# CS 340 README – Devin Perry

## About the Project/Project Title

## In short, this project is about learning how to use an existing database and to develop software that can filter the data based on the information and categories in the database. In more detail, throughout this project I have learned how to use MongoDB to create administrator profiles and grant them certain roles and abilities depending on the account I created. Then I took the supplied database and imported it, which allowed me to handle the data. Once I had the data on my system, I created Python code that could add data to the database and then also read the data from the database depending on what I searched for in the code. Then, I added the functionality to update and delete the entries. After these features we complete, I moved forward creating a display that could show this information in a more pleasing way. It included the logo for Grazioso Salvar, an interactive data table, filters for the table, a pie chart to display some data, and a geolocation map to show where the pet is located.

## Motivation

## Grazioso Software approached us to create software that can filter the supplied database from animal shelters around Austin, Texas. We need to be able to load the supplied databases onto our system and then be able to filter them in order to find potential dogs to train. These dogs will be trained to be proficient in various kinds of rescue such as water, wilderness, or mountain rescues. The filters will be needed as only certain dogs will meet the criteria required to become a rescue dog. For example, training is more effective for those under two years of age, so a filter by age will be needed. This project will need to be open-source so it can be used for similar purposes later on.

## Getting Started & Installation

## To get this project up and running, you will need to follow a few example steps. First, you will need to find the supplier of the database you need and ensure it will be in the correct format. A good file type for this is a .csv file. Next, find a way to connect to Mongo. In my case I first used my terminal through my supplied virtual environment and typed in “mongosh”. However, I had some issues and manually installed the correct pieces on my personal computer. This required numerous steps like entering commands into my command prompt, downloading files my professor supplied me, and a few other complicated steps. The main programs I used were my command prompt, MongoDBCompass, and Visual Studio Code. Next you will need to learn how to create an admin profile that accepts a username and password. Once this is done, import the supplied database. Once the database is imported, you can write code in a .py file and then test the code using an .ipynb file. Depending on the complexity of the .ipynb file, you can eventually write code that can replicate what I had done. My code presented the list of animals in a pleasant way, that allowed the user to scroll through numerous pages of data. I also included filters to limit what the user can see, including a filter that only shows dogs, and one that only shows animals under 2 years of age. I also included a pie chart that displayed the percentage of dog breeds in the data set. Finally, a location map was included that would show where the pet is located.

## Usage

### A computer screen shot of a computer screen Description automatically generatedCode Example

The code to the right shows how I created the create and read functions from the CRUD acronym. It also shows my login information for my user.

### Tests

*A screenshot of a computer

Description automatically generated*The screenshot shown to the right shows my code that creates a pet named Oreo (named after my own childhood pet). Then the query is run to show Oreo’s information in the database.

### My Application Demonstrated

Beginning with title and image. Image shown is not cropped, but is only for the screenshot.

A black background with a pink line

Description automatically generated

Default filter applied to data table.

A screenshot of a computer

Description automatically generated

2 Years or Less filter applied to data table.

A screenshot of a computer

Description automatically generated

Only Dogs filter applied to data table.

A close-up of a document

Description automatically generated

Pie Table (the large amount of blue is the lines that show what percentage and what breed) and the location map.

A screenshot of a computer

Description automatically generated

## Contact

If you have any questions, please reach out to me using my contact information below.

Devin Perry

devin.perry1@snhu.edu