# CS 340 README

## About the CS 340 Grazioso Salvare Dog Finder Application

The project is a Dash app using csv data imported into a mongo database to allow users to select the dog characteristics they are searching for.

## Motivation

Animals may be useful for a variety of tasks. It is regrettable that some dogs are not identified for their propensity to contribute to rescue efforts. Ideally, an application like this would save dogs from being put down when they could be used for rescue work.

## Getting Started

To get a local copy up and running download the associated animal\_shelter.py and the jupyter notebook. You must also have a mongoDB database with the appropriate user authentication setup to allow your provided username and passphrase to access the data. Additionally, you will need jupyter\_plotly\_dash, dash.dependencies, bson.json\_utl. Pymongo is used to perform mongoDB actions with the Python language.

**Why use Dash, MongoDB, and Python to create a similar application**

Although Python is not the only choice for language, the syntax is relatively straightforward, so it is a good fit. The application uses the MVC design pattern so that the controller, our python code, regulates what view, the Dash app, is shown. The data model exists in mongoDB and is convenient because of the loose requirements as far as not having to adhere strictly to a particular document structure. All of this combines to enable a developer to make applications quickly that comply with MVC pattern requirements.

## Usage

**Initial State or Reset, no filtering occurs:**

A picture containing text

Description automatically generated

Graphical user interface, application

Description automatically generated

**Water Dog selected:**

Graphical user interface, application

Description automatically generated

**Mountain/Wilderness Rescue Dog Selected:**

Graphical user interface, application

Description automatically generated

**Disaster/Individual Tracking Dog Selected:**

Graphical user interface, application

Description automatically generated

### Code Example

from animal\_shelter import AnimalShelter #import AnimalShelter class

shelter = AnimalShelter(username, password) #set your own username and password variables

**Links for Further Information**

[MVC Architecture – What is a Model View Controller Framework? (freecodecamp.org)](https://www.freecodecamp.org/news/mvc-architecture-what-is-a-model-view-controller-framework/)

[Dash Overview (plotly.com)](https://plotly.com/dash/)

[pymongo · PyPI](https://pypi.org/project/pymongo/)

[MongoDB Atlas: Cloud Document Database | MongoDB](https://www.mongodb.com/cloud/atlas/lp/try2?utm_source=bing&utm_campaign=mdb_bs_americas_united_states_search_core_brand_atlas_desktop&utm_term=mongodb&utm_medium=cpc_paid_search&utm_ad=e&utm_ad_campaign_id=415204521&adgroup=1208363748749201&msclkid=e55c8d08777a1eec6ac4ecbef96d5b15)

[SQL to Aggregation Mapping Chart — MongoDB Manual](https://docs.mongodb.com/manual/reference/sql-aggregation-comparison/)

[Austin Animal Center | AustinTexas.gov](https://www.austintexas.gov/austin-animal-center)

[React for Python Developers | Dash for Python Documentation | Plotly](https://dash.plotly.com/react-for-python-developers)

## Contact

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