Jackson Rodgers

September 15, 2024

CS 5001

Individual Capstone Assessment

When it comes to medical issues, there is often equipment that is needed for treatment. This is where our project comes in. We are developing a database management system to be used at medical supply stores. Medical supply stores rent and sell medical equipment that is needed by patients, and properly keeping track of these patients and what they need, along with the inventory, is highly important. Our database management system will store patient information and history, equipment inventory, and supplier information. This can be used to ensure that the medical supply store has everything it needs and that it can properly provide for patients.

Much of the development of this project will be built upon things that I have learned throughout my college experience at UC. One of the classes that will have the largest influence is CS 4092 (Database Design/Development) as this taught me how to work with a database in SQL. This will be useful considering we will be creating a database, and the project revolves around that. Another class that will greatly contribute is EECE 3093C (Software Engineering). This class taught how to take an engineering approach to a project and how to manage it throughout the lifecycle. This will be helpful when it comes to developing and sticking to a schedule, and with breaking down tasks throughout the project.

Another leading influence on the development of this project will be my experiences through co-ops. With relation to development, I have gained a lot of experience with code optimization and reducing redundant code. The rest of the co-op influence will be less of a developmental role and more of a management role. I did all five of my co-op rotations at ITI

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Global as a software developer and did not do any work with SQL or database management. However, I learned a lot professionally that will help throughout this project. My co-op experience will help with assigning roles to group members and with staying on track with the assignment. I know how a typical meeting should go while in the midst of working, and what to discuss to ensure the project is continuing as it should.

Any business related to the medical field has a baseline level of importance, as the people's health is always a top priority. Medical supply stores follow this level of importance as they are necessary for people in need of medical equipment. These stores allow people to rent or buy quality equipment that they need for whatever medical issue they are going through. Renting allows them to have access to this equipment without having to spend a lot of money on purchasing it, especially when, in a lot of cases, the need is only temporary. As the need for equipment is high, the need for the medical supply store to have a properly functioning database of their inventory and of the patients in need is high as well. That is what this project is about, to set up a fully functional database and database management system for a medical supply store, so that they can properly ensure that all needs are met without unintended errors. I find this to be very important, as any medical necessity should be treated with care.

Our initial approach to the design of our database management system includes listing the primary things that it needs. Our database will need to store patient info and history, our inventory (which includes rental equipment and spare parts), and our suppliers. We also have listed out what the user interface needs to include. This will allow the user to access this information when it is needed, and the proper use of the business will be considered with this.

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For example, printing work and order tickets with their needed information is essential, along with being able to view the current inventory. My project partner has co-op experience working with a medical supply store, so we can use the information he has gained to gauge what is needed and how successfully our project aligns with that. We are also considering reaching out to that medical supply store to determine needs and how our project can fulfill them.