COMP 3150 Presentation Script

[General description of the project] ~ 30 seconds

The purpose of this project is to demonstrate our understanding of database design and implementation by creating a database management system for a chain of hospitals.

Following the requirements of the project description we were to design a database with entities and their relationships to one another. We were required to submit ER diagrams and database schemas as milestones for this project to show our progression to the final working database.

The final submission is a fully functional database that manages all of the hospitals information such as doctors, nurses, patients, and pharmacy bills.

[Description of requirements for the database] ~ 30 seconds

The requirements of the database were to have 3 hospitals where each hospital can admit a maximum of 10 patients and has 3 doctors and 5 nurses on staff. The hospitals can order medication from any of the three available pharmacies. Patients can have multiple attendings and only one primary doctor, and nurses can care for two or more patients.

[Description of the ER diagram design] ~ 1 minute

The first milestone was to design an ER diagram which showed all the entities, attributes and relationships in our database, in the requirements we were expected to have Hospital, Nurse, Doctor, Patient and Pharmacy entities however, we decided to add Drugs as an entity to track pharmacy stock and hospital bills. As seen in the diagram we gave each entity a relationship to other entities, labeled the type of relationships (one to many, many to many) and so on. The relationships that we have in our database are AdmittedTo, CaresFor, Treats, NWorksAt, DWorksAt, Stocks, and OrdersDrug.

[Description of the schema design] ~ 1 minute

In the schemas we made all the tables and their attributes in 3rd Normal Form, and then using SQL we added them into our database.

[Description of the SQL data and how to navigate the files] ~ 1 minute

Once we implemented the schema in SQL, we began to add the necessary data and using bulk insert we inserted it into the database. However, we discovered that the bulk insert feature is incompatible with Azure Data Studio so we used a python program to generate the SQL insert code from our CSV files. In our attached zip file you will find folders titled Queries and TestData, in the Queries folder is all of the queries needed to setup our database on your own system. We suggest you first run the DropQuery file to ensure there are no duplicates in your database that will conflict with the rest of the project. Once this runs, run the EMRSCHEMA file, then followed by the BulkInsert or InsertQuery file. If you’re using Azure we suggest using the InsertQuery file, and with SSMS we suggest using BulkInsert. However, please note that with BulkInsert you must change the path names in the file to the path names related to the csv files.

Now that you have created and populated the database with information, running the SelectQuery will display different views and tables with important information.

[Description of the GUI (Pending)] ~ 1 minute

[GUI Pending]

Welcome to OneTouch EMR, a system designed to ensure that hospitals run efficiently without error. There are five user views which display relevant information to the user and allows a smooth operation within the hospital. Some features include allowing the ordering of medication from registered pharmacies, viewing and paying outstanding bills, admitting, relocating and discharging patients from the hospital or to another, tracking which staff are responsible for each patient and much more. The system starts by the user logging in. Once it verifies which user type and individual you are it displays the relevant data. There are three user types in total Hospital administrator, Doctor and Nurse and each user is given specific permissions to view and/or make changes to information in the system.