ECE143
Project Proposal

Group 18

Problem: Parking availability and utilization at UCSD.

Dataset: UCSD Parking Availability Survey Data
We are using data from the UCSD Transportation Services website and it has statistics about the parking spaces usage averaging in quarters, hourly time and type. It also categorized the statistics data by area, location, neighborhood and parking lot. The data we are using can be divided into three parts:

1. Parking space data from the previous year (2014-2015). We are using previous year parking space data to provide an overview of how many parking spots are there on UCSD campus and how they are being used. We plan to use all the categories - location, area, neighborhood, and parking lots to show the parking spots distribution and usage over UCSD campus.
    a. http://rmp-wapps.ucsd.edu/TS/Survey/Survey%20of%20Parking%20Space%20Occupancy%20Levels/Historical%20Tables%20and%20Charts/Contents.html

2. Parking space data from the last two quarters. With the data from the last two quarters, we can show the reader the latest parking space usage and also the changes from 2014-2015 to now.
    a. https://transportation.ucsd.edu/_files/parking/Winter2019ParkingAvailabilityData.pdf
    b. https://transportation.ucsd.edu/_files/parking/Spring2019ParkingAvailabilityData.pdf
3. Parking space data gathered for the first two weeks of this quarter. Those timely-sensitive data can be used for telling people the most recent parking space distribution and usage.
    a. https://transportation.ucsd.edu/_files/parking/Fall19Week1Summary.pdf
    b. https://transportation.ucsd.edu/_files/parking/Fall19Week2Summary.pdf

Proposed Solution and Real world Application:
With the size of the UCSD campus and the many different lots to choose from, it can become overwhelming driving around the campus trying to find a spot when most of the lots are full. It would be nice to know what areas of the campus are the best to park at depending on the time of day, and what lots have the closest available parking to the center of campus. The real world application of this would be an addition to the UCSD parking website that would recommend the closest parking lot to the campus based on parking type and time of day.

From the school's perspective, this type of data collection gives insight to how the lots around campus are being used through the day and how to better distribute the availability of parking spot types (A, B, S, V) to improve parking efficiency for the campus.

To achieve this, the data we have found will be organized by the availability of open parking spots by spot type that are the closest to the center of campus depending on the time of day.

Project Steps:

Steps	Estimated completion time	Person(s) in charge (among the group of 3)
1. Get all data into CSV files	10/24 to 10/29	Jiajun
2. Add distance or coordinates of each lot	10/30 to 11/4	Matthew
3. Organize data in a hierarchy by spot type	11/5 to 11/11	Kasidech, Hao
4. Visualize usage of spot type by quarter	11/12 to 11/18	Hao, Jiajun
5. Functionality to find closest spot depending on time	11/19 to 11/25	Matthew, Kasidech