Software Implementation and Testing Document

For

Group Anabolix

Version 3.0

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1. Programming Languages (5 points)

A majority of our work so far has been done in Android Studio. Most of the code governing interactions between the different areas of the app is written in java, but a substantial amount of material describing the appearance and location of different design elements is in XML. We also are using Gradle scripts to control which libraries are implemented when the app is built. As the project is an Android application, the two main choices were either Java or Kotlin. Our team chose Java due to a higher familiarity with more team members.

2. Platforms, APIs, Databases, and other technologies used (5 points)

OpenWeatherMap API - Free, open-source weather API which allows registered users to import weather data as JSON objects.

Android Studio – official IDE for android app development, dozens of tools for writing and testing code. One item worth mentioning is the Android Nexus 5x emulator we use to test features as we implement them.

Google Maps API- Will be used to track potential and complete routes for running and biking.

Glide- Will be used to load and set images.

Material Components Library- Helps with the easier implementation of the bottom navigation bar. Also includes a lot of useful and/or aesthetically pleasing icons and elements which we may use later.

Firebase- Google development platform which allows for easy implementation of information-based functionality. In our case, we're using it for authentication.

Facebook Auth. API – allows users to login/authenticate using their Facebook account.

Google Auth. API - allows app users to login/authenticate using their Google account

Dagger-Hilt - Used for dependency injection

DOA database - Used as the project's primary database

3. Execution-based Functional Testing (10 points)

For the Functional Requirements, all 5 have been fully implemented and tested.
Media is visibly displaying for #3 and login sessions have been verified by multiple team members as well as confirming user presence through Firebase. Requirement #1, tracking movement, is functionally complete. Requirement #2, tracking environmental data, is completed and usage has been verified by hands-on testing by multiple team members. Requirement #5, specify notifications and are completed. Notifications are present, optional settings need to be implemented and confirmed.

4. Execution-based Non-Functional Testing (10 points)

For the Non-functional Requirements, 2 of 3 have been fully implemented and tested.
Requirement #2 and #3 are both complete. Android usage has been tested in Android Studio using the Nexus 5 as a benchmark and the application is able to run simple applications. complete. User login is secure by using a third party to manage authentication. Saved user information relevant to the account is not fully implemented at this time.

5. Non-Execution-based Testing (10 points)

All code is submitted to a separate developer branch before being reviewed and added to the main branch. At this step, any conflicts or other issues are taken care of. A full walkthrough of the added features is done to check for any errors before adding the new code to the main branch.