
# FitMe

by Ameya, Akshit, Harshit, Jeremie

# Background

- Having entered the new year recently, there is a lot of buzz about adopting healthy lifestyles recognizing its physical and mental benefits

- Consequently, monitoring results becomes an integral part of one’s lifestyle-changing process in order to successfully accomplish fitness goals

- Our goal is to deploy a tool that helps users stay in tune with their health goals like sleep, activity levels, weight management and caloric requirements using their smart watch data

- Each of these health goals constitute individual use cases, where users will be presented with relevant insights that help them monitor and accomplish their goals

# Data

- The FitBit Fitness Tracker Data is a rich collection of 18 different csv files that collates information about daily activities, calorie, heart rate, sleep cycles, intensities and steps, among others

- Thirty eligible Fitbit users consented to the submission of personal tracker data, including minute-level output for physical activity, heart rate, and sleep monitoring

# Use cases

- **Activity & Weight Analysis**

  Gives users insight into how their daily activity affects their weight

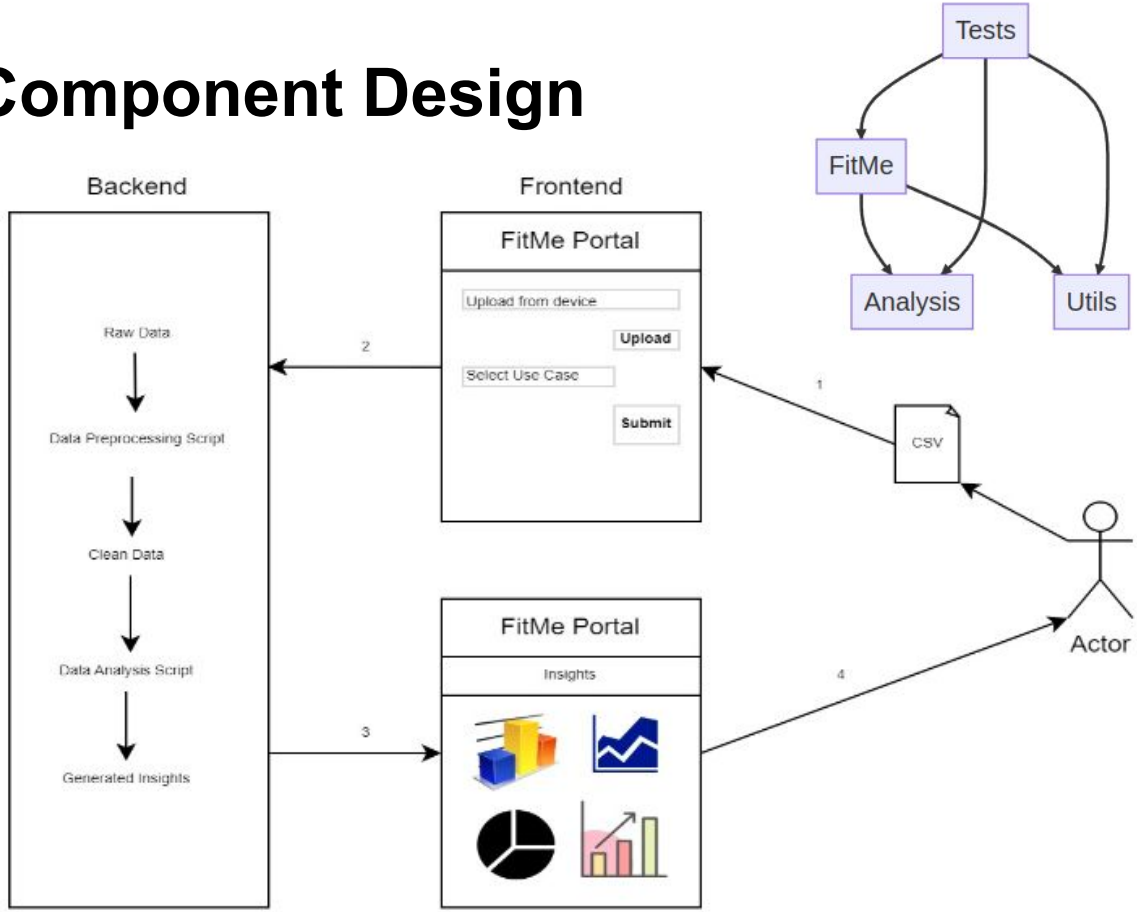
- **Heart Rate Analysis**

  Displays how users heart rate varies with their activity and sleep duration

- **Total Caloric Intake Prediction**

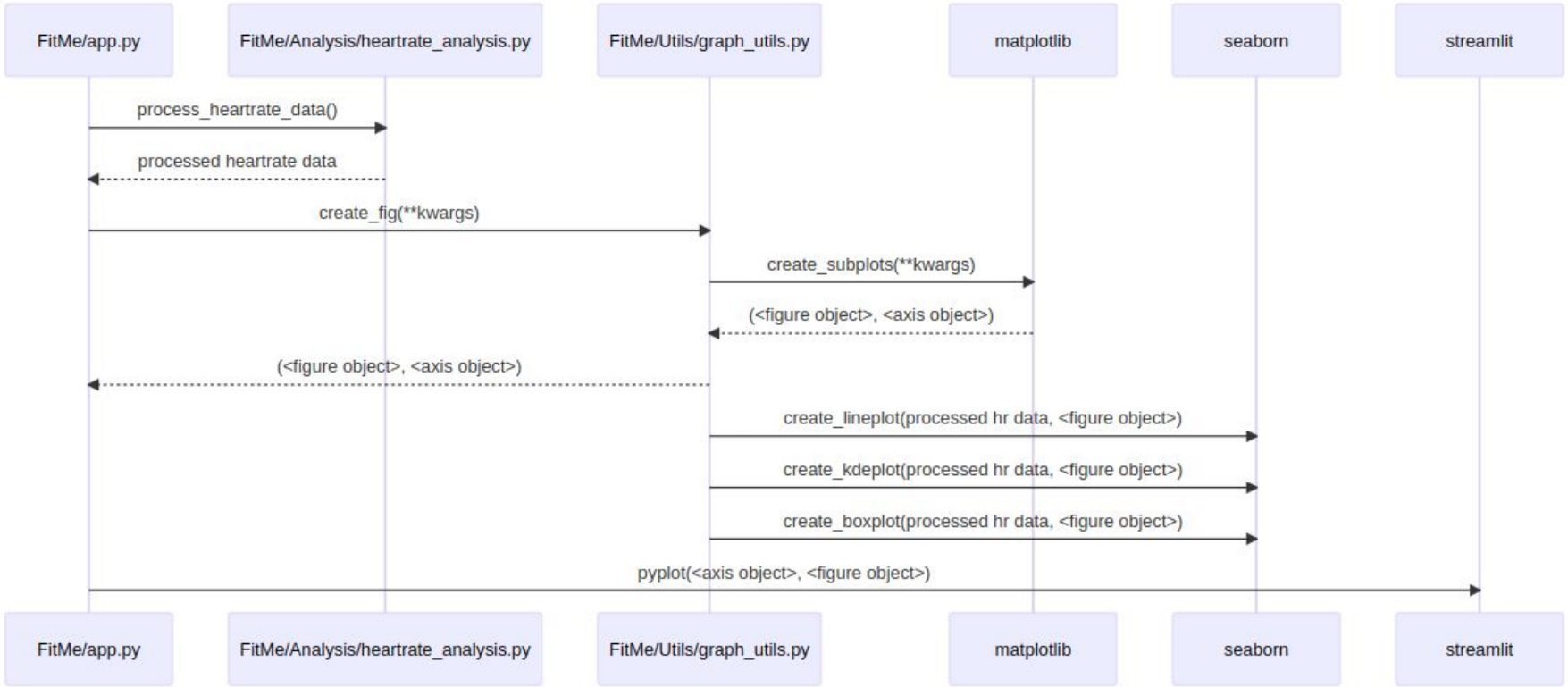
  An ML model which allows users to tweak various parameters to display how many calories they should consume

# Component Design




- **FitMe module** (root module): contains the `app.py` file which contains the main application `streamlit` dashboard. This module uses the `analysis` module which contains the data processing/cleaning logic implementation. It also uses some utility functions contained within the `utils` mdodule.
- **Utils module**: contains utility functions for graphs visualization as well as UI items.
- **Analysis module** (under `analysis/` directory) contains the data processing logic to process raw csv data and extract relevant information. This is called by the main `FitMe` module on raw data to get the processed dataframes to display through graphs.
- **Test module** (under `tests/` directory) contains unit tests file for the analysis module

# Sequence diagram



# Takeaways and Future scope

- We experienced Hofstadter's law - it always takes much longer to complete a task than you expect
- Deploy our app on the cloud
- Display important insights along with visuals
- Insights and model monitoring