SWS3004

Summer 2019

Dynamic Car Park Pricing

Cluster2-16

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INTRODUCTION

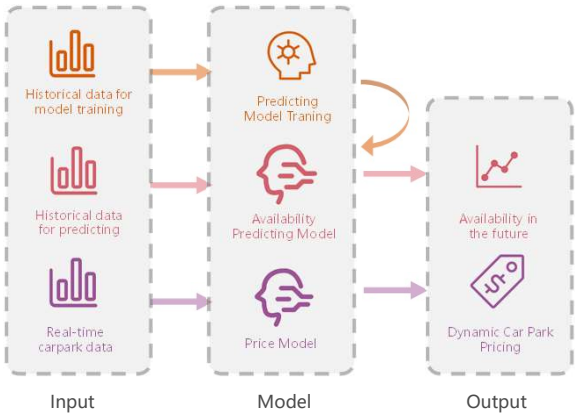
Motivation

Dynamic car park pricing

- Enhance efficiencies in parking management by matching prices with current demand and supply
- Make some drivers pay less than what they should as demand goes up

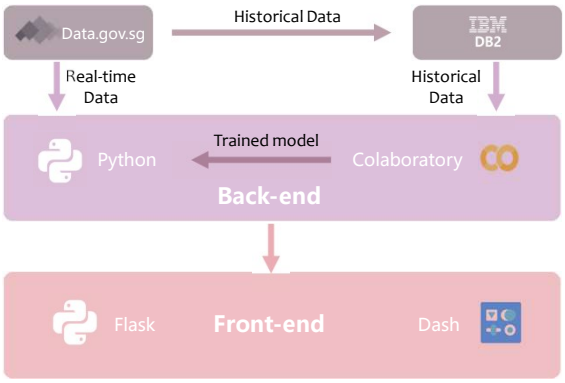
APPROACH

Overall Design



IMPLEMENTATION

Architecture



CONCLUSION

Lessons

- Cloud foundry and machine learning
- Web application development
- Teamwork and time-management

Methods

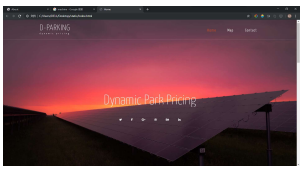
Predict availability

- Ridge regression
- Features
  - historical availability
  - temperature
  - position

Predict price

- Depends on the car par availability
- Use math methods to make it change slowly

Web Pages

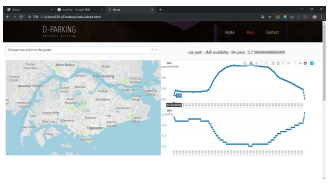


Home Page

- Introduce
- Our Team

Map and message

- Predict car park availability and price
- Show real-time availability and price



Use Cases

- Carpark owner can see visualization of real-time and predicting data(including carpark availability and price) clearly.
- Other competitors' situation also can be displayed on the dashboard for working out the better market plan .

Objective

Design an intelligent system to

- Determine real-time price dynamically based on real-time carpark availability
- Predict predicting carpark-availability and price in the future so that carpark owner can manage better

Limitations

- Data request restricted by open-source dataset
- Some process need to be done manually
- Time limited to train a better model