

Project two dashboard

README



December 14, 2020

Southern new hampshire university

Cs-340-x2142

## About the Project/Project Title

Animal Shelter: I work for a company called Global Rain, a software engineering company that specializes in custom design and development. I was asked by an innovative international rescue-animal training company, Grazioso Salvare to develop a full-stack software application that can work with existing data from the animal shelters to identify and categorize available dogs.

## Motivation

The motivation behind the creation and maintenance of the project is to help Grazioso Salvare, to have a full-stack development application that will include a database and a client-facing web application dashboard, through with users at Grazioso Salvare will access the database. The project will be open source and accessible on GitHub, so similar organizations can adapt to it

1. **DESCRIBE THE REQUIRED FUNCTIOINALITY.**

Grazioso Salvare required functionality had to have the following widgets for the dashboard interface:

* Interactive filter options (buttons, drop-downs) to filter the Austin Animal Center Outcomes data set by:

○ Water Rescue  
○ Mountain or Wilderness Rescue  
○ Disaster Rescue or Individual Tracking  
○ Reset (returns all widgets to their original, unfiltered state)

* A data table that dynamically responds to the filtering options
* A geolocation chart **and** a second chart of your choice (such as a pie chart) that dynamically

respond to the filtering options

A picture containing text, screenshot, monitor, computer

Description automatically generated

A picture containing text, screenshot, monitor, indoor

Description automatically generated

A picture containing text, screenshot, monitor, indoor

Description automatically generated

A picture containing text, screenshot, monitor, indoor

Description automatically generated

A picture containing text, screenshot, monitor, indoor

Description automatically generated

A picture containing text, screenshot, monitor, indoor

Description automatically generated

Graphical user interface, text, website

Description automatically generated

Graphical user interface, text, application

Description automatically generated

A picture containing text, monitor, screenshot, computer

Description automatically generated

1. **DESCRIBE THE TOOLS USED TO ACHIEVE THIS FUNCTIONALITY AND RATIONALE FOR WHY THESE TOOLS WERE USED.**

* Terminal
* A Python IDE
* MongoDB
* Jupyter Notebook
* Although from a terminal you can access Jupyter Notebook with will allow you to code .py and .ipynb files
* MongoDB was used as the model component of the development because it is a NoSQL database that provides features to retrieve and store data within databases. NoSQL allows data to be stored as JSON, key-value, etc. which can be computed with Python (a computer programming language).
* The Dash framework that provided the view and controller structure for the web application is an architectural pattern that handles specific development aspects of the application. The view is used for all the UI logic of the application and the controller acts as the interface between the model and view to process the logical data then handles the data so that it renders the output to the user.

1. **EXPLAIN THE STEPS THAT WERE TAKEN TO COMPLETE THE PROJECT.**

The steps that were taken to complete this project was:

* First, to get a local copy up and running, follow these simple example steps:
* Start mongo with /usr/local/bin/mongod\_ctl start
* Change directory to cd/usr/local/datasets
* Copy port number given from the previous output
* Authenticate self
* Then code: mongoimport –port ##### --db AAC –collection animals –type=csv –headerline ./aac\_shelter\_outcomes.csv
* Second, develop a CRUD .py file that allowed me to Create, Read, Update, and Delete data to manipulate the data within the AAC database.
* Third, develop a .ipynb file to instantiate the CRUD functionality of our .py file and get JSON execution back in return.
* Fourth, create a dashboard data visual that prepared us for project two by showing an unfiltered view of the Austin Animal Center Outcomes data set. This included a geolocation chart within the dashboard and an interactive data table.
* Lastly, put it all together and create a Dashboard for Grazioso Salvare which included the interactive options to filter data, a data table, geolocation chart, a second chart to respond to filter options, their logo, and a unique identifier.

1. **IDENTIFY ANY CHALLENGES THAT WERE ENCOUNTERED AND EXPLAIN HOW THOSE CHALLENGES WERE OVERCOME.**

* With this project, I had faced many challenges. It took me weeks to really get started due to first off being rusty with python and never have worked with Jupyter Notebook. There were simple mistakes that occurred with invalid syntax errors and indentation considering Python is very picky about how you format your codes, etc. Overall, I felt like learning the dynamics of this course alone was a challenge in itself. For me to overcome these challenges, I read every article that was provided within each module, almost every research data I can find about Python, MongoDB, and Jupyter Notebook. I did a complete Python and Jupyter Notebook tutorial on YouTube to see someone with experience work with the two. I spent countless hours with a tutor, reached out to peers, and even my instructor. This course was no easy walk in the park, and I don’t think I ever spent as many hours as I did to finish these projects as I have, but I’m just proud that I never gave up.