Ericka Resendez

Southern New Hampshire University

CS-340 Client/ Server Development

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# Project Two README

## About the Project/Project Title

## This project is a data visualization dashboard developed for Grazioso Salvare, an animal rescue organization. Grazioso Salvare is searching for and identifying dogs that are good candidates for search and rescue training from five animal shelters in the region of Austin, TX. The dashboard provides interactive filtering and visualization of animal data stored in MongoDB using a pie chart and geolocation to aid in selecting suitable rescue dogs for various operations, such as water rescue, mountain/wilderness rescue, and disaster/individual tracking. The dashboard filters by gender, breed, and age to choose the best candidates.

## Motivation

The motivation for this project is to develop an interactive dashboard for Grazioso Salvare. This interactive dashboard will allow the client to help identify dogs for search and rescue training that will help rescue animals and humans.

## Getting Started

To get a local copy up and running, follow these simple steps:

1. Have MongoDB, Python, and Jupyter Notebook installed.
2. Update AnimalShelter class with appropriate credentials.
3. Import csv file aac\_shelter\_outcomes.csv, if necessary, using monogimport.
4. Create a Python file to begin enabling CRUD functionality for the database to get started.
5. Launch Jupyter Notebook to begin with interactive dashboard.

## Installation

MongoDB:

1. Download MongoDB using the MongoDB Install page and can be found at <https://www.mongodb.com/docs/manual/installation/>

Python Libraries:

1. Install Python if not installed. This article is from Python.Land has instructions for installing Python on Windows, MacOS, and Linux: <https://python.land/installing-python>
2. Ensure pymongo is installed to interact with MongoDB using the pip install pymongo command.

JupyterDash:

1. Jupyter Notebook can be installed using the pip install notebook command.
2. The Jupyter Install page has further instructions and can be found at <https://jupyter.org/install>

Dash Leaflet:

1. Install Dash Leaflet to view the animal’s location, it is an interactive map. You can do this by using the command pip install dash-leaflet. Further information can be found at: <https://www.dash-leaflet.com/docs/getting_started>

## Usage

### Code Example

This project utilizes the aac\_shelter\_outcomes.csv and the CRUD functionality (create, read, update, and delete records). To ensure the dashboard is interactive, we use def update\_dashboard(filter\_type), def update\_map(viewData, index), and def update\_graphs(viewData) to dynamically respond to the filtering options. This project also makes use of radio items as interactive filtering options.

Create method to insert a new animal into the database.

A screen shot of a computer code

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Read Method to find and display animal data.

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Update Method to update any information from an existing animal in the database.

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Deletion Method to find and delete an existing animal, or many animals from the database.

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Ensuring to use the Grazioso Salvare logo and include a URL anchor tag to the client’s home page.

Using Radio Items to create interactive filtering options for dogs in water rescue, mountain or wilderness rescue, disaster rescue or individual tracking, and a reset button.

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Utilizing the radio item filtering options, ensure the preferred dog breeds, age, and gender for different rescue types are specified and will be displayed correctly when the different filtering options are chosen.

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The update graph section specifies how the graph should look and what it should contain when different interactive filtering actions are chosen.

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The update map section ensures the client can see the exact location of the animals.

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### Screenshots

Results:

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*A screenshot of a map

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## Contact

Your name: Ericka Resendez