# CS 340 Project Two README

## About the Project/Project Title

The project is for the company Grazioso Salvare, who identifies dogs that are candidates for search and rescue training by working with animal shelters. They want a software application developed that will include a database and client facing web applications that will allow Grazioso Salvare’s users to view and filter data from the animal shelters that also includes a chart and geographical map.

## Motivation

Grazioso Salvare wants to develop this application to be able to get information from animal shelters they are in agreement with to identify dogs that would be good candidates for search and rescue training that would be quick and easy to use. This will allow them to help homeless dogs and help non-profit organizations.

## Getting Started

Using PyMongo allows for a connection to be made between MongoDB and Python along with CRUD. With the use of Plotly Dash, Pandas, and Dash Leaflet we can add widgets, graphs, maps, data tables, and queries for filtering data within the data table.

Follow these steps to get started

Open the terminal and start up MongoDB

Import the csv file aac\_shelter\_outcomes.csv,this file has the information about the animals in the shelters

Create an Admin account and a user account to access, add, update, and delete data to or in the database

Install an IDE for python coding language to be able to create,read,update or delete(CRUD) data from the database

Creating a ipynb file and using Python coding to create a data table to view the data from the database.

Adding the Grazioso Salvare logo

Adding code for widgets and radio buttons to help filter data.

Creating queries for filter specific data for the chosen radio button

Adding code for a graph (pie)

Adding code for geographical map

## Installation

Current versions of Python [link](https://www.python.org/downloads/)

Current version of MongoDB [link](https://www.mongodb.com/)

IDE compatible with your operating system

Current version PyMongo <https://pymongo.readthedocs.io/en/stable/installation.html>

Jupyter Notebook for testing code [link](https://jupyter.org/)

Import Plotly Dash [link](https://dash.plotly.com/)

Import Pandas

Import Leaflet

## Usage

The application will open up with a view of the data table with the data from the database, the Grazioso Salvare Logo, and radio buttons to filer specific types of animals with specific attributes for Water Rescue, Mountain or Wilderness Rescue, and Disaster or Individual Tracking. The user will also be able to filter and sort by typing in the attribute. A pie chart will display all of the animals within the data table or can be filtered depending on what is selected. When a record is selected, along with the pie chart, a geographical map will display with the location of that animal.

### Screenshots



## Pitfalls and Struggles

My main struggle throughout this project was filtering the queries I created to go along with the radio buttons I created. When I would choose a button, it should have filtered to the queried data. It took me a while to figure out the issue, that I later found out had to do with Pandas. It needed to be written in a different way than it would be for MongoDB. After rewriting the code in the Pandas format the buttons then filtered the data it needed to.

## Contact

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