README

Animal Shelter Project:

This application is built to allow users to access an animal database to search and filter animals. The project allows the client, Grazioso Salvare to create a program to search, identify, and categorize dogs based upon their specific traits listed in the database.

Motivations:

The program was created to allow the Grazioso Salvare company to filter dogs based upon the information created and added to the database as they pursue training dogs to save lives. Motivations for the creation of the project include helping people across the world, creating a stable and usable database for people, and developing a user-friendly site which allows the user to reach their goals and search quickly.

Getting Started:

To use the program you must

1. Correctly import the CSV file into your program
2. Correctly enter your server username and password
3. Install Python and JupyterNotebooks
4. Run the program after connecting
5. Select the options you want upon entering the server, filtering based on your needs.

Installation:

You must have MongoDB, Juypiter Notebook, and the latest version of Python to successful access the database, and run the .ipynb and .py files necessary for this program.

Usage:

The code of this project allows users to filter animals based upon their wants for rescue purposes. The project allows users to adjust based upon their needs and view data points on the animals based on their features and locations.

Tools used:

MongoDB and the Dash framework was used to create this project. MongoDB was used due to its speed and easy to use scalability to allow for quick searches on animals, that scales well with the sheer amount of them. It also works well with dynamic features, allowing for the datapoints it contains to be visualized well.

Dash framework was used for its compatibility with Mongo and Python, and was used to visualize the datapoints as well. It allows for interactivity with great speed. Using both of these frameworks is key, as both together are the only way to create a database that can be interacted upon visually. Dash allows for the interaction, while Mongo stores all the data for it to use in a flexible manner.

Steps:

The steps taken in this project involved defining the models we see by using Mongo, and then getting them to actually work and filter through the AnimalShelter class. I then created the layout using the dash framework to visualize the models in a filterable interactive way. I then had to fix multiple bugs with the data frame commands and get my password and username to actually work through the AnimalShelter initialization. After this I had to test that the menus were actually interactive and filterable.

The biggest challenge I faced was the writing of the code to get the animals to filter. At first, I did not realize that a list of breeds wanted for purposes was actually listed already, so I was lost for a bit trying to make things up. I then realized there was a list provided which made the process a lot quicker and allowed me to write better code than I was making. I also ran into trouble when trying to figure out a layout. I knew I had a good baseline from the previous modules, but when choosing a graph and sizing the image, I wasn’t sure how I wanted to approach it. I decided to make the image fairly small as to not detract from the menu options, and keep my chart simple with its options.

Reset

A screenshot of a computer

Description automatically generated

Water

A screenshot of a map and a pie chart

Description automatically generated

Mountain

A screenshot of a map

Description automatically generated

Disaster