

CSE-535 FocusMate - Recommender System

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Description

This is a Spring Boot application designed to suggest well-timed breaks and personalized leisure activities taking into account user preferences and contextual parameters such as weather and traffic information to tailor recommendations.

Prerequisites

Make sure you have the following installed on your machine:

- Java (JDK 8 or later)
- MavenSetup system environment on your local
- download the source code in the zip file
- servicekey.json file is also present in the zip. Note its path

Getting Started

Follow these steps to run the Recommender System application locally:

1. Navigate to the project directory

```
➤ cd /path/to/the/downloaded/project/directory
```

2. Build the Project

```
➤ mvn clean install
```

3. Run the Application

```
➤ export SERVICE_ACCOUNT_PATH="path/to/your/servicekey.json"  
java -jar target/recommender-1.0.0.jar
```

Example

```
export SERVICE_ACCOUNT_PATH="/Users/zakiya/Documents/servicekey.json"
java -jar target/recommender-1.0.0.jar
```

The application will be up at localhost:8080

4. Make API call

API call format

```
http://localhost:8080/api/recommend?userId=<userId>&latitude=<user-latitude>&longitude=<user-l
```

API params:

- `userId` (String): `userId` gets generated when the user first signs up on the FocusMate app and gets stored in cloud firestore
- `latitude` (String): users location data sent from the application
- `longitude` (String): users location data sent from the application
- `localTime` (String): users local time sent from the application
- `dateFilter` (String): TODAY, THIS_WEEK, THIS_MONTH selected on the UI dropdown
- `distanceFilter` (String): - LESS_THAN_10_MILES, BETWEEN_10_AND_20_MILES, GREATER_THAN_20_MILES

Example GET Request

```
http://localhost:8080/api/recommend?userId=H6KY1R3hJkhfHRiclKnZ4gb7yRs1&latitude=33.481840&lor
```

Example JSON Response

```
{
  "recommendations": [{
    "event": {
      "eventName": "The Attic",
      "eventType": "Night Club",
      "eventDate": "2023-11-30",
      "eventTime": "9:00 PM",
      "eventLocationName": "4247 E Indian School Rd #102, Phoenix, AZ 85018",
      "eventLocation": {
        "latitude": "33.494629",
        "longitude": "-111.989342"
      },
      "additionalDetails": {
        "bookingLink": "https://www.theatticbarandlounge.com/",

```

```

        "cost": "$20-$30"
    },
    "weatherData": {
        "weather": "overcast clouds",
        "temperature": 288.64,
        "humidity": 53
    },
    "trafficData": {
        "distance": 5584.0,
        "duration": 577,
        "durationInTraffic": 569,
        "trafficDetails": "Low Traffic"
    }
}, {
    "event": {
        "eventName": "The Mission Old Town",
        "eventType": "Restaurant",
        "eventDate": "2023-12-01",
        "eventTime": "6:00 PM",
        "eventLocationName": "3815 N Brown Ave, Scottsdale, AZ 85251",
        "eventLocation": {
            "latitude": "33.491791",
            "longitude": "-111.924217"
        },
        "additionalDetails": {
            "bookingLink": "https://www.opentable.com/r/the-mission-tempe-az?restref=34052",
            "cost": "$30-$50"
        }
    },
    "weatherData": {
        "weather": "overcast clouds",
        "temperature": 288.64,
        "humidity": 53
    },
    "trafficData": {
        "distance": 12339.0,
        "duration": 1200,
        "durationInTraffic": 1251,
        "trafficDetails": "Low Traffic"
    }
}]
}

```

