Description

Specification

Intended User

Features

User Interface Mocks

Screen 1

Screen 2

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Screen 5

Key Considerations

How will your app handle data persistence?

Describe any edge or corner cases in the UX.

Describe any libraries you'll be using and share your reasoning for including them.

Describe how you will implement Google Play Services or other external services.

Next Steps: Required Tasks

Task 1: Project Setup

Task 2: Implement UI for Each Activity and Fragment

Task 3: Implement Firebase Connection

Task 4: Implement Save Option

Task 5: Setup Geofences

Task 6: Create Profile Fragment

Task 7: SOS/Send SMS Button

Task 8: Widget

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Nine11

Description

Nine11 application allows users to be aware of "Text-to-911" locations. The ability to send a text message to reach 911 emergency call takers from your mobile phone is only available in certain locations, therefore Nine11 will help users know when they are inside a location, have their profile information saved within the app and trigger a text message with the necessary information.

Specification

- App will be written solely in the Java Programming Language.
- App will utilize stable release versions of all libraries, Gradle, and Android Studio.
- App will keep all strings in a strings.xml file.
- App images will include a description that describes the element's purpose.

Intended User

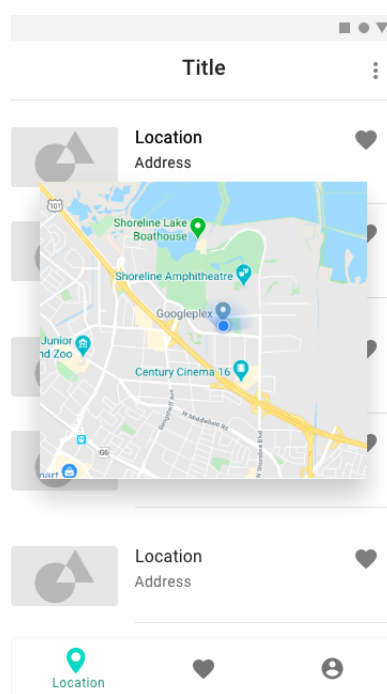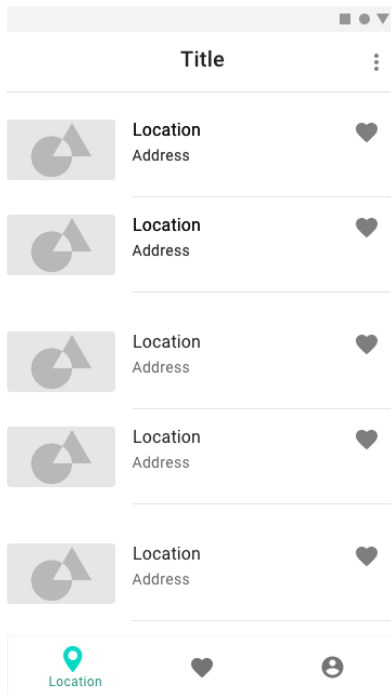Nine11 is intended for all United States users as an emergency card and easy SMS tool.

Features

Main features:
- Get list of locations where text-to-911 is available.
- Notify users when they have entered a zone where text-to-911 is available.
- Predefined a text message ready to be sent at any emergency.
- Widget to show saved locations and shortcut for emergency card and send SMS with user's information.
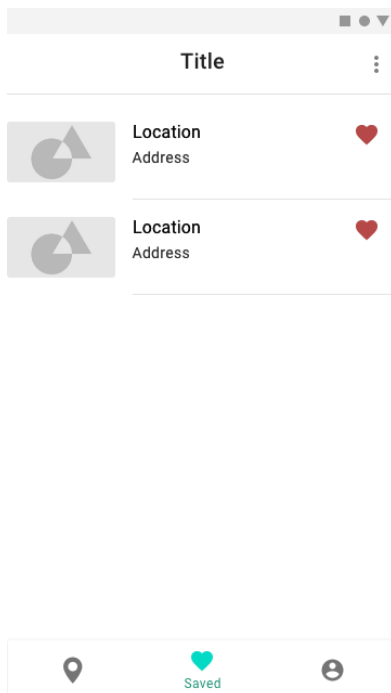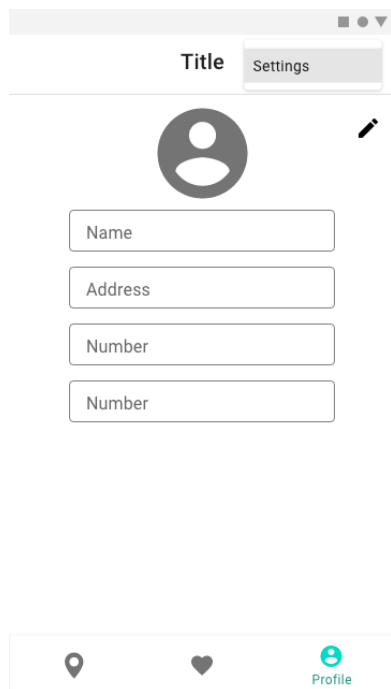- Emergency card information.

User Interface Mocks

Screen 1

Location – will provide all locations information (Center's Name, Address, Phone Number) where Text-to-911 is available. User can see the geofence around the location.

Screen 2

Saved – Users can saved locations that they frequently travel and get notification when they have enter that geofence.
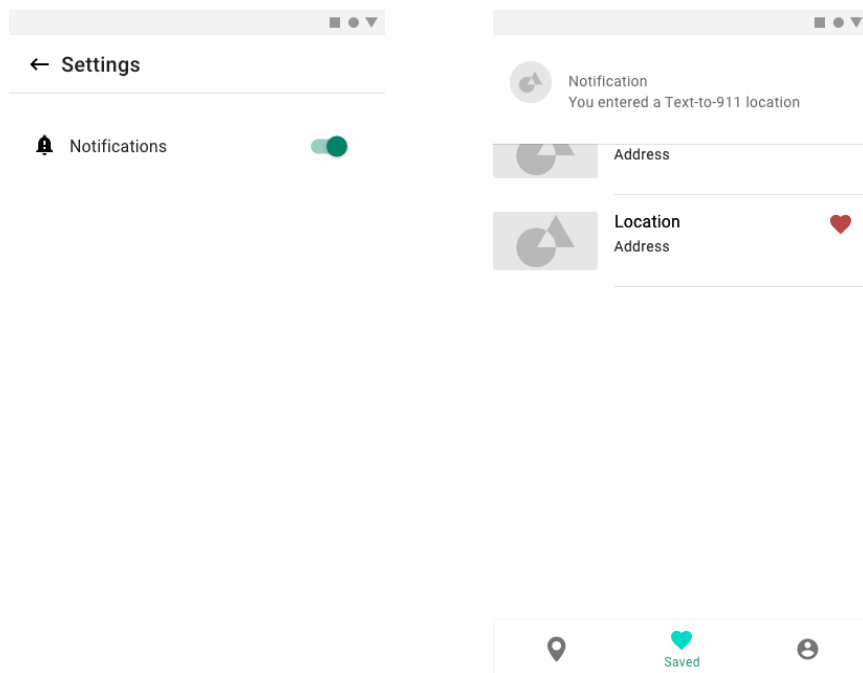
Screen 3

Title   Settings

Name

Address

Number

Number

📍   ♥   **Profile**

Profile – Users' information such as picture, name, address, phone number, blood type, emergency contacts will be saved.

Screen 4

← Settings

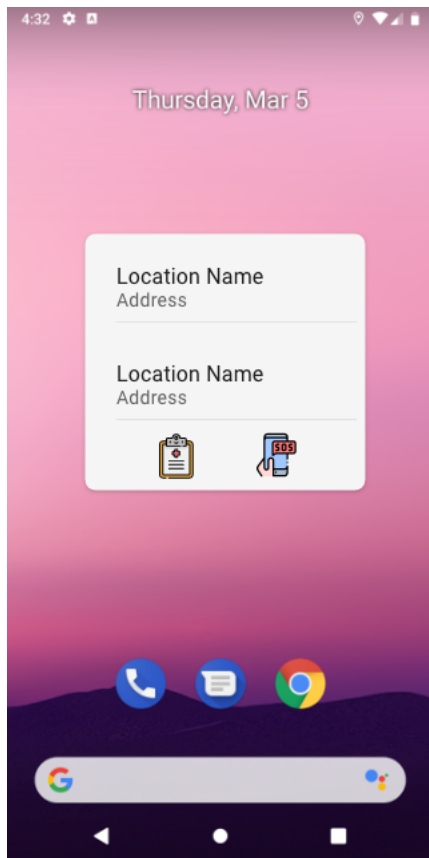🔔 Notifications ⬤

Notification
You entered a Text-to-911 location

Address

Location
Address   ♥

📍   **Saved**   👤

Settings – Users will be able to turn on and off notifications when they have entered a location where Text-to-911 is available.

Screen 5

Widget – Users will be able to see locations saved and two buttons, left image button will open
the user's profile and right image button will trigger the 911 SMS

Key Considerations

How will your app handle data persistence?

The application will have a static data in Firebase Realtime database and Room library to persist data locally. Personal information and favorites location will be saved locally.

Describe any edge or corner cases in the UX.

Since Nine911 can predefined a text message with the user's information, the information must be already in the databased before sending the text message. This is a corner case as the user must fill in his information prior using this feature.

If there is no network access, but there are saved locations, directly go into the Saved fragment.

If user tries to send a SMS without the information filled in. Redirect them to profile tab and ask them to fill out any missing information.

Describe any libraries you'll be using and share your reasoning for including them.

Firebase Realtime Database – store data.
Google Maps – possible show locations/geofence in map.
Butterknife – inject views into Android components.
Room library - persist data locally in the device.
LiveData – prevent multiple calls to the local database.
WorkManager – schedule periodically syncing application data with the server.

Describe how you will implement Google Play Services or other external services.

Google Mobile Ads, there will be a free version that will include ads and a paid version without ads.

Next Steps: Required Tasks

Task 1: Project Setup

Steps to setup and/configure Nine11:
- Setup static data in Firebase
- Configure libraries
  - Firebase
  - Geofence
  - Room
  - Notification

Task 2: Implement UI for Each Activity and Fragment

UI for Activities/Fragments:
- Build UI for MainActivity
- Build UI for SettingsActivity
- Build UI for Location Fragment
- Build UI for Saved Fragment
- Build UI for Profile Fragment
- Build UI for MapFragment
- Build UI for Cards/Item
- Build UI for Notification
- Build UI for Landscape Mode and Tablet

Task 3: Implement Firebase Connection

Connect the application with the Firebase Realtime database.

- Create Recyclerview to display all locations
- Fetch data from Firebase.
- Create layout for items in the Recyclerview.
- Have the Recyclerview read the data directly from Firebase Realtime database
- Use WorkManager to schedule periodically syncing with the server.

Task 4: Implement Save Option

Result from Firebase Realtime database should have the option to save it locally.
- Setup a save button (heart icon) in every item of the Recyclerview to allow user to save the location locally.
- Setup Room
  - Table/Primary Key

Task 5: Setup Geofences

Setup geofences on the saved locations.
- Get saved location coordinates and setup geofences
- Use GEOFENCE_TRANSITION_ENTER to trigger notification as long as notification is turn on in the settings activity.

Task 6: Create Profile Fragment

Allow the user to modify the data.
- User can upload a profile picture.
- User can edit his/her personal information.

Task 7: SOS/Send SMS Button

User will be able to send a 911 SMS with his/her information as long as the location is within the geofence
- Check if user's locations is known.
- Check if user is within geofence.
- Check if user's personal information has been filled in.
- If all conditions meet, allow user to send SMS

Task 8: Widget

- Create layout for widget
- Show list of saved locations as ListView.
- Setup Image button to open up user's emergency card when pressed using PendingIntent.
- Setup image button to setup 911 SMS with user's information using Intent.