7-1 Final Project Submission

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CS-499-T5565 Computer Science Capstone 22EW5

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Hello everyone,

My name is Chris, and this is my week 7, final project submission. For this project I am going to talk about the three artifacts that I have selected to use to show my understanding of the categories of software design and engineering, algorithms and data structures, and databases.

The first artifact that I have decided to use to talk about the first category for software design and engineering. The artifact is from my CS-410 course where we developed an inventory app. This artifact shows my basic understanding of the fundamentals of software design and engineering. My code has modularity by organizing the functionality into separate functions like ‘ChangeCustomerChoice()’, just to name an example. This code also shows encapsulation by using functions and global arrays. One example of the arrays is ‘username’, ‘password’, ‘clients. The arrays are used to store relevant data in a centralized manner. Another aspect of design and engineering that my code demonstrates is the separation of concerns and code reusability. I feel that one of my stronger suits when developing this code was keeping things separated. In my code it shows a good understanding of dividing different functionalities into distinct functions like ‘CheckUserPermissionAccess()’ which modifies the information and ‘DisplayInfo()’ shows the information. The code clearly shows my understanding of code reusability with functions like ‘ChangeCustomerChoice()’ which helps reduce redundancy and it helps with efficiency and maintenance of the code.

The second artifact that I have decided to use to talk about the second category for algorithms and data structures. The project that I have chosen that I felt best showed my basic understanding of algorithms and data structures was from my DAT-220 course. This project I do not have the code available, I have my final project from this course which was an analysis of the project in total. From this analysis I hope that I can prove some points that display my ability to understand algorithms and data structures. The points that my final project touched on were Data collection and analysis, Analytic method, validity, reliability and limitations, and decision influence. In the screen shots we can see the data points that I gathered and analyzed from Bubba Gump Shrimp Company. The data points that I collected that I thought was important to try and increase revenue for the company were the point-of-sale, web channel sales, how many customers sign up for their loyalty points and sales transactions through a 3rd party vendor. While I was working on this project an analytical method that I tried to use was utilizing data analysis techniques to try and get a better understanding of the company and their customers’ behavior. I focused on restaurants, age, and income to try and analyze the data points to see where there were clusters. After looking at the graphs I was able to see high traffic areas where the company had a higher number of customers that went to that store. I also used the graphs to see what type of demographic that the company was attracting by looking at their age and income. In this project validity, reliability and limitations, the validity of the code for Bubba Gump Shrimp Company is that it can be assessed by evaluating the alignment between the findings and actual customer behaviors. The reliability of this is that the data that I collected for this was given to us by our professor which helps with the consistency and dependability of it since it came from a reliable source. The finding that I found in this project was that people who were interested in visiting the restaurant were those who made less than 80K and they were younger than 46 years old. The limitations that I ran into with this was I couldn’t add another element to the criteria. I wanted to also see if those who were younger than 46 how many of them were married and had children too. I wanted to see if those who had kids or just got married, I was curious to see which one of those demographics would visit the restaurant more.

The last artifact that I have decided to use to talk about comes from my CS-310 course where we developed a jukebox library as a java file. I feel that with this project I was able to display my ability to construct simple databases. The DBMS that I would use is MySQL, there are other DBMS’s that can be used I just preferred MySQL and it was what was recommended by the professor. The database that I created was to store songs and artists. The tables that I created are with song names and their artists like “Slipknot”. The columns and data types that we are pulling from comes from “snhu.jukebox.playlist.song”. That is the DBMS that has all the songs and artists that my jukebox library can pull from. One column that we don’t see is the songs “title” which would be used to store all the songs that would be associated with the band Slipknot.