# CS 340 README

## About the Project/Project Title

This dashboard serves as a way to explore a full stack system using mongodb for database services, python scripts to enable CRUD abilities with the database server, and Dash as a front end to view/query data from the server. In the given scenario, this program is written for the client Grazioso Salvare to assist with their animal rescue endeavors.

## Motivation

This project exists as a way to explore how Python scripting can be used to provide CRUD capabilities to a mongo database outside of the mongo shell. This project also explores how the Dash libraries for Python can serve as a front end for users to interact with the mongo server.

## Getting Started

First, make sure that both the ProjectTwo.ipynb and Animal\_Shelter.py files have downloaded and are in the same folder as one another. Next, make sure that your MongoDB server is running.

## Installation

A recent version of Python will be needed to use the library, which can be found [here](https://www.python.org/downloads/). Also, a database using mongo will be needed to benefit from this file. The free community version can be found [here](https://www.mongodb.com/try/download/community). Once your MongoDB server is running, open the Animal\_Shelter.py file in your preferred text editor to confirm the username, password, and client fields match your server’s needs. By default the script uses the client “AAC”, username “aacuser”, and password “aacuserpwd”. Make any necessary changes, then save the file and close the text editor. At this point, the ProjectTwo.ipynb file can be run via Jupyter Notebook by opening the file in the program, selecting the cell containing the code, and clicking “run”.

## Usage

### Filtering Data

Pre-defined filtering options are built into the program and can be accessed by clicking on the appropriate radio button. By default, all data in the database will be shown, with the radio button “reset” selected, as shown below:



Clicking on another option will automatically update the data shown to match the filter, updating the pie chart and map as well.

### Screenshots

Here is the default view of the program once loaded:

Chart

Description automatically generated with low confidence

The map pin shows the location of the first animal on the list. Clicking on the pin will then display the animals name if available, and hovering the cursor over the pin will show the animal’s breed:

Diagram

Description automatically generated

Here is a view of the Water Rescue option:

Graphical user interface

Description automatically generated with medium confidence

Here is a view of the Mountain Rescue option:

A picture containing diagram

Description automatically generated

And here is a view of the Disaster Rescue option:

Graphical user interface, application

Description automatically generated

The pie chart gives a breakdown of the breeds in the given filter group by percentage. A key is provided on the right hand side for which breed corresponds to a given color, while hovering the cursor over a slice will bring up the matching breed name as well:

Chart, pie chart

Description automatically generated

On hover:

Chart, pie chart

Description automatically generated

## Contact

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