependency: None

Create a Chat room:

- Input: chat name, description, category.
- Output: Show a message box on success or fail
- Parent Dependency: Explore
- Child Dependency: None

Browse through chat rooms:

- Input: None
- Output: A chat room list
- Parent Dependency: Explore
- Child Dependency: none

Join a chat:

- Input: none
- Output: show a message box on success
- Parent Dependency: Explore
- Child Dependency: None

Image Upload:

- Input: photo Uri from Gallery
- Output: Show image preview and upload photo to Firebase with confirmation
- Parent Dependency: Profile page
- Child Dependency: None

1.2

We use the **Top-down** approach because we follow the designed user flow of the event to visit and test each module in our app. Starting from the Main modules to sub modules, we give data to the module and assert the output of the module if the module can generate an output. We set up automated test for each module in order to test the integrity of the app.

2. Incremental & Regression Testing

Module: Start

Method: Manual

No Defects

Module: Login**Method: Manual, Automated****Incremental Testing**

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|--|
| 1 | Not directing users to create a profile page when a user profile is not found | Workaround | Modifier the app such that each time a user is login, the app first checks whether the user has a profile. |
| 2 | The login page can be accessed by the bottom navigation bar after login, so the user session is not properly ended. | Workaround | Finish the login activity every time a login is successful. |

Regression Testing

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|---|
| 3 | When the Back button is pressed, the app simply exits without properly ending the user's session. | workaround | Check for unfinished user sessions each time the app started at the login page. |

Module: Logout**Method: Manual, Automated****Incremental Testing**

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|---|
| 1 | Logout automatically quits app and doesn't direct to the login page | Workaround | Make sure the onClickListener directs to the login page instead of exiting out of the app |

Module: Signup
Method: Manual
Incremental Testing

| Defect No. | Description | Severity | How to correct |
|------------|--|------------|--|
| 1 | Sign up uses the wrong user id as a database path so that the login cannot get the user profile. | Critical | Fixed the app so that the correct uid generated by firebase is used as the storage path. |
| 2 | Sign up allows very long chat Name. | Workaround | Modify the app so that there is a cap on the number of characters in Chat Name. |

Regression Testing

| Defect No. | Description | Severity | How to correct |
|------------|--|----------|--|
| 1 | When a user is created, the imageUrl entry is not included in the user document in the firebase, while the modified profile page requires this string. So the app crashed at the profile page. | Critical | Modify the app so that it creates an empty image url string when adding a new user document to the firebase. |

Module: Google Sign in
Method: Manual
Incremental Testing

| Defect No. | Description | Severity | How to correct |
|------------|--|----------|---|
| 1 | When google api encounters timeout error. A user authentication instance is created but the user profile failed to create in | Critical | Add a listener that listens to the google api response. And also checks for the user profile when directing to Main Page. |

| | | | |
|---|--|----------|---|
| | firebase. So the Main Page cannot render users information. | | |
| 2 | When creating a user profile, a wrong uid is used to form the store path on firebase, so that the app cannot get user profile to determine if a user account exists. | critical | Fixed the app so that it uses correct uid to form the store path on firebase. |

Regression Testing

No Defect

Module: Forget Password

Method: Manual

Incremental Testing

No defects.

Regression Testing

No defects.

Module: Main Page

Method: Manual

Incremental Testing

No defects.

Regression Testing

No defects.

Module: Explore

Method: Manual

Incremental Testing

No defects.

Regression Testing

No defects.

Module: Profile Page

Method: Manual

Incremental Testing

No defects.

Regression Testing

No defects.

Module: Change Password**Method: Manual****Incremental Testing**

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|--|
| 1 | After click “confirm”, even the password is updated in the firebase authentication, it cannot go back to the profile page properly. | Workaround | Making sure that addOnSuccessListener launch to the correct activity of the profile page |

Regression Testing

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|--|
| 1 | After changing the password, there is no message shows up to the user to indicate if the action is successful | Workaround | Making sure that the correct message is toasted for every circumstance. |
| 2 | When changing password, if a super long password is inputted, no action nor message occurs | Workaround | Making sure after checking the length of the password, if the password is too long, toast a message of “password too long” |

Module: Change Username**Method: Manual****Incremental Testing**

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|--|
| 1 | After click “confirm”, even the username is updated in the firestore, it cannot go back to the profile page properly. | Workaround | Making sure that addOnSuccessListener launch to the correct activity of the profile page |

Regression Testing

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|---|
| 1 | When changing the username, the change username page accepts new username with some invalid characters | Workaround | Making sure the implement of a regex restricts the username only contains [A-Za-z0-9_]. |
| 2 | After changing username, there are no message shows or sometimes the wrong message shows up to indicate if the action is successful | Workaround | Making sure that the correct message is toasted for every circumstance. |

Module: Create a Chat room

Method: automated, manual

Incremental Testing

| Defect No. | Description | Severity | How to correct |
|------------|--|-----------|---|
| 1 | Invalid chat name input not detected. | Important | Remodified regex to match input. |
| 2 | The dialog box is not displayed after clicking the button in ExploreActivity | Critical | Rewrite onClickListener and because some items' ids are duplicated after integrating modules together. Rename some ids. |

| | | | |
|---|---|-----------|--|
| 3 | When creating a new chat room and add it into the Firebase database, there are some garbage entries added into the chat room document page. | Important | Instead of adding the Chatroom object to the database, adding Chatroom.getchatroom(), which returns a map structure of the chatroom into the database. |
|---|---|-----------|--|

Regression Testing

No defects.

Module: Browse through chat rooms

Method: Manual

Incremental Testing

| Defect No. | Description | Severity | How to correct |
|------------|-------------------------------------|----------|---|
| 1 | Room lists are not fully displayed. | Critical | Add RecyclerViewadapter .notify() during the retrieving process from Firebase |

Regression Testing

No defects.

Module: Join a chat

Method: Manual

Incremental Testing

No defects.

Regression Testing

No defects.

Module: Image Upload

Method: Manual

Incremental Testing

| Defect No. | Description | Severity | How to correct |
|------------|-------------|----------|----------------|
|------------|-------------|----------|----------------|

| | | | |
|---|---|------------|--|
| 1 | Image uploaded can not be retrieved in the profile page | workaround | Change img url field on firebase using document instead of the collection |
| 2 | Image url is null after uploading to firebase | Important | Add try-catch with getDate() from intent function to handle uri extraction |

Regression Testing

| Defect No. | Description | Severity | How to correct |
|------------|---|------------|--|
| 3 | Return to last activity from UploadImage Activity | important | Add finish() function with overriding Navigation function |
| 4 | Unable to show progress bar when uploading an image and storing image url field | workaround | Update xml and use progressBar visibility function to show the progress. |