SOFE 4610 Fall 2021 - Design & Analysis of IoT

Project Title: Smart Band

Project Group No: 11

Group Members:

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Github Link-
https://github.com/esam191/IoT-Application-Smart-Wearable

Project Description:

The project aims to develop an IoT application based on the IoT platform that we will build in class using, “Develop a Fully Flexible and Scalable Internet of Things Platform in 24Hours by Anand Tamboli”. We decided to build a smart band as our IoT application. We will essentially create a device for monitoring fitness related metrics such as footsteps and calories. The device will be able to connect to a mobile application and send fitness data. The mobile application is built to keep a track of the users fitness data and to establish fitness goals.

Functional Requirements:

FR01: The application should be able to successfully count the number of steps.

FR02: The application should be able to keep track of the distance that the user has travelled.

FR03: The application should be able to track calorie consumption.

FR04: The application should provide a notification to the user when a certain number of steps /calorie consumption is achieved.

FR05: The application should send fitness data to the mobile application.

Nonfunctional Requirements:

N-FR-01: The application should display the necessary metrics on a display.

N-FR-02: The application must be able to operate on low power consumption.

N-FR-03: The application uses a pedometer sensor to measure footsteps.

N-FR-04: The application should support dual sensing redundancy in case of sensor failure.
N-FR-05: The application must have low latency when transferring data from the sensor to the display.

N-FR06: The application should use an accelerometer sensor to track the distance walked.

N-FR-07: The mobile application should be user-friendly.