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CS340 Project 2 Readme

Project Two: Animal Shelter

I built this application to highlight my ability to connect a database to python files to run CRUD (Create, Read, Update, Delete) operations and generate a dashboard from the relevant data. I used the database ‘Animals’ from the CS 340 codebase and the AAC database along with filtering and graph code plugins to locate animals for search and rescue operations.

Motivation:

My motivation with this project was to test my skills learned throughout this course and my computer science major studies at SNHU to tie in my database usage with Mongo DB, my Python code skills, and using the Apporto user interface with Jupyter notebooks and other code libraries and plugins to create a comprehensive application that met current coding standards in production.

Getting Started:

To initiate this application follow these steps:

1. Open your terminal inside your development environment.
2. Connect to Mongo DB with the command ‘mongosh’
3. Import the csv file ‘aac\_shelter\_outcomes.csv’ using the mongo import tool
4. Create a sample index to parse the data stored inside the csv file
5. Authenticate a user inside the AAC database to give read and write privileges for the CRUD operations and connected Animals collection
6. Connect to the relevant database using your credentials for ‘Username, Password, Host, and Port’
7. Run the application via the Jupyter Notebook inside your code complier.
8. Open the dashboard from the generated link.

Installation:

Make sure to have current versions of Python, Jupyter Notebook, PyMongo, Dash, Plotly libraries to successfully run the application. These should be preinstalled in your environment or can be updated/installed from your terminal.

Usage and Code Screenshots:

Water Rescue:

A screenshot of a computer

Description automatically generated

Mountain/Wilderness Rescue

A screenshot of a computer

Description automatically generated

Disaster Rescue

A screenshot of a computer

Description automatically generated

Reset:

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Description automatically generated

These screenshots highlight the functionality of all 4 of the buttons to filter the results to show relevant pets from those parameters. Note: I had to zoom out to capture the whole dashboard for these screenshots. The Dash library helped me visualize the results with a relevant table, map chart showing the pets location, and a bar graph to show the number of pets to that filter.

Here is a screenshot showing the logo and my unique identifier.

A screenshot of a computer

Description automatically generated

Challenges:

While working this project I had many challenges configuring my connection schema to the database and it took a lot of debugging and testing to get the dashboard to render as intended. I still could fine tune this project a bit more with more development time. I had to use code from prior modules along with utilizing my tutoring resources to help compile my code as intended.