Sprint 0

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Trello: https://trello.com/b/80plHLfN/cs5500

Primary Goal

1) Data processing system to for a health data focused startup

Requirements

1. Process a JSON data file
2. Store data in a SQL database
3. Serve RESTful requests via API endpoint for GET, POST, DELETE, PUT

User Stories

There are two sides to user stories in our case- the consumer side and the business side. We will include user stories from both

1. A user wants to lessen their impact on the environment. They want to look at their most frequented grocery store and walk to it on the day they do the least physical activity.
2. A user wants a generalized view of their life and trends. They want to see where they have gone, their favorite places, and any other trends that inform them on their health and environmental impact. (maybe split this up into more user stories?)
3. Consumer: wants to view a visual representation of their data on their run/walk (how long did I run today? What is my average this week?) (perhaps in the form of graphs) that makes it easier to track progress
4. Business: wants a visual representation of aggregate user data (how many customers are using the app over what period? For how long do they use it? When do they use it? etc.)
5. Business: As an insurer, I want to understand the daily activity of potential/current customers to provide personalized services and policies. (Can combine driving data with driving records for auto insurance. Similarly use walking/running data plus health records for health insurance)
6. As an athlete, I want to view my progress towards my daily/weekly activity goal. I would also like to know about month-month comparisons about my activity.

Initial Design

Inputs

- JSON file containing array of objects modelled according to the ER diagram under “Abstractions and Relationships”.

Outputs

- Objects in the JSON file according to standard CRUD operations

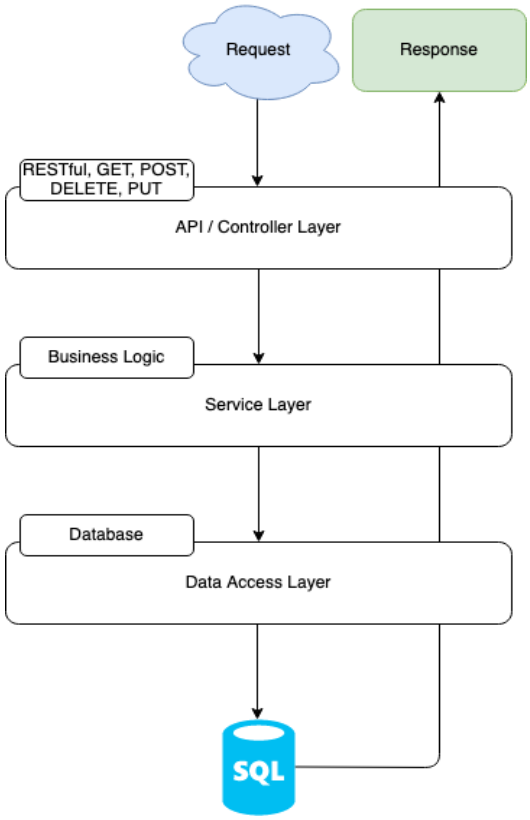
Programming Languages

Backend: Java
Database: Sqlite
Frontend: javascript (not core feature, if we have time)
External Libraries: Spring Boot

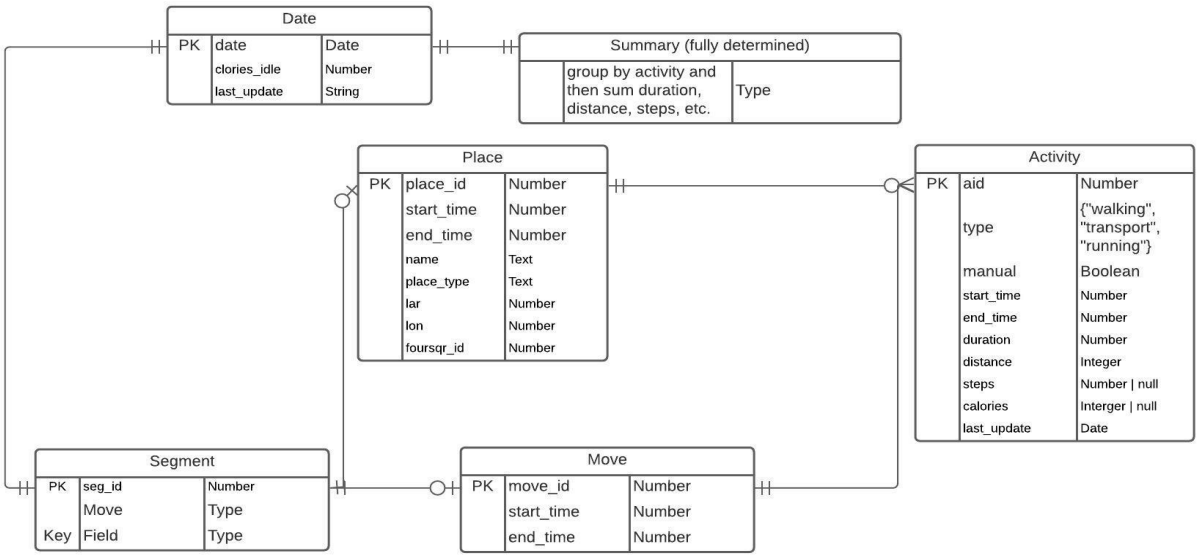
Abstractions and Relationships

Spring boot UML

We will use the MVC architecture pattern via spring boot as the back end of our data processing system. The idea here is to answer RESTful requests from spring boot and store any loaded data in a SQL database. Spring boot will be responsible for any CRUD operations or querying of the DB. The aim is to build our API endpoints such that our user can quickly process and analyze health data sets. Later we could build a simple front end to serve the RESTful requests and display the responses.



Structure of data:



The above ER diagram represents one object in the JSON array. The above only shows the most basic design we could infer from the given JSON data and does not include details of implementation (junction tables, look up tables for categorical values, etc.)

Questions regarding Sprint 0:

1. What exactly is “input” (as used in the project description and rubric) here? Is it the input the customer provides? Or is it input that the app in general receives (perhaps from APIs or other apps)?
    a. Ivor: I assumed the input would be the data/json file.
    Ans - what the app is taking in
2. Is the client a business or an individual?
    Entrepreneur looking to use this data
3. What is manual (JSON)?
4. How is duration measured, seconds, minutes etc.?
5. How is distance measured?
6. Should we use a database for this?
7. Is a front end needed or is a CLI enough?
8. Database local or external?
    local
9. Is activity and group the same?
10. What are trackpoints and why are they empty?