vSewa

GROUP-23

Software Engineering - COL740

Design Document

Submitted by:

Asif Anwar - 2017TT10922

Mohammed Zia Kamran 2017TT10925

Dipanshu Sharma 2017EE10306

Poojith Gundelli 2016PH10581

Table of Contents

1. Introduction:

vSewa is an android app. It provides a platform to connect volunteers to needy people.

1.1 Purpose:

Our purpose is to provide help locally to old age people, PWD, needy by connecting with people who want to volunteer, through the app and NGOs, and increase awareness in people by motivating them with incentives like discount coupons and goodies.

1.2 Scope:

Initially, we release this in the local area to test the app and expand it further after fixing bugs (if any). This can be extended for the NGOs and other social service camps where people nearby can sign up to volunteer for organizations or even join them. This can be extended for helping people in emergency situations (accidents, travel needs, etc) if they are stuck in remote areas. A reward system helps in the active participation of volunteers and increases users by ensuring motivation in terms of rewards. It can be used to search for blood donors. Social media apps notification via a linked account can be used to alert the volunteer. Further, a web portal can be made to volunteer. The use cases can be increased in various directions, but the core of the platform is to connect volunteers and needy individuals, NGOs.

1.3 Overview

We are making an android app that helps people to find volunteers to help them. It has a messaging service, Map navigation, rating system, point system, and many more features. We are using android studio IDE (It offers tools custom-tailored for Android developers, including rich code editing, debugging, testing, and profiling tools) for developing the app. Java language

used as a backend. For database and authentication, we are using Firebase (as it gives free 1 GB real-time data storage).
We are using firebase to store the user's data, image, profile pic, and to authenticate users while login and signup. Firebase provides easy management of databases as it uses NoSql, and easily provides authentication methods(Google, Facebook, email, phone number). Firebase easily creates a database table and it's easy to use in an android studio, no need to host any server for the database. Firebase notifies the data updating/deletion in real-time.

1.4 References

Firebase - Documentation
Firebase DBMS - Firebase Realtime Database
Firebase Authentication - Firebase Authentication
Firebase ml-kit Face Recognition - Face Detection
Android Studio - Documentation
Maps SDK for Android - Overview | Maps SDK for Android

1.5 Definitions and Acronyms

API	Application Programming Interface
SDK	Software Development Kit
DBMS	Database Management System
ML	Machine Learning

2.System Overview

2.1 Architectural Design

As we are using firebase. Firebase maintains almost everything. It gives the database storage, file storage, authentication. So we don’t have to maintain anything

2.2 Module Definitions

2.3 Technology/ Tools Used

Machine Learning is used to detect the face of the person, and identity proof. All this technology comes with firebase.

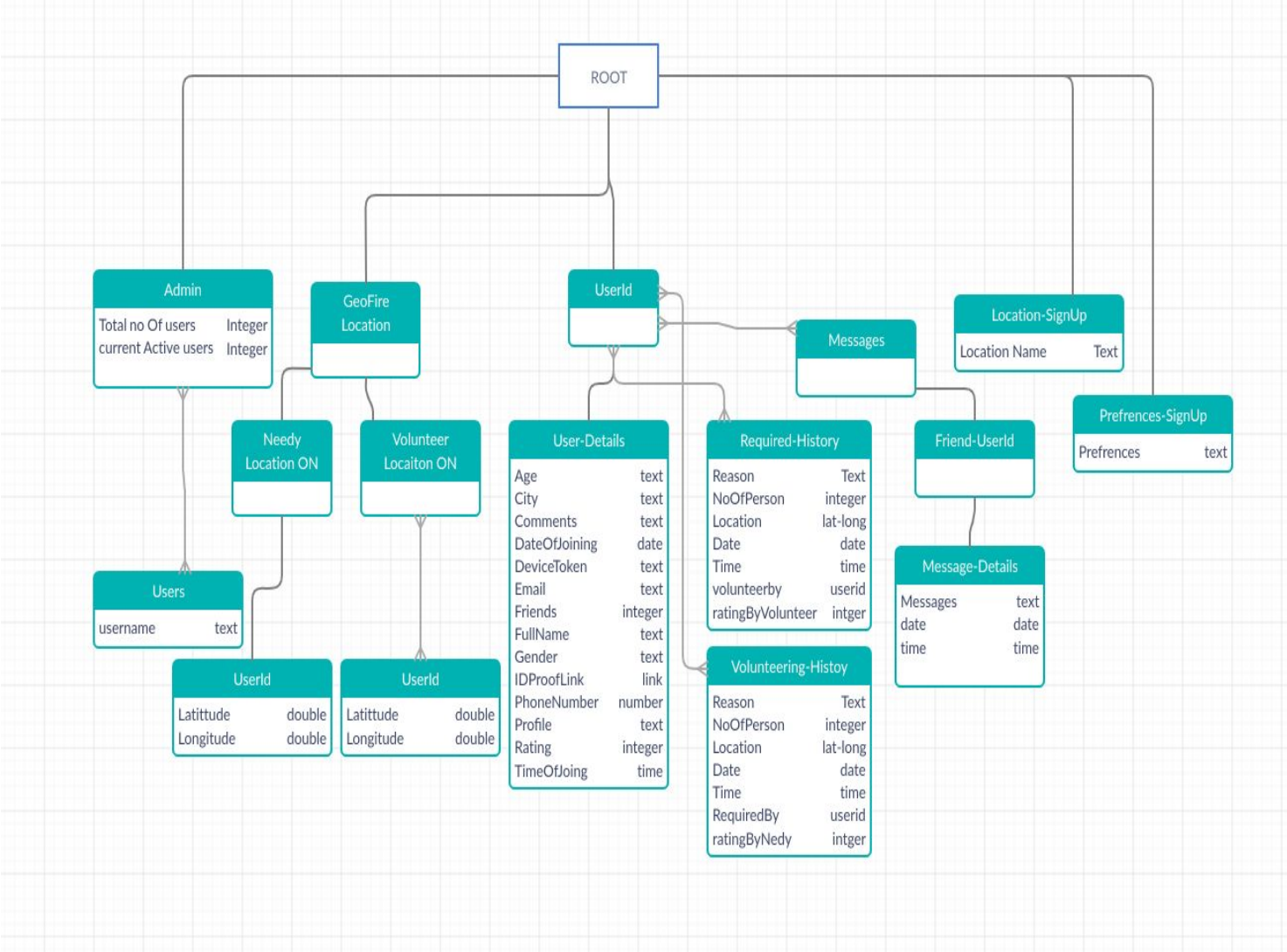
3.Detailed Design

3.1 Module APIs

We are using Google-Maps-API for using maps in-app to show the location. As firebase handles most of the APIs, so we don’t need to use APIs that much.

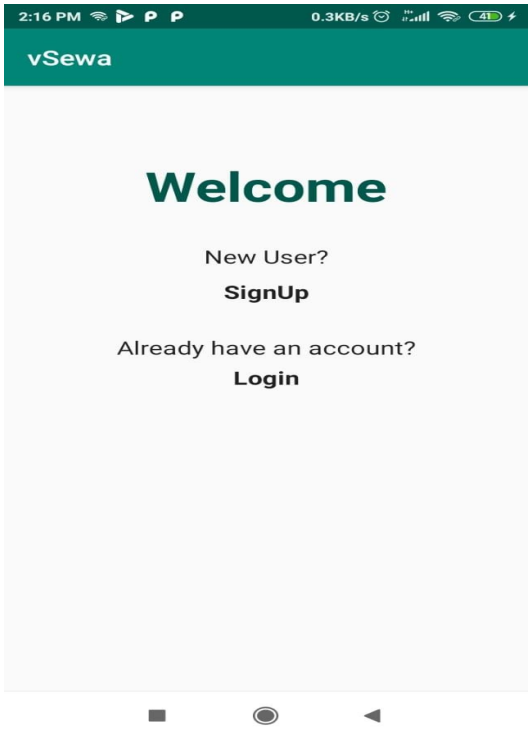
3.2 Data Base Design

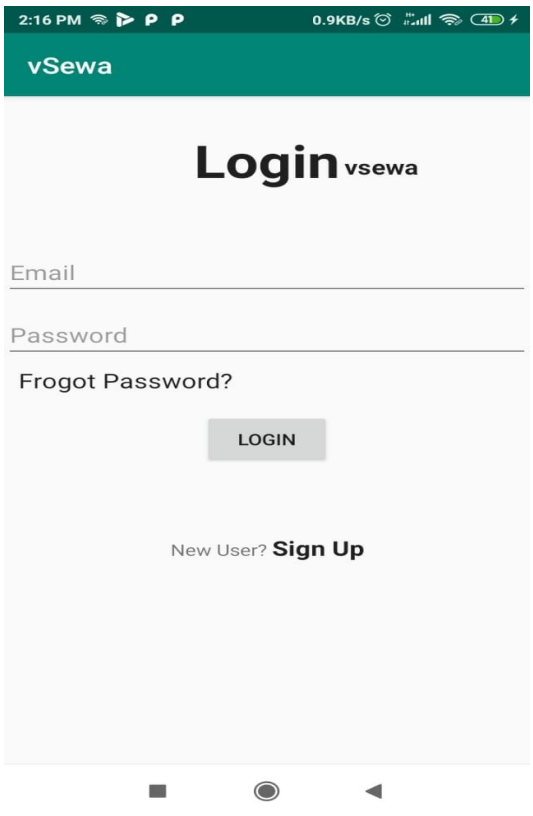
Database Image from Firebase Database

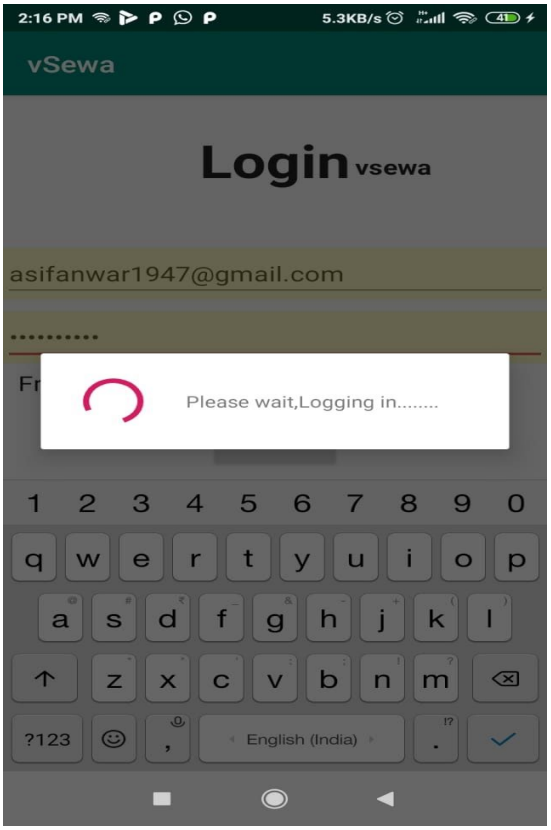


Database RelationDesign

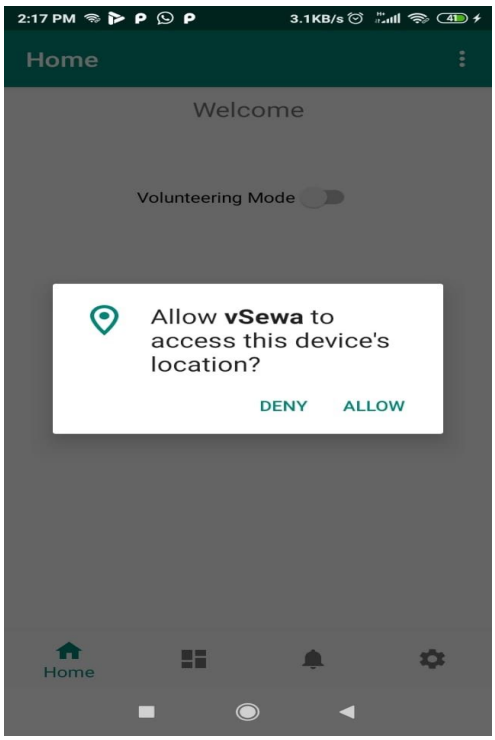
3.3 Screen Layouts

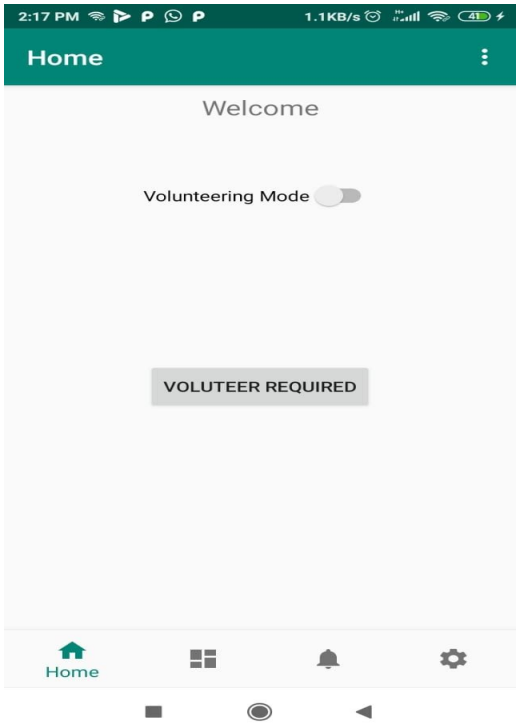


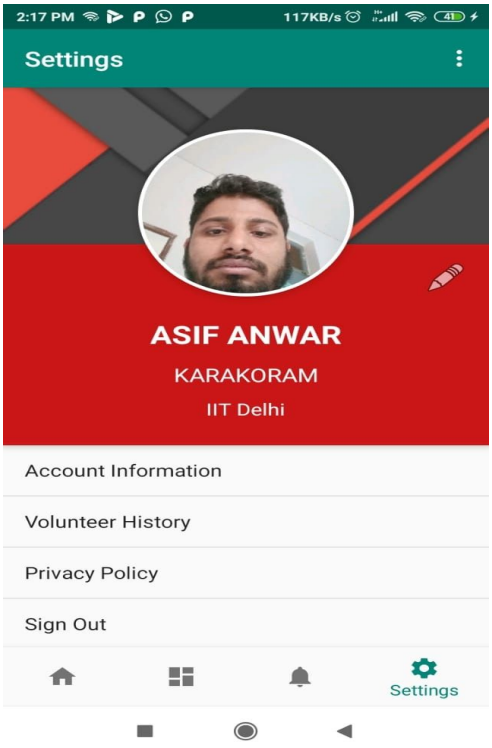


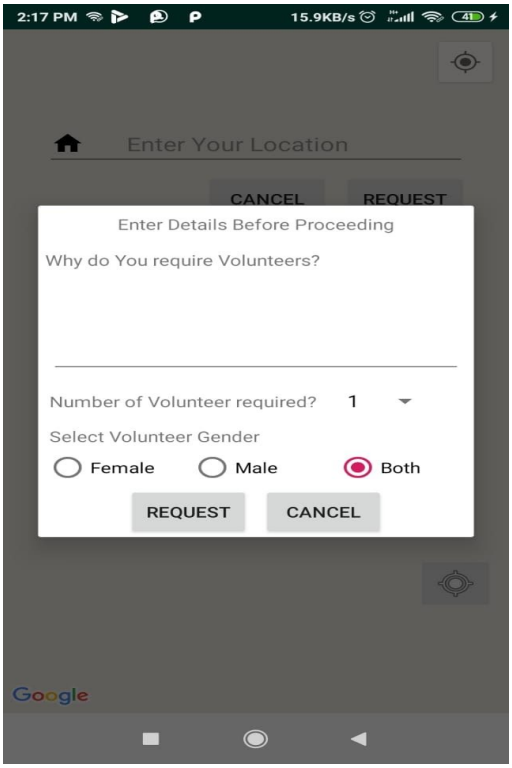


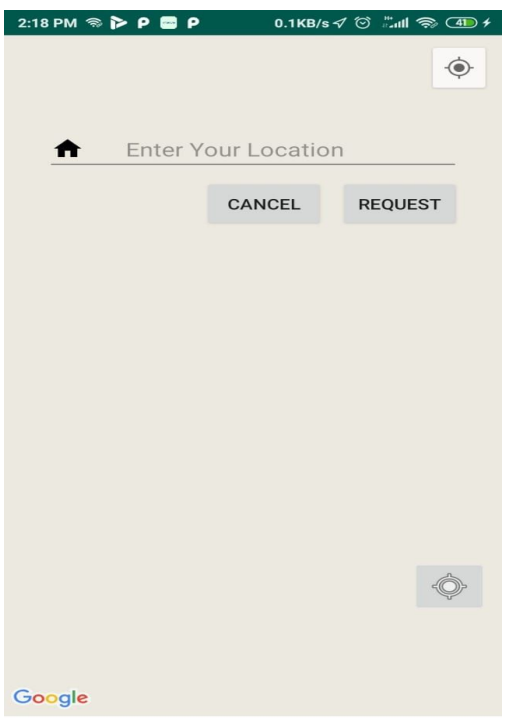
Design Document-vSewa

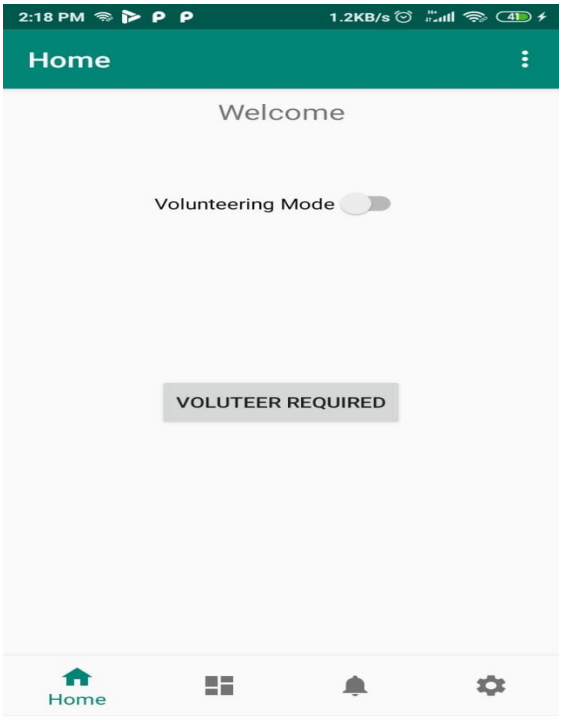


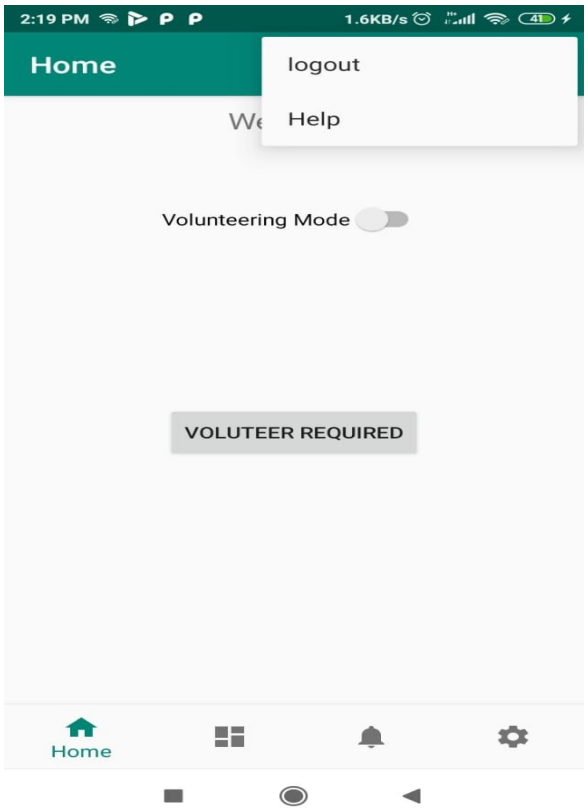







2:18 PM
0.1KB/s
Enter Your Location
CANCEL
REQUEST
Google


2:18 PM
1.2KB/s
Home
Welcome
Volunteering Mode
VOLUTEER REQUIRED
Home


2:19 PM
1.6KB/s
Home
logout
Help
Volunteering Mode
VOLUTEER REQUIRED
Home

3.4 Use Cases

High-level Code (using module APIs)

Sequence Diagrams

4.Deployment Design