**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 frontend 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. **Move Distribution Chart**: A chart displaying the distribution of move types that the selected Pokémon can learn. Each bar in the chart represents a move type, and the height of the bar indicates the number of moves of that type that the selected Pokémon can learn.
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 Move Distribution Chart and Stat Comparison View.
* **August 5 - August 7**:
  + Finalize the Move 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.