# CS 340 README

## About the Project/Project Title

This project is for Grazioso Salvare, a company that identifies dogs that are good candidates for search-and-rescue training. They want to be able to efficiently filter through different dogs that would be good for this sort of training. This project is a dashboard using the jupyter\_dash python package. It is meant to help visualize data by using charts, tables, and filtering of data.

## Motivation

There are certain parameters that Grazioso Salvare looks for when selecting dogs for different types of rescues. Given their large animal database, this would be tedious to do by hand. Python is great at sifting through large datasets and providing a deeper look into the data.

## Getting Started

To get started using this Python module, first create a test script that you will be using to test the new functionality. Optionally, you can use the included Jupyter notebook. Make sure the AAC module is in the same directory/folder as your test script. You can then run the test script or notebook and utilize the CRUD features by import the module like so: “from aac\_crud import AnimalShelter”

## Installation

At the very least, you will need the following tools to be able to use this module:

* Python version 3.9 or later
* The pymongo package for python
* The bson package for python
  + Both from “pip”
* A simple text editor or an IDE to edit code
* MongoDB installed on your computer with the correct users setup in the authentication database

## PyMongo Driver

The pymongo pip package is the industry standard for interacting with a mongoDB database through the use of python.

## Python Module

This python module enables the developer to easily create, query, update, and delete data from the mongoDB database. It includes 4 methods: create, read, update, and delete. The create function takes in the data to be created. The read, update and delete functions all take in a query parameter that determines which documents will be operated on. The update method also takes an additional data parameter that is the data to update. The credentials that are used to access the database are hardcoded in the module. You may need to change the hostname to match your development configuration.

**Demonstration**

You can use the following code snippets from the Jupyter notebook test script to test the functionality of the module. The test script tests each of the CRUD methods individually.

### Screenshots

A screenshot of a map

Description automatically generatedA screenshot of a map

Description automatically generatedA screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated

## Contact

Griffin Hood