OptimizeU

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Overview

- Improve quality of life for drivers and passengers
- Optimize path visitation of Uber drivers
- Reduce wait times of passengers

Dataset

- Uber pick up data from 2014 (From Kaggle)
- Manhattan, New York
- Rows consist of date, time, latitude & longitude

Requirements

- Display MST of hotspot clusters with consistency and accuracy
- Query processing should take less than 3 seconds

Algorithms

- Search/Sort dataset by pickup time
- K-Means Clustering of pickup hotspots
- Kruskal's to generate MST of centroids for optimal path visitation

Visualization

- Users can select by time to see current hotspots

- Java Graphics library generates cluster visualization with MST

Verification and Validation

- White Box testing of Algorithms and ADTs
- Black Box testing of Graph output