# Proposal: Data Visualization Project with Pokémon Data

## Introduction

In this proposal, we present a data visualization project using data from the popular Pokémon franchise. The goal of the project is to create an interactive web application that allows users to explore and analyze information about individual Pokémon. To achieve this, we will develop a Python Flask-powered API, utilize HTML/CSS and JavaScript for front-end; development, and incorporate a database (SQLite) to store and retrieve the Pokémon data. The project will also feature user-driven interaction, multiple views, and at least one JavaScript library not covered in the course.

## Project Overview

### Objective

The primary objective of our project is to create an engaging and informative data visualization platform centered around Pokémon data. Users will be able to select a Pokémon from a dropdown menu and view various visualizations and statistics related to that Pokémon.

### Dataset

We will utilize a Pokémon dataset with a minimum of 100 records. The dataset will include essential attributes such as name, type, abilities, base stats, and more for each Pokémon. The dataset will be stored in a SQLite database to ensure seamless data retrieval and manipulation.

### Technology Stack

Our project will be developed using the following technology stack:

- Python Flask: For creating the backend API to handle data requests and responses.

- HTML/CSS: To design the user interface and layout.

- JavaScript: To implement dynamic interactions and visualizations on the frontend.

- SQLite: As the database to store Pokémon data.  
  
- Javascript library we haven’t used –??  
maybe fonts  
- Plotly

### Features and Views

1. \*\*Dropdown Selection/Search\*\*: Users can select a Pokémon from a dropdown menu, triggering data retrieval for the selected Pokémon.

2. \*\*Pokémon Profile View\*\*: Users will see detailed information about the selected Pokémon, including its type, abilities, and base stats, displayed in a visually appealing manner.

3. \*\*Type Distribution Chart\*\*: A chart showcasing the distribution of different Pokémon types in the dataset, allowing users to understand the diversity of Pokémon types.

4. \*\*Stat Comparison\*\*: An interactive visualization comparing the base stats of the selected Pokémon with the average stats of all Pokémon.

5. \*\*Speed Chart\*\*: Where does the selected Pokémon fall in terms of speed vs all other Pokémon

## Project Timeline

- \*\*July 31 - August 1\*\*:

- Set up the project repository and communication channels (Slack, GitHub).

- Collect and clean the Pokémon dataset.

- Design the basic frontend layout using HTML/CSS.

- Implement the Flask API for data retrieval and manipulation.

- \*\*August 2 - August 4\*\*:

- Continue frontend development, incorporating user-driven interaction elements (e.g., dropdowns).

- Integrate D3.js for interactive visualizations.

- Develop the Pokémon dropdown selection and data display features.

- Begin working on the Type Distribution Chart and Stat Comparison View.

- \*\*August 5 - August 7\*\*:

- Finalize the Type Distribution Chart and Stat Comparison View.

- Implement the Speed Chart.

- Perform thorough testing and resolve any bugs or issues.

- Create project documentation for future reference.

- \*\*August 8 - August 9\*\*:

- Conduct additional testing to ensure application stability and responsiveness.

- Fine-tune the user interface and visual elements.

- Prepare and practice the project presentation.

- Finalize the project documentation.

- \*\*August 10\*\*:

- Submit the completed project, including all code, documentation, and presentation.

By following this revised timeline, we will complete the project and be ready to submit it on the 10th of August. It allows sufficient time for development, testing, and documentation, ensuring a successful and on-time delivery.

Please let me know if this revised timeline aligns with your requirements or if you have any further adjustments or specific preferences for the project. We are committed to delivering a high-quality data visualization project within the given timeframe.