Project 2 Dashboard ReadMe

PROJECT OVERVIEW

This project delivers a dynamic data dashboard for Grazioso Salvare that uses Python, MongoDB, and the Dash Framework. The dashboard allows users to filter and view animal data, that includes search features by breed, job requirements, and adoption status. The map displays the location of the dog, and the pie chart organizes the dogs for the type of job based on breed.

TOOLS USED

MongoDB-

We selected it for its flexibility as a database, that allows the easy storage of data and querying of semi-structured animal records. It’s compatibility with Python via pymongo made the overall integration of the scripts necessary for the dashboard very easy.

* Stores animal shelter data i.e.: breed, age, status.
* Enables filtering queries to display real time dashboard updates.
* Scalable document based storage system

Dash by Plotly-

Dash was used as the web framework for building the dashboard.

* Efficient in creating interactive dashboards with Python.
* Allowed Seamless integration of HTML, user inputs, and data visualizations.
* Provides responsive and interactive web elements with html modules

PROJECT STEPS

1. Setup the database: Connect to MongoDB instance and populate it with the animal records.
2. Setup the programs logic: Developed Python classes and methods to handle CRUD operations and data retrieval.
3. UI Design: Create a Dashboard layout with input fields, filters, and visual output elements.
4. Testing- Deployed in Jupyter notebook and validated the required functionality.

CHALLENGES AND SOLUTIONS.

Challenge 1:

* Authentication Issues: Fixed the variables being passed in order to initialize the connection to the database.

Challenge 2:

* Results Issues: Data was not being displayed correctly when querying the database, fixed once by dropping the “\_id” column, then the second time ensuring that variables were being called in the correct order.

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A screenshot of a computer screen

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Resources used:

Head First Python: <http://bit.ly/43Xx3us>

Dash Documentation: <https://dash.plotly.com/>

MongoDB Documentation: <https://docs.mongodb.com/>

Python Style Guide: <https://peps.python.org/pep-0008/>

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See my other projects:

<https://github.com/ZachA-SNHU>