

# **vCOMPLAIN - Online Complaint Registration and Management system**

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## **Assessment 5 Winter Semester 2020-21**

Test report and exploration

## **Software requirements mentioned in SRS document: -**

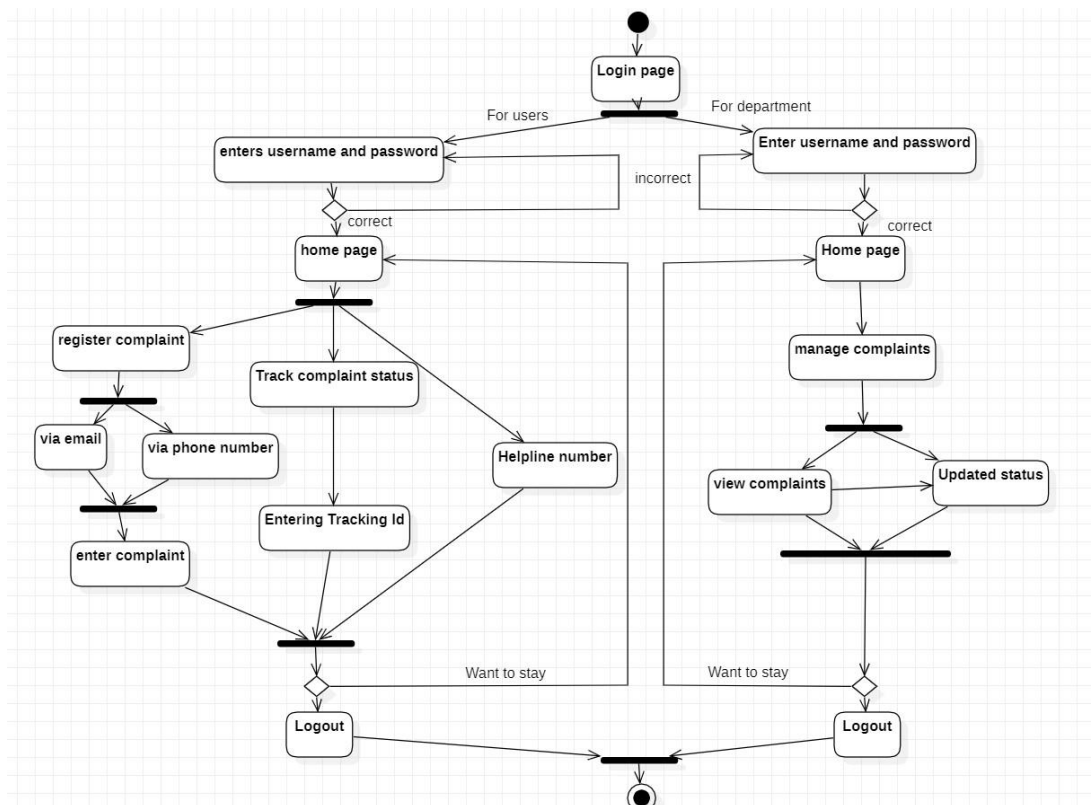
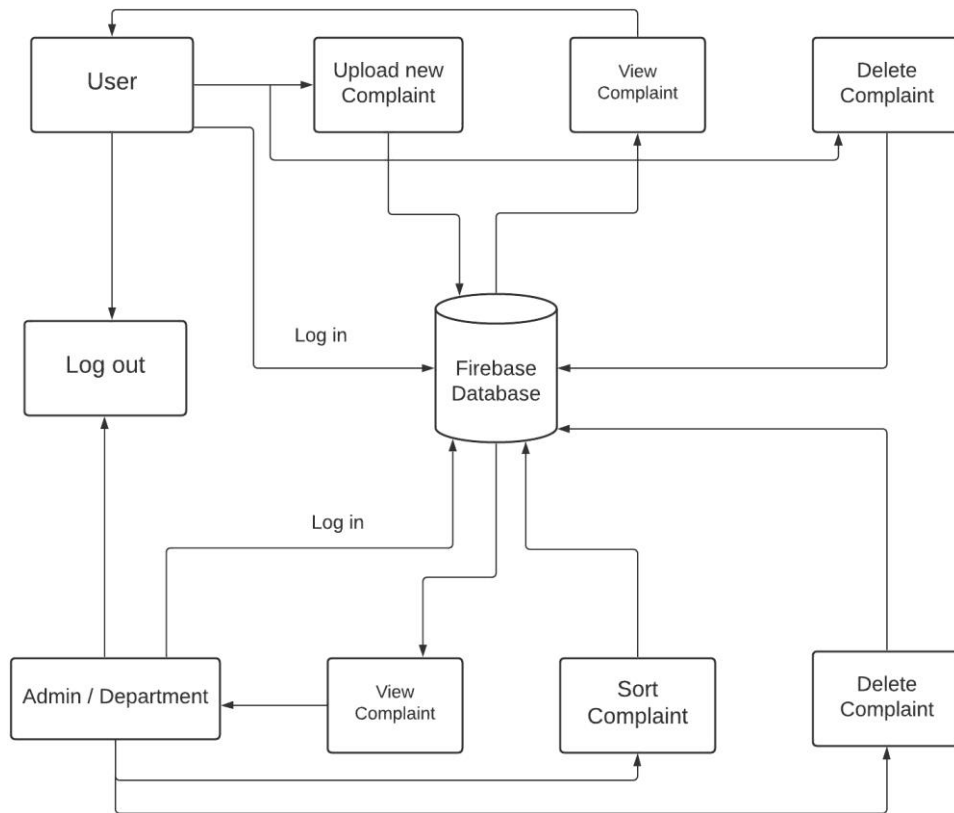
### **Functional Requirements**

- The users can sign up and create an account, the authentication of department staff is provided by administrators. There will be a unique ID for each user.
- This page displays all complaints which are in public mode, each complaint has its unique complaint id. The users can sort it by time or support.
- The users can support any public complaint by selecting the support option
- Users can file a complaint and send it to any department. They can file complaints in public or private mode.
- Users can also send an image of their complaint.
- Users can view all the complaints they sent, they can delete complaint, edit their privacy
- Administrators can delete any complaints, they can ban any user from filing the complaint, they can send a reply to a complaint
- Department staff can view the complaints sent to their respective department.
- Administrators can delete any complaints if they want.
- Administrators can block the users who send complaints
- Department staff can send the request to the administrator like the request to delete a complaint or send a reply to a complaint

### **Requirements :**

- 1 . Android studio for development
2. Firebase as database
3. Mobile device with camera module as testing
4. Outsystem platform to perform Junit testing of each module ( Unit testing ).

## Architectural diagram:-



## **Unit testing:-**

Unit testing involves the testing of each unit or an individual component of the software application. It is the first level of functional testing.

The aim behind unit testing is to validate unit components with their performance.

Our project mainly focused on its functionality and performance of individual test cases so we are going with unit testing.

For the android application, we are going to test every function one by one. Also, the unit testing will help to check each component's functionalities effectively.

For unit testing in Android application we are performing Junit test cases for each module .

### **Test Cases :**

1. Login (Student)
2. Login (Departments)
3. Login (Administrators)
4. File a new complaint / Upload new complaint
5. Photo upload
6. Delete complaint
7. Sorting complaints
8. Admin / Department view page
9. Logout

## Test Cases report:-

### 1. Login -

Test ID	1
Test Case	Login User Account
Description	Login User account using google accounts
Dependencies	a. Database connection b. The account is created and store in the database
Steps	1. Application shows button to log in 2. After pressing button to google authentication window will open. 3. If google account is valid it will give users access.
Expected Result	Successful login to google account and application.
Actual Result	1. Log in when correct account is given. 2. Fail to log in when wrong account is given.
Estimated time	Less than 1-minute depend on network connection
Bug & Errors	No bugs are found but there will be error if account information is wrong

- Test Description :

Log in for students, departments and admin will be the same with some minor changes in user ids.

Log in for users will be the first step for the application. Once login is done users can use software further.

If account information is wrong like if google account is invalid, then there will be error message in application.

There will be a minor bug in application, sometimes it will ask for user information to the database again and again. It will happen due to database error in google authentication, it can be fixed after restarting application.

## 2. File new complaint / Upload new complaint –

Test ID	2
Test Case	File new complaint
Description	Upload new complaint from a user account
Dependencies	a. Database connection b. User must be login c. The database must be accepting complaints.
Steps	1. Go to upload complaint menu 2. Give all details about the complaint 3. Press upload button below.
Expected Result	Successful uploading new complaint
Actual Result	Uploading new complaint in database
Estimated time	Upto10-minute depend on network connection
Bug & Errors	No bugs are found but there will be error if required information is not given like title etc.

- Test Description :

Uploading new complaints is the main objective of application.

It will take up to 10 minutes to upload a new complaint to database if there will be a worst-case scenario like too many connections to the database.

If user is not log in with the correct information, user can not upload new complaint.

### 3. Photo upload - (if possible)

Test ID	3
Test Case	Upload photo for complaint
Description	Upload photo for a new complaint
Dependencies	a. Database connection b. User must be login c. The process must be while uploading complaints. d. Device must have compatible camera module.
Steps	1. Go to upload complaint menu 2. Give all details about the complaint 3. Press camera icon in corner and then upload picture of complaint. 4. Press upload button below.
Expected Result	Successful uploading new complaint with photo
Actual Result	Uploading new complaint with image in database
Estimated time	Upto10-minute depend on network connection
Bug & Errors	No bugs are found but there will be error if required information is not given like title etc. Also if photo is a very large in-memory size / Aspect ratio it will give error.

- Test Description :

Uploading new complaints with pictures is a very difficult task for databases and applications so it may take time. So there will be minor bugs and errors as this application is at the initial state.

#### 4. Deleting complaint -

Test ID	4
Test Case	Delete complaint
Description	Delete uploaded complaint.
Dependencies	a. Database connection b. User must be login c. The complaint must be already uploaded with a valid id.
Steps	1. Go to view complaints option. 2. Press delete complaint option at the bottom give and give your valid reason for deleting it. 3. Confirm deleting.
Expected Result	Successful deleting complaint
Actual Result	Deleting complaint
Estimated time	Up to 5-minute depend on network connection and user valid reasoning.
Bug & Errors	There is a bug in this part, although complaint is deleted from database it will take time to remove it from the view complaints tab. There will be an error if complaint is not uploaded correctly.

- Test Description :

This function is giving sometimes errors in so it is not finished, we have to complete and fix bugs in this part of project.



## 5. Sorting complaints -

Test ID	5
Test Case	Sorting complaints
Description	Sorting uploaded complaints.
Dependencies	a. Database connection b. User must be login as department or admin c. The complaint must be already uploaded.
Steps	1. Go to the main page. 2. Select sort option in view complaints.
Expected Result	Successful sorting complaints according to time stamps
Actual Result	Sorting complaints
Estimated time	Up to 15-minute depends on network connection and number of complaints uploaded.
Bug & Errors	No errors, but there is bug sometimes complaints with the same time stamps may have different sorting order.

- Test Description:-

This part of the project is experimental and under development.

There may be some errors and bugs in this module.

Also, this sorting can be improved by assigning priorities to complaints.

## 6. Log out -

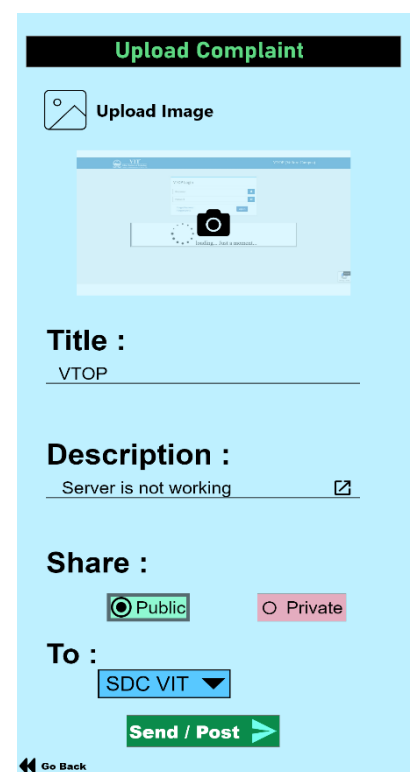
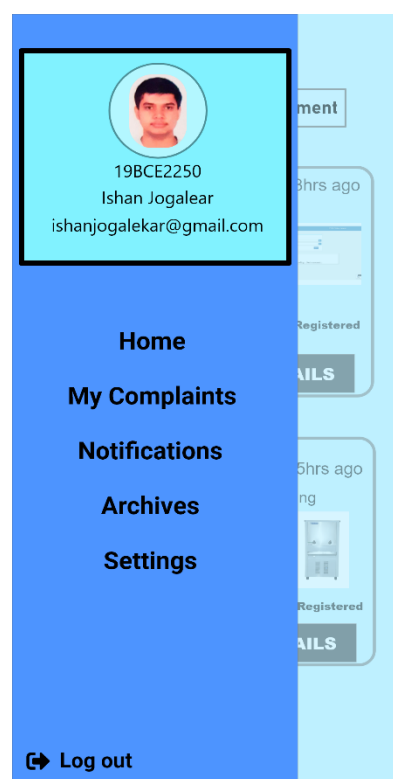
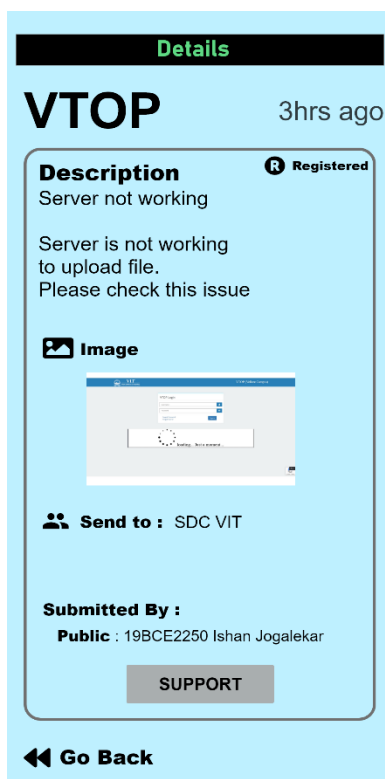
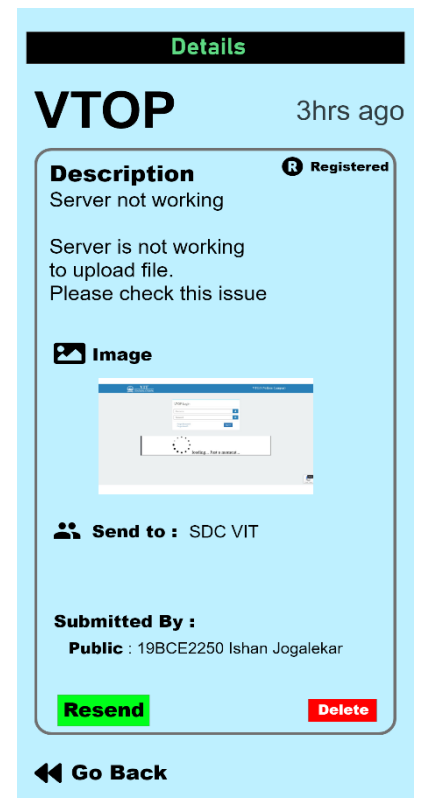
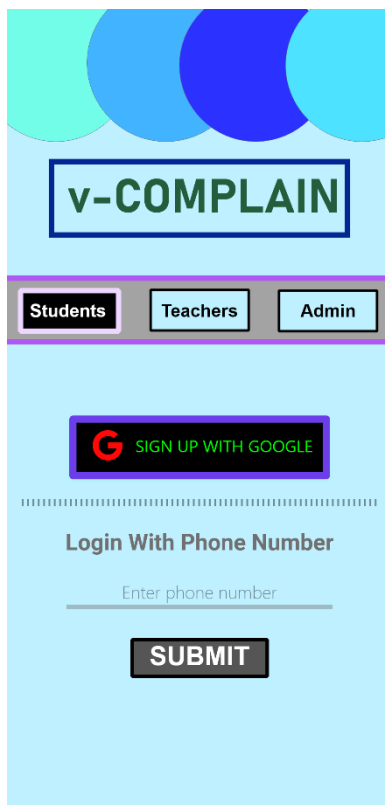
Test ID	6
Test Case	Log out
Description	Log out from the application.
Dependencies	a. Database connection b. User must be log in first
Steps	1. Go to the main page 2. On left side choose log out option.
Expected Result	Successful log out from the application
Actual Result	Log out from the application
Estimated time	Up to 10-minute depends on a network connection.
Bug & Errors	No errors, but if you are offline there will be a bug in the process.

- Test Description:-

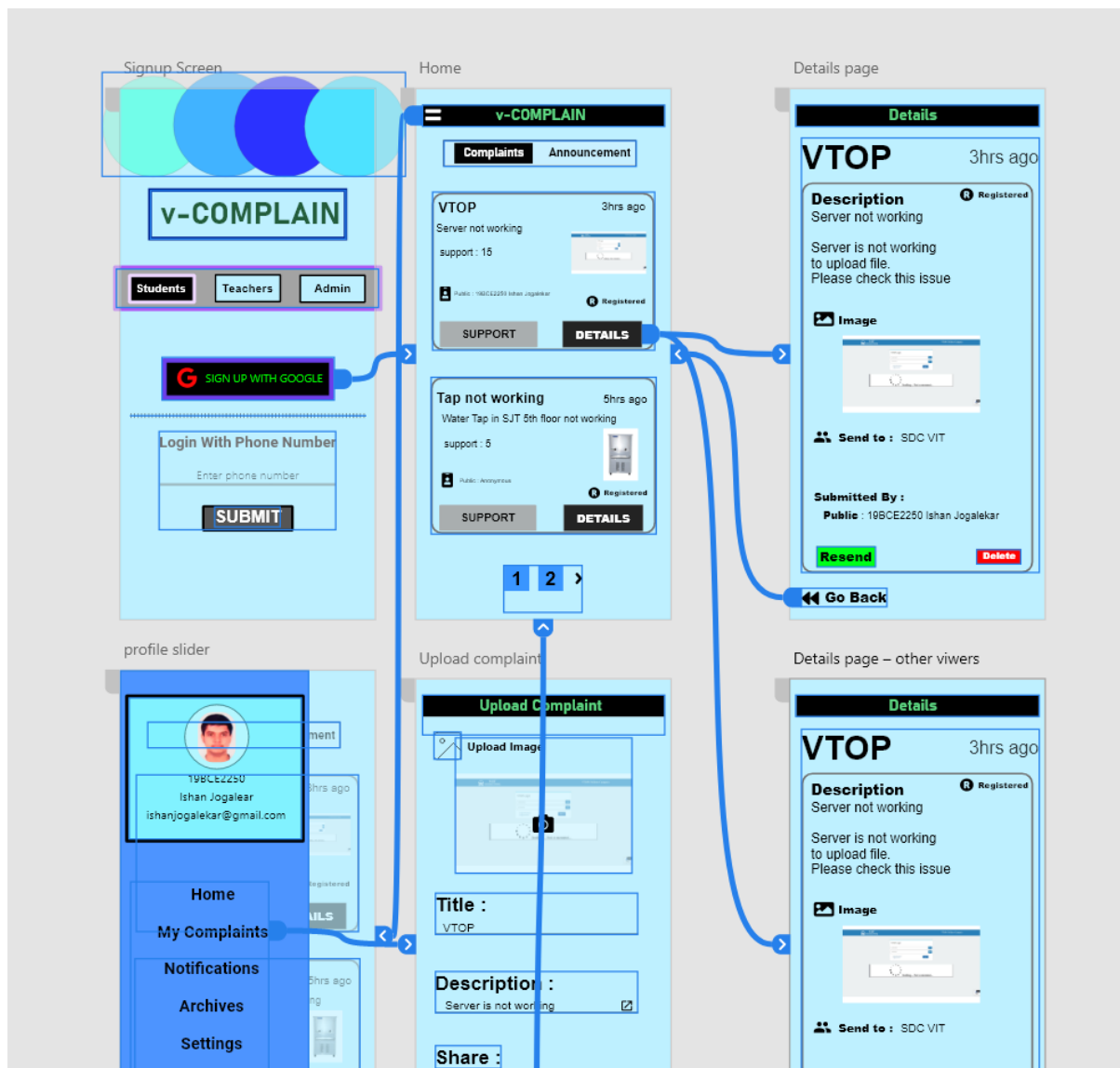
The user will successfully log out of the application.

Once the user will log out , a user must be log in again to use the application.

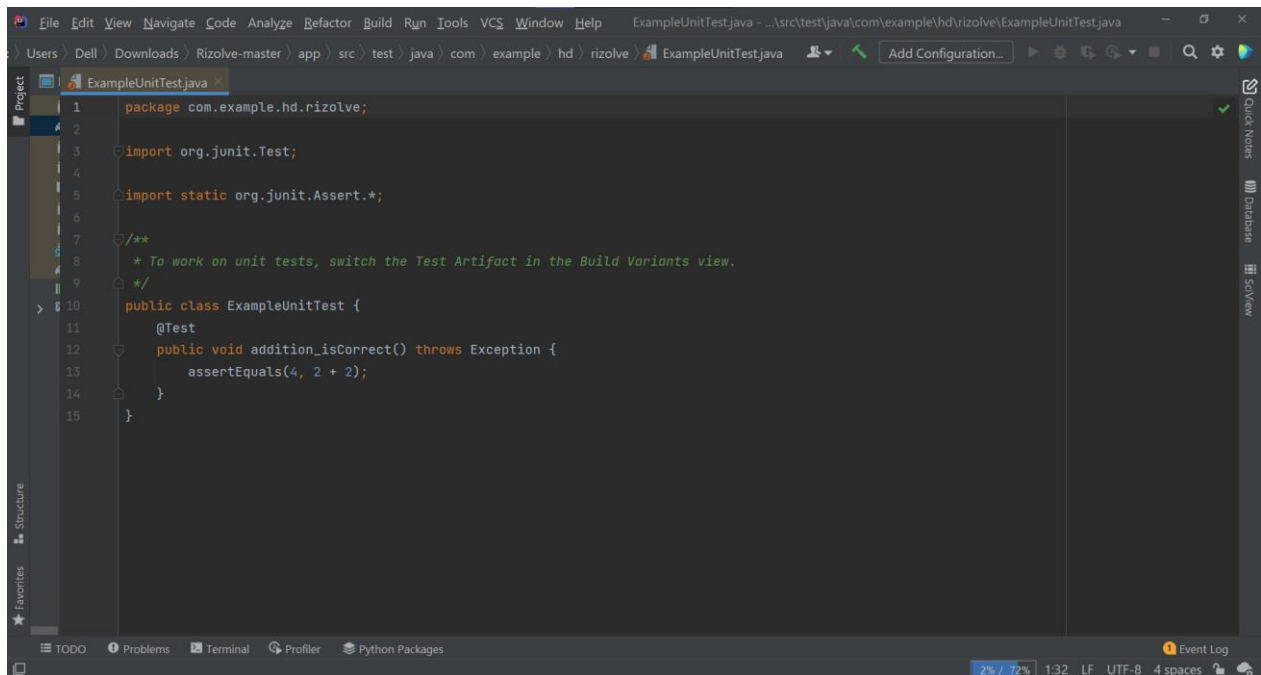
## GUI and Test cases:-



## Prototype of all pages :



## Example of unit testing of application :



## Android application profiler :



## References :

1. <https://developer.android.com/studio/intro>
2. <https://firebase.google.com/docs/auth/android/google-signin>
3. <https://firebase.google.com/docs/database/android/start>