3-2 Milestone Two - Enhancement One: Software Design and Engineering

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May 20, 2022

CS 499 – Computer Science Capstone

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**Software Design and Engineering**

I had chosen the artifact that I used in CS-340 Client/Server course to enhance for the section in Software Design and Engineering that’ll be used upon my final project. When building the project, I decided to link MongoDB client while using an Application Programming Interface called, “Representation State Transfer” (RESTful API). This RESTful API works as a charm when it’s implemented with OOP (Object Oriented Programming) language called, “Python” along with Anaconda’s Jupyter Notebook IDE (Integrated Development Environment) and Dash (Plotly.js React.js, and Flask) which is designed as a framework imported to Jupyter Notebook to create webpage applications without the need of HTML, CSS, and Javascript usage. Using Dash, I got to create on the webpage calls with the RESTful API and a dashboard to illustrate data from MongoDB, Chart, and geolocation information from the animal shelter institution. I learned very much when completing this project where I could now, implement code by using client-side scripting from a client/web-server environment. However, this project was my first ever project that I had invested in backend to frontend development work to request and retrieve data where it only read from my imported mongo database and really has no use for the CRUD operation built within.

Taken from this artifact, I had to include this in my ePortfolio due to it being one of my most invested software projects which I had built within my major in CS. This project reflects my skill and aptitude in which I had made to meet our project expect requirements. From this artifact I was able to build a rescue animal shelter in Austin, Texas, where some animals that are brought into the animal shelter, will meet a precise criterion as expected. This project demonstrates how a drop-down feature can be able to either select items which are meant to lookup any animal from the animal shelter. Therefore, I was still able to achieve a new design where I can have a user selection in the drop-down using a switch-case data structure and algorithmic functionality, but I am still in need of making new adjustments to my program logics and figure out why some of the user’s selection isn’t being inserted by the Mongo Database. Although, I have met the requirements expected from the proposal code review that was made previously in this course. Where I still believe that I took most of my time trying to recreate my original project and feel that I have not achieved my goal that I thought I would complete successfully within this milestone assignment.

Once I begin to modify this project, I had to open the csv file again through the mongo database where I originally had created this artifact in a virtual platform called Codio. So, I had to modify authentication part of the CRUD operation that was built to make sure it gave accessibility into the Mongo Database client authentication part. Once I figured that all my project was setup with its mongo client number and imported into Jupyter Notebook, I was able to start to make changes and begin my enhancements. What I had planned to enhance was to insert a user selection where they can have selection of options from CRUD operation that is called from the database. As I begin to make these changes, I started to learn how ‘Dash Plotly’ is used and figured how it can be used to build a user interface without the need of learning much of HTML5, CSS3, and JavaScript. Therefore, I begin to create a dictionary data structure to import all options of the CRUD operation into the mongo database. Next, I figured I could make new ideas and logic to the click button, where the CRUD option will be called when a user clicks the button and is more than the compared number. Once the button is clicked then it will move up by iterating each time what is clicked. Which we use the conditional statement to rule out proper options in the CRUD operation to be called from the database and again be found from the mongo database towards the data frame in which will appear. Dashboard drop-down selection has been made and modified so that our user can see the changes made. Although, I still see that when I use the create method, the insert functionality isn’t working as intended where it should be accepting the new input of the user into the mongo database. I am currently trying to look up and find resources to again evaluate the logic where I cannot determine why it is not working.

From the modifications and enhancement, I learned to use rational decisioning and logic where I implemented the options in the drop-down feature to update the chart but couldn’t still update the geolocation information. For the chart and the geolocation information, both share the same logic which gets the information form the view that is built in the table, whereas the geolocation data doesn’t update while the other does. As I continue to evaluate this problem with the geolocation not updating, I can say that I will continue to research and find value resources about how it can be addressed promptly. On the past two weeks, I have spent most of the time building again my setup environment where I had originally built this artifact in Codio software IDE in which I don’t have access anymore. So, I had to spend most of my time to put all components together like the Mongo Database and creating an authentication between anaconda jupyter notebook. Where I believe that if I spend more time in building this project to reach my proposed enhancement, I will be able to achieve my proposed goal in within this milestone.