RAYDIUS – A PLATFORM TO DISCOVER AND SHARE THE HAPPENINGS OF A NEIGHBORHOOD

1.1 Architecture of the Application

We followed a simple client-server architecture (as in Fig 1.1). The server-side logic is provided by Google Firebase. So, the Firebase API is readily available to be used in the application logic.

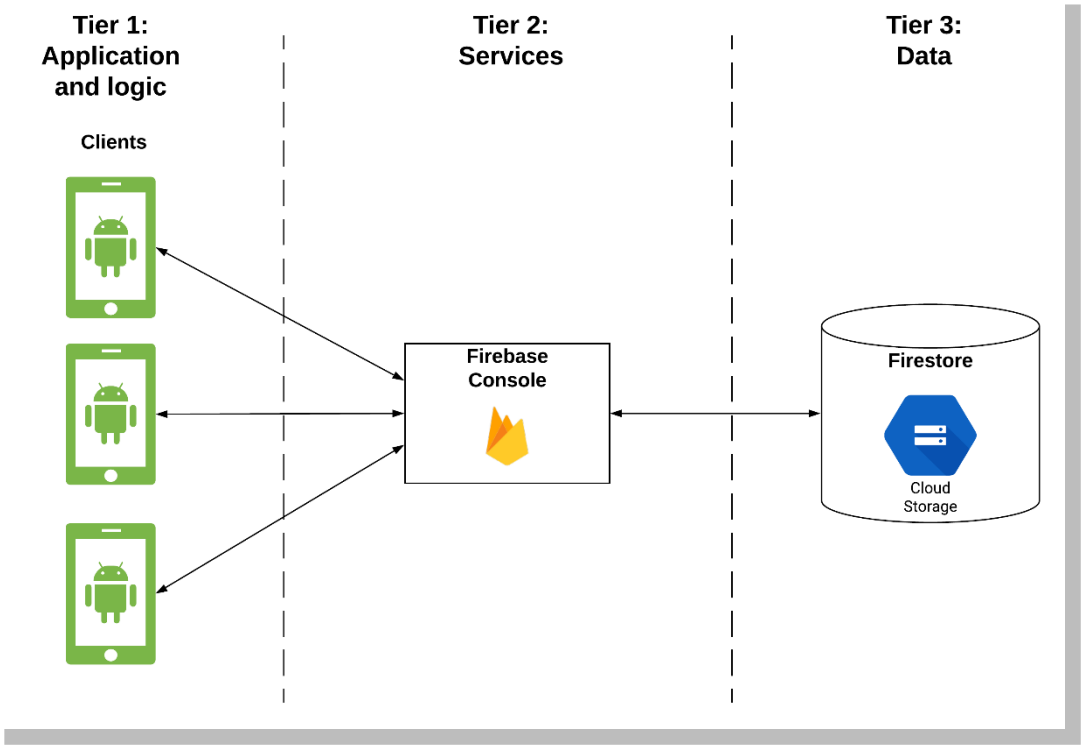

Fig 1.1 Architecture

i) Tier 1 (Application and Logic): The frontend consists of the application and logic, where we control all the logic and instructions of data flow.

ii) Tier 2 (Services): The data can be seen and manipulated by the admins of the data base from the console, where the services of firebase are provided.

iii) Tier 3 (Data): The actual data stored as a NoSQL database in Cloud Firestore Server.

1.2 Technical Specifications

We used the following technical specifications of the application.

- App Framework: React-Native
- Programming Language: JavaScript
- Database: Firestore NoSQL Database
- Package Manager: NPM
- Version Control Software: Bitbucket
- Server: Google Cloud Firestore

1.3 Main Features

We added the main features such that they satisfy the basic requirements of the value propositions proposed in the Business Model (As shown in Fig 3.2). As our core idea was to have a platform with crowd-sourced information, we added the main features as shown below.

- A map which displays happenings of activities around you.
- Users should be able to post these activities.
- List view of the activities for users who are not comfortable using the map.

Displaying the content on a map would let users to decide their own area of preference. Users should obviously have option to add a new activity on the map, which appears as a marker. There is a list view provided as well so that people need not browse through the map every time they want to see a common newsfeed. The newsfeed is sorted in the ascending order of distance from current location.

1.4 Sub Features

The following are the sub features which go along with the main features to deliver the complete value to each of the value propositions.

- Filters on category of activities
- Save activities to view later
- View/delete own posts

In order to get relevant information only, we built a feature to filter the feed based on the categories on the map. The activity/marker can be saved by the user to view them later from the profile screen. Users can also view or delete their own posts from their profile screen.

1.5 Flow of the Application

The flow of the application from one screen to another is shown in the below diagram (as in Fig 1.2).

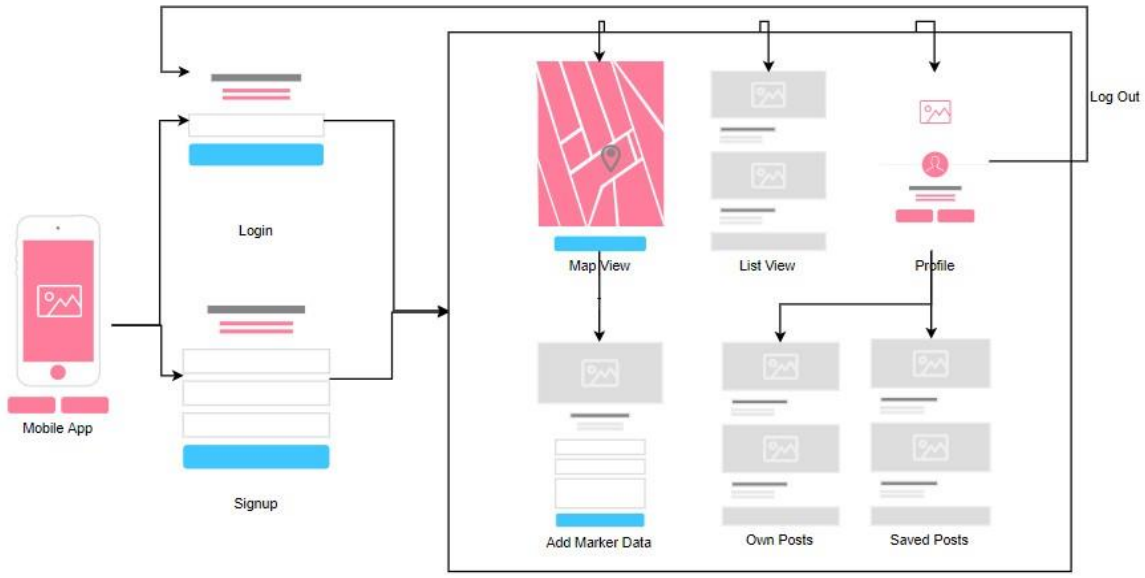

Fig 1.2 Application Flow

If the user has not logged in yet, the user needs to login or signup into the application. The details get registered in the database and then the user can access three screens of the

application using the tab navigation. The screens are Map Screen, List Screen and Profile Screen. The Map Screen can again navigate the user to Add Marker Data Screen to post something new. List Screen just displays all the posts in ascending order. The Profile Screen is to let the user to log out. It also can navigate the user to Own Posts Screen and Saved Posts Screen. The actual screens with the details of what they do in the app are as shown below.

Login and Register

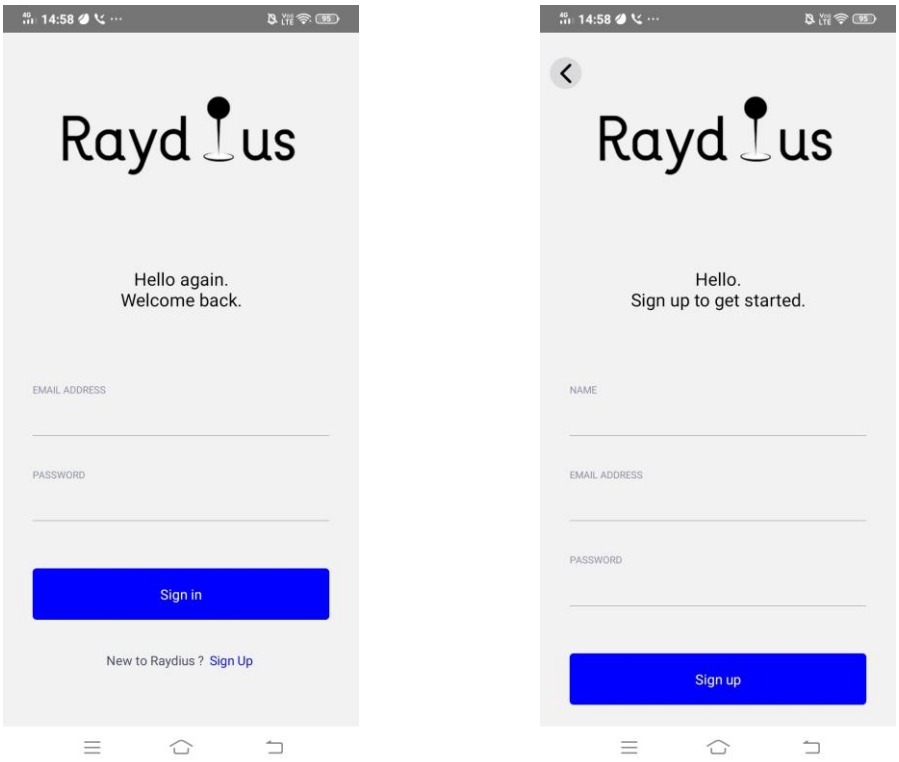

Fig 1.3 Login and Register

In these screens, the users can login if they already have an account registered (as in Fig 1.3). Orelse, they can create a new account by going to the Register Screen .

Exploring on Map

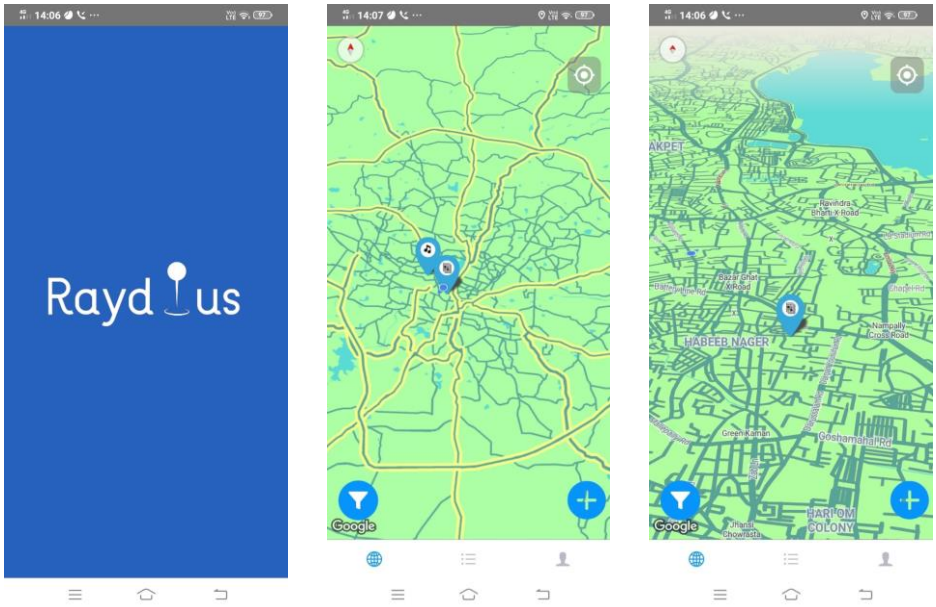

Fig 1.4 Exploring Map

The Map Screen Allows us to view the activities/markers on a map. One can come to their current location by using the current location button in the top right corner (as in Fig 1.4).

Get the details of an activity/post

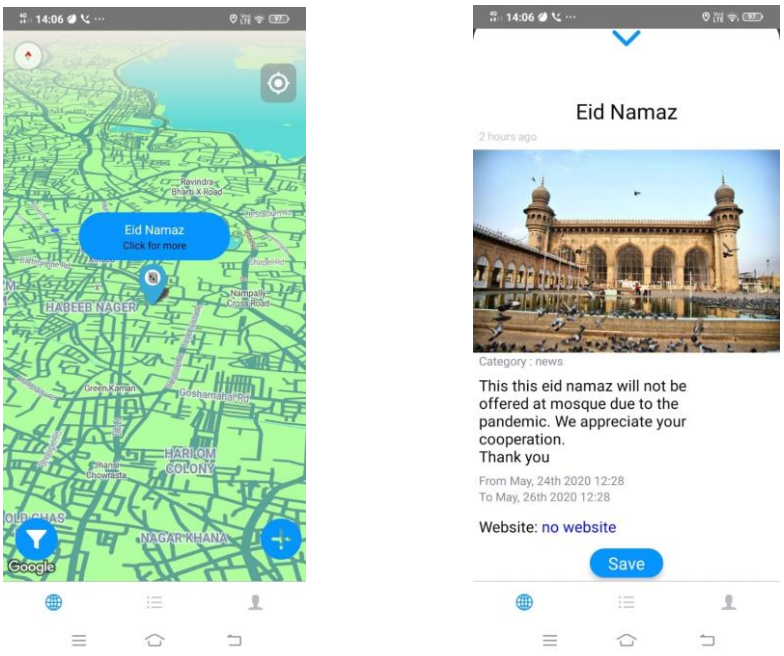

Fig 1.5 Open Post

Here, we can press on the marker and get the details of the post. The post can be saved as well, which can be viewed later in the Saved Posts Screen (as in Fig 1.5).

Add a Post

The “+” button on the Map Screen allows the user to navigate to the Add Marker Data Screen.

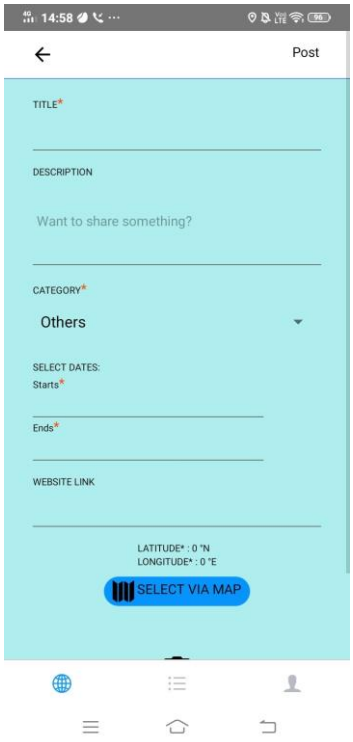

Fig 1.6 Add Marker Data

Here, the user should fill in the mandatory details and fill the other details like description, image, etc. as optional (as in Fig 1.6).

Filter the feed on Map

The filter button can be used to filter the markers to be displayed. Based on the business model we’ve arrived at the end, We decided to focus on the below mentioned categories (as in Fig 1.7).

- Music
- Sports/Fitness
- Community
- Religious/Spiritual
- Emergency
- Health Care
- News

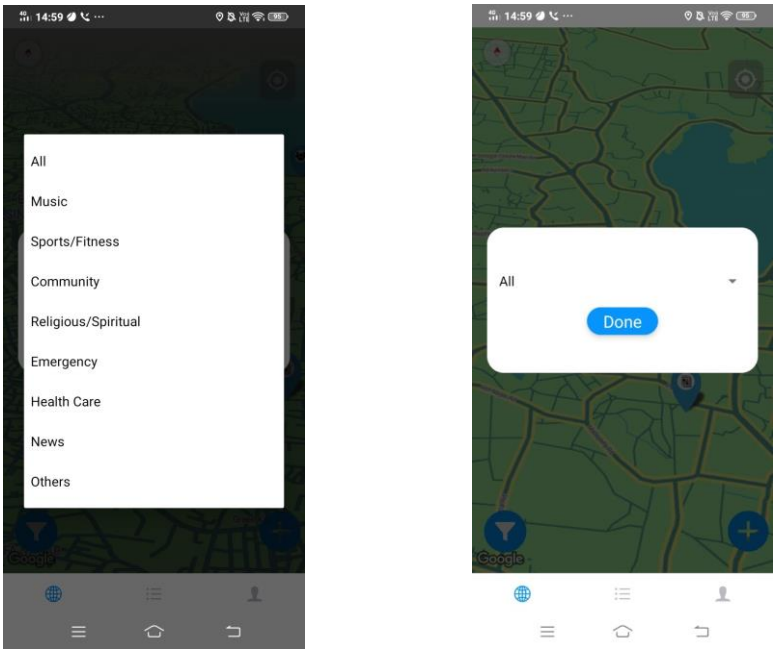

Fig 1.7 Filter

List View

The feed can be viewed on a list as well, where the posts are in ascending order of the distance from the current location of the user (as in Fig 1.8).

Fig 1.8 List View

Profile Screen

Profile screen has a log out button which navigates the user back to the Login Screen. It also has two more buttons, Saved Posts and Own Posts, which navigate to the saved posts and own posts screen, respectively (as in Fig 1.9).

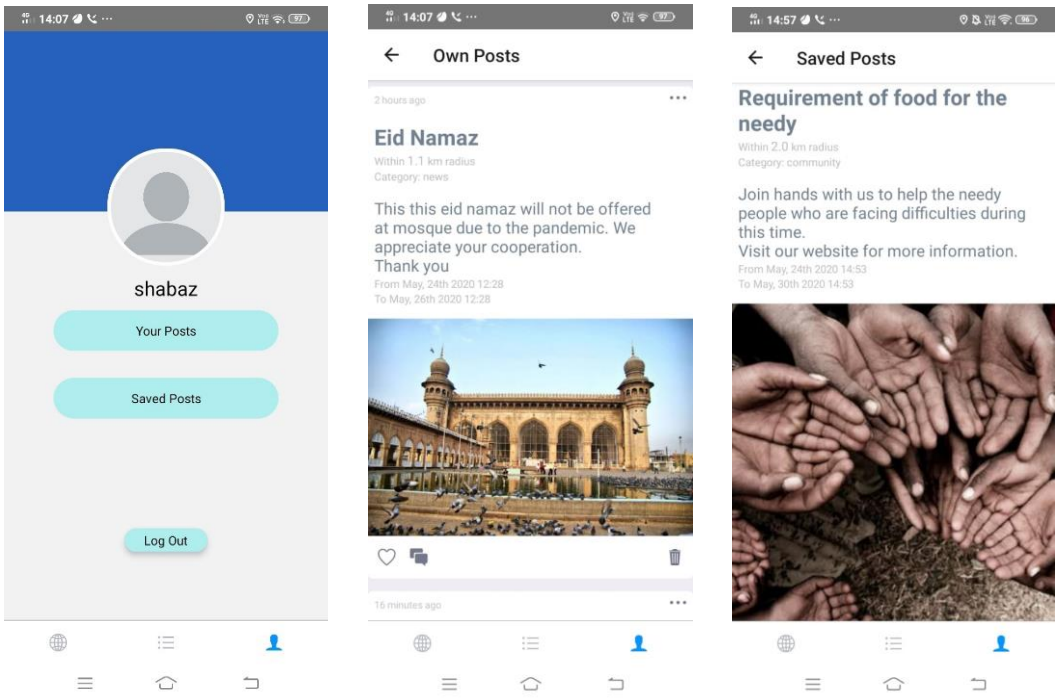

Fig 1.9 Profile Screen

The users can remove a post from the Saved Posts by using the delete button. Own Posts can also be deleted, which completely erases the post from the application.