# CS 340 README

## Project Two – Animal Shelter

*This project was made to create a user-friendly GUI of displaying data from the animal shelter’s database with premade categories. The chart is sortable by ascension and descension by column and displays the location of the animal by selecting the row on the left that reflects on the geolocation map. It features a drop-down menu with preset parameters that will display percentages on an interactive pie chart below.*

## Motivation

*This project is motivated by the goal of creating a user-friendly system for being able to view the shelter’s records.*

## Getting Started

* *First, make sure both the .py and dashboard are in the same directory for this installation.*
* *In terminal, run mongosh command.*
* *Select admin database with use admin.*
* *Create a user with custom credentials (make sure to type out the command instead of copying and pasting to get correct whitespace.)  
  db.createUser {  
   {  
   user: “aacuser”,  
   pwd: “SNHU1234”,  
   roles: [ { role: “readWrite”, db: “aac” } ]  
   ]*
* *In terminal, use the mongoimport command to import the csv file aac\_shelter\_outcome.csv in the MongoDB using created credentials. (Make sure to type out the command instead of copying and pasting quotations don’t copy correctly.)  
  mongoimport --username="aacuser" --password="SNHU1234" --port=${MONGO\_PORT} --host=${MONGO\_HOST} --db AAC --collection animals --authenticationDatabase admin --type csv --headerline --file /usr/local/datasets/aac\_shelter\_outcomes.csv*
* *Now we login to Mongo using the created credentials.  
  Run   
  MONGO\_USER=aacuser  
  MONGO\_PASS=SNHU1234*
* *You can verify connection by using   
  printenv | grep -i mongo  
  mongosh  
  db.runCommand({connectionStatus:1})*
* *Open jupyter notebook and run the animal\_shelter\_test.ipynb file  
  (If you run into any server timeout or invalid path, run mongosh in terminal and check that the port matches in the animal\_shelter.py file in jupyter)*
* *Use jupyter and open the ProjectTwoDashboard.ipynb and run it.*
* *Use the web address in the output to access the dashboard.*

## Installation

* *Python – Latest Version used for developing the module  
  Python is choice due its ease of coding and how quickly it can be loaded and tested.*
* *MongoDB – Database for hosting the documents  
  We utilize MongoDB for its flexible schema design and compatibility with python.*
* *PyMongo – Python library for interacting with MongoDB  
  (Install or verify installation by running “pip install pymongo” in terminal)*
* *Pandas – Python library for manipulating and analyzing data  
  (Install or verify installation by running “pip install pandas” in terminal)*
* *Plotly – Python library for creating interactive visualizations   
  (Install or verify installation by running “pip install plotly” in terminal)*
* *Dash – Python library for creating interactive web applications with python with dynamic callbacks and compatibility with plotly  
  (Install or verify installation by running “pip install dash” in terminal)*
* *Jupyter Notebook – used as ide for developing python.*

## Usage

### Code Example

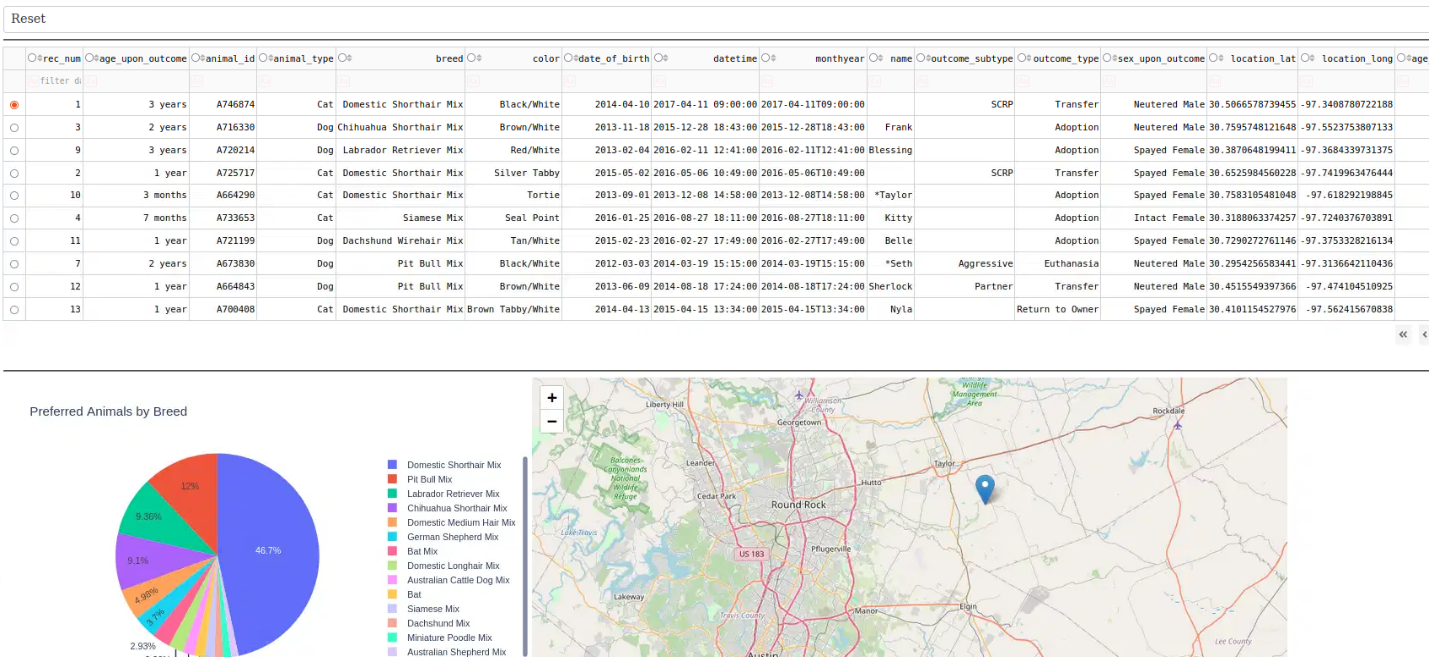
Custom Identifier and Brand Logo and Drop Down

**A screenshot of a computer

AI-generated content may be incorrect.**

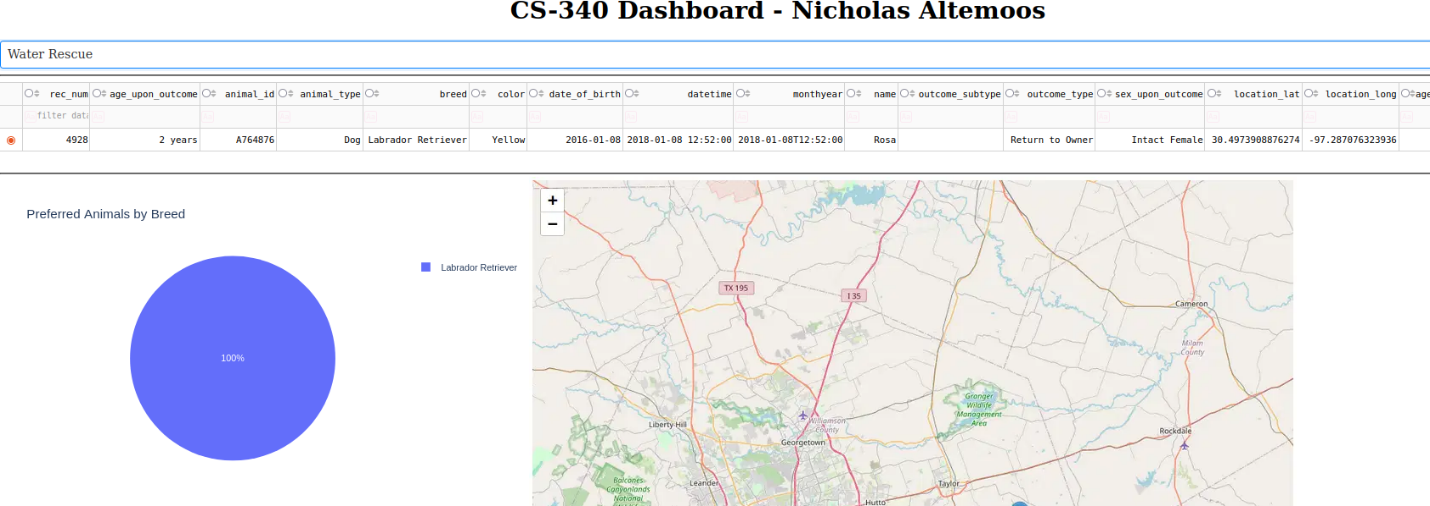
Default/Reset View

* How the data looks when it first loads and when the reset option is selected from the drop-down menu.



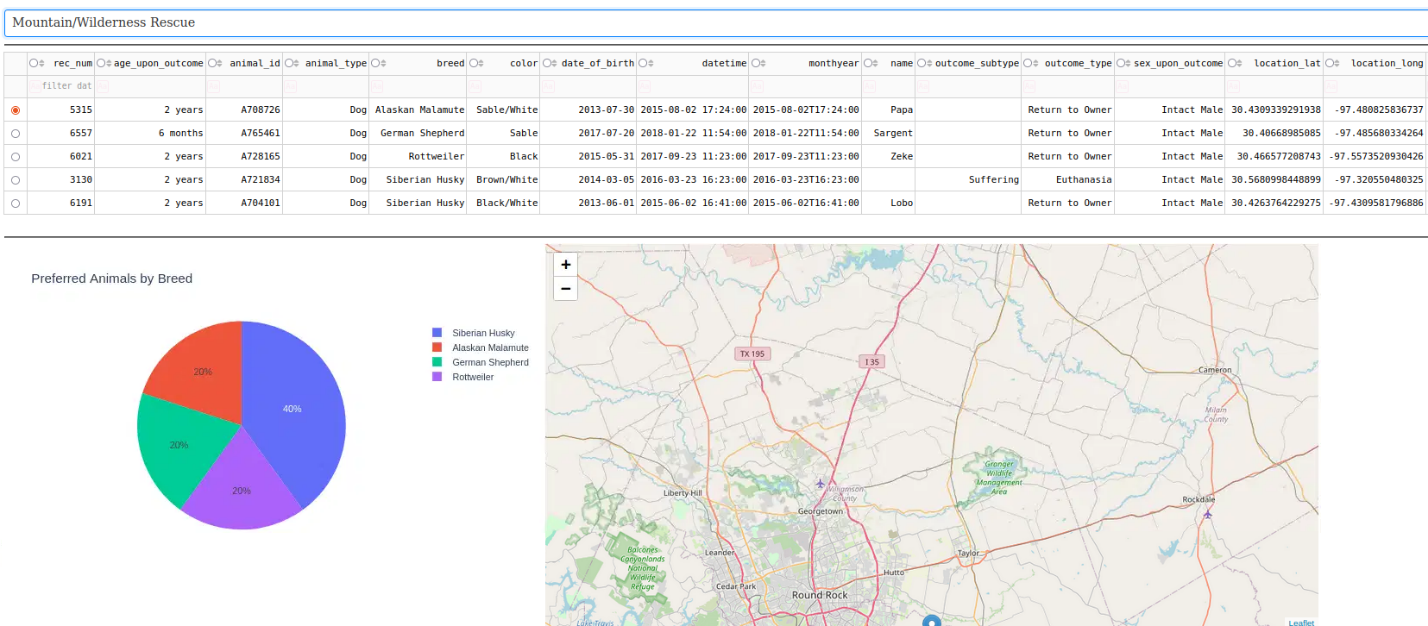
Water Rescue View

* Filters the search results to display only Intact females from 26 to 156 weeks from Labrador Retriever Mix, Chesapeake Bay Retriever, Newfoundland breeds.



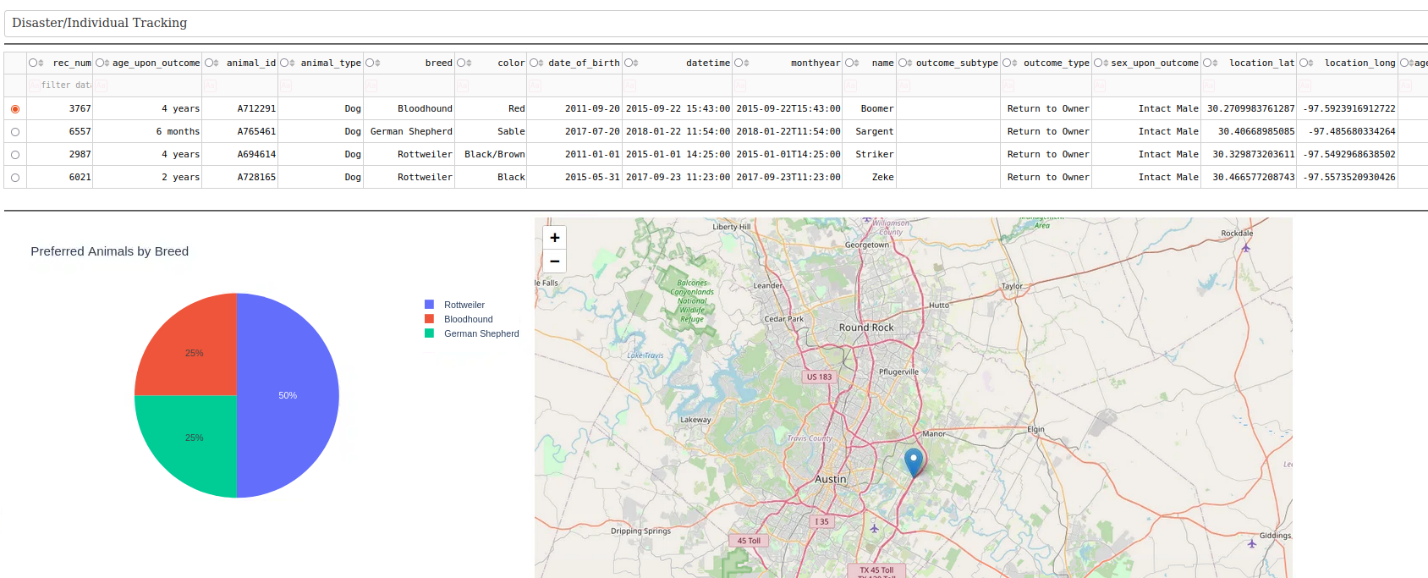
Mountain or Wilderness Rescue View

* Filters the search results to display only intact males from 25 to 156 weeks from German Shepherd, Alaskan Malamute, Old English Sheepdog, Siberian Husky, Rottweiler breeds.



Disaster or Individual Tracking View

* Filters the search results to display only intact males from 25 to 156 weeks from Doberman Pinscher, German Shepherd, Golden Retriever, Bloodhound, Rottweiler breeds.



## Challenges/Review/Comments

The key issues I had were getting the pie chart to interact with and update correctly which I resolved by researching more of the pandas and plotly systems. As well as making the pie chart more pleasing to the user since the amount of breeds made the chart unruly and unsightly, I reduced the default amount to fourteen to clarify the view.

## Contact Nicholas Altemoos