Why Scooter Sharing App In NewYork?

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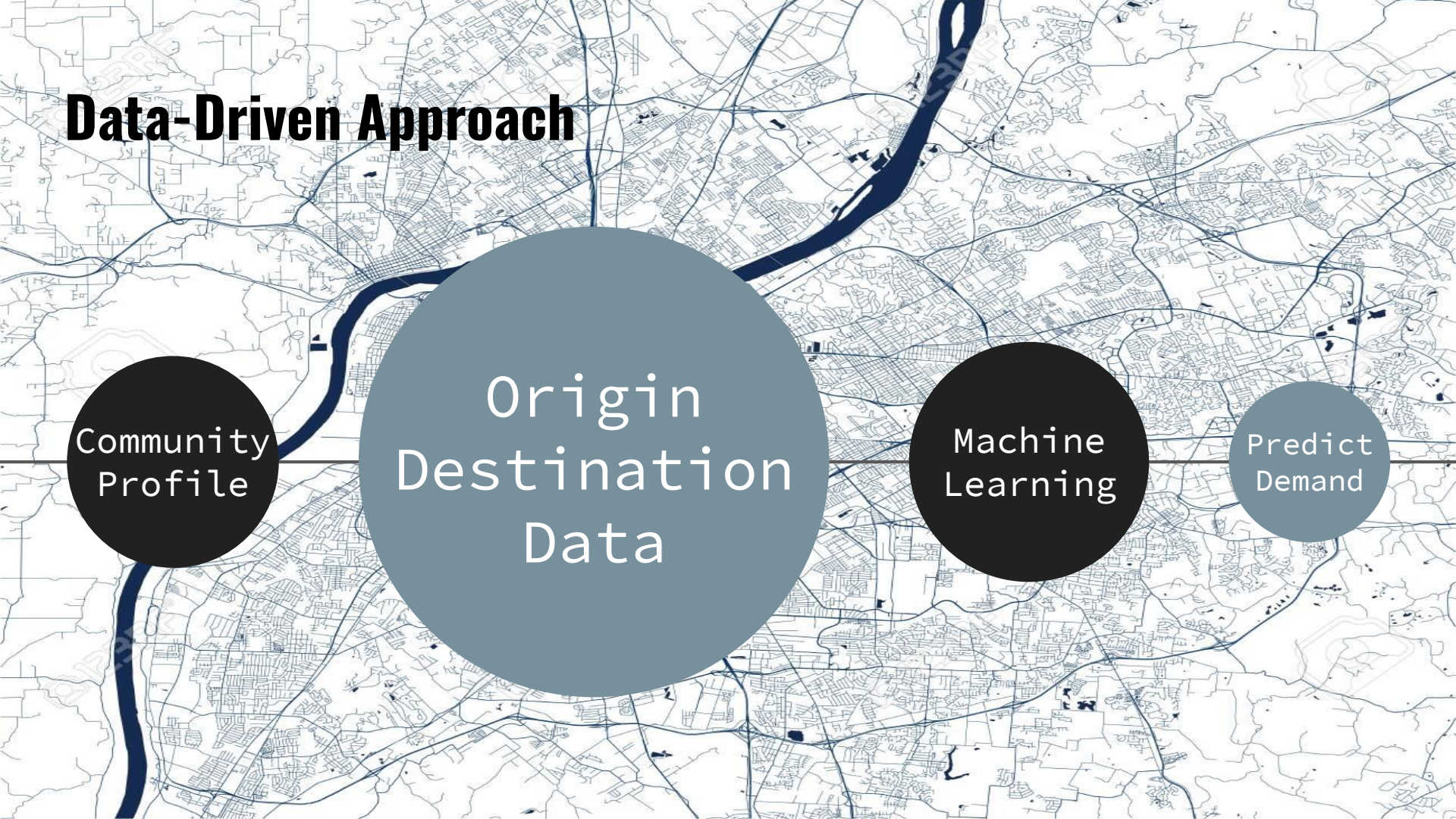
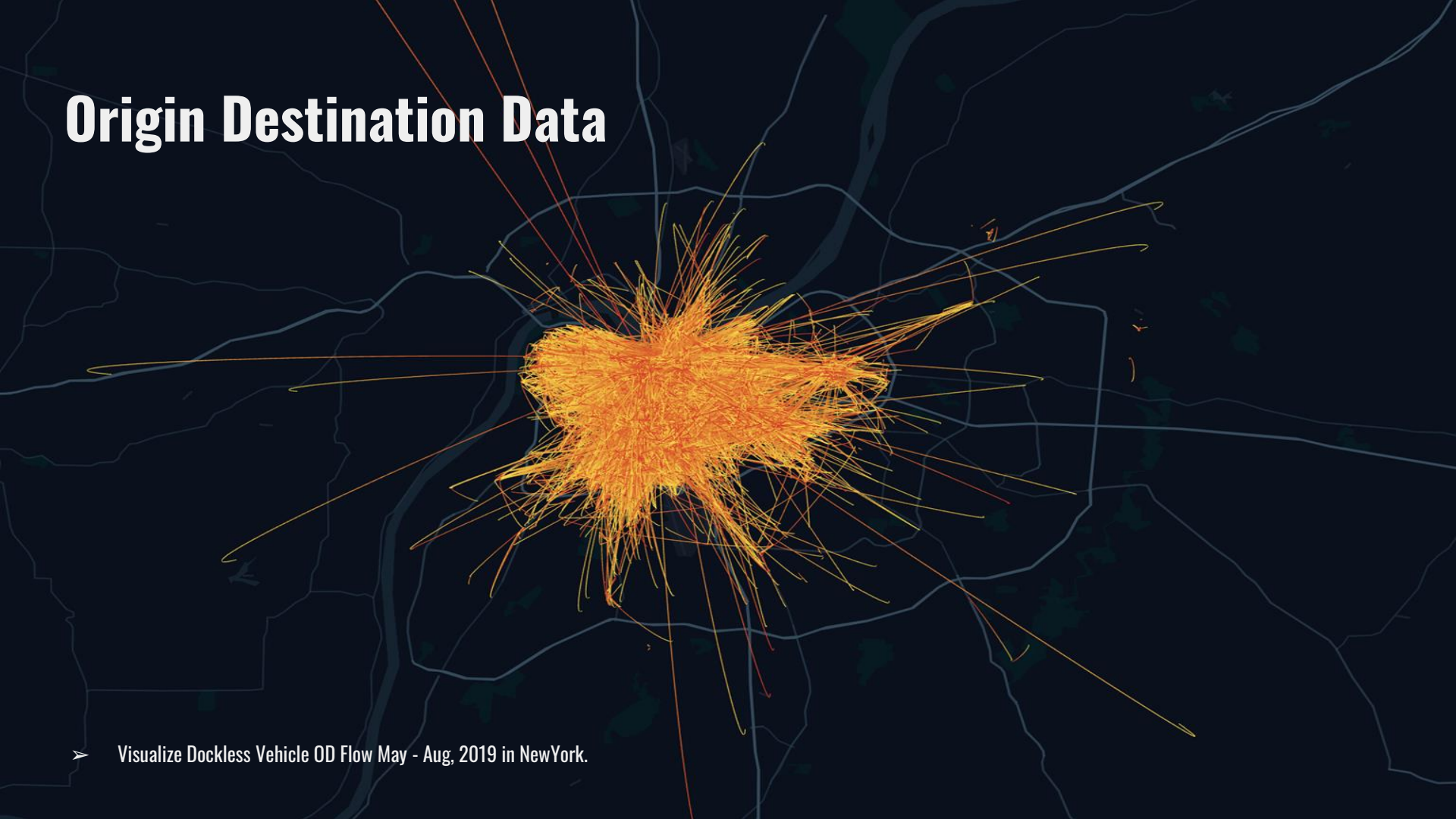
- Convert Short Car Trips to Low-polluting Modes
- Improve Connectivity for Commuters in NewYork
- Collect Rider Data for New Pedestrian Network
- Provide Smart Solution to Rebalancing Problem

Data-Driven Approach



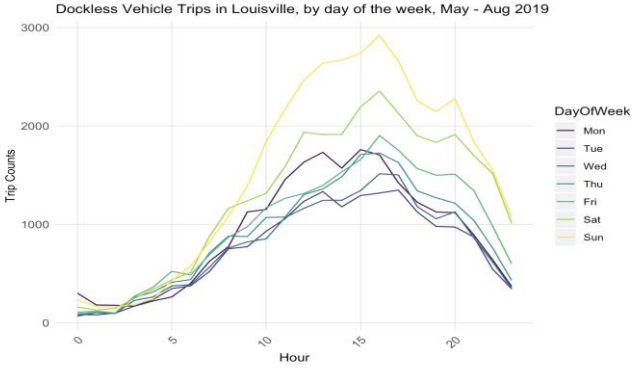
Origin Destination Data

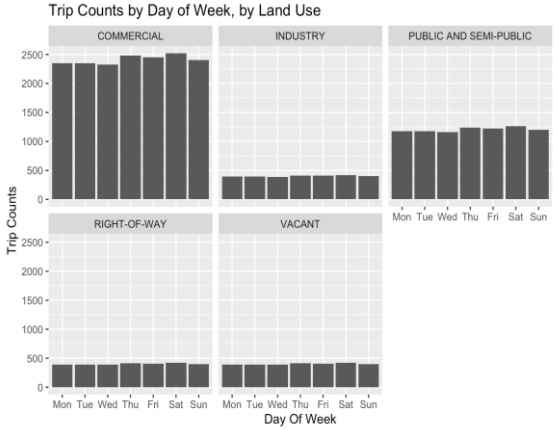


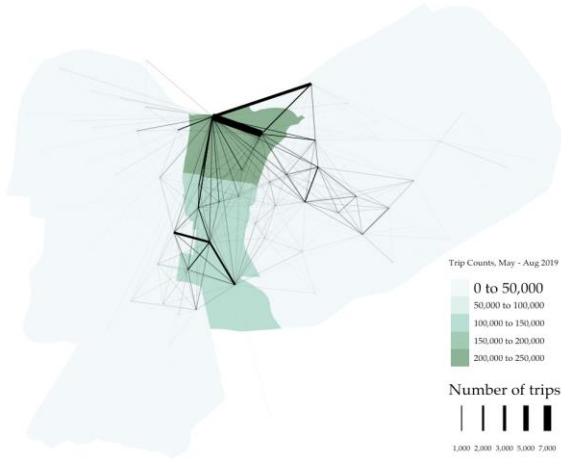
- Visualize Dockless Vehicle OD Flow May - Aug, 2019 in NewYork.

Exploratory Analysis

- Imbalanced Data - riders cluster in Downtown.
- More usage on weekends than on weekdays.
- More riding in afternoon rush hours.
- More in commercial and (semi-)public areas.

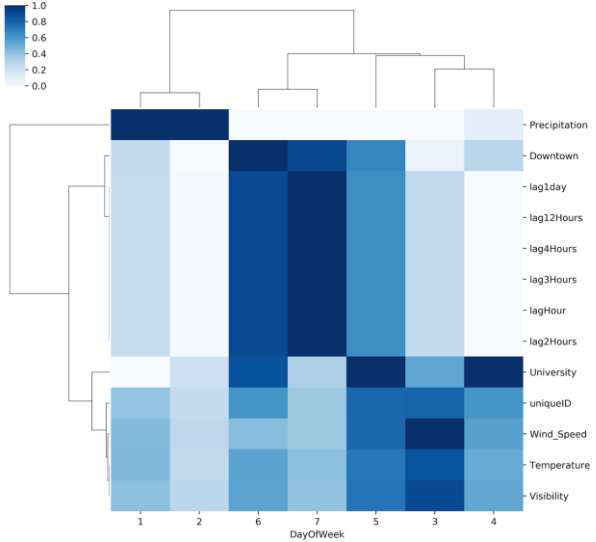






Exploratory Analysis

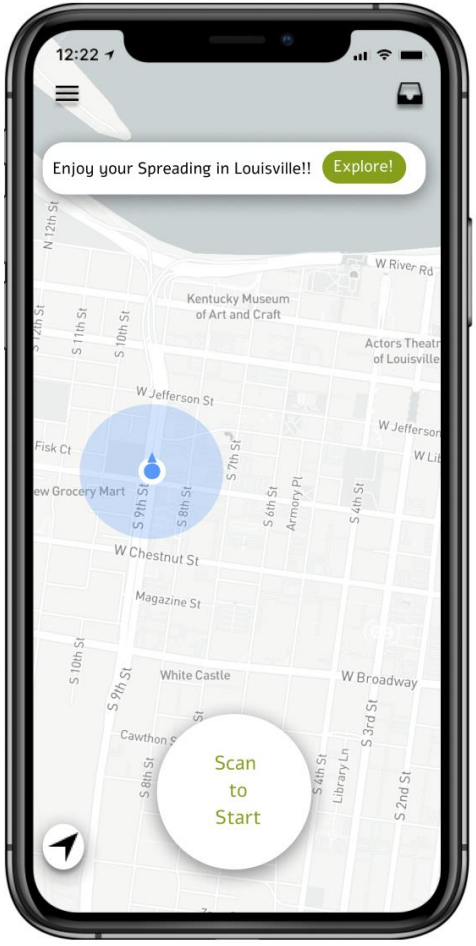
- Mon and Tue, Sun and Sat, Wed and Thu have similar scooter usage.
- Weather conditions has similar effects on scooter usage.
- Time-lags more correlated with Sun and Sat.
- Downtown has high correlation with weekends.

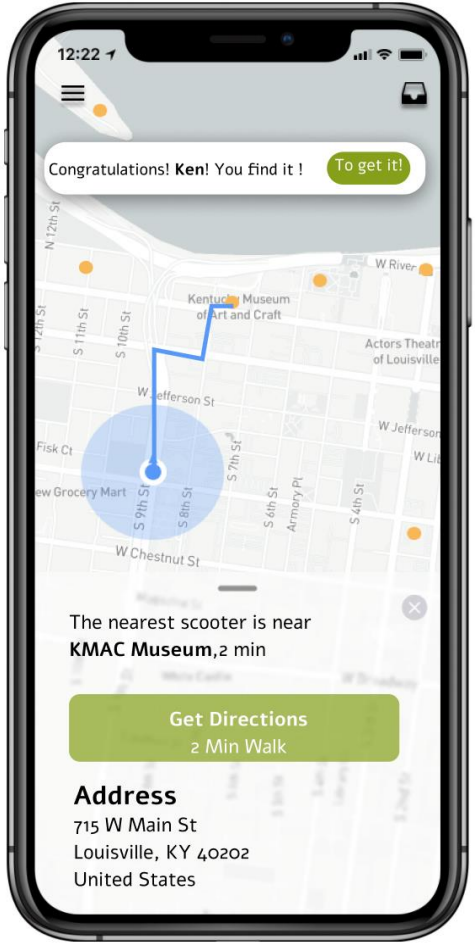


How does forecasting model work?

- Data preprocessing - join weather/ census data.
- Spatiotemporal comparative analysis - create time-space panels.
- Use Machine Learning Algorithms - Linear Regression, Random Forest, XGBoost.
- Predict scooter demand in each fishnet cell, test for generalizability.
- Give bonus to riders who ride to areas lacking scooters.

App wireframe： Spreading





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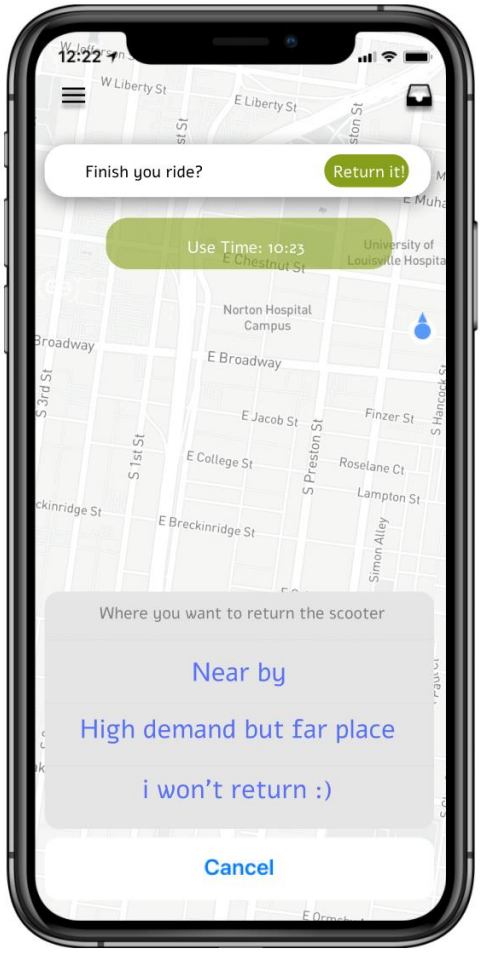

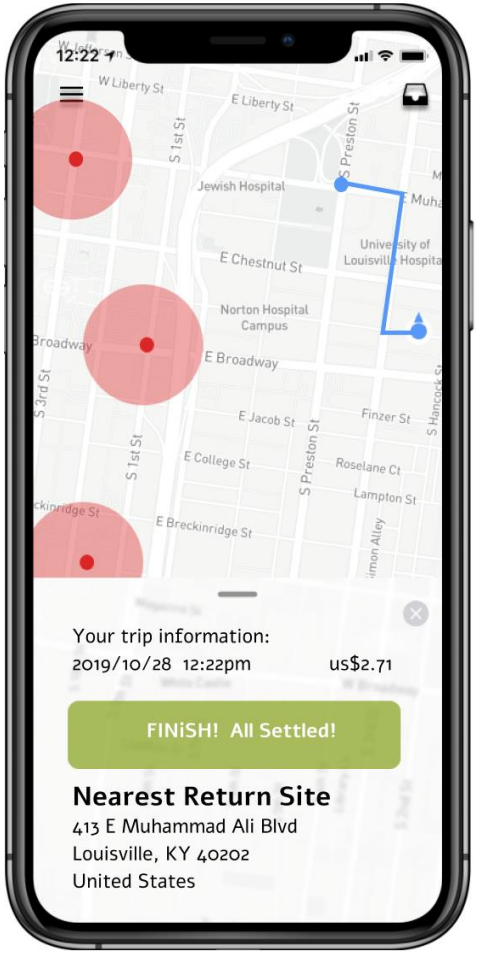

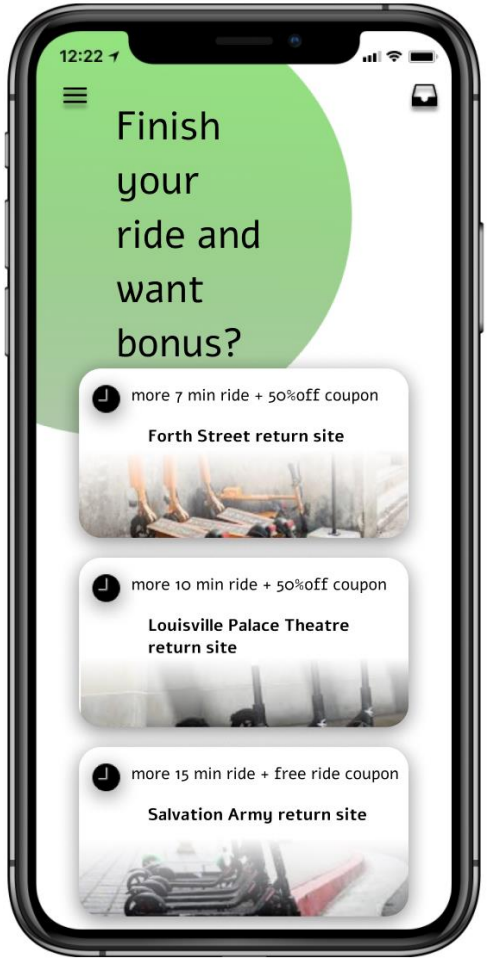

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