

VitalTracker


Smart Location Tracking Device

By Lifesaver Engineers


Group 10: Patrik Prenga (n01428752), Michael Carinci (n01480052), Jason Macdonald (n01246828), Nicholas Rafuse (n01440073)



Overview

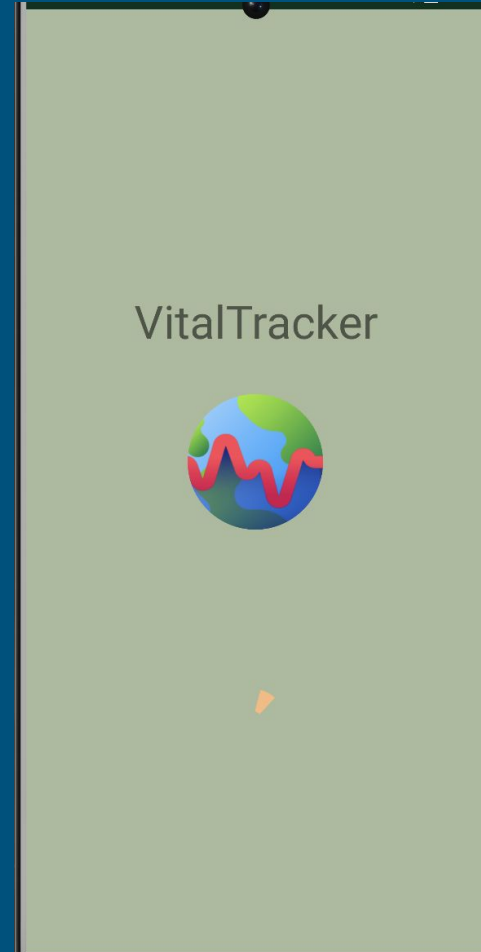


Currently the Vital Tracker application aims to provide users with a comprehensive health and location monitoring system. The app is designed to enhance the safety and health monitoring of its users by tracking their vitals, location, and device status.



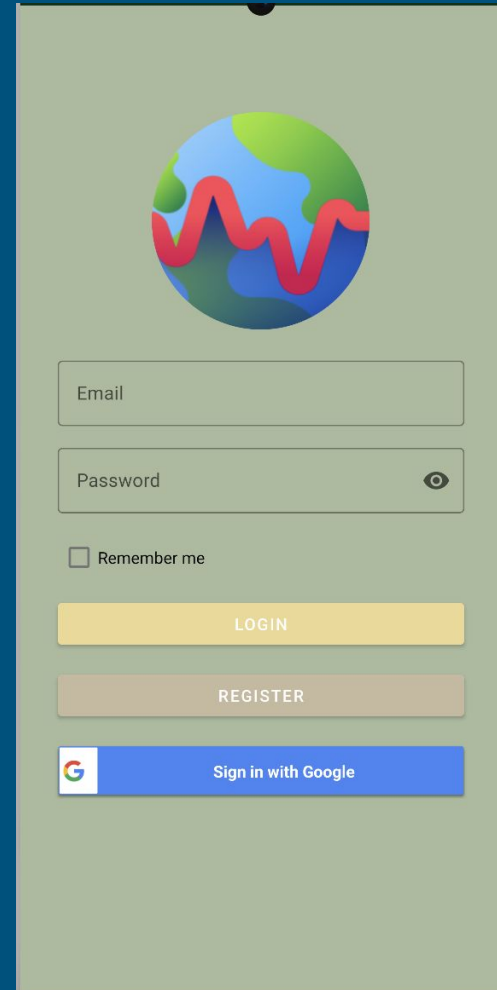
Splash Screen

- Opens on app startup
- Displays name, logo, progress bar
- Runs for 3 seconds
- Transitions to login screen




Login Screen


- Immediately after splash screen, user must login to continue
- User can create an account or sign in with google
- User information is stored on the firebase database



A mobile app login screen with a light green background. At the top center is a circular logo featuring a stylized globe with a red line graph overlaid. Below the logo are two input fields: 'Email' and 'Password'. The 'Password' field has a toggle icon (an eye) on its right side. Under the 'Password' field is a checkbox labeled 'Remember me'. Below these are three buttons: a yellow 'LOGIN' button, a light brown 'REGISTER' button, and a blue button with the Google logo and the text 'Sign in with Google'.




Email

Password 

☐ Remember me

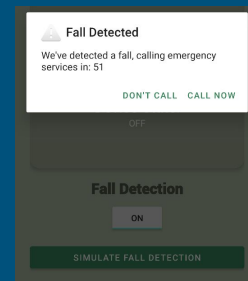
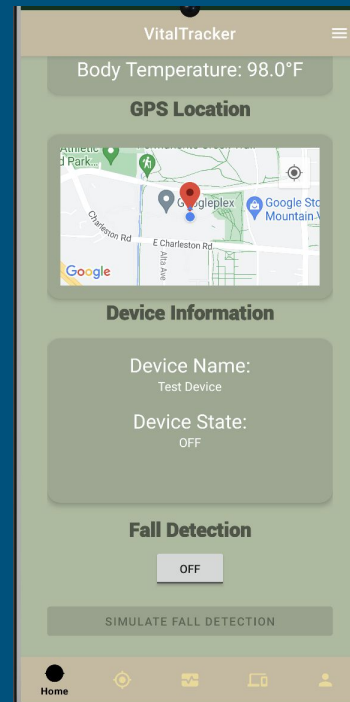
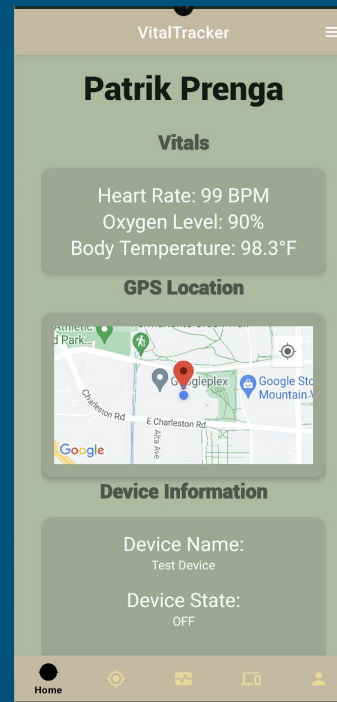
LOGIN

REGISTER

 Sign in with Google

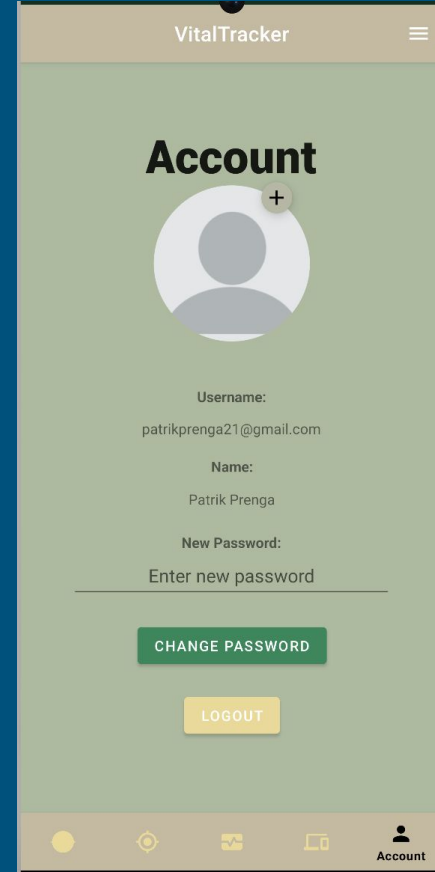
Home Screen

- Main app screen
- Shows quick visual screens for devices, current GPS location, vitals, and an optional fall detection feature
- Displays username
- All screens provide access to other screens using bottom navigation
- The 3 containers are clickable and take you to their respective screen for more detail information



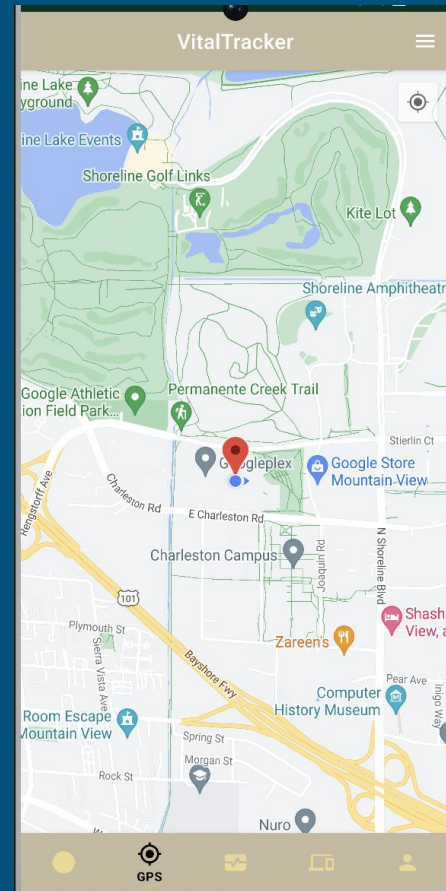
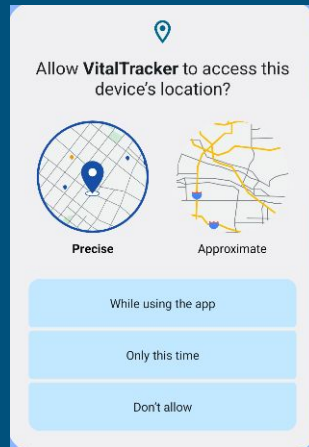
Account Screen

- Shows User Profile Picture and allows user to change it
- Displays account username and password in a hidden field
- Allows user to change their current password
- Equipped with a logout feature for when a user wants to logout



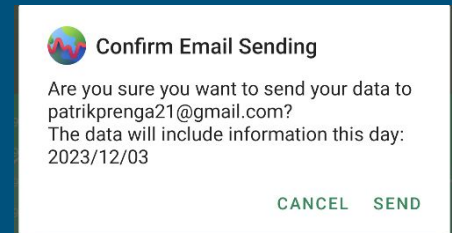
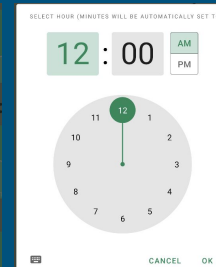
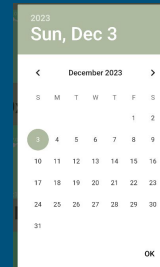
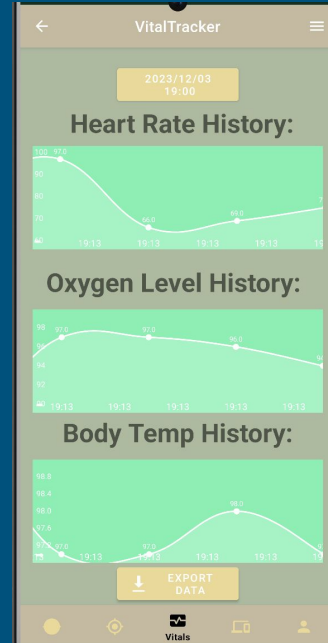
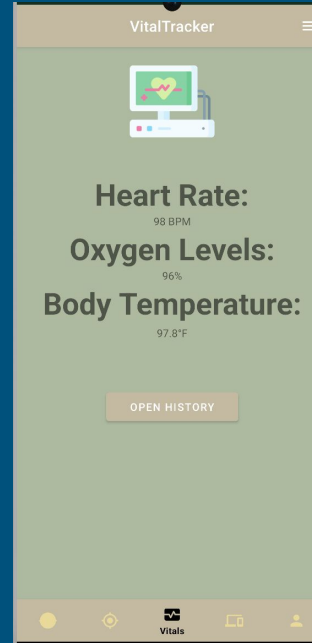
GPS Screen

- Real time location of device
- Live location updates
- Requests runtime permission upon first usage



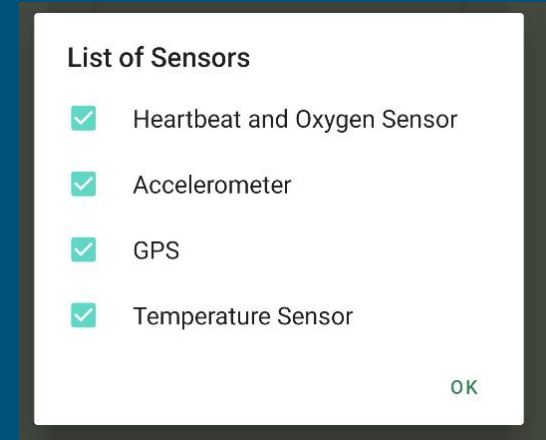
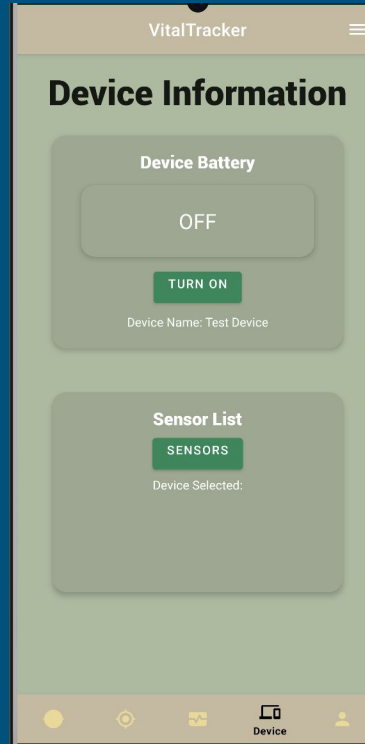
Vitals Screen

- Continuous reading updates for heart rate, oxygen levels, and body temperature
- Displays notifications for significant changes
- Shows detailed history of vitals allowing the user to see their vitals from a certain day and time
- Can export vitals data from the app into the users email



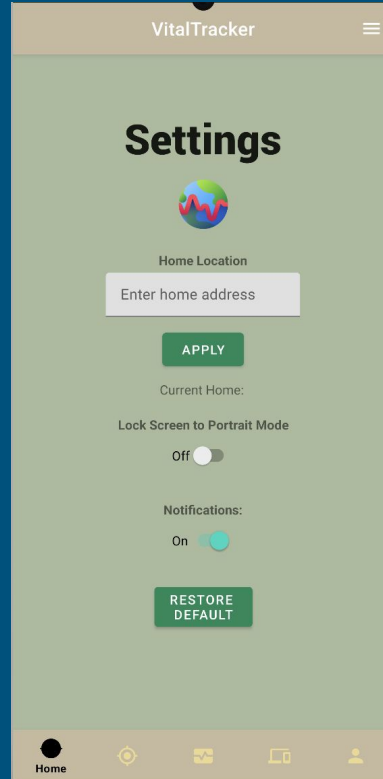
Device Screen

- Displays all devices that are connected to the app
- “Turn On” button to turn the device on
- Displays device battery level
- Displays the sensors in the device with a click of a button and allows user to turn on and off the sensors if they please



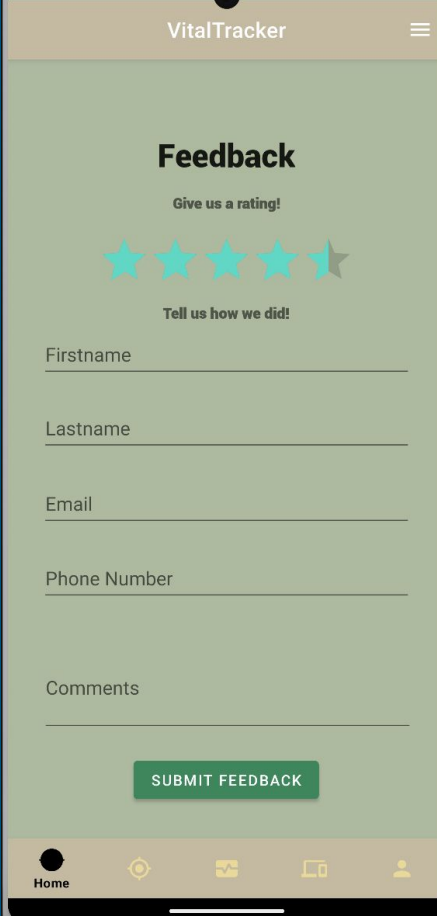
Settings Screen

- Sets and displays GPS home location
- Lock Display Orientation
- Push Notifications Toggle Switch
- Restore to Default button



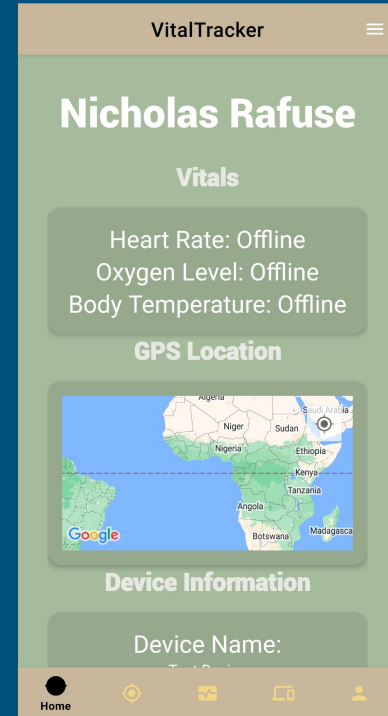
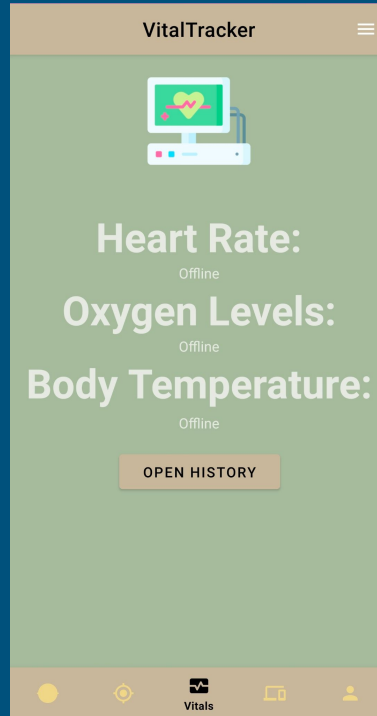
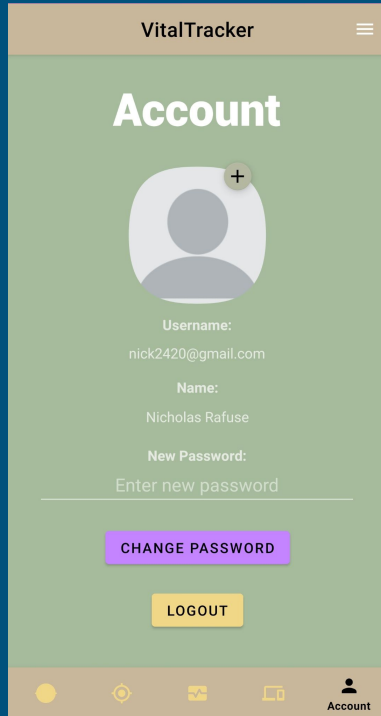
Feedback Screen

- Has fields to allow users to enter their personal information in order to give feedback
- Includes a 5 star grading system that can give out .5 stars



The screenshot shows a mobile application interface for 'VitalTracker'. At the top, there's a header bar with the app name 'VitalTracker' and a hamburger menu icon. Below the header, the main content area has a light green background. It starts with the title 'Feedback' in bold, followed by the prompt 'Give us a rating!'. There is a 5-star rating system with five teal stars; the first four are filled, and the fifth is half-filled, indicating a 4.5-star rating. Below the stars is the prompt 'Tell us how we did!'. This is followed by four text input fields labeled 'Firstname', 'Lastname', 'Email', and 'Phone Number'. Below these is a larger text area for 'Comments'. At the bottom of the form is a green button with the text 'SUBMIT FEEDBACK'. The bottom of the screen features a navigation bar with five icons: a black circle (labeled 'Home'), a gear, a document, a laptop, and a person icon.


Offline mode




Test Cases

Espresso Testing

Run: app x HomeFragmentTest x

Status  5 passed 5 tests, 20 s 141 ms

Filter tests: 

Tests	Duration	Pixel_6_Pro_API_33
Test Results	8 s	5/5
HomeFragmentTest	8 s	5/5
testSimulateFallButtonClick	3 s	✓
testDeviceContainerClick	1 s	✓
testVitalsContainerClick	1 s	✓
testGpsContainerClick	1 s	✓
testDeviceStateText_Off	945 ms	✓

```
@Test
public void testVitalsContainerClick() {
    onView(withId(R.id.vitalsContainer)).perform(click());
    // Check if the Heart Rate text is displayed
    // onView(withId(R.id.heartRate)).check(matches(withText("Heart Rate: --")));
}

@Test
public void testGpsContainerClick() {
    onView(withId(R.id.gpsContainer)).perform(click());
    onView(withId(R.id.map)).check(matches(isDisplayed()));
}

@Test
public void testDeviceContainerClick() {
    onView(withId(R.id.deviceContainer)).perform(click());
    // Check if the Device Name text is displayed
    onView(withId(R.id.devicename2)).check(matches(withText("Device Name:")));
}

@Test
public void testSimulateFallButtonClick() {
    onView(withId(R.id.btnSimulateFall)).perform(scrollTo()).perform(click());
}

@Test
public void testDeviceStateText_Off() {
    onView(withId(R.id.devicebattery)).check(matches(withText("OFF")));
}
```

Sprint Dashboard

<https://trello.com/w/workspace19208120>