Team 4: Project goal and dataset

**Topic:**

Predictive Analytics on Bike Preferences in the Bay Area: Classic vs. E-bikes

**Goals of the project:**

Identify pattern in the choice between classic bikes and e-bikes for shared bikes in San Francisco/Bay Area

* Exploratory analysis of the historical data
* Prediction for riders' choice on different bike types
* Prediction on the demand of different bike types per region

**Value Generation for the Business:**

1. Company can adjust bike placement based on demand

2. Company can adjust pricing strategy for non-member unlock fee/cost per minute fee

3. Identify pattern in membership, which provide insight for user attraction/membership conversion

4. Predict the demand according to different factors, such as season, temperature, humidity, rain, weekdays, holidays, and more.

5. Descriptive analysis of geographical popularity, average trip length, average trip distance, etc.

6. Provide insights on usage of classic bikes versus electric bikes

**Datasets:**

- Lyft (Bay Wheels's trips) dataset: <https://www.lyft.com/bikes/bay-wheels/system-data>

Description: Anonymized Bay Wheels's bike trip data from 2017 to 2023.

- San Francisco weather dataset: https://meteostat.net/en/place/us/san-francisco?s=72494&t=2018-01-01/2023-10-10

Description: Historical weather data in San Francisco. Contains data on minimum/maximum/average temperature, humidity, wind speed, etc.

- US Federal Holidays: <https://www.opm.gov/policy-data-oversight/pay-leave/federal-holidays/#url=Historical-Data>

Description: A list of federal holidays in the US.

- Elevation Contours: <https://data.sfgov.org/Energy-and-Environment/Elevation-Contours/rnbg-2qxw>

Description: The elevation contours with a five-foot interval for San Francisco mainland and Treasure Island/Yerba Island. Gives information on longitude, latitude and the elevation of San Francisco area.