

The Design and Implementation of the Online Hotel Reservation System

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Abstract— *Online hotel reservations systems are becoming a very popular method for booking hotel rooms. Travellers can book rooms from home by using an online security to protect their privacy and financial information. The Online Hotel Reservation System (OHRS) is an online web-based system with specified majorities in the field of hotel online reservation system. The objective of this paper is to design and implementation of the online hotel reservation system. The case study of this paper is Royal hotel Bagan in Myanmar. Royal hotel is one of the famous tourists hotels located at Bagan. The Online Hotel Reservation System we are going to implement will be covering all the basic processes done in the Hotel. It would handle Guest details, Reservation details, Room service details, staff management details and room types.*

Keywords— *Desin, Hotel Reservation, Implementation, Bagan, Myanmar.*

I. INTRODUCTION

The Online Hotel Reservation System we are going to implement will be covering all the basic processes done in the Hotel. It would handle Guest details, Reservation details, Room service details, staff management details and room types. Online hotel reservations are becoming a very popular method for booking hotel rooms. Travellers can book rooms from home by using online security to protect their privacy and financial information and by using several online travel agents to compare prices and facilities at different hotels. People can book directly on an individual hotel's website. An increasing number of hotels are building their own websites to allow them to market their hotels directly to consumers. Non-franchise chain hotels require a "booking engine" application to be attached to their website to permit people to book rooms in real time. One advantage of booking with the hotel directly is the use of the hotel's full cancellation policy as well as not needing a deposit in most situations. [1]

The main tourist destination in Myanmar is Bagan. capital of the first Myanmar Empire; one of the richest archaeological sites in South-east Asia. Situated on the eastern bank of the Ayeyawaddy River. The Magic of Bagan has inspired visitors to Myanmar for nearly 1000 years. Bagan covers an area of 42sq.km containing over 2000 well-preserved pagodas and temples of the 11th-13th century. Bagan is an ancient city in central Myanmar (formerly Burma), southwest of Mandalay. Standing on the eastern banks of the Ayeyarwady River, it's known for the Bagan Archaeological Area, where more than 2,000 Buddhist monuments tower over green plains. Holy sites around Old Bagan include ornate Ananda Temple, built in 1091 and topped with a golden stupa. Nearby is the vast 12th-century Dhammayangyi Temple.[8]

Royal hotel is one of the famous tourists hotels located at Bagan. Its history extends up to 5 years. Most of the tourist visit Bagan choose Royal hotel due to several reasons such as the iconic location, panoramic view of the river from hotel. At present about 30 employees are working attached to several departments of the hotel. Both local and foreign guests reserve rooms, conduct meetings, weddings and many more other functions at hotel. Employee is the key role of the hotel. They have assign to keep room records, reservation details, clean room wedding halls; control the inventory of hotel and many more other responsibilities.

Currently, Royal hotel is using a manual to handle hotel processes. When a guest make a reservation, all the reservation details (including guest details) are recorded in a file and those files are stored in a special cabinet. Calculations of bills and inventory items are done by manually too. As the current system is a file based one, management of the hotel has to put much effort on securing those files. They can be easily get damaged by a fire, insects or even by a natural disaster like tsunami. Keeping files takes much time and wastes much precious man hours. Although we can't trust the accuracy of calculations done by manually, it's not a surprise of encountering problems. If we want to check for a previous room record or a reservation detail, management will be in a great problem. It's a tough and time taking process to search for a record in a file.

The Online Hotel Reservation System we are going to implement will be covering all the basic processes done in the Hotel. It would handle Guest details, Reservation details, Room service details, staff management details and room types. All the above mentioned details and information are stores in the system database. It could save time when retrieving data from the database. Interfaces will be designed user friendly and the functions will be displaying in a simple manner.

II. LITERATURE REVIEW

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 [7].

A hotel reservation system, commonly known as a central reservation system (CRS) is a computerized system that stores and distributes information of a hotel, resort or other lodging facilities (www.mindspeakit.com). A CRS offers assistance to hoteliers to manage all of their online marketing and sales where they can upload their rates and service availabilities to be seen by sales channels (www.mindspeakit.com). The list of main modules that are present in a CRS are: Content, Information stored on a CRS and Reporting. Content consists of Reservations, Profiles, Groups and Blocks, Rate and Inventory Control, Administration, Global Distribution Interface, Web-based Interface. Information commonly stored in a CRS consists of Room Types, Rate plans architecture, Room rates and conditions (guarantee, deposit, customized cancellation rules, minimum length of stay, maximum length of stay, closed to arrival, arrival not allowed, departure not allowed, ...), Room inventories, Generic hotel information (address, phone number, fax number), Reservation information. The CRS Reporting module provides a number of standard reports. System reports may be generated automatically and may be run daily, weekly, monthly, yearly. It includes Expected Arrivals, Reservation, Property Forecast, Total Booking Activity, Stay Activity, Monthly Booking Activity, Daily Booking Activity and Property Detail.[2]

There are several benefits of OHRS. It makes the reservation process computerized and thus helps one to undertake a large amount of transactions at a low cost. It lets the hotel in charge of over margins and pricing strategy. It enables one to check available inventory and complete an online booking form making the reservation process more efficient and less time consuming. The clients can settle the room rates and special offers at no extra cost. OHRS assists hotel's guests and agents with different payment options such as credit/debit cards. The system can track hotel's performance on a regular basis as all information concerning payments is updated online and sent to the reservation manager by means of e-mail or mobile messages.

Hotel Management System operates a global online hotel reservation system for business and leisure travellers. To compete with the international e-marketplace, a great deal of attention should pay towards the optimization of user requirements to generate recommended hotel alternatives.[3]

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III. THE REQUIREMENTS ANALYSIS OF THE OHRS

1. Interface Requirement

This is a web-based application which provides functionality for hotel. It constructs friendly user interface for normal customers even for those who begin to have first attachment with networks. It has to be easy for them to book a room and send request for special needs as well as their feedbacks. Professional and well - organize structure website will impress customers at their very first look. For staff account, as they're familiar with the software, the interface can be a little bit more complex but professional. Check-in and check-out page must provide quick access for the staff to arrange room for customer as well as update status of room. User interface for administrator will be the most complex. Administrator will be authenticated with highest priority in terms of accessing rights. Software must provide them some tools to do their job.

2. Hardware Requirements

This application supports PC with Windows operating system like Window 7, Window 8, and Window 10..., the system provides high compatibility for different hardware, and that is, the system can be installed and accessed through major commercial PCs since it is programmed with high level languages.

3. Software Requirements

Our application can run on popular browser, for example, Internet Explorer, Firefox, Opera, Google Chrome... Client should use latest version of these browsers to take advantage of all the newest features. In our working process, we use some software applications to create and design website like PHP, CSS, and design interface by HTML.

4. Project Risk management

Risk Management Process is the tool through which we can protect our project from the loss, harm, injury, adverse effect etc., so that we can sort and mitigate or eliminate that risk if necessary.

IV. CONSTRAINTS OF THE SYSTEM

The system we are going to develop will give remedies for the problems that are currently facing by our client. Shifting to our system can acquire advantages such as saving of time, man hours, and space wastage. This will increase the efficiency in hotel daily activities. The following table 1 shows the constraints of the system.

Table 1. Constraints of the system

Memory	System will have only 10GB space of data server.
Language Requirement	Software must be only in English.
Budget Constraints	Due to limited budget, HORS is intended to be very simple and just for basic functionalities. UI is going to be very simple.
Implementation Constraints	Application should be based on java only.
Reliability Requirements	System should sync frequently to backup server in order to avoid the data during failure, so it can be recovered.

V. THE PROJECT DESIGN OF THE ONLINE HOTEL RESERVATION SYSTEM (OHRS)

The OHRS is an online web-based system with specified majorities in the field of hotel online reservation system. The main features of this system are:

- Allow visitors to book, reserve room, halls for events in the hotel with just easy-way of accessing through a totally automatic account system.
- Allow customers to check, modify the booking, send requests, feedbacks and verify the bill of staying.
- Give permission to staff to log in and do the admin tasks such as check-in, check-out at reception table, searching rooms, customers, replying requests and so on.

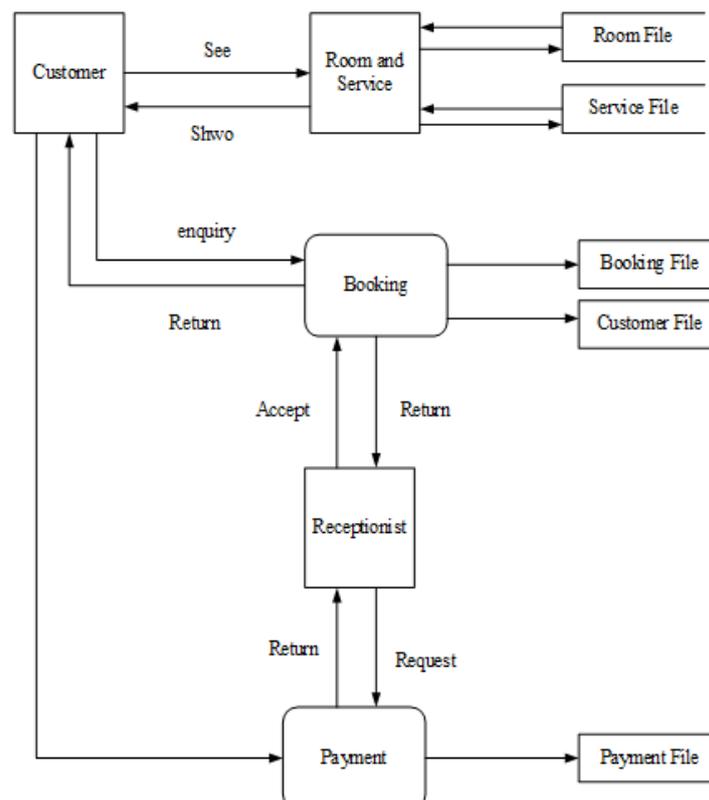


Figure 1. Data flow diagram of online hotel reservation system

The following figure 1 shows the design and development of the data flow diagram of the online hotel reservation system. shows the opening page when the users access the Online Hotel Reservation System. It shows the major links that allow the user to select options when the system is accessed. It contains buttons like Home Page, Rooms for viewing the available rooms of the hotel, Reservation when making reservations and About Us which contains information about the developer of the system. And figure 2 shows the sequence diagram of the OHRS.

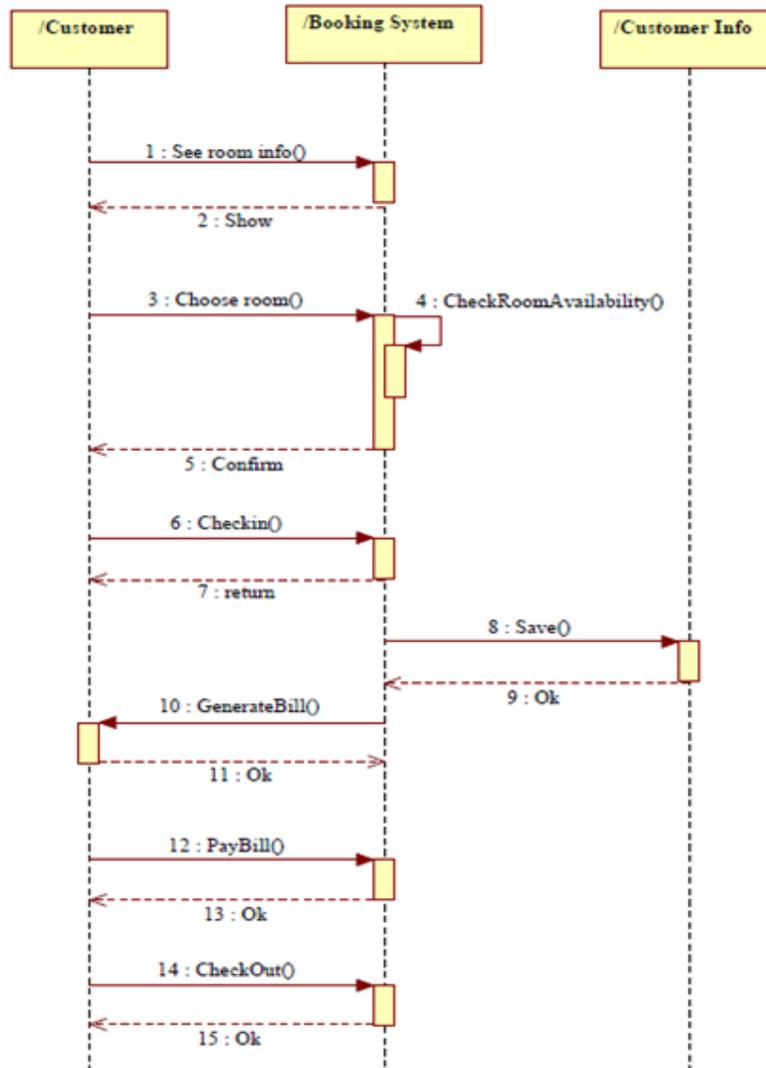


Figure 2. Sequence diagram of the online hotel reservation system

And figure 3 shows the cancel booking system of the OHRS.

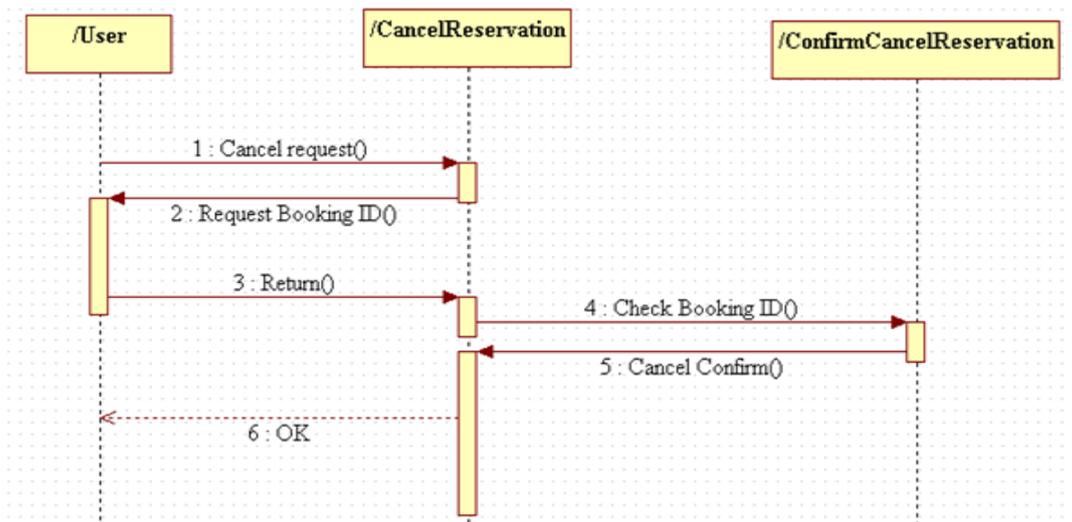


Figure 3 shows the cancel booking system of the OHRS.

And figure 4 shows the collaboration diagram of booking system.

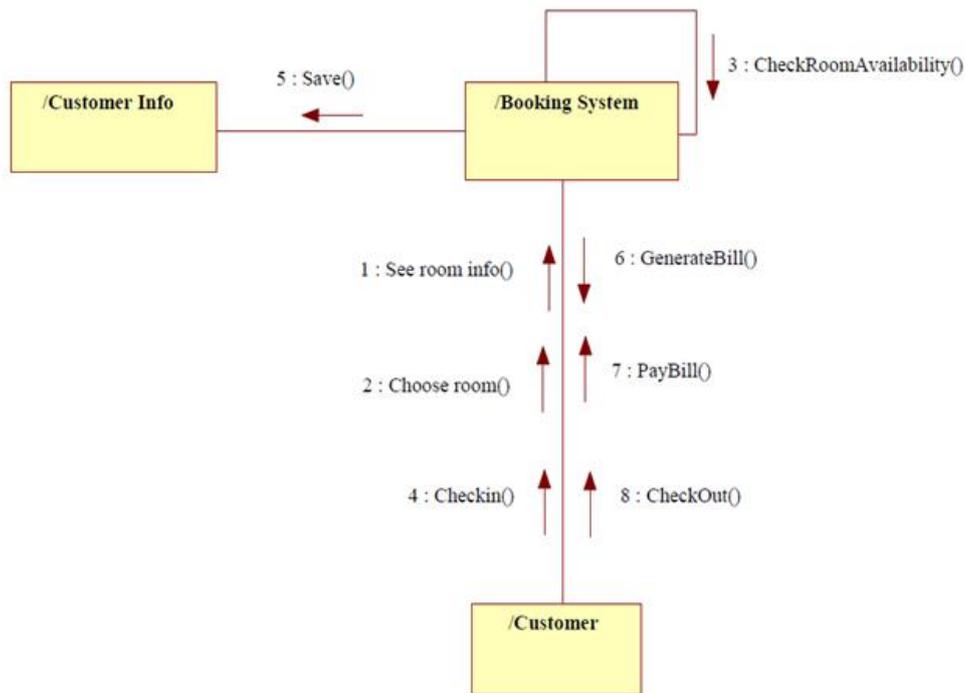


Figure 4 shows the collaboration diagram of booking system.

And figure 5 shows the cancel booking system.

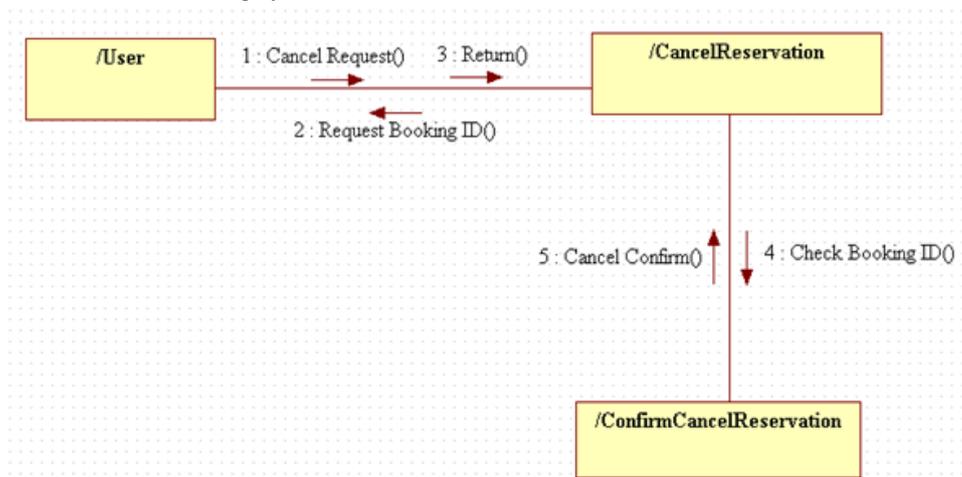


Figure 5 shows the cancel booking system.

VI. CONCLUSIONS

The Online Hotel Reservation System was developed to replace the manual process of booking for a hotel room or any other facility of the hotel. For security purposes, the system required a username and password assigned to each account. A system administrator monitored and supervised the creation of student and client accounts. This system will help to make their booking and sales reports and also the manual recording of customer, to keep their records and accounts would be easier and to retrieve it any time they want.

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