Project 3

<div style="border: 1px solid red;">Start Assignment</div>

- Due Mar 4 by 11:59pm
- Points 100
- Submitting a text entry box or a website url

Data Visualization Track Requirements (75 points)

Data and Delivery (20 points)

- The dataset contains at least 100 unique records. (5 points)
- A database is used to house the data (SQL, MongoDB, SQLite, etc.). (5 points)
- The GitHub repo has a README.md that includes the following: (10 points)
  - An overview of the project and its purpose
  - Instructions on how to use and interact with the project
  - At least one paragraph summarizing efforts for ethical considerations made in the project
  - References for the data source(s)
  - References for any code used that is not your own

Visualizations (25 points)

- A minimum of three unique views present the data. (10 points)
- The visualizations are presented in a clear, digestible manner. (5 points)
- The data story is easy to interpret for users of all levels. (10 points)

Usability (30 points)

- The script, notebook, or webpage created to showcase data visualizations runs without error. (10 points)
- A Python or JavaScript library not shown in class is used in the project. (10 points)
- The project includes some level of user-driven interaction, conforming to one of the following designs: (10 points)
  - HTML menus, dropdowns, and/or textboxes to display JavaScript-powered visualizations
  - Flask backend with interactive API routes that serve back Python or JavaScript created plots
  - Visualizations created from user-selected filtered data

Data Engineering Track Requirements (75 points)

Database Design (40 points)

- The project uses ETL workflows to ingest data into the database. (10 points)

- The original dataset(s) are transformed prior to storing it in the database. (5 points)

- A database is used to house the data (SQL, MongoDB, SQLite, etc.). (5 points)

- The database has at least two tables (SQL) or collections (NoSQL). (5 points)

- The project documents the choice of the database used and why. (5 points)

- The project includes documentation of the ETL workflow with diagrams or ERD. (10 points)

Data and Delivery (35 points)

- The database contains at least 100 unique records. (5 points)

- The project uses one additional library not covered in class related to data engineering. (10 points)

- The project includes a method for reading data from the database and displaying it for future use, such as: (10 points)

  - Pandas DataFrame

  - Flask API with JSON output

- The GitHub repo has a README.md that includes the following: (10 points)

  - An overview of the project and its purpose

  - Instructions on how to use and interact with the project

  - At least one paragraph summarizing efforts for ethical considerations made in the project

  - References for the data source(s)

  - References for any code used that is not your own

Both Track Requirements

Group Presentation (25 points)

- All group members speak during the presentation. (5 points)
- The content is relevant to the project. (5 points)
- The presentation maintains audience interest. (5 points)
- Content, transitions, and conclusions flow smoothly within any time restrictions. (10 points)

Requirements for Projects that Began Before 12/15/2023

Data and Delivery (25 points)

- Data components used in the project are clearly documented. (5 points)
- The dataset contains at least 100 unique records. (5 points)
- A database is used to house the data (SQL, MongoDB, SQLite, etc.). (5 points)

- The project is powered by a Python Flask API and includes HTML/CSS, JavaScript, and the chosen database. (10 points)

Back End (25 points)

- The page created to showcase data visualizations runs without error. (7.5 points)
- A JavaScript library not shown in class is used in the project. (7.5 points)
- The project conforms to one of the following designs: (10 points)
  - A Leaflet or Plotly chart built from data gathered through web scraping
  - A dashboard page with multiple charts that all reference the same data

Visualizations (25 points)

- A minimum of three unique views present the data. (5 points)
- Multiple user-driven interactions (such as dropdowns, filters, or a zoom feature) are included on the final page. (5 points)
- The final page displays visualizations in a clear, digestible manner. (5 points)
- The data story is easy to interpret for users of all levels. (10 points)

Group Presentation (25 points)

- All group members speak during the presentation. (5 points)
- The content is relevant to the project. (5 points)
- The presentation maintains audience interest. (5 points)
- Content, transitions, and conclusions flow smoothly within any time restrictions. (10 points)

Grading

This assignment will be evaluated against the requirements and assigned a grade according to the following table:

Grade	Points
A (+/-)	90+
B (+/-)	80−89
C (+/-)	70−79
D (+/-)	60−69
F (+/-)	< 60

Submission

To submit your project, click Submit, and then provide the URL of your GitHub repository for grading.

> **NOTE**
>
> Projects are requirements for graduation. While you are allowed to miss up to two Challenge assignments and still earn your certificate, projects cannot be missed.

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