Dublin Bikes Availability Web

A Dublin Bikes Availability Web Application

Duration: Jan 2023 - Mar 2023

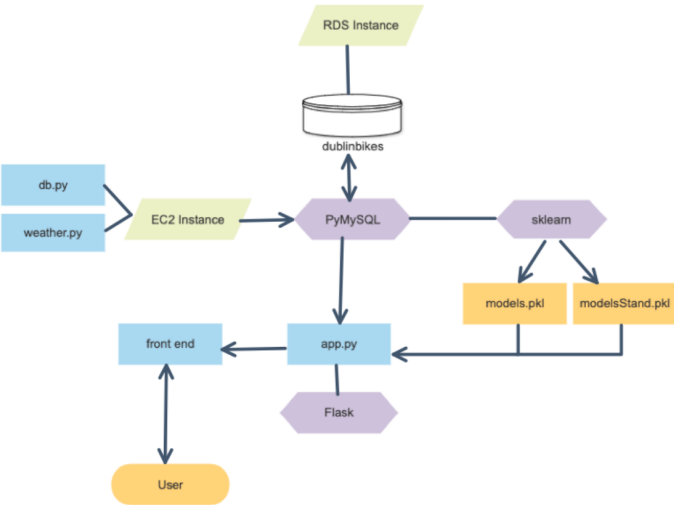| Frontend	Backend	Prediction
HTML, CSS, Javascript	Python + Flask, MySQL + AWS RDS	Python, Jupyter Notebook

About the Web App

The main objective of the website is to show the user information about the bike stations (the past data and prediction of bike availability). The application serves as an accompanying website for the main Dublin Bikes website (https://www.dublinbikes.ie/en/home). The user would be able to search for bike stations, see real-time information about a bike station, and see historical data about stations as well as bike station predictions.

The website includes a large map area and users can click to show bike stations available across the map. When clicking on individual stations, there will be further details of the bike station, stating the real-time information of the stations. Users can also see the average past data of the bike stations. There is also a journey planner form that receives the starting station location and the destination station, with the day and time. Then, a prediction of the available bikes at the starting bike station, and a prediction of available bike stands at the destination station will be shown.

Technology Structure

This is a full-stack project that was hosted on AWS EC2, with the database hosted on AWS RDS. The front end is coded in Javascript and communicates with the Python backend through the Flask framework. There is a machine learning model trained and deserialised onto the web page to show dynamic bike prediction based on weather and time input.

Screenshot of Dublin Bikes