

Online Hotel Reservation System

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Abstract

The hotel industry is a business venture for the owner and a solace for the traveler and/or tourist. A customer can get stranded in the quest to secure a hotel room to pass the night if he has not made adequate plans by the existing system. Through this study, it was realized that for a customer to be guaranteed a room, he or she has to physically come to the hotel since the attendants paid more attention to that. He could also send a friend or relative who lives around the neighbourhood of the hotel to do the booking for him. There is nothing to bond the hotel and the customer in person that he has indeed booked for a room. This study took Hansonic Hotel as its case. It looked at creating an online reservation system to enable customers choose the room they wanted after a virtual tour to guarantee him a room.

Keywords: reservation, hotel, customer.

1 Introduction

The Hotel Industry like any other business opens up socio-economic opportunities for both owner and customer. It has the function of providing hospitality services to customers. These customers can be travelers, foreigners, businessmen, tourists, visitors, etc. Customers are mostly constrained in trying to get a room to pass the night, as the usual practice is to look for a hotel when you have arrived in the particular location, walk in and find out whether there is a vacant room. In the case that there is no vacant room, you have to move to next closest hotel to enquire once more. So what happens if you move around sometimes very late in the night in search of a room and all close by hotels are fully booked? Other times you may be lucky to have the contact number of the hotel to reach them to book for a room. But do the hotel attendants really ensure to keep a room for you? You would be lucky to go and get a room booked for you. They are quick to serve those who walk in rather than those who may get access to them on phone to book a room. On other times too, if you have friends or family members in the area you want a room booked, they have to go and do the checking for you. There is no system in place that bonds the hotel and the customer that the customer has actually booked a room and for that matter he is guaranteed a room. This can make customers really stranded especially if it is getting late in the night.

It is in this light that this study looks at the activities at HANSONIC Hotel in Dansoman. Hansonic hotel was

established in the 1973. It is a budget hotel meaning it is less than a one star hotel. It was established to provide accommodation and catering services for tourists, locals, foreigners who are in Accra to trade, rest, eat as well as those on vacation. Hansonic Hotel has a sister institution called Hans Cottage Hotel in Cape Coast. Hans Cottage Hotel compliments Hansonic hotel since it has a very spacious space to mainly receive tourists and holiday makers. It engages in tourist activities like Crocodile viewing, Fishing, Bird watching as well as Boat riding, Monkey Playing, etc. The hotel has other services for tourists like car rentals, swimming pool, tennis court, salon, etc. This makes both institutions very marketable because of their proximity. Hans Cottage Hotel is present online (www.hansotelghana.com) and it displays the facilities they have but there is scanty information on the Hansonic Hotel. Though the Hans Hotel attracts more tourists because of its proximity in Cape Coast, Hansonic hotel also needs more online presence to serve customers who are in Accra.

Hansonic hotel uses a manual booking system to date and likewise the Hans Hotel. Normally when a the book for booking gets filled, it is damped elsewhere and sometimes disposed which is not a good practice as you cannot analyse data to see trends, and make proper planning. Management is not excited about this since they are not able to keep proper records or details. This obviously can limit their competitiveness since customers cannot book for a room from any location by themselves.

The study therefore aimed at developing an online hotel reservation system to enable customers book for whatever they need from wherever location they are before lodging into the hotel. The system is to allow for easy access and retrieval of information and reporting. With such a system in place, Hansonic Hotel would be more competitive in Accra.

2 Literature Review

2.1 Tools and Technology

According to Tim Berners-Lee (1998), HTML which stands for Hypertext Markup Language is the predominant markup language for web pages, a building block of web pages. A web browser reads HTML documents and compose them into visual or audio web pages (lamp.cse.fau.edu). The browser does not display the HTML tags but uses the tags to interpret the content of the page (www.w3schools.com)

Web browsers can also refer to Cascading Style Sheets (CSS) to define the appearance and layout of text and other materials (Taylor, 2013). The W3C, maintainer of both HTML and the CSS standards, encourages the use of CSS over explicitly presentational HTML markup (Debolt, 2007)

JavaScript is an implementation of the ECMA Script language standard and is primarily used in the form of client-side JavaScript, implemented as part of a web browser in order to enhance user interfaces and dynamic websites (McFarland, 2008). This enables programmatic access to computational objects within a host environment.

PHP is a general-purpose scripting language originally designed for web development to produce dynamic web pages. For this purpose, PHP code is embedded into the HTML source document and interpreted by a web server with a PHP processor module, which generates the web page document (Pan, Chen, and Nguyen, 2012).

SQL is a computer language designed for the management and retrieval of data in a database management system often referred to as Structured Query Language, designed for managing data in RDMS and originally based on relational algebra and calculus (Ghosh, 2010).

Notepad is a common text-only (plain text) editor. The resulting files typically saved with the .txt extension have no format tags or styles, making the program suitable for editing system files that are to be used in a DOS or HTML environment (533507.weebly.com). Notepad supports both left-to-right and right-to-left based languages (Afriyie, 2012).

2.2 Hotel Reservation Systems

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.

2.2.1 Reservation System for Shangri-La Hotel, Singapore

Shangri-La Sentosa Resort in Singapore is one of the hotel chains for Shangri-La Corporation. Its official website consists of many useful functions and is purposed at providing the hotel's information as well as an online reservation system. Visitors can get the hotel information such as hotel location, room rates, promotions, room description, photo gallery and other hotel facilities from their website (www.shangri-la.com/singapore/shangrila). It has a virtual tour of the hotel. The places available in virtual tour are lobby, rooms, function rooms, recreation, restaurant and bars. The hotel's menu bar is on the left hand side of the page. Each visitor has to install a Java app before he/she can view the virtual tour application anyway.

For businessperson usage, the website provides a function, which is called meeting planner to assist them to plan their meetings. To reserve a room, there is a form for guests to fill in their reservation details. In addition to room reservation, guests may fill in another form to make special requests for their reservation.

The structure of this website is well organized and easy to navigate through. Visitors may get a lot of information from this website. The content of the website is normally up-to-date. These are important to apply in developing such a system, as information is crucial for potential guests. The system must make sure that potential guests get the correct information, such as room rates and hotel location.

2.2.2 Reservation system for Hotel Swiss-Garden Kuala Lumpur, Malaysia

Hotel Swiss garden is a well edified hotel located in Kuala Lumpur. Its website consists of several functions and aims at providing customers accurate information about the hotel as well as their online reservation system (www.swissgarden.net). Visitors can get hotel information

such as location of hotel, room rates, room description and hotel facilities. The reservation process requires guests to fill their details on a reservation form. Reservation is guaranteed by giving credit card details or by cash deposit. The layout of their online system is clear and user-friendly. Guests can browse through to get information easily. This online system shows a picture of the hotel room. Guests are not able to view the whole picture of the room they are going to reserve but a picture is worth thousand words. Instead of using words to explain the room condition, it is more suitable for guests to have a virtual tour of the room they are going to stay in. This can increase customer satisfaction. The online system of Swiss-Garden is fully organized by its developer. The disadvantage of their online system is that there is no telephone/mobile phone number to enable customers reach them; they have only provided the physical address.

3 The Existing System

The Hotel currently runs a manual booking system and therefore requires customers to only book for rooms or any other service by walking to the receptionist or calling them on phone or using a third party option. Any enquiry to be made demanding feedback must usually be forwarded to the hotel in person. Sometimes management is given false reports concerning the work flow of the hotel and employees also give falsified pricing information to customers from time to time.

From an employee’s account, details of customers are hardly used in the workflow and that also, records are not properly kept; books used to keep records are disposed of when they get filled up. Hansonic Hotel hardly advertises and depends on word of mouth adverts by some loyal customers in and around its vicinity.

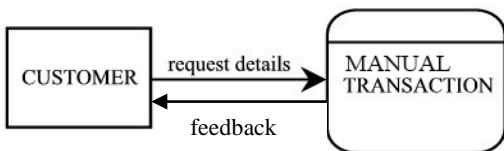


Fig.1: Context Diagram of Old System

4 The Proposed System

The proposed system is a web based application that allows customers to make enquiries online and book for services providing the required details. It adopts the virtual tour feature that was seen in the Shangri-La Hotel in Singapore.

The following are solutions the proposed system brings on board:

- Well laid out information about Hansonic hotel.
- The manual booking system system is replaced with an online reservation system.
- Management can pull reports at anytime to tell the current situation in order to put the necessary measures in place.
- The system helps secure customer information since no information is disposed off.

A customer surfs through any of the items of the proposed system. An about us page is designed to allow customers get all necessary information about the hotel and its facilities. A contact us page is provided where customers can send emails. More importantly, customers can make reservations at their own pace. This study has been categorized into four groups:

- System monitoring done by system administrator
- Filling forms to make enquiries and reservations
- Approving or deleting enquiries
- Virtual Tour

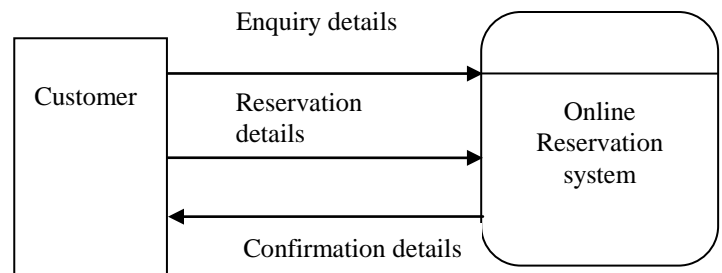


Fig. 2: Context Diagram of Proposed System

5 Methodology

Macromedia Dreamweaver was used because it is user friendly and has a lot of features. Dreamweaver lets users build Web pages by dropping elements onto the page (Malloy, 2001). It provides transfer and synchronization features, the ability to find and replace lines of text or code by search terms and regular expressions across the entire site, and a templating feature that allows single-source update of shared code and layout across entire sites without server-side scripting (lib.fsu.edu). The behavior panel also enables use of basic JavaScript without any coding knowledge (Sfetcu, 2014).

Microsoft internet explorer was the browser used for the project as it is free and comes with all windows based operating system. Once the browser has connected to a website, a document file is sent to the user’s computer. The browser contains HTML commands, it interoperates these

commands and displays the document as a web page. Adobe Flash (formerly Macromedia Flash) is a multimedia platform used to add animation, video, and interactivity to web pages (Bidgoli, 2011).

WAMP is a package of independently-created programs installed on computers that use a Microsoft Windows operating system (techstream.org). WAMP is an acronym formed from the initials of the operating system Microsoft Windows and the principal components of the package: Apache, MySQL and one of PHP, Perl or Python (adroitcare.wordpress.com). PHP is a scripting language that can manipulate information held in a database and generate web pages dynamically each time content is requested by a browser (www.marolinedesign.com). PHP was used for the server programming which is basically queries used to link the website to the database. Other programs were included, such as [phpMyAdmin](#) which provides a graphical user interface for the MySQL database manager.

6 Design and Development of the Proposed System

6.1 User Interface Design

The webpage design helps users gain access to the information that the website presents. Users are given higher priority before any building can be done and for that matter the size of the system and the general outlook has to be taken into consideration. There is an interface designed for the user and the administrator.

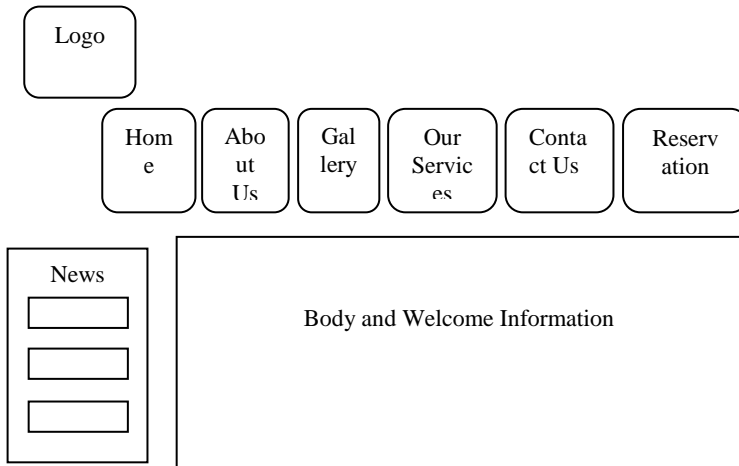


Fig. 3: User Interface Design

6.1.1 Administrator Interface Design

The administrator interface has a log in feature for the administrator to gain access to the system.

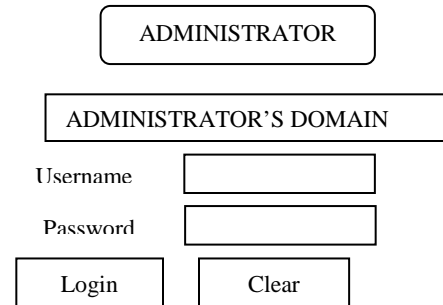


Fig. 4: Administrator Interface Design

6.2 Database Design

Table 1: Room details

Field Name	Data Type	Width	Description
RoomNo	Int	10	Room Number
RoomType	Varchar	20	Room Type
RoomPrice	Currency		Room Price

Table 2: Admin Details

Field Name	Data Type	Width	Description
Admin_id	Int.	10	Admin Id(auto increment)
Username	Varchar	30	Name of Admin
Password	Varchar	10	Password of Admin

Table 3: Customer Details

Field Name	Data Type	Width	Description
Customer_id	Int	10	Customer Id
Name	Varchar	15	First Name of Customer
lastName	Varchar	20	Last name of Customer
Location	Varchar	20	Residential address of Customer
Address	Varchar	20	Postal address
Email	Varchar	15	Email Address
Telephone	Varchar	15	Telephone number of customer

6.3 Development of the Proposed System

There is a proper use of colors, font type and size to make reading easy. Hyperlinks change color to show whether the customer has already visited. Text boxes and buttons are provided to enable users input data. Labels are placed next to the text boxes to help users know what kind of data is required for each box. On the top are menus that help users see what has been hidden by clicking on the hyperlinks. The main page gives a front view image of Hansonic Hotel, and to the left, daily information and news concerning the hotel.

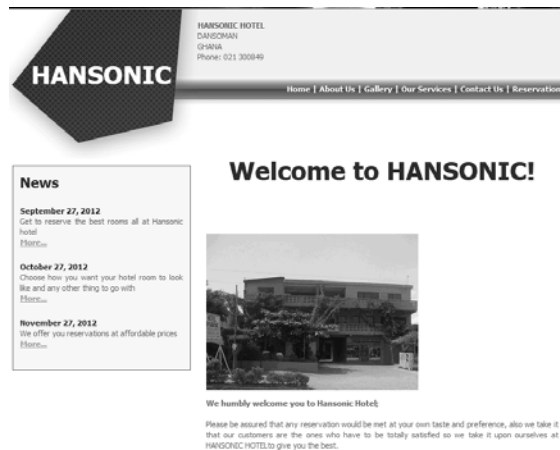


Fig. 5: User Interface

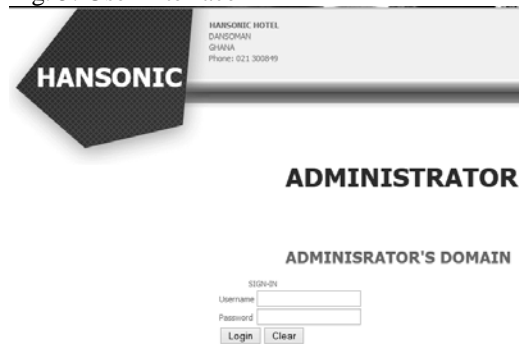


Fig. 6: Administrator Interface

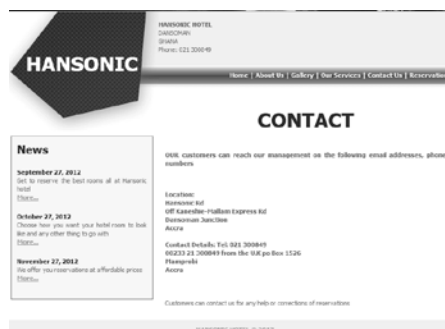


Fig. 7: Contact Page

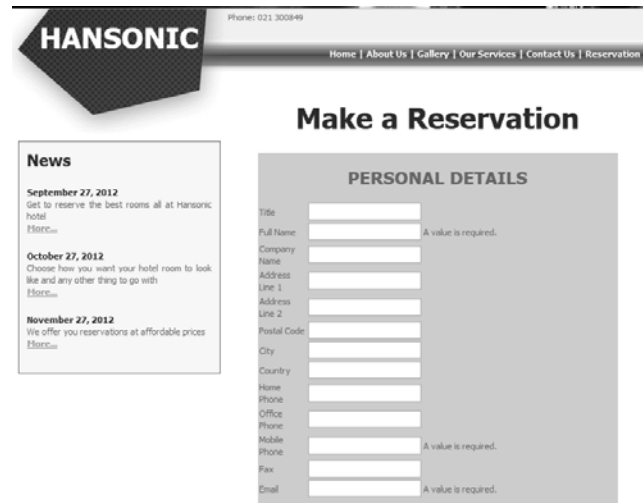


Fig 8: Make a Reservation

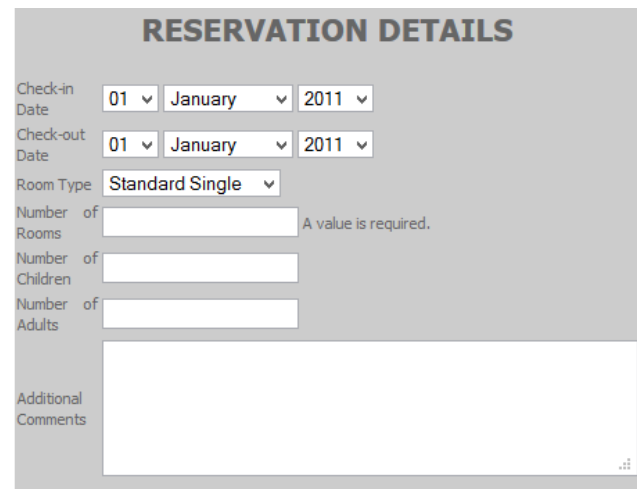


Fig. 9: Reservation Details

6.4 IMPLEMENTATION

A customer's web browser issues an HTTP request from the Contact page. On clicking the button, the content of the fields are posted from the customer's browser as a request to the web server. On receiving the request, the web server retrieves the file, Contacts.asp from its disk or memory and passes it to the php, php.dll, after processing the file php sends the HTML page to the server.



Fig. 10: Transfer of Request

7 Conclusion

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. The old system does not serve the customer in a better way; rather it makes customer data vulnerable. The new system keeps proper records of customers for emergency and security purposes. The hotel's advertising effort is now accompanied by a virtual tour created on the system.

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