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CSC 263

Professor Hatfield

Project Final Report

Throughout this course, I have learned so much about databases and their design/structure. Coming into this class I knew absolutely nothing about them, not even how they existed. I did not know how to create them, their structuring, what a schema was or the syntax associated with SQL. However through this project I was able to rapidly expand my knowledge on the subject along with the labs and homeworks and was able to develop at least a foundational knowledge on them.

Initially, I had no idea what I was going to do my project on. Being a directed study I was not able to rely on anyone else to come up with this solution and so I was a bit nervous that I would not be able to accomplish it. So truthfully, I started searching the internet for various topics , companies, and products that use databases. I figured out that almost every single service we use today relies on a database to some degree but that hotels HEAVILY rely on these services. They require them to perform the very core tasks that a hotel should offer. This is when I decided to create a mock hotel database that would allow a hotel to do all the functions necessary to remain in operation.

I started by developing my ERD which at first was very advanced as it included multiple hotels, various entities along with a lot of attributes, however upon meeting with you we realized that would be too complex for me to complete on my own. SO what we decided was that I would only focus on one hotel and would simplify the entities and attributes within my database. These entities included the customer, employee, billing, rooms, and cleaning.

One this was complete I had to develop the schema for the database. This was very straight forward at this point as I already had the ERD so I simply followed the cardinality ratios and developed 7 tables based on that. They are: Customer, Cleans, Employee, Reserves, Rooms, Invoice, and Verifies.

Once this was complete all that there was left to do was write the script to create the tables. This was actually quite daunting as I could create them however I saw fit I decided to make each attribute a “not null” attribute as every field within my database more or less requires an entry to operate. I also had to make a couple constraints for foreign keys as two of my tables are exclusively based on them.

Once that was complete I had to add data. For this truthfully I just included random data that I came up with in enough of an abundance to offer a sizeable return if queried. I included 10 customers with various reservation dates, 4 employees each with a position and employee Id, 20 rooms, as well as filling out the other tables with random information that was correct and able to be queried.

As for queries, I actually set up a table view that you will see in my Homework 4 that was able to track customers as well as their room reservations. I was also able to perform queries that returned specific dates as well as cost, various JOINS etc. Please feel free to try any query you see fit on my database as I am sure it will accurately work.

In conclusion, this term project was easily the most daunting of my college career (aside from my capstone) and challenged me greatly. I have been up very late on multiple occasions trying to troubleshoot various problems that arose like why I could not add foreign key constraints only to realize I could but due to my not null requirement could not cascade once a table was removed. Overall, I am very pleased with the project as for the most part I taught myself (with some guidance) this entire course and can walk away with at least a functional knowledge base on database design and implementation.