TCNJ

MGK

Hotel Resource Management

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CSC 315-01

Professor Ferdous

15 July 2020

Executive Summary

Our goal was to design a Hotel Management System that hotels could purchase in order to make running a hotel more efficient. We chose this project because we thought there would be a lot of ways we can make this system, and we could learn a lot about making and implementing a database management system. The original plan for our project was to make a system for hotels where they can track and manage visitors, the data they would need about their visitors, what room they were staying in and for how long. The hotel would also be able to store personal information about their staff members, what their position was, and whether or not they supervised a department. Lastly, the system would also be able to store information about the rooms, their number, rate and number of beds. At the start we also thought about adding an implementation where customers would be able to access the database and reserve their own room, but we decided that would be too much work given the time constraints of our class.

One of the biggest problems we faced while working was designing our ER diagram/relational schema. When we would come up with another real life object we wanted to add to the database, we would have to consider how we wanted to add it. We wanted to add a customer to the database, but we also wanted to keep track of their guests (the people staying in the room, but not the person buying the room). At first we decided to make 2 different entities for this, a customer entity and a guest entity. The customer would have more attributes than the guest like credit card number and social security number. The guest would also be dependent on the customer, because without the customer the guest would not exist. When we started to get to the point of adding queries, we realized that this wasn't the best way to implement this information. We decided that the hotel would not have to track the personal information of the

guest, and this would just take up more space than necessary. We ended up removing the guest entity all together and replacing it with a Number_Of_Guests attribute under customer.

The queries of our code can get an employee of the hotel a lot of important information. For example, an employee working reception can get a lot of information quickly to help when trying to get a customer a room. The employee can search for information like which room numbers are vacant, which room is the cheapest, and which room is the most expensive on a specific date. A member of housekeeping or maintenance can look up which rooms they are assigned to and the quantity of each item in the inventory. A manager or owner of the hotel can see much more information. Not only can they see everything the reception/housekeeping can see, they can also see information like average salary for each department, which staff works which department, what customer is staying in each room and information about every reservation. If we had more time and experience making databases, we would have set up different accounts like reception/housekeeping/manager and each account would be able to access different information, and run different queries. A housekeeper would not be able to see the information about other salaries but the managers can.

Stage II, III, IV, V, and VI are attached to the assignment.

GitHub repository URL: https://github.com/CSC315Sm2020/project-mgk