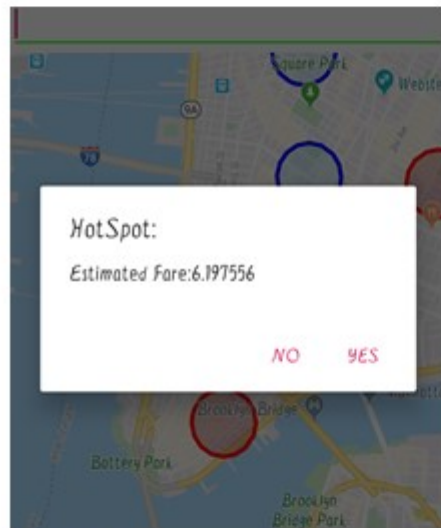# FARE OPTIMIZER

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INTRODUCTION

Our App aims to aid new Cab Drivers and customers across a city to search cabs around the city. The App displays clusters of most popular places around the person and predicts the average fares from the cluster.

OBJECTIVE

The aim of the system is to provide cab drivers a trained and analyzed way to obtain customers in the vicinity to maximize profit and save waiting time to obtain passengers.

New Cab Drivers in the city aren't familiar with the traffic hotspots of the city, our system aims to recommend the best places to ensure stable income.

The other primary objective is to predict cab fares based on previous local data using regression model.

Material and Methods

Our Approach:

Data Collection, Data Cleaning , Setting up Firebase, Using K Means Clustering and Random Forest Regressor.
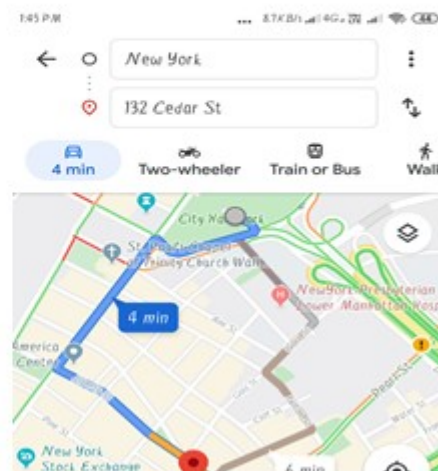
Data Used:

☐ Kaggle NYC Cab Booking dataset

Implementation:

☐ Entering current User Location
☐ Display Clusters near User.
☐ Predict Fares for a hotspot
☐ Navigation using Maps.

Systems/Technologies used:

☐ Firebase
☐ Random Forest Regressor
☐ K Means Clustering
☐ Pandas

RESULTS

- Up to 150 clusters were predicted across New York.
- A fare was predicted from each hotspot with a negligible error.
- Helps Improve sales.
- Hotspots were color marked according to fares.

CONCLUSIONS

- Implemented the app successfully for a large database.
- We learned about various key technologies like Machine Learning and Firebase.
- We learned Android Google Maps API.