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"HOTEL MANAGEMENT SYSTEM"

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Certificate

This is to certify that the project titled **"Hotel Management"** is a record of the bona fide work done by **Prajwal Dwivedi (Reg no:209303246), Monika Jain (Reg no:209303235), Hardik Agarwal (Reg no: 209303257), Tejasvi Arora** (**Reg no:209303248)** submitted for the partial fulfilment of the requirements for the completion of the Experiential Learning (DA1001) course in the Department of Computer and Communication Engineering of Manipal University Jaipur, during the academic session July-November 2021.

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Acknowledgement

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Abstract

This project is the design and implementation of an electronic hotel management system that provides proper management of data and transactions in a centralized and organized manner.

It allows the administration to keep track of transactions like room reservations, room bookings, generating bills, record keeping, providing services to customers etc. Many hotels currently operate all the administration manually through handwritten forms stored in large files. These forms contain important information of each customer that are essential for maintaining customer records. With the help of this hotel management system, the hotel staff would not have to check through various files or keys to know which rooms are free or available. A search is made for the availability of the rooms for date required. If successful, the customer is informed about the details and price.

The reception module covers all the customer allocation and booking details like room availability, arrival date, check-out date etc. The information relevant to each room is:

- Room number
- Basic Price
- Maximum occupancy
- Type of room (single, double, premium)
- Vacancy

Introduction

The Hotel Management information system is a system that aids the management of the Customer's data, hotel staff data, customer's registration, customer's accommodation or allocation into specific rooms and room reservation.

The study is focused on the critical operations carried out within the hotel administration. These major operations include:

- Front-desk operations (customer management, room allocation, bill generation)
- Accommodation (hotel room management)

These goals are achieved based on the ability of the computer to store large amounts of data which is very useful to store information regarding the transactions.

It provides us to reserve rooms, check whether the rooms are vacant are or not etc by using online browsing. This system is very useful to all, especially for businesspeople. For Businesspeople they do not have sufficient time for these then they can use these types of online Hotel Management Systems. By this project we will reduce the faults in bills of their expenditure and decrease time of delay to give the bills to the customers. We can also save the bills of the customer. By this project we can also include all the taxes on the bills according to their expenditures. It has a scope to reduce the errors in making the bills. Computerized bill can be printed within fraction of seconds. This Project is based on C. In the source code we can use go to statements, switch cases and if statements also we used in this project. If anyone wants to book the room for few days, then they can specify the specific number by seeing the types of rooms we have. The bill of this online booking is based on the type of room they can select is displayed. Then at last the bill amount is displayed by the customer's name, address along with date and the number of rooms booked.

During the past, several decades personnel functions have been transformed from an obscure record keeping staff to central and top-level management functions. There are many factors that have influenced this transformation like technological advances, professionalism, and general recognition of human beings as the most important resources. A computer-based

management system is designed to handle all the primary information required to calculate monthly statements. A separate database is maintained to handle all the details required for the correct statement calculation and generation. This project intends to introduce more user friendliness in the various activities such as, viewing customer details, record updating, record deletion, maintenance, and searching. ¬ the searching of record has been made quite simple as all the details of the customer can be obtained by simply keying in the identification of that customer. ¬ Similarly, record maintenance and updating can also be accomplished by using the identification of the customer with all the details being automatically generated. These details are also being promptly automatically updated in the master file thus keeping the record up to date. The entire information has maintained in the database or Files and since it is protected with a password, whoever wants to retrieve cannot retrieve, only authorized user can retrieve the necessary information which can be easily accessible from the file. It includes activities of Hotel like:

- Admission of a New Customer
- Assign a room according to customer's demand.
- Check-in and check-out date of a guest
- List of Regular customers
- Finally compute the bill etc.

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Developing software on a topic like **"Hotel Management System"** has much scope. The project has scope in hotels since the routine activities of managing departments have become easy.

Literature review

1. Technology has made a considerable impact on the hospitality industry in recent years and will continue to do so with the increasing use of computer, controlled equipment and the growth of information technology in general (‘Jones and Lockwood, 1989, p.6”).

2. Part of the reason why hotels utilize technological systems in their operations is because it keeps them up to date in terms of where they are placed in the area. It makes work easier for staff members, allowing them to work more efficiently and taking away time consuming activities which can be carried out by the technology some hotels, the utilization of technological systems mean that fewer staff members are needed and this reduces considerable costs. For others, especially luxury hotels, this is not the case but it means that the staff can be free to attend to customers on a more personal basis, thus upholding high standards. Therefore, itis understandable that 8 star hotels must ensure that they employ the most advanced technology available) .This is because their priority is maintaining their position and status as a luxury brand, rather than cutting costs, which would before of a priority for budget hotels which cater to a lower end market) Therefore luxury tourist establishments rely on top quality technological systems. Companies have also been able to produce higher quality products because technology has Developed that assists them to do so. (‘Jones and Lockwood (1989)").

3. For example, many 8-star hotels employ revenue managements systems which aim to ensure the managing of profits for perishable products. It entails that they must take into consideration the timing of the sale, to whom they are selling the product and what sort of product they are selling) illustrates its use by claiming that revenue management in hotel management is the Business practice of selling the right inventory to the right customer at the right price at the right time so as to maximize revenue, profit and market share (‘Pizam,2005,p.551").

4. With this in mind, hotels and hotel managers implement revenue management systems which are able to monitor how many rooms are being reserved and react to this information, for example, there is a short amount of time before the date approaches in which a number of rooms are not sold, managers can decide to offer discounts to entice people to fill these rooms ('Phillips, 2005").

5. A room which is unsold is more financially detain to a business than a room which is sold for a reduced price, due to the perishable nature of the product) The predominant negative factor of systems is that they are extremely expensive and can therefore be costly for hotels to maintain) indeed, ' Phillips explains that companies with expensive and sophisticated revenue management systems are doing bankrupt) This is why five star hotels are often able to employed while hotels which are lower down the market are not ('Phillips, 2005, p. 147").

6. It is clear that technology used in hospitality establishments is also used to make customers more convenient 'peacock notes Automated hospitality enterprises will become increasing feature of the industry, particularly at the budget end of the market, but the main use of information technology will be in enhancing customer service, rather than replacing it) For example, many hotels use technological booking systems which are it easy for clients to book online and to have all the information they need about the rooms available to them) They also use technology within the hotel to benefit the customer during their stay) For example, Many have advanced communications systems installed in the rooms which means that those on business trips can continues with their work while they are guests at the hotel) Once again, in 8star hotels, it is all the more important to provide these facilities customers pay a lot of money and so expect to have a certain amount of facilities and quality additions provided for them ('peacock, 1995, p.21").

7. Really in the last two decades, technology has become far more advanced and far more widely used throughout all types of industry. The tourism and hospitality industry is no exception. Indeed, many tourism and leisure establishments rely on technological systems for the majority of their operations. They use a range of computer programs from everything to bookings, communications, security and payments. If a hospitality establishment does not use some sort of advanced technological system in its operations, it is deemed to be out of date and disorganized. Indeed, James Bardi begins to outline the importance of these programs by claiming that “a well-organized reservation system allows hotels to ensure a steady flow of guests into their properties”. Furthermore, profitable business ventures rely on effective marketing, which includes reviewing people who require hotel products and services, determining their specific needs, developing products and services that meet those needs, availing a profit on the sale of those products and services (‘Bardi, 2010”).

8. Managing hotel service is very complex, hence it involves job of dealing with customers directly, purchases made by customers and room reservation. The manual hotel management is subdivided into section with each section having specific tasks. These tasks will however from time to time interact operationally to achieve organizational objectives. The mode of interaction consists of all characteristics of a typical manual system i.e. communication through verbal means, documents etc. This now leads to computerization of hotel management. The proposed intelligent hotel management (IHM) system is free from a significant number of hotel staffs that provides those facilities and fewer formalities. In mal-populated countries dearth of manpower is increasing gradually. Therefore, they must import manpower from other countries. In this condition the IHM can be a permanent solution. Moreover, it possesses adequate security ('W. J. Relihan Iii"). This system provides hi-tech room facilities including auto controlled door, automatic light controlling, voice active devices etc. Apart from these, it prevents the waste of electric power as well as excessive water that are the main ideas used in the paper. Additionally, there is an integrated new image processing approach which accurately ensures the presence and darkness of the room to be occupied. The co-ordination of these activities is quite cumbersome. For instance, the receptionist has a lot of enquiries to make, and as such, a lot of paper works to do. Some facts may exist in several documents in many forms, so that information retrieved is dependent on the document referred to, some details of the receptionists' transactions with customers have to be forwarded to other directions, for example, details of the number of days of reservation booked by a customer has to be forwarded to account section for billing. The dinning section also keeps the record of customers expenditures and communicate them to the account section, for billing also for example during the lodging of the customer, all his expenses are recorded so that at the same time of exit, the document will be forwarded to the account section for processing. The dinning section also interacts with purchasing section by notifying them of their stock needs etc. The purchase section is responsible for the general stock control activities. They purchase all the goods needed by the hotel and they rely mostly on the information from other sections to determine facts. With all these, there is need for hotel management needs to be computerized. ('Ogirima Sanni Omuya "Computerised Hotel Management")

Methodology

For Manager:

Manager can have partial access to the System. The manager can view the availability and can change the cost of the room and other service details. He can access the list of customers currently checked in and can check all the reservations with date. He can add new people and he can also remove anyone from the system. He can edit the whole database.

For Receptionist:

Whosoever is the Receptionist he must log-in and then he can book the room for the customer and this will serve the customer as offline mode. He can check the availability of rooms between the dates required and book the room if available. When he will log-in his attendance will be taken and it will be easy for the Manager and Owner to monitor them. Here they will also get a notification of a booked room so that they can beforehand maintain the room.

The project consists of functions such as adding, modifying and deleting customer details from the file of hotel management system project in C. All the added, modified and deleted information regarding customer details is stored in file. Here is the brief description of each of these functions.

Add customer detail: The information asked for by this function are name, address of the customer, date of the customer's arrival, phone no., email id, period etc.

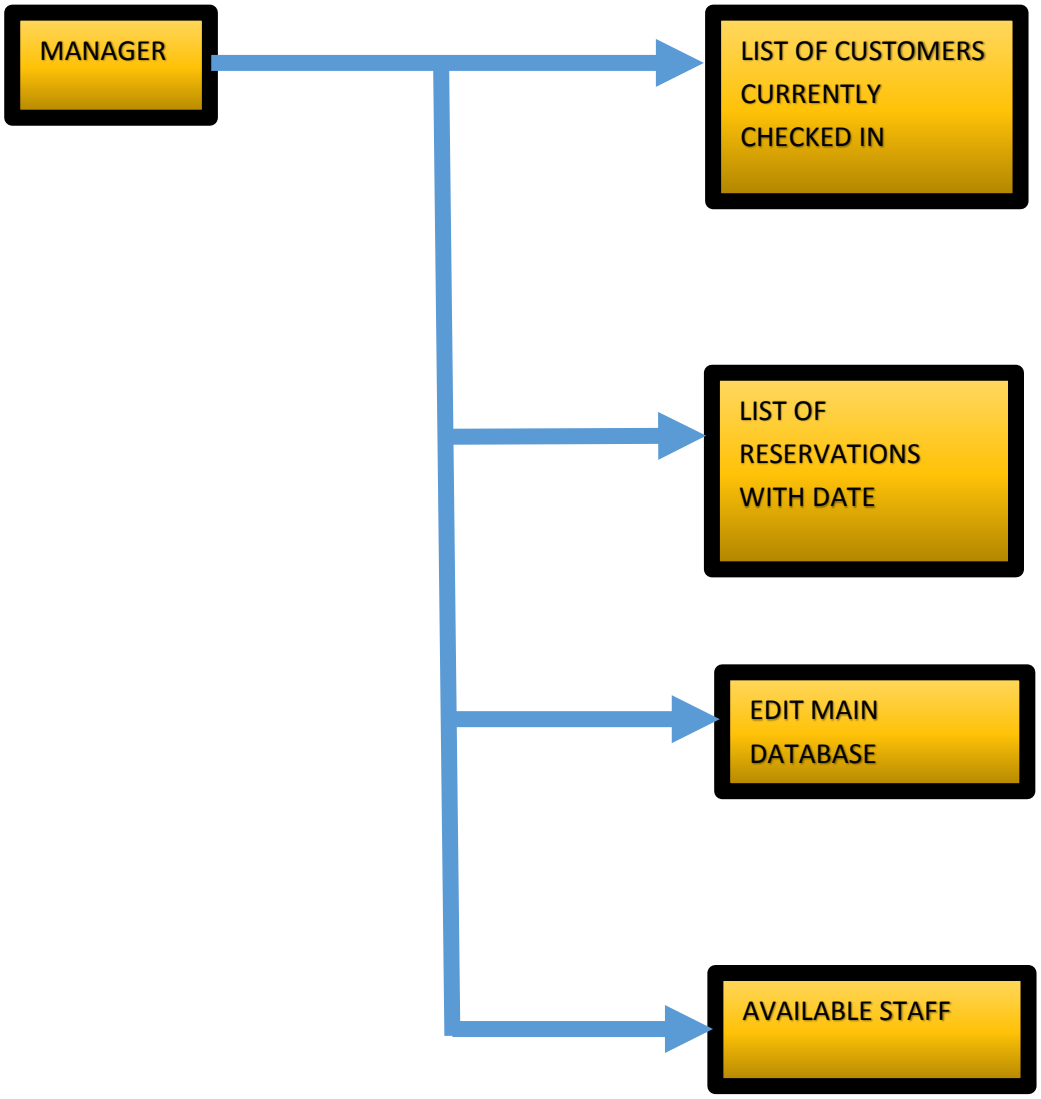
Display customer details: This function displays the details of all the customers in the hotel. The info like customer number, name, address, room number and date are listed.

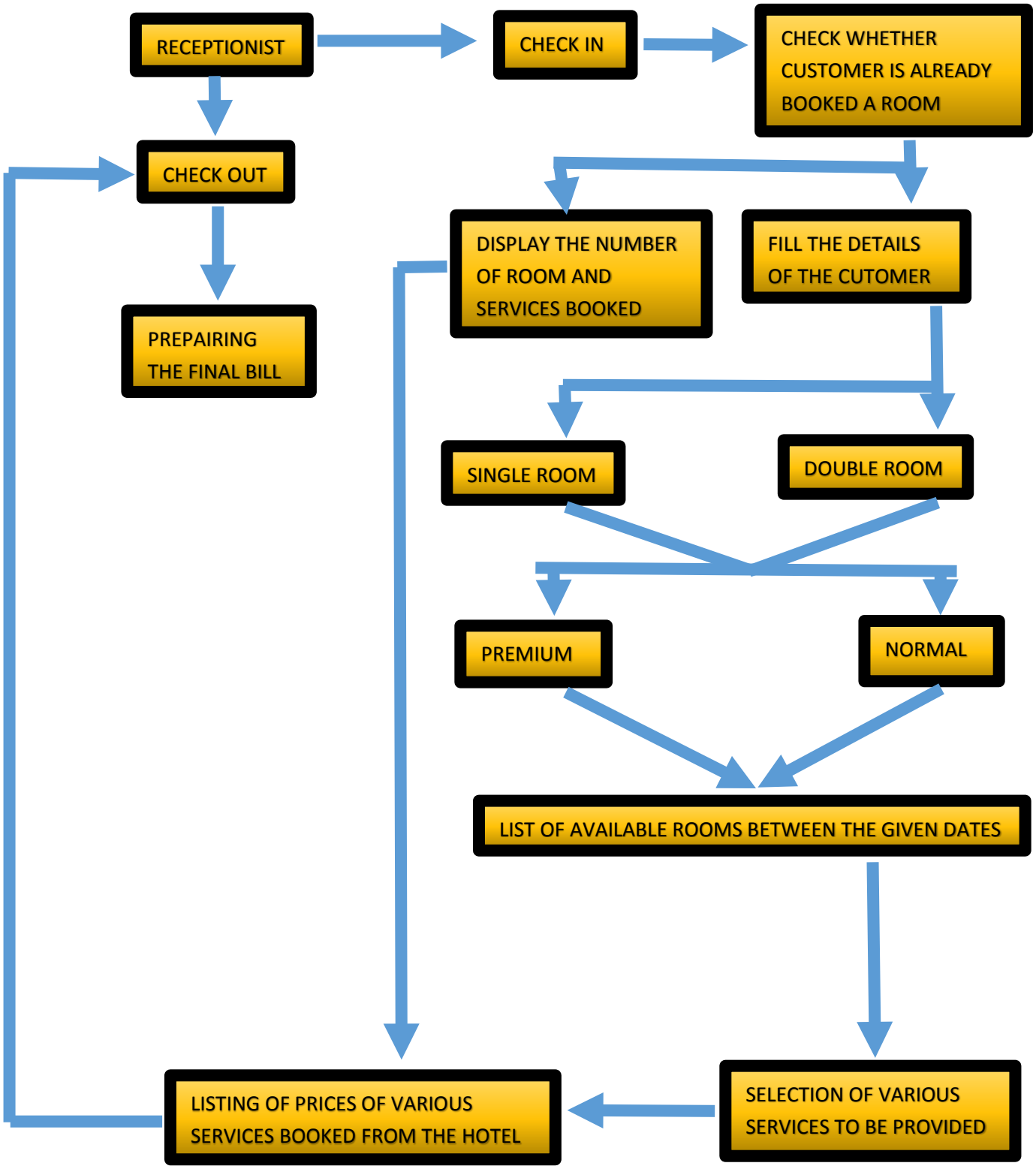
Modify customer detail: To edit customer detail in hotel management system project in C, customer number is sought from the user. Then, the name, address, date, month and year of arrival of a particular customer can be modified, and all the edited data are stored in file.

Delete a customer record: For this, the user needs to provide the customer number of a particular customer whose record is to be deleted from the hotel management system file.

Search a customer's record: If the user wants to search the records of a customers added in the hotel management file, he must enter his room no., if the search is successful, all the details will be displayed.

Flowchart for the program:




RECEPTIONIST
CHECK IN
CHECK WHETHER CUSTOMER IS ALREADY BOOKED A ROOM
CHECK OUT
DISPLAY THE NUMBER OF ROOM AND SERVICES BOOKED
FILL THE DETAILS OF THE CUTOMER
PREPAIRING THE FINAL BILL
SINGLE ROOM
DOUBLE ROOM
PREMIUM
NORMAL
LIST OF AVAILABLE ROOMS BETWEEN THE GIVEN DATES
LISTING OF PRICES OF VARIOUS SERVICES BOOKED FROM THE HOTEL
SELECTION OF VARIOUS SERVICES TO BE PROVIDED

Results and Discussion

The project contains a detailed study of how the room and customer database is managed and how the billing is done. The project gives all whole knowledge and information about the hotel management system.

This hotel management system is developed for hotels that are using a manual system to handle hotel processes. The manager can maintain daily updates to the hotel records. This system will automate the major operations of the hotel. The manager must be an authorized user. Managers can access all system functionalities with limited restrictions. Receptionists can access the Reservation Management section. The main aim of the entire activity is to automate the process of day-to-day activities of Hotel.

The Reservation System is to keep track of room reservations. Using this system, the user can check which room is reserved and which room is available. He can reserve a room from the reservation module. Room management modules help the user to keep track of all the information about the hotel room. The administration department will monitor it all. The main aim of developing this system is to computerize all the activity of the hotel like Admission of a New Customer, assign a room according to customer's demand, checkout of a customer and releasing the room and finally compute the bill etc. Using this system, you can manage check in and check out process easily. At checking in, you can easily check the availability of rooms in the hotel. And at the check-out you can easily generate the total bill.

The main objective of the entire activity was to automate the process of day-to-day activities of Hotel. Using this system, you can manage room activities and keep track of admission of a New Customer. Using this system, you can check rooms according to customers' needs and can easily assign rooms to customers. Checkout of a customer and updating the releasing room information in the system is very easy. When a user does, the checkout system will generate a final bill after calculating all the bills. Hotel management can also check the list of Regular customers.

Existing Hotel Management System

Currently in the hotel all the work is done manually. When a guest makes a reservation, all the reservation details (including guest details) are recorded in a hotel register. At the time of the customer, calculations of bills and inventory items are done manually too. Doing all the work manually and storing information on the register takes time and wastes many precious man hours. Manual calculation of bills is also error prone. If the management wants any old information like room record or reservation details, then finding old records is a very tiresome task and it takes a lot of time to find records form old files.

The following are the main problems in managing the hotel manually-

- Manually keeping records is very time consuming.
- Data is not always reliable as it is handwritten and some human errors might have occurred, for example, wrong telephone numbers, among others.
- Slow process of reservation. The user has found manually whether a room is available or not.
- Hotel information data is not secured. It can be easily theft or altered.
- Finding records are very time consuming.
- Retrieval of guest records is extremely difficult. Users must manually search for each record to find the required information. It takes a lot of time.

Conclusion

This project is designed to meet the requirements of Electronic Hotel Management.

It has been developed by keeping in mind the specifications of the system. We have designed a program that creates a customer id and then allots rooms in accordance with that with the date of arrival and period of stay. All the records can be listed modified and searched for using our program. The rooms are stored and accordingly, the final bill is also calculated and printed during checkout.

For designing the system, we have used simple data flow diagrams. Overall, the project teaches us essential skills like:

- Using system analysis and design techniques like data flow diagrams in designing the system.
- Understanding the database handling and query processing.
- Using file management for the storage of records and their modification.
- Using file handling for various purposes.
- Using switch case for menu driven programs.
- Using global functions to be implemented later.

Future Prospect

This project can be used in the hotel after adding some more useful modules to the project for which hotels provide services, also costs and staff management. Now the hotel provides many other facilities, this project can also be improved with the improvement of the hotels. Eventually, our program will automate all the day-to-day activities of the hotel, including inventory database among other features.

Utmost care and back-up procedures must be established to ensure 100% successful implementation of the computerized hotel system. In case of system failure, the organization should be able to process the transaction with another organization or if the worst comes to the worst, it should be able to complete it manually.

Our features such as online reservation, review the booking, bills and payments will be added to the custom app and website specialized for the hotel itself, through which the manager will also be able to modify the database through a special login.

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