# CS 340 README

## About the Project/Project Title

This project creates an entire database for a rescue animal training center. There are specific breeds of animals that are the best for this kind of work so this app aims to showcase these specific breeds.

## Motivation

Their goal is to use cats and dogs found in local shelters to train them to be rescue animals. It just so happens that the local shelters share this data in CSV format so it’s my job to create a data table that displays the data in several different ways. From a map, to a pie chart, to sortable excel style cells, this data table has it all.

## Getting Started

The app runs off a Dash web app. As long as the .py module and the .ipynb are in the same directory, you can run commands through it. You’ll also need the PyMongo and bson modules as dependencies as well as Dash, Numpy, Pandas, and Matplot.

## Installation

After you’ve loaded the dependencies, just unzip the folder, change the username, password, host, and port fields, and run the .ipynb file.

## Usage

### Code Example

**Class AnimalShelter():** This class has one constructor that initializes the connection to the database. This class contains the CRUD methods.

**create(data):** This method takes a dictionary as input and adds it as a document to the database.

**read(keystr, value):** This method takes two string parameters, the first being the key, the second being the value to the key. The method queries the database for the key-value pair, and then prints all applicable documents.

**update(keyStrFind, valueFind, updateKeystr, updateValue):** This method is used to update a document in MongoDB. This method has four parameters , the first being the key, the second being the value to the key, third being the updated key, and the fourth, the updated value. The first two arguments are used to find the document to be updated. While the last two arguments either add to, or replace the values in the document.

**delete(keyStrFind, valueFind):** This method takes two parameters

### Tests

I’ve run manual tests on the code to make sure it works. To make things simple, I’ve hardcoded every value. This has helped me debug my software to ensure that it works as intended. The following screenshots display the outcome of my testing, proof that the software works flawlessly.

### Screenshots

*A screenshot of a computer

Description automatically generatedA screenshot of a map

Description automatically generated*

## Roadmap/Features

I wish I could have tested it more. I’m sure there are quite a few bugs that will pop up in the future. I also wish I could improve the functionality of the pie chart. I would also like to add more functionality to the data table to make it more customizable such as row selection and deletion.

## Contact

Your name: B. Isaac Medina