# CS 340 README

**About the Project/Project Title**

The project develops a Python module that is used to connect to mongoDB and perform basic CRUD functionality: create, read, update, and delete. The current version of the project implements the ability to create, read, update, and delete records from the database.

## Motivation

The Python module serves to make it easy to create, read, update, and delete records in mongoDB. It acts as a useful layer of “glue” between the client-side user interface and the database on the backend.

This package is also part of a larger project in cooperation with Grazioso Salvare animal rescue and on behalf of Global Rain software engineering. The client approached Global Rain with the goal of putting together a web interface for sorting and filtering existing data from regional animal shelters in order to identify and categorize suitable rescue dogs.

## Getting Started

The Python module is setup to authenticate with a particular database. In order to use this code to connect with your own database you need to modify the port number, user credentials, and the name of the database. This can be accomplished by modifying lines 10 and 11 of the code appropriately:

self.client = MongoClient('mongodb://%s:%s@localhost:port' % ("username", "password"))

self.database = self.client['database']

## Installation

The following software will need to be installed on your machine in order to utilize the module:

Python 3

PyMongo

mongoDB

Jupyter Notebooks (for testing)

## Usage

### Code Example

The software allows the user to create, read, update, and delete mongoDB documents from within a Python environment. In order to utilize these functions, the user will first need to instantiate a class object:

shelter = AnimalShelter()

Then the create and read functions can be used as methods in the ordinary manner:

shelter.create()

shelter.read()

shelter.update()

shelter.delete()

The create() function requires a dictionary as a parameter and creates a database record corresponding to the dictionary’s key:value pairs.

The read() function takes a dictionary a parameter and searches the database for any entries meeting the criteria.

The update() function has two parameters, a dictionary corresponding to the record to be changed and a dictionary corresponding to the updated entry. This function updates a single entry only.

Finally, the delete() function takes a dictionary as a single parameter and deletes all corresponding records.

### Screenshots

Importing the Austin Animal Rescue Data csv into Mongo.

A screenshot of a computer

Description automatically generated

### Verification of successful import

A screenshot of a computer

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### Logging in with admin account

### A screenshot of a computer Description automatically generated

Show available database users within mongo

A screenshot of a computer

Description automatically generated

### Tests

This project was tested using a testing script created in Jupyter Notebooks. A screenshot illustrating the functionality and testing results can be found below.

A screenshot of a computer

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1. Table and unique identifier

Graphical user interface, text, application, Word

Description automatically generated

1. Map showing location of first dog.

Graphical user interface, application

Description automatically generated

## Contact

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CS 350

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