# CS 340 README Project Two

## About the Project

This project was created for the client, *Grazioso* Salvare, a rescue animal training company. It focused on developing a front-end web application dashboard for executing CRUD commands in MongoDB. With this, our client will be able to seamlessly visualize and interact with their database. The dashboard allows users to filter through the database to find specific breeds of animals that align with their specific needs, such as water rescue, mountain/wilderness rescue, or disaster/individual tracking. The application also provides graphs and maps, allowing for an easier understanding of the data within the database.

**Tools/Software**

MongoDB was chosen for this project because of its flexibility and extensive Python integration. It’s perfect for dynamic dashboards such as this one and handles large amounts of data very well. We also used the Dash framework to create the application because of it’s natural integration with MongoDB and Python. The Dash framework features three key components, the layout, the callbacks, and the server. The layout defines the visual aspects of the dashboard, such as text, charts, buttons, etc. The callbacks are the Python functions that provide functionality to the visual pieces. Lastly, the server allows the webpage to run locally on the web.

**Functionality**

The screenshots below offer a glimpse into what the dashboard is capable of:

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

AI-generated content may be incorrect.

A screenshot of a computer

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A screenshot of a computer

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## Steps to complete project

* Created a database in MongoDB, and import existing records into it.
* Create admin account for database.
* Copy and paste the animal shelter class and then modify it to fit personal settings.
* Created a script that performs CRUD operations in the database.
* Created dashboard file to with Dash framework to visualize and interact with database.

## Installation

* MongoDB for database
* Jupyter Notebook to edit files
* Dash framework to run dashboard

**Challenges**

Throughout this project, I ran into quite a few issues, mainly related to getting the server to work for the dashboard. For this, I had to make sure all previous instances of the dashboard were completely closed before I could run the server and connect to it. I also ran into a few issues getting the ID’s to match with the callbacks, but those were mainly due to typos made by me.

## Contact

Brycen McEuen (SNHU)