MELBOURNE CITY COUNCIL

Our project is based on three different datasets related to Melbourne CBD and mainly we will focus on visualising on how pedestrian count is changed before and after covid restrictions and also how climate change is causing the effect to the people and what measures should be taken by the people if they visit the places that are prone to covid red zone areas.

Datasets that my squad is working

Car park restriction dataset
https://data.melbourne.vic.gov.au/Transport/On-street-Car-Parking-Sensor-Data-2020-Jan-May-/4n3a-s6rn

pedestrian data
https://data.melbourne.vic.gov.au/Transport/Pedestrian-Counting-System-2009-to-Present-counts-/b2ak-trbp

https://data.melbourne.vic.gov.au/Transport/Pedestrian-Counting-System-Sensor-Locations/h57g-5234

microclimate readings
https://data.melbourne.vic.gov.au/Environment/Microclimate-Sensor-Readings/u4vh-84j8

microclimate data reading locations
https://data.melbourne.vic.gov.au/Environment/Microclimate-Sensor-Locations/irqv-hjr4

My role for this project

ITERATION-0

In this iteration I have worked in finalising the datasets and as well as worked for creating the user stories for the **On streetcar Parking space:**

User Story 1: As an analyst, I need to see the busiest parking area before covid 19 and after covid 19, so that I can understand city movement at that time.

User Story 2: As an analyst, I need to see the peak time of busiest parking area before covid 19 and after covid 19, so that I can understand city movement at that time.

User story 3: As an analyst, I need to the see the total number of parking's provided by city council in different streets of their respective area, so that I can understand that how many cars can be parked in street at a time.

User Story 4: As an analyst, I need to see the weekday and weekend trend of parking areas before covid 19, so that so that I can understand city movement at that time.

User Story 5: As an analyst, I need to see the weekday and weekend trend of parking areas after covid 19, so that I can understand the impact of covid 19 in city movement.

User Story 6: As an analyst, I need to see the trend of parking areas during office hours before covid 19, so that so that I can understand city movement at that time.

User Story 7: As an analyst, I need to see the trend of parking areas during office hours after covid 19, so that I can understand the impact of covid 19 in city movement.

User Story 8: As an analyst, I need to see the areas or streets where individuals violate the rules before covid 19 and after covid 19, so that I can understand which area is need to monitor.

dataset that I got allocated along with one of the team members.

ITERATION-1

In second iteration to start the project my team divided the roles and assigned the tasks to each of them.

In that my role is to do data wrangling for one of the data set called on-streetcar parking and this data set is related to car parks sensors in Melbourne CBD areas.

https://data.melbourne.vic.gov.au/Transport/On-street-Car-Parking-Sensor-Data-2020-Jan-May-/4n3a-s6rn
Bit-bucket link for the on streetcar parking python
https://bitbucket-students.deakin.edu.au/projects/D2IC-PG/repos/d2i---melbourne-city_2020t2/commits/dc5ef96ef2cae862994b767b82f33014ec64c6ef#cleaned_on_street_car_parking_data.ipynb

Below is the code for data cleaning that I have used for this data cleaning process.

```
import pandas as pd
import numpy as np
```

```
file = 'On-street_Car_Parking_Sensor_Data_-_2020__Jan_-_May_1'
```

```
df = pd.read_csv("C:/Users/ramesh-pc/Desktop/On-street_Car_Parking_Sensor_Data_-_2020__Jan_-_May_1.csv")
```

```
df
```

```
df.columns   ### name of the columns
```

```
df.isnull().any()  ####  ull values in each column
```

```
df.isnull().sum() ### sum of null values for each column
```

```
df.isnull().sum().sum()   #### sum of all the null values
```

```
df.shape  ### data shape
```

```
df.dtypes   ### data type for each column
```

```
df['DepartureDateTime'] =  pd.to_datetime(df['DepartureTime'], infer_datetime_format=True)
###converting into date time format
```

```
df['ArrivalDateTime'] =  pd.to_datetime(df['ArrivalTime'], infer_datetime_format=True)
#####cponverting into arrival time format
```

```
df['ArrivalDateTime'] ### printing the arrival date time
```

```
import datetime as dt
#######moving the data and month to seperate columns
df['DepartureMonth'] = df['DepartureDateTime'].dt.month
df['ArrivalMonth'] = df['ArrivalDateTime'].dt.month
df['DepartureDay'] = df['DepartureDateTime'].dt.day
df['ArrivalDay'] = df['ArrivalDateTime'].dt.day
```

```
####converting the data type to string
df['DepartureMonth'] = df['DepartureMonth'].astype(str)
df['ArrivalMonth'] = df['ArrivalMonth'].astype(str)
```

```
###replacing the numeric values of each month to name of the month(departure)
df["DepartureMonth"].replace({"1": "January", "2": "February","3": "March", "4": "April", "5": "May"},
                                inplace = True)
```

```
###replacing the numeric values of each month to name of the month(Arrival)
df["ArrivalMonth"].replace({"1": "January", "2": "February","3": "March", "4": "April", "5": "May"},
                                inplace = True)
```

```
### hourly based ####
df['hour'] = round(df['DurationMinutes'] / 60,2)
```

```
df['hour']
```

```
###### moving time in separate columns
df['DepartureTime'] = df['DepartureDateTime'].dt.time
df['ArrivalTime'] = df['ArrivalDateTime'].dt.time
```

```
df['ArrivalTime'],df['DepartureTime'] ####printing the arrival time and departure time values for all the records
```

```
df['ArrivalMonth'].unique() ###showing the data of months we have ###
```

```
df.drop(df[df['DepartureMonth'] == '9'].index,inplace = True) #####removing the unwanted data ####
```

```
df.to_csv('onstreet_car_parking_cleaned_data.csv', index=False) ######saving the cleaned data to new csv file
```

I have done data wrangling for this dataset one of my teammate helped me in completing that task and finally I completed the task and submitted

ITERATION-2

In this I have completed the visualization for six different scenarios using the on-streetcar parking datasets. I also completed the Ontrack tasks before due date that are assigned .I have submitted the bitbucket link of my tableau visualizations of 6 different scenarios

https://bitbucket-students.deakin.edu.au/projects/D2IC-PG/repos/d2i---melbourne-city_2020t2/commits/23b9f259b62c4decc305dec5bfc704e6a76dc2a3#visualization%20for%206%20different%20scenarios%20of%20onstreet%20car%20parking.twb