**Software Requirements and Design Document**

**For**

**Group 21**

Version 2.0

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* **Overview**

We aim to create a mobile app that allows a group of people that are headed for a night out to remain connected all in one place. The app would allow users to make groups through which they can share their location and chat with the other members.

* **Functional Requirements**

1) User is able to create an account that will allow them access to groups that they are in. High Priority

2) System allows for the creation of groups of users. High Priority

3) System tracks user in real time and uploads their location to the database

4) Groups of users can chat with others in the group and also see the locations of group members. High Priority

5) System has a button that sends an SOS message to others in the group. High Priority

6) User is able to upload a profile picture. Low Priority

**Non-functional Requirements**

1) Ensuring that the user’s location is only visible to other users in the same group

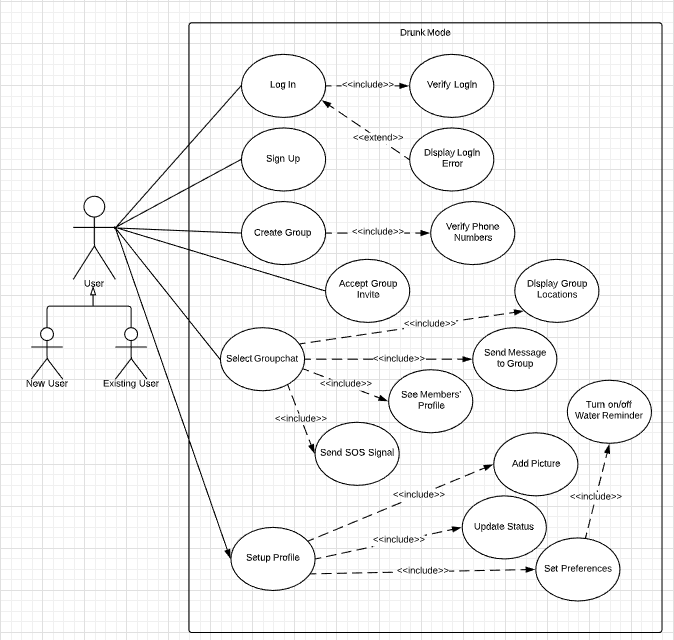
2) Making sure that the user exists in the database when trying to log in

3) Verify e-mail is unique and belongs to the user

4) Messages shared between users will be private

5) Verify phone number when creating a chat and registering

**Use Case Diagram**

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**Use Case Diagram Textual Descriptions**

Name: Login

Participants: User

Entry Conditions: None

Exit Conditions: User is successfully logged in

Flow of Events: 1. User opens app

2. User clicks Sign in button to show login screen

3. User inputs their email and password

4. User input is compared against database to

verify user exists and provided credentials are correct

5. User should now be successfully logged in

Special Requirements: None

Name: Verify Login

Participants: User

Entry Conditions: User has entered login credentials

Exit Conditions: User credentials match a user in the database

Flow of Events: 1. User clicks login button after entering credentials

2. User credentials are compared to Firebase database

Special Requirements: None

Name: Sign Up

Participants: User

Entry Conditions: None

Exit Conditions: User credentials match a user in the database

Flow of Events: 1. User opens app

2. User clicks Register button to show sign up screen

3. User is prompted to enter a valid name, phone number,

email address, and password

4. User is added to the database using given credentials

Special Requirements: None

Name: Display Login Error

Participants: User

Entry Conditions: User has entered login credentials that do not have a match

Exit Conditions: None

Flow of Events: 1. User credentials are compared to Firebase database

2. Corresponding user credentials do not match any existing user in the database

3. An error message is displayed, user is prompted with login again

Special Requirements: None

Name: Create Group

Participants: User

Entry Conditions: None

Exit Conditions: A group chat with multiple verified members is created

Flow of Events: 1. User enters phone numbers of existing users and presses

add each time

2. Each number is verified with the database to ensure such user exists

3. Group is created and all users can communicate in the chat

Special Requirements: None

Name: Verify Phone Numbers

Participants: None

Entry Conditions: User has tried to add another person to a group

Exit Conditions: None

Flow of Events: 1. Provided phone number is compared to database

2. If corresponding phone number does not match any existing user in the database an error message is displayed

3. If corresponding phone number matches a user, the other user is successfully added to the group via an invite

Special Requirements: None

Name: Accept Group Invite

Participants: User

Entry Conditions: User has a notification saying some other user has added them to

a group chat

Exit Conditions: User selects accept or decline

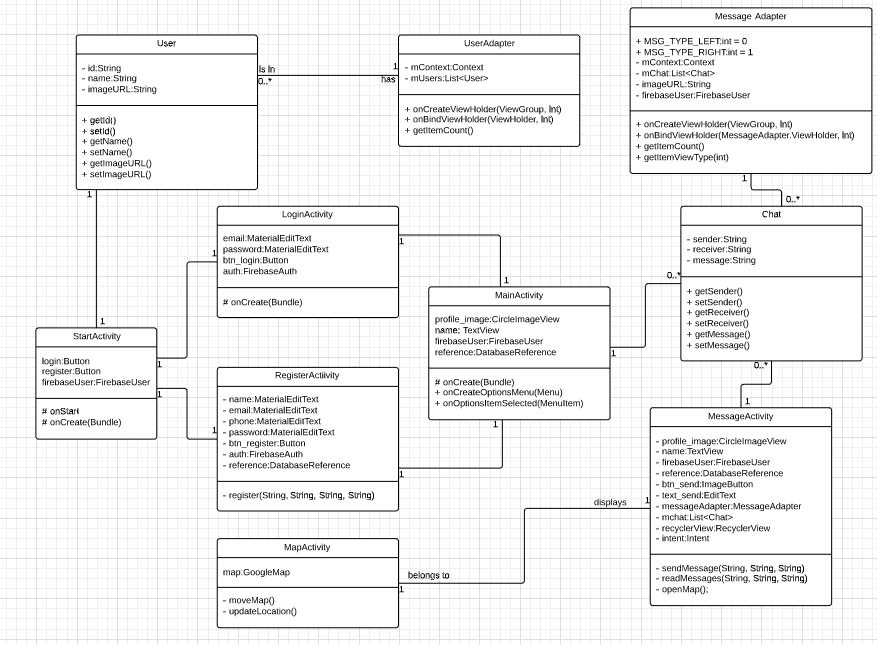
Flow of Events: 1. User enters app and is prompted with a choice to join or not

2. User selects to Join or Decline, allowing them to be in the group

chat or to choose not to be added

Special Requirements: None

* **Class Diagram**

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* **Sequence Diagrams**

**A close up of a map

Description automatically generated**

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Description automatically generated**

**Operating Environment**

The system will operate on Android phones, from Android API16 forward.

**Assumptions and Dependencies**

For user testing purposes, we expect users to use a real phone number since it needs to be verified. For our first iteration we expect the user to use a valid email and name. We are also assuming that the phone number will be a U.S number and that it will stay logged in until the app is deleted.