App is written solely in the Java Programming Language.

App utilizes stable release versions of all libraries, Gradle, and Android Studio.

Nirdhast

Description

Nirdhast helps you to keep track of your loved ones.

It has ability to get current location of phone in real time.

You can get current location of phone just by sending a text message to the phone.
You can also set up geo-fence and get alerts when phone exits or enters geo-fence.

Intended User

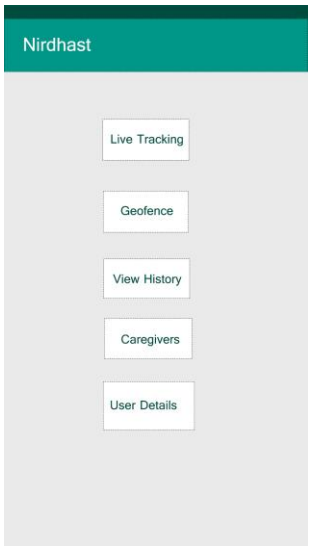
This application is for families who want to keep track of their loved one.

Features

- Real time location tracking.
- View location history.
- Setup Geo-Fence.
- SMS alerts when Phone exits geo-fence.

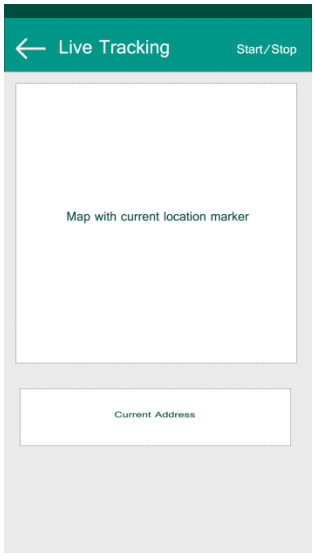
User Interface Mocks

Home Screen



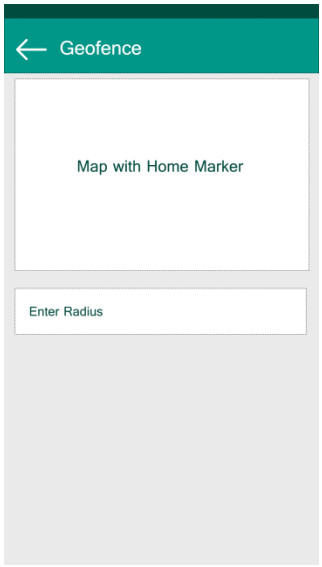
This is the Homes screen of the app.

Live Tracking Screen



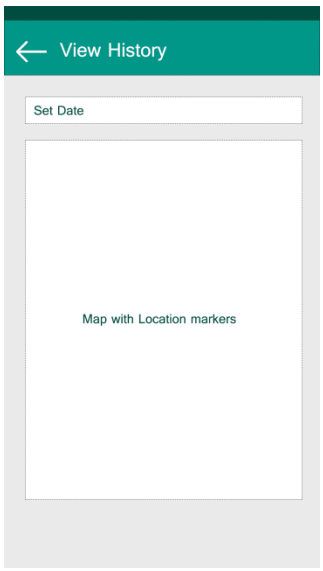
Displays Map with users current location.
If set, then displays geofence on map.
User can start or stop live tracking.
User current address is displayed.

Geofence Screen



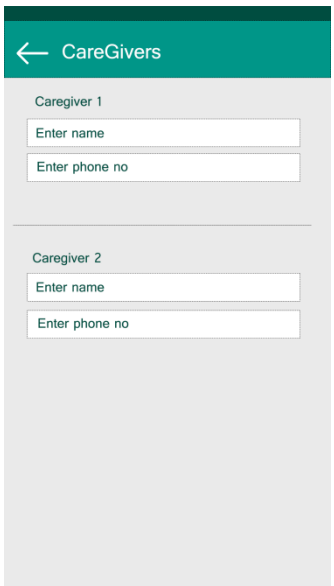
Displays Map with user's current location.
User can select any position on map as Home
User enters radius for geofence.

View History Screen



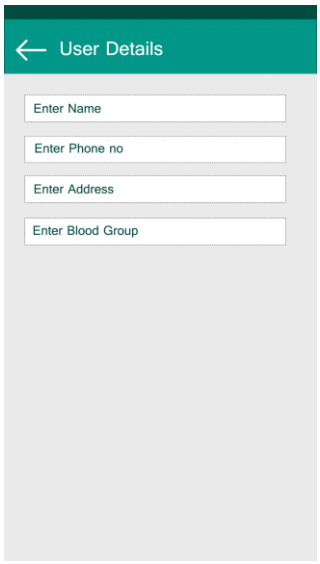
User Selects date from date picker.
Displays route traveled by the phone on selected date.

Caregivers Screen



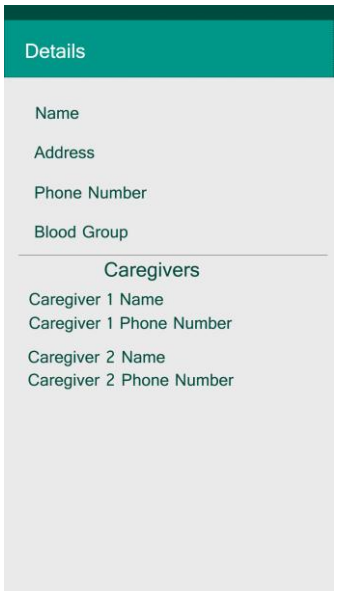
User Enters caregivers details.

User Details Screen



User enters his details.

Widget Screen



Users details are displayed in case they are required for emergency.

Caregivers details are displayed so that User can contact them in emergency.

Key Considerations

How will your app handle data persistence?

Firebase Real Time database will be used to store co-ordinates of the Phone, Caregivers details and User Details.

Describe any edge or corner cases in the UX.

- If login fails then user is asked to sign up first and then login again.
- User has to login before using the app.
- User has to enable all app permissions to access the app.
- If location Services is not enabled, then error message is displayed.
- If internet connectivity is not available then error message is displayed.
- If location accuracy is greater then 50m then location will not saved in the database.

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

Butter Knife to bind views.

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

Google Location Services to get user's current location.
Google Maps to display user's location on a map.
Firebase Real Time Database to store phone's co-ordinates.
Msg91 API to send SMS.

Next Steps: Required Tasks

Task 1: Project Setup

- Create New Project.
- Create Firebase database in console.
- Add Firebase to Gradle.
- Add Google Play Location Services to Gradle.
- Add Google Maps to Gradle.
- Configure Google Maps with project in console.

Task 2: Implement LoginActivity

- Implement UI.
- Implement Firebase Authentication.

Task 3: Implement MainActivity

- Build UI.
- Handle Button Clicks.

Task 4: Implement RealtimeActivity

- Build UI.
- Add GoogleMap.
- Add Menu.
- Get current location from Google Play Services and display it on map.

- If geofence is set then draw geofence circle on map.

Task 5: Implement GeofenceActivity

- Build UI.
- Add GoogleMap.
- Save home co-ordinates and radius in Firebase.

Task 6: Implement ViewHistoryActivity

- Build UI.
- Add GoogleMap.
- Add DatePicker.
- Fetch all coordinates from firebase database and display then on map.

Task 7: Implement CaregiverActivity

- Build UI.
- Save caregivers details in firebase database.

Task 8: Implement UserActivity

- Build UI.
- Save User Details in firebase database.

Task 9: Implement GeoTracking Service

- Create a Foreground Service.
- Get Location updates from Google Play Services.
- Add Geofence on Google Play Services.
- Send SMS to caregivers when geofence transitions are detected.

Task 10: Implement Widget

- Create Widget.
- Display User and Caregiver details on Widget.

Task 11: Implement Technical Tasks

- Create Intent Service to send message from MSG91 API.
- Add Accessibility support.
- Add strings in string.xml and enable RTL layout switching on all Layouts.
- Implement Signing Configuration.
