OPTIMATION RESERVATION HOTEL DURING PANDEMIC COVID -19 WITH ECOMMERCE ARCHITECTURE

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Abstract

The function of a reservation is to sell goods and services in the field of online tourism, in times that have started to improve some tourist attractions have opened and offer a superior product through social media or using print media, a promotional strategy currently relying on help website-based information technology that functions as a promotional medium, facility information and processing hotel room reservations, another important thing is the establishment of good relations between customers and the hotel so that there is transparency starting from prices and facilities as well as discounts and special prices, with the implementation of this reservation system proven that the hotel owner can carry out a management and manage the room booking process as well as hotel promotion media that can still continue even during the pandemic.

Keyword: reservation, Ecommerce, Computer Architecture

Introduction

The need for information in the current era of globalization is increasingly important in connection with the purpose of information, namely to produce something more useful and meaningful for the sake of making a decision quickly, precisely and accurately. The need for fast, precise and accurate presentation of information is increasingly needed by various parties and developing companies. One of the information systems is that hotel reservations are one of the lodging businesses that are engaged in services. This inn wants a media facility to provide convenience to prospective customers who will use lodging services at the hotel. With the above, the author tries to help in the field of marketing and operations, which will later create a web-based information system that can help facilitate the data collection process. management.

Literature study

E-commerce (Electronic Commerce) is a new way of doing business, namely electronically using the help of networks and the internet. In general, there are 3 types of EC[1, 2], namely:

- B2C (Business to Customer)
- B2C, online transactions are made between businesses and individual consumers.
- B2B (Business to Business)
- B2B, businesses make online transactions with other businesses.
- B2E (Business to Employee)

In B2E, information and services are made online for workers. In the process of creating and designing e-commerce architecture, there are 6 stages, including:

- Determine the goals and vision of the business.
- Determine the information needed to create an e-commerce architecture.
- Determine business data to process business processes.
- Determine the architecture and security of the application.
- Determine the technical architecture of e-commerce.
- Determine the architecture of the organization in business processes.

In terms of making reservation information system, it is included in the B2C (Business to Customer) type. "Network is a connection between two or more computer systems that use communication media to communicate data from one data to another. The media in question is the protocol. With the network, one computer can use data on other computers, can easily print reports on other printers, can provide and get news to other computers with different areas or regions. Networks are a useful way to integrate information systems and channel the flow of information from one area to another [3, 4]

The world wide web is receiving immense public attention which no other internet application can match. In 1995, www replaced FTP as the internet application that is responsible for the majority of internet traffic. The web has become so popular that it is sometimes confused with the term internet itself, although the terms "web" and "internet" are not the same thing [5]

The web is a distributed document delivery system that runs on the internet. The web was developed at CERN (European Center for Nuclear Research), an institute for research in high energy physics in Geneva, Switzerland. The original purpose of the institute was to help physicists in different locations collaborate and share research materials. The Web is rapidly expanding beyond the scope of the high energy physics community. In 1993, there were 130 web servers on the internet. A year later the number.

The use of HTML allows us to modify the appearance or format of the document that we will transmit via the Internet. Some things that can be done in determining the format of this document are [6]

1. We can display a group of words in several sizes that can be used for titles, headings and so on.

2. We can display text in bold.

3. We can display a group of words in italics.

4. We can display the script in the form of letters that are similar to the results of typewriter typing.

5. We can change the font size for a certain character.

With HTML we can display a list or series of information in the form of points so that it is easier to read and understand Understanding the browser is an end user application, which is used by us to open web sites on the internet. Where web sites can be files, information, documents, and graphics and even other multimedia files, or in other words a web browser is a software used to allocate web page views or allow a web user to view and interact with documents. hosted by web servers. Browsers can be likened to applications such as Word, Excel [7]

With a browser we can browse web pages on the Internet, can go to every link in a web site, without a browser we cannot surf the Internet. There are many browsers on the market such as Internet Explorer, Netscape Navigator, Opera and the last one that is on the rise is Mozilla Firefox, each browser has its own characteristics and definitely has its advantages and disadvantages.

Internet Explorer and Netscape Navigator are Graphical Browsers, which means both can displays Graphic as well as text. In addition, most modern browsers today can display multimedia information including video and sound, although both require plug-ins for some formats. There is no point in the existence of a site built without being visited or known by the public or internet visitors. Because the effectiveness of the site is very dependent on the number of visitors and incoming comments. To introduce a site to the public requires what is called publication or promotion. Publication of the site in the community[8]

Research Method

The business process describes the interaction between actors and the system, an actor is a human or machine entity that interacts with the system to perform certain jobs. The Business Object Model is used to represent the functionality of an organization as a whole.
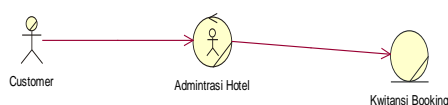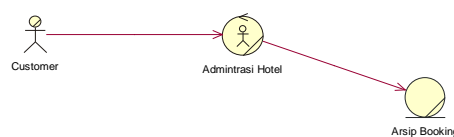

Fig.1 Business object model room booking.

Fig.2 Business object model Check out Booking Hotel

In figure (1) the process of booking hotel rooms directly where customers come directly, this process runs as usual and is manual where before making the hotel room reservation process the administrative officer will choose self-identity data, in figure (2) is an information technology-based reservation system which can be done in advance, the requested personal identity data system will be much more complex than the usual reservation system, starting with ID card and passport data, it is possible for customer or member data to be given a special design
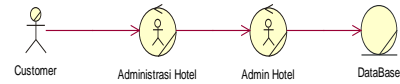
Fig.3 Business Object Model checking and Booking online

Fig.4 Business object model print news to newsprint

Business Activity Diagrams are used to illustrate functional flows in a system, in business modeling, activity diagrams are useful for describing business flows or business workflows.
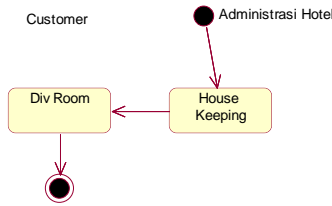

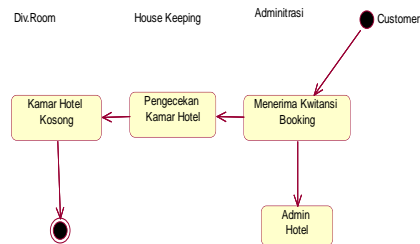Fig.5 Business activity diagram covering & making news

Fig.6 Business activity diagram submit news coverage

In figure (a) shows an activity diagram of the hotel inventory user system, in the picture there are two users, namely customers, on the main menu the user can do a registration process and choose the type of room or do the booking process first, this reservation system has two stages while in picture (b) is a registration process that is an online reservation using a website media or information system, the booking process is processed by the hotel admin then the hotel admin provides information on empty room data and is displayed on the main menu of the website, directly the customer can see the facilities provided. available plus room rates. Software requirements are factors that must be met to design a software so that the software is in accordance with the intent and purpose of the software being made[9].

•   User interface To support the user interface of the software, a web browser that supports Document Object Model (DOM) level 1 is required, such as: Internet Explorer 6, Mozilla Firefox 3.5, or equivalent.

•   Communication interface. For communication between the server and the client will use the TCP / IP protocol. Therefore, a hardware RJ45 LAN Card (Realtek RTL 8139 PCI Fast Ethernet Adapter 10/100Mbps) is needed on every computer that enters the system.

•   Application server Two types of servers are needed to centralize the processing of the software, namely web servers and database servers. For the web server, you can use the Apache 2.2.0 application and for the database server it uses MySQL 5.0.8. This server application will manage requests to the server and also the response to requests from the server to the client

The architectural design of functional requirements that must be met by the software to be built. The functional requirements will be described in tabular form, as follows:

Table 1

admin database requirements

No	Requirement Code	Description of Requirements
1.	Req-Customer -1	Browse Home
2.	Req-Customer -2	Browse About
3.	Req-Customer -3	Browse Fasilitas
4.	Req-Customer -4	Browse Location
5.	Req-Customer -7	Browse Reservation

Table 2

admin database requirements

No	Requirement Code	Description of Requirements
1.	Req - Admin-1	User Account
2.	Req- Admin-1.1	Extends : Tambah Account
3.	Req- Admin-1.2	Extends : Edit Account
4.	Req- Admin-1.3	Extends : Hapus Account
5.	Req - Admin-1	User Account

In table 1 is the design of the admin and customer or user needs table, the menu will appear on the website page menu, among the menus is the home page which is the main page of the website which contains pictures and hotel facilities, the about page is a page that explains the identity of the hotel. as well as telephone reservations or complaints, on the facilities page containing the availability of hotel facilities and infrastructure such as swimming pools, sports venues and others, on the location menu containing the location and position of the hotel usually in the form of a google map and a map of the location and the closest distance to the hotel, while the last menu is the reservation section which contains hotel reservation data with different types and room facilities and complete with a price list.
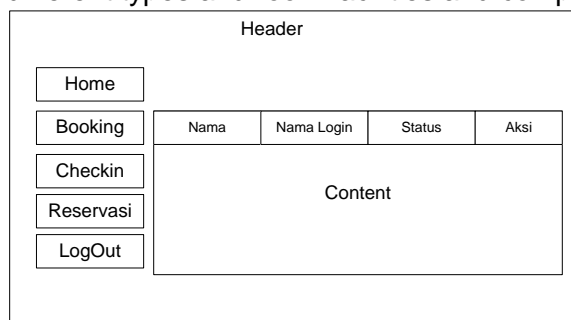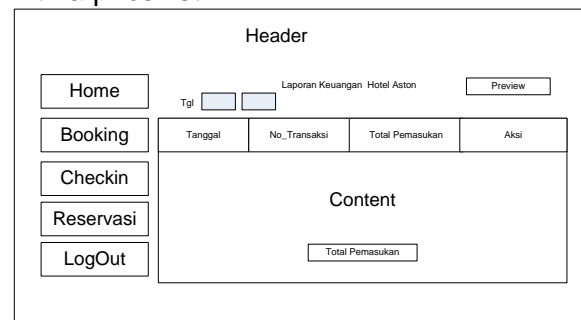

Fig.7 Admin page design

Fig.8 Reservation page

In Figures (7) and (8) is a user interface design that is used to design the appearance of the main website page, each design is made to be easy to use either by the user or the admin

Implementation system.

In developing the software, the author uses the PHP 5.1.2 programming language with MySQL 5.0.18 database, which in testing the software consists of testing employee data processing, class data, job data and payroll processing as a supporting factor to produce information [10].

Table 3

System testing on the reservation system

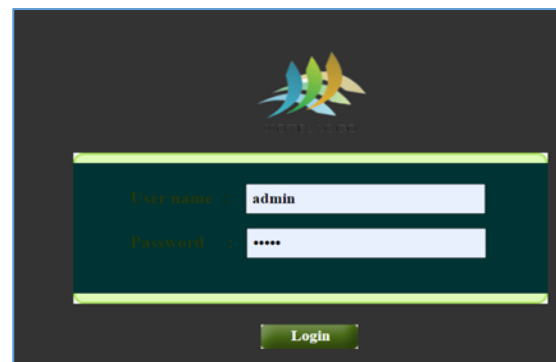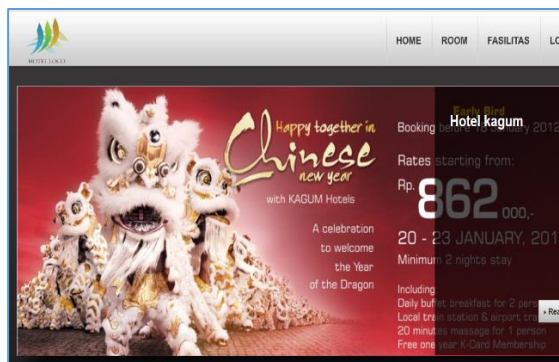| Test Class	Test Items	Identifikasi		Test Type	Testing Techniques	schedule
		Id.Req	Id.Test			
Validasi Login ke halaman user (Customer Hotel)	Login to the Web site page successfully	Req – Customer -1	TPL-01	System	Black box	Ok
	Login to customer page failed	Req – Customer -1	TPL-02	System	Black box	Ok
Home	hotel features	Req – Customer -2	TPL-03	System	Black box	Ok
About	Accomondation page	Req – Customer-3	TPL-04	System	Black box	Ok
Fasility	View location	Req – Customer-4	TPL-05	System	Black box	Ok
Reservation	View Guest Relation Form	Req – Customer-5	TPL-06	System	Black box	Ok
	Send Guest Relation Form	Req – Customer-5	TPL-07	System	Black box	Ok
	Reset Guest Relation Form	Req – Customer-5	TPL-08	System	Black box	Ok
Home	add Download	Req – Customer-6	TPL-09	System	Black box	Ok
	Change Download	Req – Customer-6	TPL-10	System	Black box	Ok
	detele Download	Req – Customer-6	TPL-11	System	Black box	Ok
Location	View location Hotel	Req – Customer-7	TPL-12	System	Black box	Ok

Fig.9 implementation on main page menu   Fig. 10 admin pages

In Figure (9) is an implementation of a hotel reservation system on the user page menu which has several main menus, namely home, room, facilities and location.

The appearance of the website is made using JQUERY so that the image and hotel information are made in the form of a slider and are more attractive. While in Figure (10) is a login system process on the admin main page menu.

Conclusion

This conclusions and suggestions that the author can convey. The author really hopes that the system can help improve system performance, so that it can produce information quickly, precisely and accurately. And of course it is beneficial for the existence of the new system to also increase the costomer or guests staying. It is hoped that the information provided is of high quality and can assist in the decision-making process. Because the computerized system has many advantages, especially in terms of data processing. The advantages of a computerized system include:

- Can provide fast, accurate and relevant information.
- Can save time in searching, recording and processing data.
- Can input data easily.
- Reporting for the leadership will be easier and faster.
- Improve performance in order to perform services and complete tasks properly.
- Display that is easy to understand by the FO.
- The level of security of data is more guaranteed

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