CS 340 Project 2

READ ME

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* **Describe the required functionality** of the project. Include the screenshots or screencast taken while testing and deploying your dashboard (Step 6) as proof that you have achieved the required functionality.

There is various functionality within our customized dashboard that the company requested, each providing a different aspect of the dashboard. One of the first functionalities we run in to has to do with the Grazioso Salvage logo and the unique identifier for the dashboard:

Graphical user interface, text

Description automatically generated

The second functionality of the dashboard would be to show our Austin animal center data outcomes, which is populated from pulling the CRUD python file we created previously. We have created a table that’s user friendly, while also enabling unique features and sorting of the table:

Graphical user interface, text

Description automatically generated

The next functionality of the table is retrieved by creating the database queries for the filter functionality, we do this by creating queries that pulls the data of the rescue type, along with the type of preferred breed they want:

Text

Description automatically generated

There are also the functionalities of the radio items and drop downs, which are interactive pieces of the dashboard that will help us filter through the selected database options that we want to see:

The last functionality of the dashboard is the widgets that are displayed to the user, where the user can create inputs to interact with the data tables and pull the information accordingly. In this case we created a pie chart as well as a geolocation chart that the user can use.

Text

Description automatically generated

* **Describe the tools used to achieve this functionality and a rationale for why these tools were used.**
  + Be sure to explain why MongoDB was used as the model component of the development, including what specific qualities or capabilities it provides for interfacing with Python.

There are various reasons why MongoDB is used as a model component for situations like the dashboard. MongoDB has increased scalability, helping to scale multiple serves at once and any size that is needed. One of its more important features also deals with the type of data it can accommodate, which is virtually any kind. It provides python with many databases that are easily scaled and easy to communicate, along with tools to retrieve results, or CRUD data.

* **Explain the steps that were taken to complete the project.**

There are various steps that were taken to finish the project, putting each step together to create the final dashboard project. We first had to authenticate our CRUD module to make sure that the functionality of the python script we had gave us user authentication. We then moved along to the interactive data table along with some of the other visual features that were needed, such as drop-down boxes and other various tools. We also helped the user with making the table easier to use, such as adding sorting for the data table, helping to make sure the user does not get confused with unsorted data. We then added the geolocation chart, helping to display where certain animals are on the chart. We then got to the final portion of the project, where we added various other visualization touches, along with an extra pie chart that will add another element to the dashboard for the user.

* **Identify any challenges that were encountered and explain how those challenges were overcome.**

I had some various challenges when it came to the dashboard, mostly due to initializing my CRUD module, as well as other functionality touches on the dashboard. Some of the first issues I had with the project were with initializing my dashboard, as I kept getting errors when trying to load in the module. This began to give me other problems as well later down the project, especially when it came to the interactive chart for the user. I had some trouble also adding extra functionality to the table (sorting, drop down boxes, as I also had trouble understanding which callback methods were appropriate to use. Overall, I tried to get my dashboard to function as properly as possible in Jupyter, even though I had various problems with that as well towards the end of the project.

**References**

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