

HOTEL MANAGEMENT SYSTEM

PROJECT DESCRIPTION

CO226 DATABASE SYSTEMS

E18 PROJECT 2021/22

GROUP 01

GROUP MEMBERS:

1. E/18/022 - AMARASINGHE D. I.
2. E/18/327 - SENEVIRATHNA M. D. C. D.
3. E/18/349 - THALISHA W. G. A. P.

INTRODUCTION

Hotel AppleBees is one of the iconic tourist hotels located on the Mount Lavinia coastal line. Many of the tourists who visit Mount Lavinia choose Hotel AppleBees due to several reasons such as beautiful location, delicious food, and beverages, excellent room service. At present there are about 20 employees are working in the hotel. Both foreign and local guests reserve rooms, dine, spend time at the hotel. Employees have been assigned to keep room records, keep reservation details, billing, and some other responsibilities.

Currently, Hotel AppleBees uses a manual system for keeping the details and handling the hotel processes. As the system is file-based, hotel employees and the owner must put more effort into keeping files and securing them. They can easily be damaged by fire, tsunami, or by insects. Also, it's time taking process when making reports, searching for a record. So, the current system is not a reliable database system.

The Hotel Management System we are going to implement will be cover all the basic functions done in a hotel. It would handle guest details, room details, reservation data, food and beverages details, billing data, and staff management details.

The new system will clear up the problems that are currently faced by the Hotel. Moving to a new system can achieve advantages such as saving time, saving man-hours securing data as well as efficiency of the Hotel.

PROBLEM SPECIFICATION

As mentioned above all the processes of Hotel AppleBees are handled manually. Admin/manager and employees are responsible for keeping records. Booking is done by updating a logbook at the reception. Guests have to fill out a detailed form before making a reservation. Then receptionist handed over the guest room keys. At the restaurant after the meal customer must pay the bill there before leaving.

When guests check the room and food & beverages details and charges, guests have to either check the menu book or ask the receptionist or restaurant staff. Updating food & beverages and room costs hotel management must print new menu books. It's more inefficient and a waste of money.

All the information about reservation details, guest details, staff details, billing details, payment details are recorded in files manually. They are stored in storerooms that take up huge space. Although they keep records by order it's difficult to find a specific record from those files. When hotel management needs a report such as the number of guests who visits the hotel last month, they will be facing a huge problem. It will take hours to go through the files and count guests. Whole the process will time consuming, low accuracy nonreliable system.

Summarizing all the cons of the manual hotel management system of the Hotel AppleBees as follows,

- Data redundancy & inconsistency.
- Difficult in accessing old data.
- Limited data sharing and difficulty of searching and retrieving data.
- Lack of security for data in the system.
- Time-consuming.
- Huge manpower is required to handle the system and keep records.

The above problems affect the efficiency of the hotel and many inconveniences in the processes.

PROPOSED SOLUTION

As a group of Computer Engineering undergraduate students who are following course module CO226-Database Systems, we took the above problem and make a Database System to troubleshoot the problem. The system will be implemented with solutions for the above-mentioned key issues and more features.

The computerized database system will store details of staff members, food details, room details, guest details, billing details. The database makes efficient data handling and retrieval data more easily and accurately. The reservations can be done quickly without queue. Users can find specified records instantly. Records can be generated under several categories at any time. At the end of the month or year reports can be generated and make decisions on them. The system will automatically calculate bills at the checkout with all room and food details with extra charges if any. The bill will be calculated according to predefined room details and consumed food and beverages details. Admin or the management of the system can only update the costs of unit prices of food, beverages, and rooms. Admin and staff that are logging into the system must use IDs and passwords before logging into the system to prevent access to unauthorized actions.

The system we are going to build will upgrade the quality of the service of the hotel, simplify functions that hotel staff assigned and solve problems that occurred when using a manual system.

SYSTEM DESCRIPTION

Users of the system and the features

Admin of the system

- Add / Update / Delete / view Staff members
- Add / Update / Delete / view guests
- Add / Update / Delete / view suppliers
- Update / View food, beverages & room details
- View reports

Receptionist

- Add / Update / Delete / view guests
- View food, beverages & room details
- Make reservations
- Issue bill

Restaurant staff

- Make food bill and add to the system

Guests

- View food, beverages & room details

Inventory Management

Inventory management automates the process of tracking food, and beverages consumed in the hotel. The operations will happen simultaneously when needed by checking the database. This includes the purchase of food and beverages consumptions and reservations. The system will help staff keep track of resources.

- Update stock – The system can update current stock by calculating available stock and purchases.
- Check availability – When hotel management or staff member needs to check the available food, and beverages the system will show the available details. Staff can easily decide which items they need to order from the kitchen.

Reservation

Reservation in happened usually at the first place when a guest has arrived. The receptionist takes care of reservations and checks availabilities. The process will improve customer service and give more control when booking rooms.

- Availability – check whether the rooms are already occupied or not.
- Room reserving – reserve a room by room number.

Guest Management

When a guest visits the hotel first time the guest is registered by the hotel staff. Editing guest details can useful when guests or hotel staff needed to update guest details. Although every detail of the guest cannot be modified. The system will generate an automatic unique registration number for each new guest. Guest details can be found with the use of a guest ID or passport number or by the registration number.

Administration

Handling user details, staff member details, supplier details, and room food and beverages details of the system using their privilege. There are four types of users in the system. Admin/management, receptionists, restaurant staff, and guests. Adding, modifying, removing are done in the administration sector. Admin has more privileges than other users. The system will generate an automatic unique registration number for each new staff member and supplier.

KEY ADVANTAGES AND FEATURES OF THE NEW DATABASE SYSTEM

Save time: The hotel management system will provide easier and faster methods when entering data into the system. Search and retrieve data are much faster when using DBMS.

Security/Privacy: It is easier to apply access controls in a database management system. Authentication can provide by using the user ID, password to prevent unauthorized access.

Backup & recover: Since the database system can manage a backup of data, the data are protected from viruses malware attacks and physical damages to the computers. The system can recover the data if there are any failures.

No redundant data: Redundancy removed by the data normalization. The system will not duplicate the data and improve efficiency.

Easy access: The database will manage the data in such a way that the data can be accessed at any required time with low processing time.

User-friendly UI: The new database system will provide a user-friendly background User Interface and easily accessible functions. After login to the system user can quickly get the options to reservations, register, and check available rooms, get billing details.