Week 7 Assignment – Initial Proposal, Discussion & Action Report

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The purpose of this study is to (1) provide a proposal on how to approach and overcome obstacles to complete the final project in Relational DB design and SQL (2) discuss on how the system was tested and (3) provide an action report about the lessons learned in the development process.

INITIAL PROPOSAL: The main goal is to develop a database for ACME's software customer, XYZ trucking where it will manage its fleet of trucks. Having no experience in relational database design and SQL, developing a database is a big challenge. But after reading the week 1 lectures and articles, it had given me a better understanding and explanation of its concepts and purpose. Its a high version of excel in terms of refining or filtering data.

Below is the 6 steps of the general construction of the final project and details on how I will approach and overcome the obstacles:

1.Customer Requirements. In making any project, its very important to have a clear and thorough understanding of the customer requirements. Looking at the required description, the database system should be able to manage daily movements of trucks and drivers but must also able to manage the downtime of the trucks due to maintenance and other unexpected issues. Writing down all the requirement and functional specification is a good practice in making a project to assure nothing is being missed or else it could lead to project's failure. Posting questions and reading in the final project discussion will also give me clarification and ideas if any issues or confusion I might encounter.

2.System Analysis. For system analysis, this will cover the database normalization and entity relationship diagram. Having an experience making tables in excel in my previous job will help

me in database normalization. Classifying the data on what group it does belong could be tricky but following the guide questions in normalization will get me back on track. It will also help me identify the primary key, foreign key and non key attributes which is essential in finalizing the diagram.

3.System Architecture. The art of designing a good database is like swimming. It is relatively easy to start and difficult to master. But to learn to design databases, we should for sure have some theoretic background, like knowledge about database normal forms and transaction isolation levels. But should also practice as much as possible, because the sad truth is that we learn most by making errors (Kaczor, 2015). Being new to database design, I agree that its best to practice and read different references about construction of technical framework of the system.

4.System Development. Nowadays, there are lot of free online tutorials about coding like codeacademy, udemy and khanacedemy. Learning basic SQL queries through online is the best way to start. After accomplishing the basic SQL in codeacademy, it was easier for me to understand the SQL statement lectures. As a beginner, arrangement of commands could be an issue but error list can be a big help in finding the problem.

5.System Testing. If any error will be found during this stage, tracing and fixing the problem can be quite difficult. System testing demands keen attention, good SQL skills and proper knowledge in database structure.

6.System Release. For this final stage, I will ensure that all are in right order, all the comments and necessary additional information are added. Reviewing all deliverables to assure it meets the customer requirements, functional specification and instructor's format.

Overall, learning code early to acquire good SQL skills, reading other references about database structure and even making errors are the best ways to learn database design & SQL and can help accomplish the final project.

DISCUSSION ON HOW THE SYSTEM WAS TESTED: After creating the table and inserting all the row data or all the information, running sql query like select statement is my way of testing the system (SELECT * FROM table_name). It shows all the information where I can check if all data inserted are correct. I have also checked through diagram or ERD in standard view mode if all the data types are appropriate and if null is allowed or not. The diagram is easier for me to check the data type because of its graphical representation. In addition to, error list have been the most helpful tool in correcting my query statements especially in insert statements where I usually forgot to set the identity specification in automatic increment mode.

ACTION REPORT: In week 1, I did understand the concepts of SQL and have difficulty in using sql codes in creating basic tables than GUI code. In Week 2 & 3, I have learn the JOIN, WHERE and ORDER BY commands and using them all together in sql query. I was also able to make ERD, look up tables and somehow identify the proper primary key and foreign key relationship between different tables. In week 4 to week 6, I have learned to used GROUP BY in my sql statements and provide a more complex query. I quite struggle in making a stored procedure for the system report for the assignment but the video lecture is a big help for me to fully understand and utilize it.

Lastly in Week 7, I can say I am more confident in writing codes since I am more familiarize with the basic concept, codes, commands and functions. I enjoyed learning SQL, answering trivia questions in the discussion and making complex query.

References

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