

Forget Me Not

Summary:

This project aims to build an application intended for Android and iOS devices including mobile devices and smartwatches. It will track connected Bluetooth devices and alert the user when a tracked device has disconnected or reconnected to Bluetooth. The app is intended to be used to track any Bluetooth device, but focused on mobile, smartwatch, and Tile devices.

Organization:

Developer:

Connor Meads
Connor.meads@protonmail.com
(801) 850-4333

Organizer:

Troy Smothers
Smothers4pres@hotmail.com
(801) 687-7788

MBA:

Jacques Bazinet
jrbazi@bazinetfamily.com
(801) 898-8778

Project Plan

Process

The process will be broken into 6 phases or milestones of development where each phase will act like a sprint in an Agile Method. The length of each sprint will vary depending on the phase and adjustments made by members of the project.

1. Requirements Gathering
2. High Level Design
3. Low Level Design
4. Development
5. Testing
6. Deployment

Requirements Gathering

Goal: Measure client requirements and specifications against developer capabilities. Outline exactly what each expectation will be for every part of the project.

Duration: Initial requirements gathering will take place over a conference call. Requirement adjustments or addition will continue to occur throughout the development process.

High Level Design

Goal: Achieve an understanding of the projects processes in a basic sense without any code being written. This will include low fidelity prototypes, platform delivery, project architecture, and requirements refinement.

Duration: Predicted to take one week to achieve. Can be adjusted as needed.

Low Level Design

Goal: Become more specific with processes within the project. Describes *how* each part of the project will work. High fidelity prototypes may be created. Requirements will continue to be adjusted as needed.

Duration: Predicted to take 2-3 weeks to complete.

Development

Goal: Development of the application for mobile devices. Focused on creating a basic model to showcase to clients. Bug tracking will also take place during this phase. Requirements will continue to be adjusted as needed.

Duration: Predicted to take 4-5 weeks to complete. Can be adjusted as needed.

Testing

Goal: Both developer and client testing will occur to fix bugs within the application and make changes where they are needed. Developer testing will be focused on Black Box testing while client testing will focus on White Box testing.

Duration: Predicted to take 4 weeks to complete. Can be adjusted depending on results of testing.

Deployment

Goal: Introduce the application to end users. Application will be placed on the App Store for iOS devices and the Google Play Store for Android users.

Duration: Predicted to take 2 weeks to complete. Can be adjusted as needed.

Maintenance

Goal: Continue to provide maintenance and updates per the client wishes.

Duration: Until no longer required.

Policies

- Primary Form of communication between team members will be through email.
- Meetings are held via Skype or conference calls once per week.
- The main technologies will be Xamarin.Forms and GitHub.
- Progress will be tracked using GitHub

Glossary

Black Box Testing: Software testing that examines functionality of an application without peering into its internal structures or workings.

White Box Testing: Software testing that examines functionality of an application by peering into its internal structure and coding.

Requirements

Introduction and Context:

This requirements page details the development of an app that focuses on alerting the user to potentially forgotten Bluetooth capable devices. Emphasis has been placed on mobile devices that run Android and iOS software including phones and smartwatches as well as a Tile device. These devices will notify the user via push notification if Bluetooth has been broken.

1. Users and their goals:

- **1.1:** User
 - **1.1.1:** Easily manage settings from within the app
 - **1.1.2:** Be alerted when a secondary Bluetooth device breaks connection.
 - **1.1.2.1:** Have the secondary Bluetooth device also send a push notification when Bluetooth connection is broken.

2. Functional Requirements:

- **2.1:** Easily manage secondary Bluetooth devices in the settings page of the primary device
 - **2.1.1:** Be able to add & remove a secondary Bluetooth device from within a settings page within the app installed on the primary device.
 - **2.1.2:** Display secondary Bluetooth device information such as the Bluetooth address and other meta data
 - **2.1.3:** Allow user to edit secondary Bluetooth 'nicknames' such as 'Keys', 'John's Smartwatch', etc.
 - **2.1.4:** Allow user to organize secondary Bluetooth devices on the home screen according to user preference.
 - **2.1.4.1:** Be able to organize secondary Bluetooth devices according to alphabetical order.
 - **2.1.4.2:** Be able to organize secondary Bluetooth devices according to the order that they were added.
 - **2.1.4.3:** Be able to organize secondary Bluetooth devices according to a user set priority number.

- **2.1.5:** Allow user to set a notification setting.
 - **2.1.5.1:** Be able to set notification setting to an alarm that must be silenced.
 - **2.1.5.2:** Be able to set notification setting to a notification that alerts once.
 - **2.1.5.3:** Be able to set notification setting to silent, only showing changes within the app.
- **2.2:** When a secondary Bluetooth device breaks Bluetooth connection, a push notification will be sent, if possible, to both the primary and secondary devices.
 - **2.2.1:** The notification will need to be able to be silenced or turned off.
- **2.3:** When a secondary Bluetooth device reconnects to the primary device, push notifications need to confirm re-connectivity with each other.
- **2.4:** If a user has no connected devices, a special home screen will help them set up a secondary Bluetooth device.
- **2.5:** If a user has one or more secondary Bluetooth devices, the normal home screen will appear showing a summary of their devices.

3. Non-Functional Requirements:

- **3.1:** Weekly developer-client meetings.
- **3.2:** Toolset:
 - **3.2.1:** Xamarin.Forms
 - **3.2.3:** GitHub
 - **3.2.4:** Git
 - **3.2.5:** draw.io

4. Future Features:

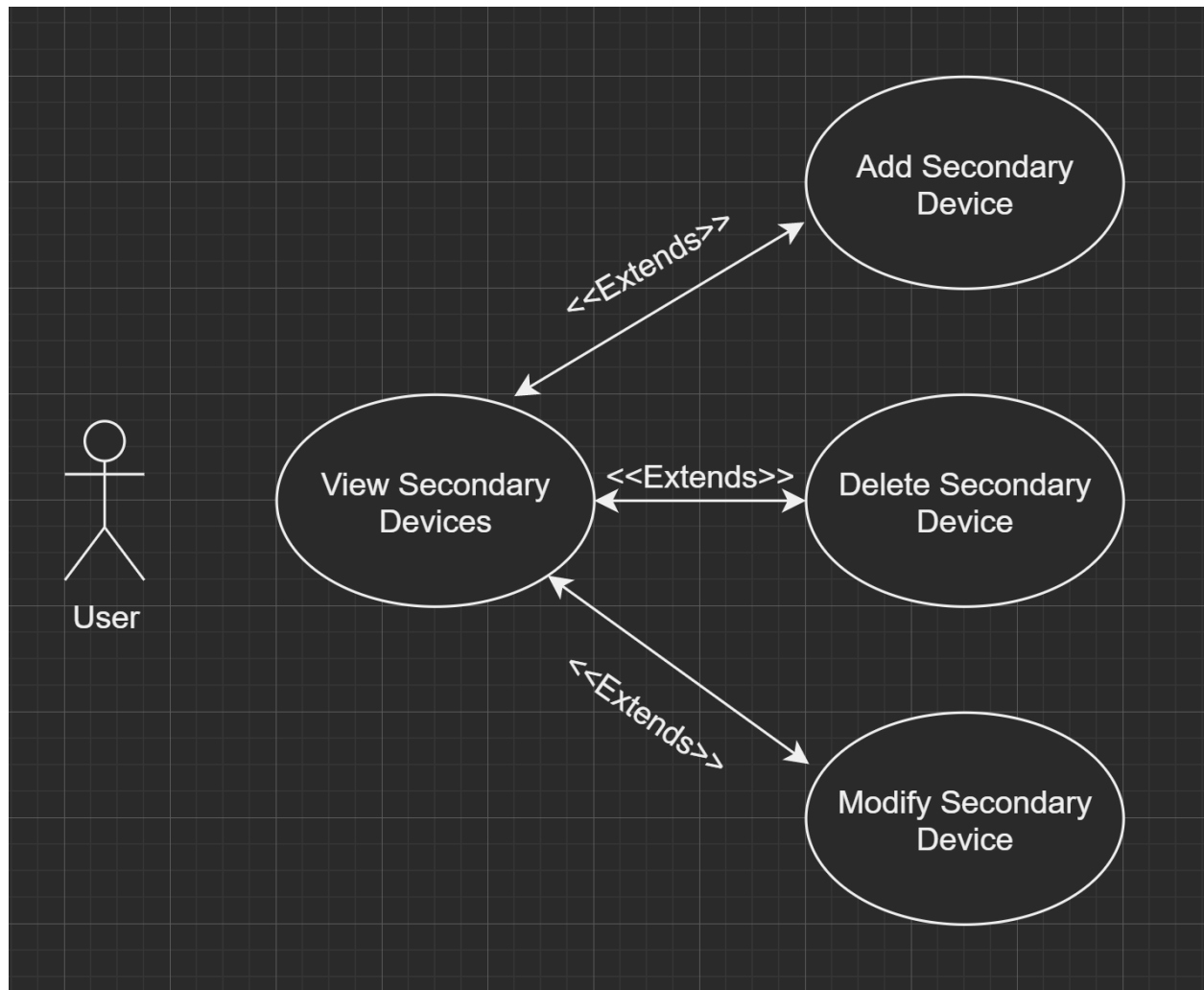
- **4.1:** Implement use for other Bluetooth devices other than phone such as headphones, rice cookers, televisions, etc.
- **4.2:** Implement a log that shows when different Bluetooth devices have connected and disconnected.
- **4.3:** Implement a GIF tutorial on first time set up
- **4.4:** Implement a signal strength meter on the home page.

- **4.4.1** Be able to adjust when a Bluetooth device goes out of range based on signal strength.
- **4.4.2** Allow User to 'train' their devices signal strength.
- **4.5:** Implement a GPS location to be saved when a secondary Bluetooth device goes out of range.

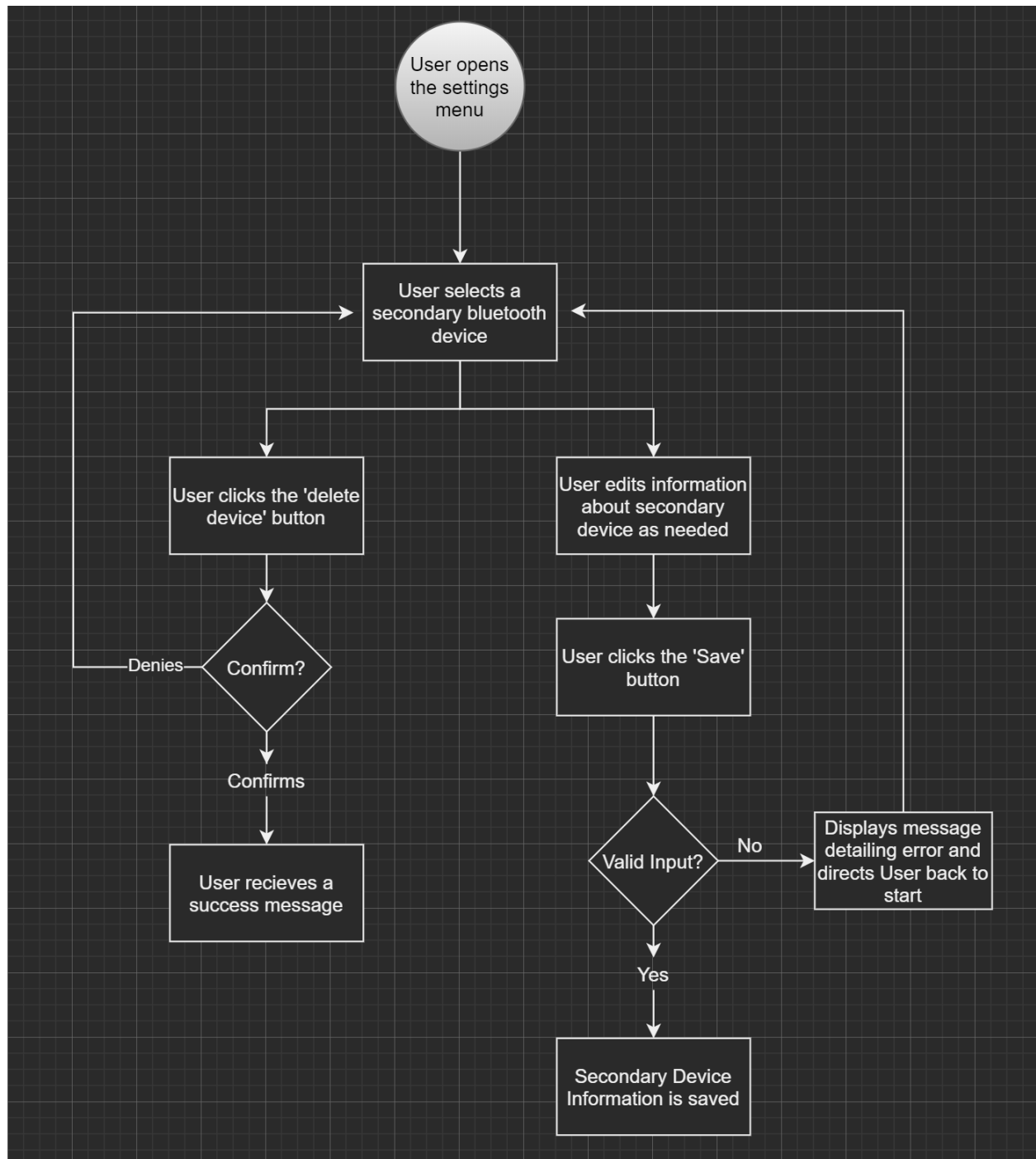
5. Glossary:

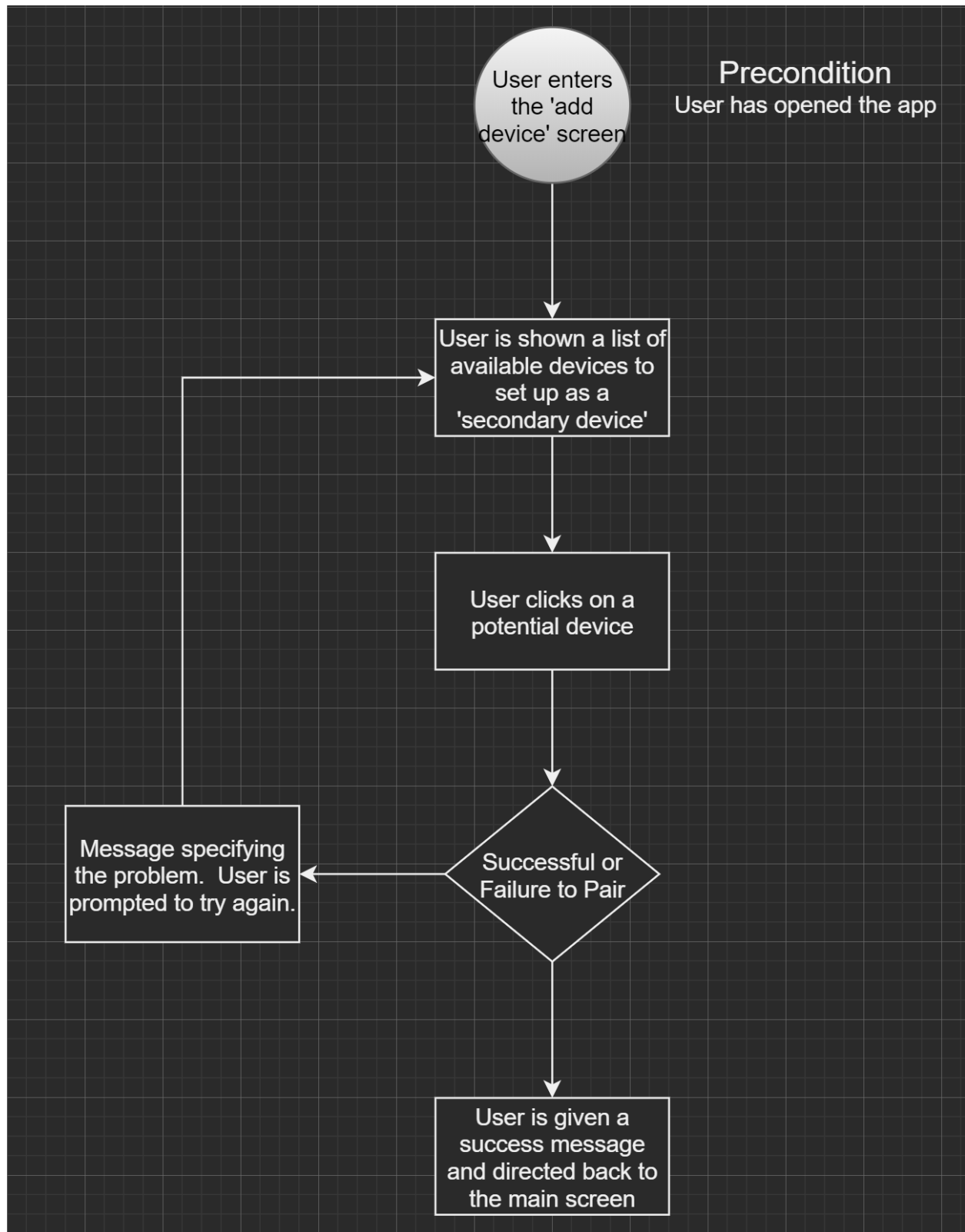
- **5.1:** *Primary Device*: The device the user uses to track other Bluetooth devices (e.g. Phone or Smartwatch)
- **5.2:** *Secondary Device*: Other devices being tracked by the primary device. (e.g. Bluetooth Tile, Phone, Smartwatch)

Use Case Diagrams



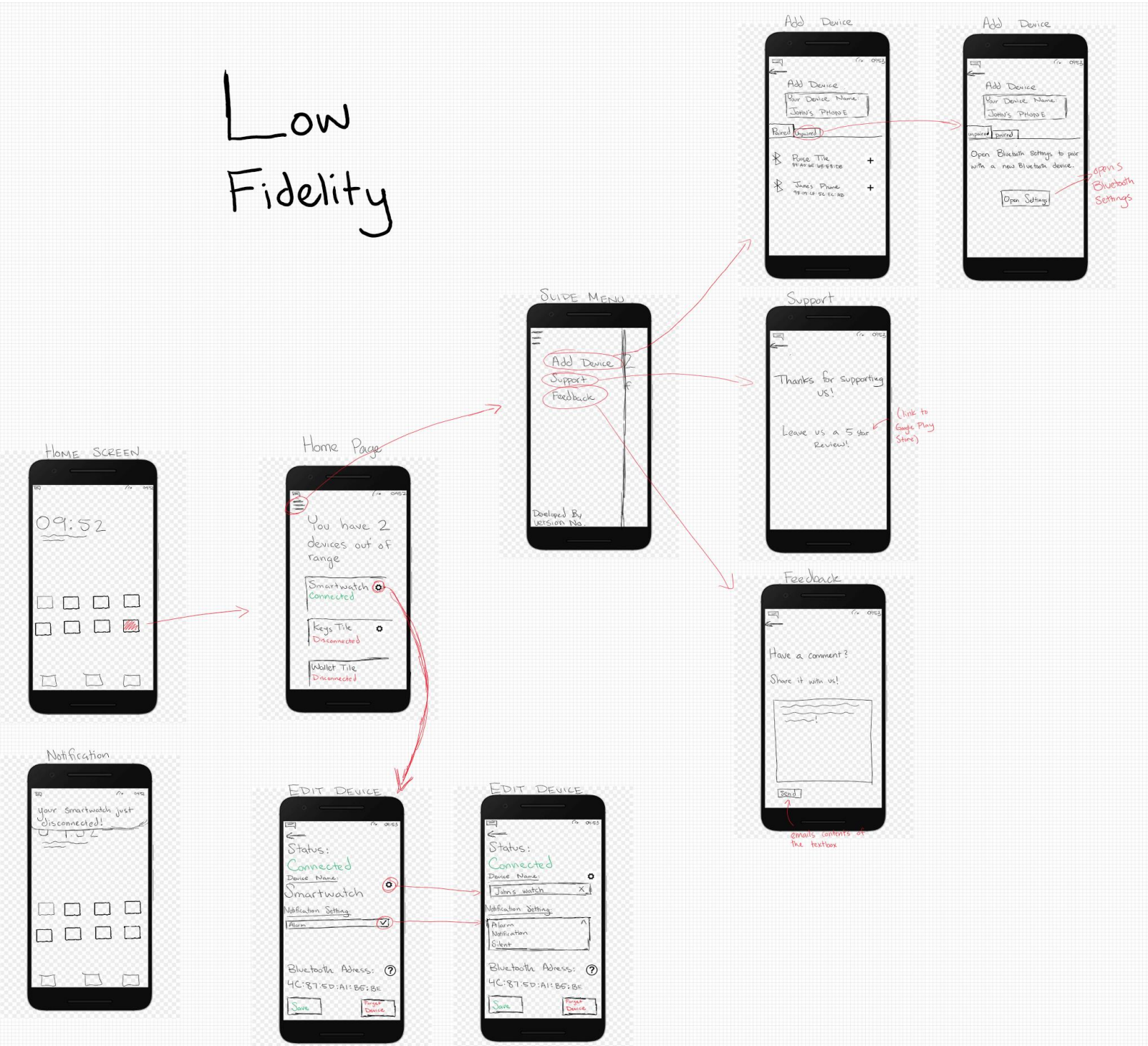
Activity Diagrams



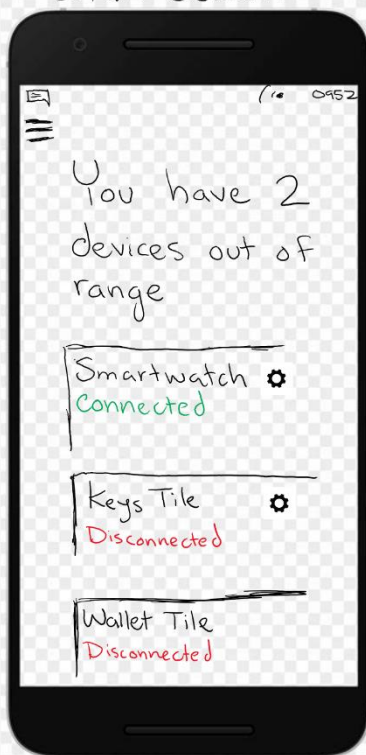


Low Fidelity Prototypes

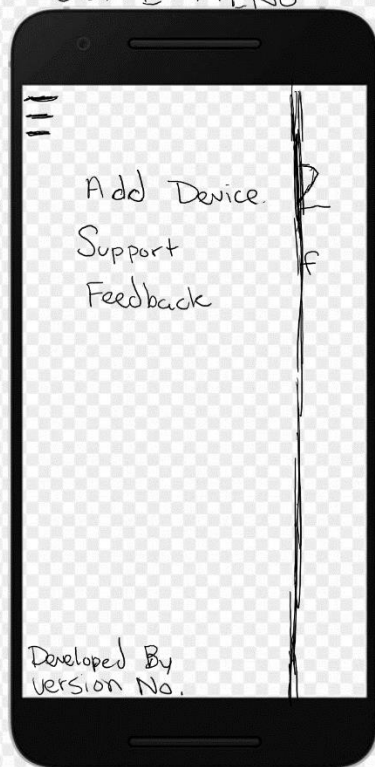
Low Fidelity



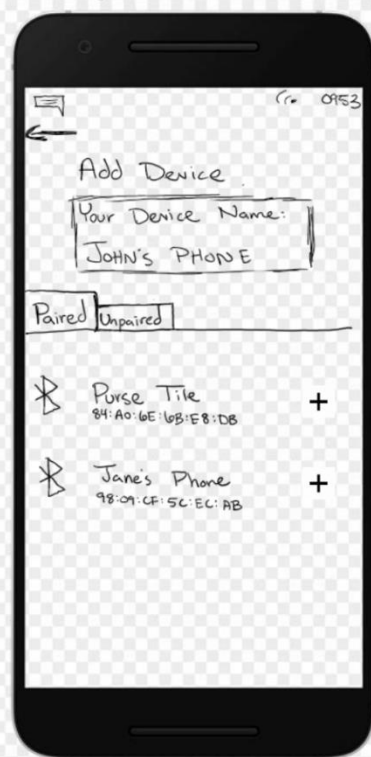
Start Screen



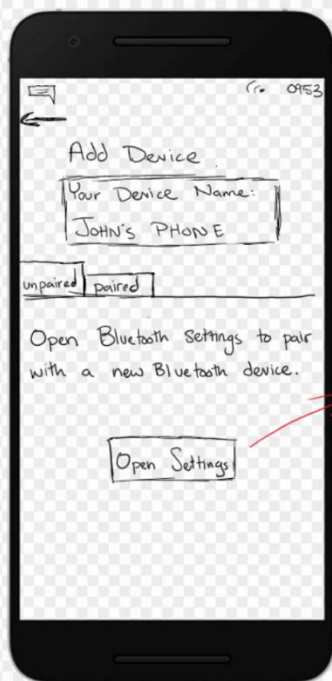
SLIDE MENU



Add Device



Add Device



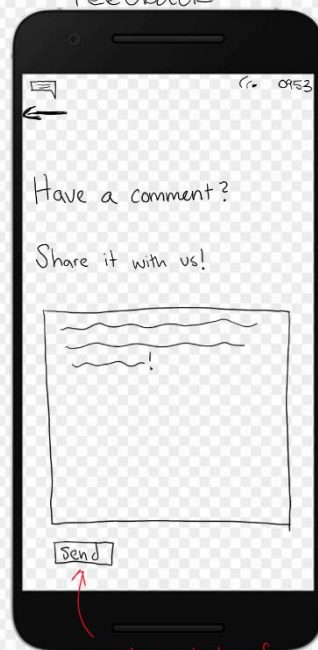
opens
Bluetooth
Settings

Support



(link to
Google Play
Store)

Feedback



emails contents of
the textbox

EDIT DEVICE

09:53

←

Status:
Connected

Device Name:
Smartwatch

Notification Setting:
Alarm

Bluetooth Address: ?
4C:87:5D:A1:B6:BE

Save Forget Device

EDIT DEVICE

09:53

←

Status:
Connected

Device Name:
John's watch

Notification Setting:
Alarm
Notification
Silent

Bluetooth Address: ?
4C:87:5D:A1:B6:BE

Save Forget Device

Notification

09:52

Your Smartwatch just disconnected!

□ □ □ □

□ □ □ □

□ □ □

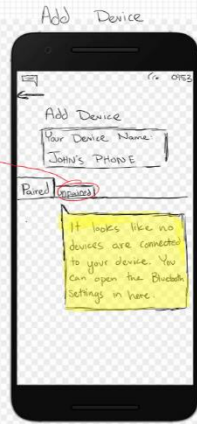
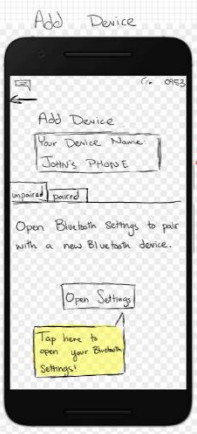
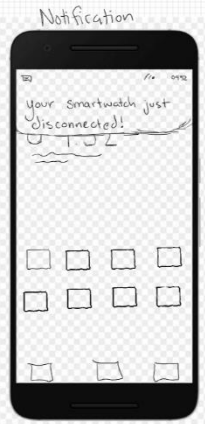
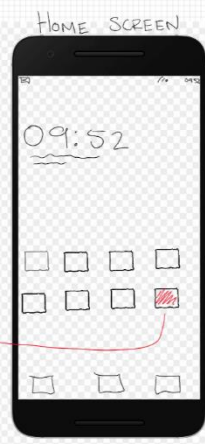
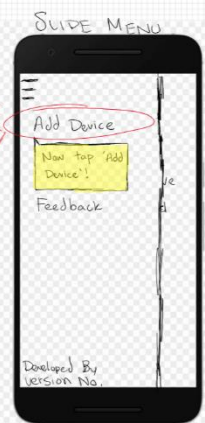
09:52

Your Keys Tile just reconnected!

□ □ □ □

□ □ □ □

□ □ □



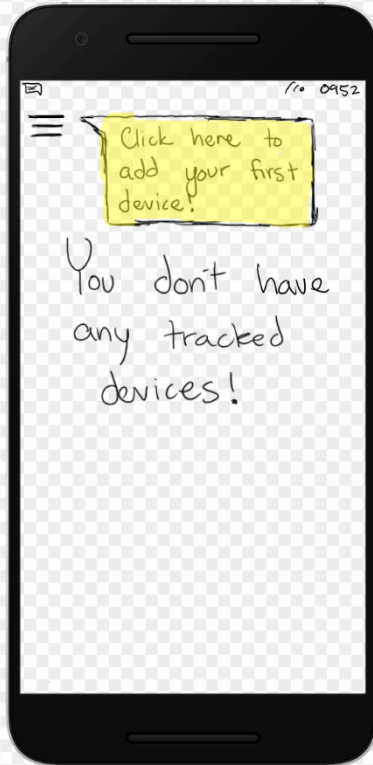
IF user has 21 connected devices

IF user has no connected devices

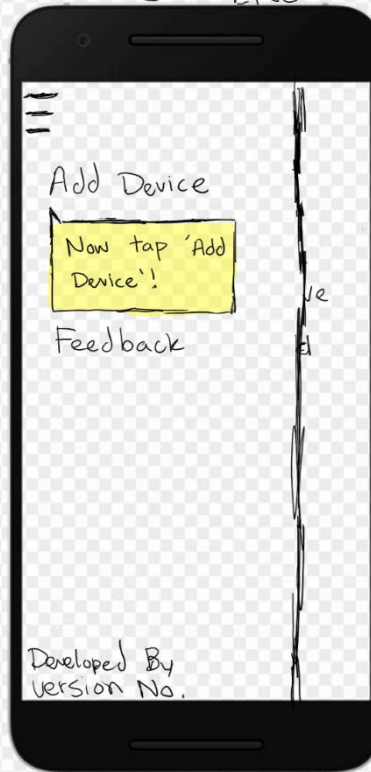
Low Fidelity

No connected Devices

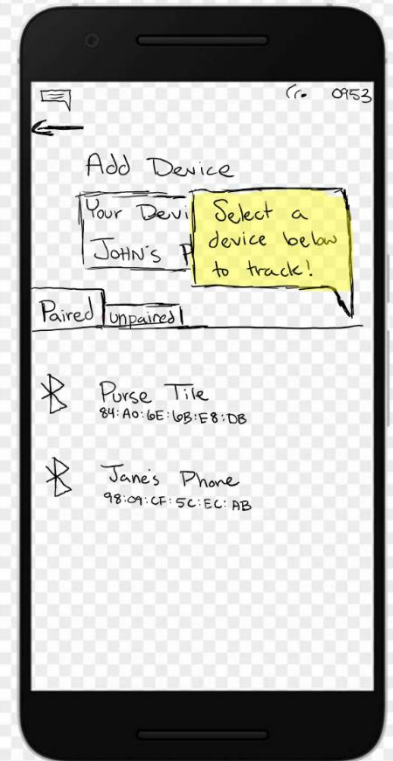
First Time Home Page



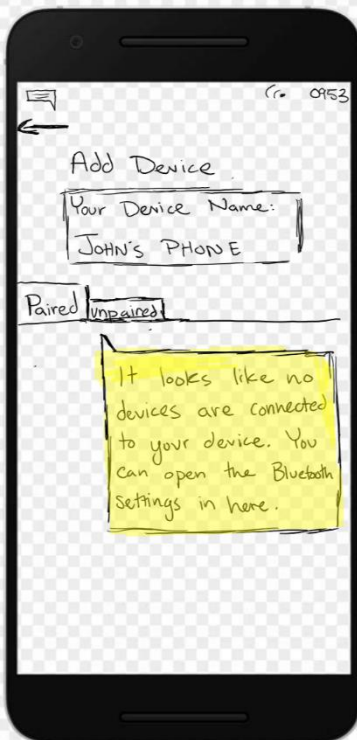
SLIDE MENU



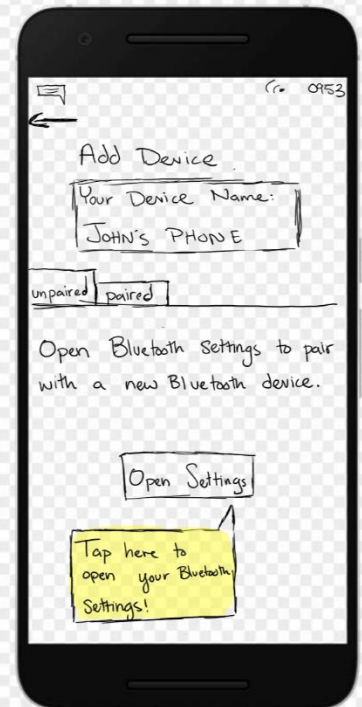
Add Device



Add Device



Add Device



By signing below, you agree to the requirements and project plan as they have been described in this document.

Connor Meads

Troy Smothers

Jacques Bazinet