Project introduction

❖ Observation:
   Difficult to locate car parks around with vacancy
   Hard to identify the shortest and most efficient route to car parks due
   to varying transportation condition

❖ Aim:
   To provide the shortest route to reach nearby car parks which are available for parking to drivers after analysis on transportation flow data

❖ Expected Outcome:
   Enhance efficiency
   Reduce the amount of fuel consumed
   Make full use of car parks

Limitation and difficulties

● Image provided by API is low resolution
   - Only 320 x 240 pixel
   - Unsupported for other pretrained model, e.g. tensorflow Object Detection API

● Insufficient Computation Resource
   - Huge amount computation resource is needed for training a good detection algorithm

● No labeled Dataset for training
   - Traffic images do not contain historical data
   - No label except location is provided

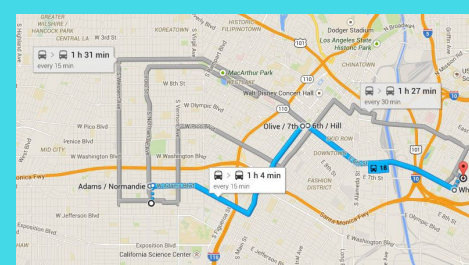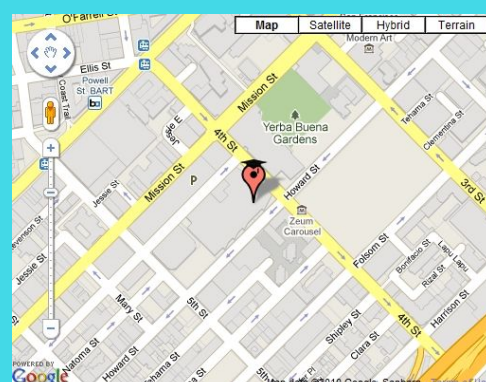● Parking charges which some drivers may concern are not included

HKUStemist
Group 2: Go SMART

Design Rationale

❖ Traffic condition identification
- Data Used:
   - Traffic snapshot images (Provided by DATA.GOV.HK)
- Feature Extraction Algorithm:
   - Selective Search

❖ Visualization and Route Suggestion
- Google Map API

Individual Reflections

It had been a pleasure to collaborate with groupmates from multiple disciplines with diverse background and interests. Despite of the fact that we shared varied opinions during the stage of brainstorming and navigation, we managed to integrate and turn our ideas to reality.

Ip Ching Tung

This programme provided me with great opportunity to explore more about STEM application. I learnt more about Arduino and GeoGebra through attending workshops. I believe that all those can be used to enhance and improve my teaching strategies in the future.

Mak ka Wai

USTEMIST provides me with a precious chance to implement my IT skills to a real world situation. I would like to express my special thanks to my advisors (Nicole & Betsy) and groupmates.

Li Kwok Fai, Desmond

USTEMIST gives me some opportunities to learn more about different type of new knowledge applied in education like VR and aurdino.

Hui Ka Hei, Edward

Conclusion and recommendations

❖ Created a raw prototype to give road suggestion based on some open source data

❖ Improvement:
- self annotate the dataset to get better performance in traffic detection
- Add more open source data to enrich function