Team NoseDamage — Justin Mohabir, Daniel He, Fang M. Chen, Ryan Lau
Target ship date: 2023-5-29

Design for Taxist

Create a website that simulates a taxi ride on a map. There will be points on a map that have the starting destination of the taxis that come from a taxi ride dataset. Clicking on the point will simulate a taxi ride by using a route from the google routes api to the destination indicated on the taxi dataset.

Roles:

PM / Emotional Support - JM
DB management - FMC & RL
API Person - JM
Frontend - DH & JM
Flask -DH
JS - FMC & RL

Data:
https://data.cityofnewyork.us/Transportation/2010-Yellow-Taxi-Trip-Data/74wj-s5ij
https://data.cityofnewyork.us/Transportation/2011-Yellow-Taxi-Trip-Data/uwyp-dntv
https://data.cityofnewyork.us/Transportation/2012-Yellow-Taxi-Trip-Data/kerk-3eby
https://data.cityofnewyork.us/Transportation/2013-Yellow-Taxi-Trip-Data/t7ny-aygi
https://data.cityofnewyork.us/Transportation/2014-Yellow-Taxi-Trip-Data/gkne-dk5s

API(s):

Mapbox: https://docs.mapbox.com/
Mapbox Directions API: https://docs.mapbox.com/api/navigation/#directions

Library(s):

Chart.js: https://www.chartjs.org/

Frontend Framework Chosen: Bootstrap

- It has a Navbar & containers
- We will use checkboxes for user choices

DB (SQLite):

2014_Rides **200,000 from each year

INTEGER PRIMARY KEY	REAL **pickup_lat**	REAL **pickup_long**	REAL **dropoff_lat**	REAL **dropoff_long**	REAL **Mileage**	REAL **Total Cost**

Additional Columns: REAL pickup_datetime, REAL dropoff_datetime

Program Components:

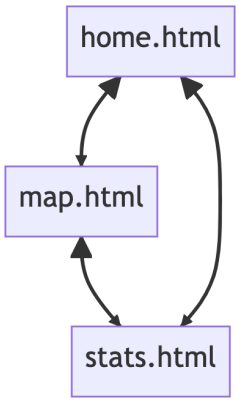
- __init__.py
  - Flask app
  - Renders templates
  - Uses db.py to interact with the dataset
- Setup.py
  - Downloads the data from RL's website (csv and geojson)
  - Adds the data into the sqlite db
- database.db
  - A table for usernames and passwords
  - A table for each year that contains the contents of the taxi data
- db.py
  - Contains methods for accessing and modifying the data in the database
- api.py
  - retrieving info from apis
- map.js
  - Contains the methods to create and display a map on the website
  - Contains methods necessary to create and move a taxi object along a route indicated by the google routes api
- stats.js
  - Uses chart.js to generate charts to summarize data

Templates:

- home.html
  - Is an about page, that has cool animations and an intro to our website
- map.html
  - Displays a map that shows the taxi rides that were taken during a articular hour/day/year for nyc

    - Has a slider to change the year
    - Can click on points to reveal a route generated by mapbox directions
- stats.html
    - Contains a summary of the taxi data

Site Map:



Component Map: