Alexis Del Rosario

CS-340 Client/Server Development

Professor Paruchuri

December 17, 2023

Project 2 README File

**Project Purpose**

The purpose of this project is to be able to analyze and filter data about different animals from Grazioso Software, an organization that focuses on training animals for rescue missions.

**Project Functionality**

The project uses MongoDB as the database where all the information about the animals is stored. The Dash App is then used to make the information interactive by giving you radio buttons where you can filter and view the data. The data is presented in the format of a data table where it is categorized into columns such as animal\_id, animal\_type, breed, color, etc.

A screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated

**Tools**

MongoDB – MongoDB is a NoSQL database that works with documents such as JSON files. This allows for efficient modification of large data structures. Because MongoDB scales horizontally, Python can work well with its features. MongoDB also works with multiple operating systems while Python is cross-platform, together they can build apps on different platforms, such as the Dash Framework, and not have to worry so much about compatibility.

Dash – Dash is a framework that developers use to build web applications in which interactive dashboards are created to view information. To create these dashboards, Dash uses Python classes to define its components. Python developers can benefit from this feature if they don’t have much front-end experience. Dash also allows for use on various web browsers making it very useful for users with different system setups.

Jupyter Notebook – This web application allows for creation and sharing of documents with code. It is mostly used with Python, like in this project, but it can also work with other languages. You can create code in unique cells for step-by-step solutions to your application. It also allows you to add interactive widgets into your code as we did in this project.

**Steps**

1. Make sure to have the necessary tools installed in your system.

* Jupyter Notebook
* MongoDB
* Python
* Dash

1. Create a CRUD Python Module that works with MongoDB in order to retrieve and manipulate data from Grazioso Salvare.
2. Incorporate the CRUD Python Module into the code for the dashboard
3. Define credentials to connect to the database via the CRUD Python Module
4. Implement Grazioso Salvare’s logo.
5. Add radio buttons to the code so that the table can be filtered.
6. Testing and deployment phase
7. README creation

**Challenges**

I encountered a few challenges when working on the project, mainly errors that popped up during the testing and deployment phase. I overcame these challenges by doing research and contacting my professor for help. A couple of mediation tactics are refactoring the code and restarting the Jupyter Notebook session to make sure the code runs correctly.

**Contact**

Alexis Del Rosario