# CS 340 README Template

## About the Project/Project Title

*Global Rain, custom software and design development company, assigned my team to work with the customer, Grazioso Salvare, an innovative international rescue-animal training company. The project requires a full stack development approach. This includes a back-end database and front-end client-facing web application dashboard.*

## Motivation

*The company searches and identifies dogs that are a good match to be rescued, trained, and their newly learnt skills applied in life-threatening situations. They need us to develop a software application to search, identify, and categorize dogs in a non-profit shelter they are working with based in the region around Austin, Texas. They need a database with the ability to add, search, remove, update, etc. dogs and their information. They need a front-end application dashboard for their clients as well.*

## Getting Started and Installation

*To be able to replicate the developed code and create a local copy of the running software you will need to have access to:*

* *Python development environment (in this project we used Jupyter Notebooks)*
* *Terminal (for accessing the database and initial set-up, in this project we used Linux terminal application)*
* *MongoDB (installed to be able to access the database)*

*Start by opening the terminal application and importing all the metadata into the database. This data can be accessed with either your admin account or as in our case, we created a user account that can also access the database. Access the MongoDB module through terminal by using “mongosh” command, confirming the database was successfully imported with the “show dbs” command, and switching to the correct database so we can start using it with the “use AAC” command.*

## Purpose of the CRUD Python module

*The purpose of the CRUD Python module is to simplify the work with the databases. This code can be re-used in other databases across other codes and projects. Another benefit is that we do not need to have the same code repeating every time we want to create a new entry in the database or use any other function. We can simply call the function and specify the criteria for the execution.*

## Usage

*Python driver for Mongo was selected as it is easy to work with, has many functions that can simplify the work, and is less code compared to for example noSQL.   
To see the functionality, you can review it in the screenshots below. There are 4 functions developed so far. We will include screenshots of importing of the file, creation of the user, CRUD file, and the testing script. The CRUD file should be used by importing the class from it by using “from CRUD import AnimalShelter”. The functions can be called by first initializing the class AnimalShelter() in any variable of your choice and then calling any of the functions (example: animals.create()).  
Note: You will have to define the body of the function for it to work. See figure 4 below.*

*In the first figure we have a statement for importing a database in the form of a csv file. The second figure shows the creation and authentication of a user. The third figure shows the CRUD file with functions that can be used in projects by initializing the class, calling a specific function, and setting the body/ criteria. The fourth and fifth figures show the script that was used to test the functionality of each function and outputs of those called functions.*

### Import of the file

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### Figure 1: import of the .csv file

### User creation and authentication

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### Code Example

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### Tests

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### Figure 4: script for testing the library functions

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### Figure 4: results of running the test script

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**Figure 5: Developed Dashboard**

## Roadmap/Features

*The information provided above is from a third release where we developed a new dashboard for front-end usage by clients. Now the users can see all the animals in the shelters around Austin, TX, They can filter through the animals by different categories, they can see where they are located, and also what percentage of the breeds are in the shelters.*

## Contact

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