## **Test plan for Rest API service and automated feed**

## 1. Test execution

Execution of tests is divided into two categories: Pytest tests, Cucumber tests and Performance tests.

### 2. Execution of Automated type of tests

These tests will run manually via a terminal during test creation and will run automatically in a CI/CD pipeline in GCP when it becomes part of the regression test pack.

3. Test tools

1. Pytest with Requests and Cucumber
2. Jmeter

## 4. Integration Test introduction

This section of the document gives overview of Integration Testing carried out on the Rest API service

The Rest API service Integration Testing is using Pytest with Requests to implement automatic checks for REST based tests.

The goal is to focus testing on functionalities implemented in Rest API service and the automated feed.

## 5. Testing of REST API

The goal of the REST API testing is to check that the API is accepting the requests based on the specification and the output result is in correct format and has all the required elements.

### 6. Validation request tests

The following functional/features will be tested on the Rest API

1. The service can take in a list of places to visit
2. Calculates the best route possible for a day
3. Optimize routes for the fastest travel
4. Optimize routes for the shortest travel
5. Runs needed for refueling
6. Runs needed for Buying groceries when supplies run low
7. Runs needed for Depositing money at the local bank
8. Calculate available time for cooking
9. The correct minimum time is returned
10. The correct maximum time is returned
11. The correct “time to next” is returned
12. The correct “stop time” is returned
13. The correct weight is returned
14. The correct State is returned
15. The correct Type is returned
16. The id’s are returned and are unique
17. The correct geo-points are returned
18. The correct carrying capacity is returned

### 7. Performance tests

1. Response times of the api calls under load
2. Response times of the automated feed under load
3. Volume the API can handle
4. Volume the automated feed can handle
5. Spikes in volume
6. A stress tests to check the at what number of requests per second the performance starts to deteriorate
7. Breaks test to check if the api and the automated feed can recover.

### 8. RESOURCES/ROLES & RESPONSIBILITIES

Engineering teamlead: Tuhin Subhra Mitra

Software Quality engineer: Shyam Yendlure

Sofware Quality engineer: Marius Brummer