

# Designing a Web-based Room Service System

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## Abstract

*In the digital era, almost all activities are done computerized. Now the internet is widely used in business activities. In the field of internet business used for marketing, usually marketing is done through a website of a company. This method is quite powerful in overcoming the limited time for marketing a product company. However, not all business activities do this way of marketing. One business activity that has not fully to use the internet in marketing its products is hotels, hotel has room service services which is still done manually. This way is still less effective against marketing room service services, for it is necessary for a web-based computerized system that can overcome these shortcomings. This research methodology uses SDLC (System Development Life Cycle) through the planning, analysis, design and implementation phase. The final result of this design are a website that can facilitate in overcoming the reservation service room service at hotels.*

*Keywords : hotel, internet, room service, website.*

## 1. Introduction

Along with the development of information technology, some companies have switched to doing work with a computerized system. The utilization of information technology developments has a good impact on business people. The advantage of using technology is that every work done with a computer system will shorten the time to complete work and become the most effective weapon to compete in today's modern business. However, not all companies utilize information technology development. One of them is the hotel, some of the facilities provided by the hotel are still manually done for ordering. This method is less effective and efficient for employees in general and for guests in particular. Facilities that are still done manually for ordering are room service.

Room service is a service provided by the Food and Beverage Service Department for guests who want to eat in their room. Guests using this service have several reasons including, guests are sick, lazy, do not have a lot of time or guests do not want their presence known to the public (privacy) [3].

In addition to looking for other benefits in the Food and Beverage Service section, room service is also required to provide good quality service to hotel guests. One of the things to support good service for guests is to change the room service service ordering system. The process of ordering room service services carried out at hotels is generally still manually. In this system, guests still have to use a telephone in each room to order room service service or by hanging a door knob on the front door. This system is certainly very inefficient for hotels with a large number of guests. The process of ordering room service services must be switched to a computerized system so that errors that occur in the manual system can be resolved. And with the existence of the system, it will reduce the cost of using the order slip (order book).

## **2. Research Method**

The method in this study uses the SDLC (System Development Life Cycle) method. SDLC is a cycle that builds a system itself and gives it to users through 4 stages:

### **1. Planning Phase**

This stage uses data collection methods that are carried out using techniques, namely: Library Research

This method is done to find information relating to the topic under study. The information obtained can be through sources written in print or electronically.

### **2. Analysis Phase**

At this stage an analysis of system requirements is carried out, namely analyzing the needs needed to build a new system. Described using Usecase Diagrams, Sequence Diagrams and Activity Diagrams.

### **3. Design Phase**

At this stage what is done is to make database design and system design with a navigation structure.

### **4. Implementation Phase**

The system will be built using the PHP programming language and data will be stored in the database.

## **2.1 Literature Review**

Many previous studies have been conducted regarding the process of ordering web-based food and drinks. In an effort to develop the order process through the web it is necessary to do a literature study as one of the application of research methods to be carried out. Some of the literature reviews are as follows:

This research was conducted by Debbie Defrina and Dewi Putrie Lestari from Gunadarma University, in 2017 entitled "Aplikasi Pemesanan Makanan Dan Minuman Online Berbasis Mobile Browser Pada Restoran Tiga Saudara". This study discussed the making of a mobile browser-based application, where is application requires a WLAN (Wireless Local Area Network) network, so the smartphone must be connected to the wifi provided [1].

This research was conducted by Hendri from STIKOM Dinamika Bangsa Jambi, in 2016 entitled "Prototipe Aplikasi Pemesanan Makanan (Electronic Menu) Pada Restoran Berbasis Android Dan Web". This application serves to display menu information and order status as well as a menu ordering tool, while for back end users (Administrators, Chef, and Cashiers) this application has a function to view order lists and tools to change order processes [2].

This research was conducted by Rahmat Purnomo and Akbar Nurdin from the INDOTEC Polytechnic Kendari, in 2017 entitled "Aplikasi Layanan Delivery Order Berbasis Web Pada Rumah Makan Podoteko". This application can make it easier for administrators and owners to process message data between food and drinks because they already have an integrated database [5].

## **3. Findings**

### **3.1 Problem**

The room service service system that is generally applied to every hotel currently still being done manually can cause several problems. The first problem is, if the order is made by telephone at the same time then the other guest must wait until the call can be received by the order taker so that it will take up a lot of guests' time. The second problem that arises if the order is made via telephone often occurs miss communication between guests and taker orders. And the third problem is if the hotel still uses the door knob menu which is hung on each room door in the hotel, it will take a lot of time for the order taker to check each room. If the hotel continues to use a system that is still manual, it will result in workers being overwhelmed to handle the large number of orders and will cause many errors in orders from hotel guests. The mistakes that occur will certainly have an impact on the reputation of the hotel later.

guests to order room service anytime and anywhere. In addition to providing convenience for guests, this system will later be used as an assessment material for guests on the services provided by the hotel. In this system a dynamic website will be created, where the web application will be connected to the database. So that changes in information can be carried out by the operator or who are responsible for updating the data through data changes not through program changes. In making this website using PHP script language and using a MySQL database [4]. By using this service system, guests do not need to order by telephone or door knob menu. Only by choosing the food and beverage menu and the type of service provided on the website, the order for room service services will be immediately processed by an order taker and then the list of orders will be printed immediately. The list of orders will be given to the kitchen to order directly. This technique will accelerate the process of service room service so that guest ratings will be much better for the services available at the hotel and provide a good reputation for the hotel.

### 3.2.1. Analysis of System Requirements

```

    usecaseDiagram
        actor TAMU
        actor KASHER
        actor ADMIN

        usecase LOGIN
        usecase HALAMAN_UTAMA[HALAMAN UTAMA]
        usecase MELIHAT_DAFTAR_MENU[MELIHAT DAFTAR MENU]
        usecase MELAKUKAN_PESANAN[MELAKUKAN PESANAN]
        usecase MEMILIH_DAFTAR_PESANAN[MEMILIH DAFTAR PESANAN]
        usecase MENGHAPUS_DAFTAR_PESANAN[MENGHAPUS DAFTAR PESANAN]
        usecase MENGEKST_DAFTAR_PESANAN[MENGEKST DAFTAR PESANAN]
        usecase MELIHAT_BAHAS_DATA_KARYAWAN[MELIHAT/BAHAS DATA KARYAWAN]
        usecase MENGEKST_DATA_KARYAWAN[MENGEKST DATA KARYAWAN]
        usecase MENGHAPUS_DATA_KARYAWAN[MENGHAPUS DATA KARYAWAN]
        usecase MELIHAT_BAHAS_DAFTAR_MENU[MELIHAT/BAHAS DAFTAR MENU]
        usecase MENGEKST_DAFTAR_MENU[MENGEKST DAFTAR MENU]
        usecase MENGHAPUS_DAFTAR_MENU[MENGHAPUS DAFTAR MENU]
        usecase MENGEUBAH_STATUS_MENU[MENGEUBAH STATUS MENU]
        usecase MELIHAT_PRINTING_PESANAN[MELIHAT/PRINTING PESANAN]
        usecase MELAKUKAN_TRANSAKSI_PESANAN[MELAKUKAN TRANSAKSI PESANAN]
        usecase MENGEKST_TRANSAKSI_PESANAN[MENGEKST TRANSAKSI PESANAN]
        usecase MELIHAT_LAPORAN_PENJUALAN[MELIHAT LAPORAN PENJUALAN]
        usecase LAPORAN_PENJUALAN_HARIAN[LAPORAN PENJUALAN HARIAN]
        usecase LAPORAN_PENJUALAN_BULANAN[LAPORAN PENJUALAN BULANAN]
        usecase LAPORAN_PENJUALAN_TAHUNAN[LAPORAN PENJUALAN TAHUNAN]

        TAMU --> LOGIN
        TAMU --> HALAMAN_UTAMA
        TAMU --> MELIHAT_DAFTAR_MENU
        TAMU --> MELAKUKAN_PESANAN
        TAMU --> MELIHAT_BAHAS_DATA_KARYAWAN
        TAMU --> MELIHAT_BAHAS_DAFTAR_MENU
        TAMU --> MELIHAT_PRINTING_PESANAN
        TAMU --> MELIHAT_LAPORAN_PENJUALAN

        KASHER --> MELAKUKAN_PESANAN
        KASHER --> MELIHAT_PRINTING_PESANAN
        KASHER --> MELAKUKAN_TRANSAKSI_PESANAN
        KASHER --> MENGEKST_TRANSAKSI_PESANAN

        ADMIN --> LOGIN
        ADMIN --> HALAMAN_UTAMA
        ADMIN --> MELIHAT_BAHAS_DATA_KARYAWAN
        ADMIN --> MELIHAT_BAHAS_DAFTAR_MENU
        ADMIN --> MELIHAT_LAPORAN_PENJUALAN

        HALAMAN_UTAMA -.->|<<include>>| MELIHAT_DAFTAR_MENU
        HALAMAN_UTAMA -.->|<<include>>| MELIHAT_BAHAS_DATA_KARYAWAN
        HALAMAN_UTAMA -.->|<<include>>| MELIHAT_BAHAS_DAFTAR_MENU
        HALAMAN_UTAMA -.->|<<include>>| MELIHAT_LAPORAN_PENJUALAN

        MELIHAT_DAFTAR_MENU -.->|<<include>>| MELAKUKAN_PESANAN
        MELIHAT_DAFTAR_MENU -.->|<<include>>| MELIHAT_BAHAS_DATA_KARYAWAN
        MELIHAT_DAFTAR_MENU -.->|<<include>>| MELIHAT_BAHAS_DAFTAR_MENU
        MELIHAT_DAFTAR_MENU -.->|<<include>>| MELIHAT_PRINTING_PESANAN
        MELIHAT_DAFTAR_MENU -.->|<<include>>| MELIHAT_LAPORAN_PENJUALAN

        MELAKUKAN_PESANAN -.->|<<include>>| MEMILIH_DAFTAR_PESANAN
        MELAKUKAN_PESANAN -.->|<<include>>| MENGHAPUS_DAFTAR_PESANAN
        MELAKUKAN_PESANAN -.->|<<include>>| MENGEKST_DAFTAR_PESANAN

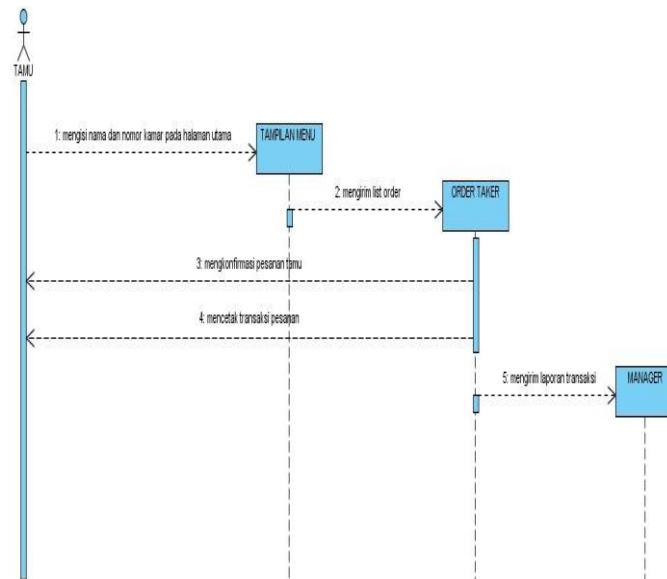
        MELIHAT_BAHAS_DATA_KARYAWAN -.->|<<include>>| MENGEKST_DATA_KARYAWAN
        MELIHAT_BAHAS_DATA_KARYAWAN -.->|<<include>>| MENGHAPUS_DATA_KARYAWAN

        MELIHAT_BAHAS_DAFTAR_MENU -.->|<<include>>| MENGEKST_DAFTAR_MENU
        MELIHAT_BAHAS_DAFTAR_MENU -.->|<<include>>| MENGHAPUS_DAFTAR_MENU
        MELIHAT_BAHAS_DAFTAR_MENU -.->|<<include>>| MENGEUBAH_STATUS_MENU

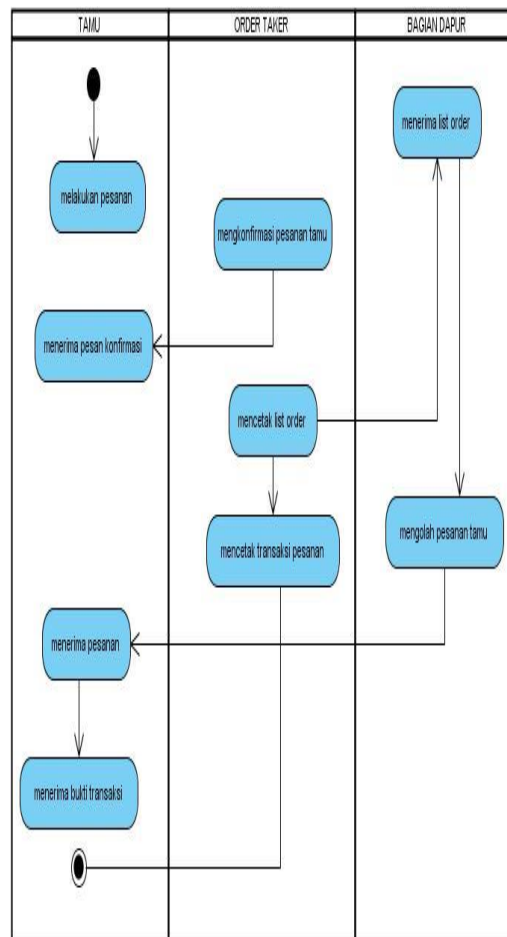
        MELIHAT_PRINTING_PESANAN -.->|<<include>>| MELAKUKAN_TRANSAKSI_PESANAN
        MELIHAT_PRINTING_PESANAN -.->|<<include>>| MENGEKST_TRANSAKSI_PESANAN

        MELIHAT_LAPORAN_PENJUALAN -.->|<<include>>| LAPORAN_PENJUALAN_HARIAN
        MELIHAT_LAPORAN_PENJUALAN -.->|<<include>>| LAPORAN_PENJUALAN_BULANAN
        MELIHAT_LAPORAN_PENJUALAN -.->|<<include>>| LAPORAN_PENJUALAN_TAHUNAN
    
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Picture 1. Use Case Diagram Room Service Order Processing



Picture 2. Sequence Diagram Room Service Order Processing

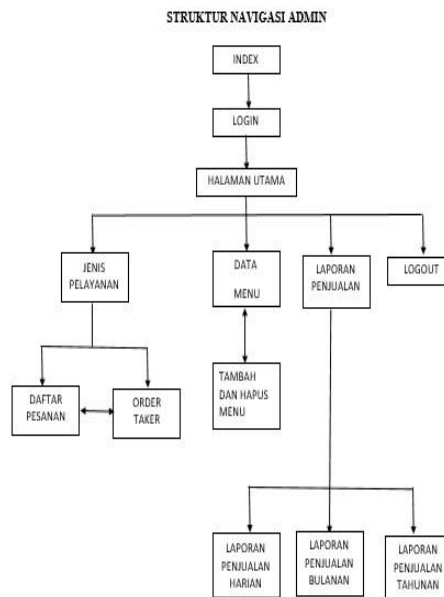


Picture 3. Activity Diagram Room Service Order Processing

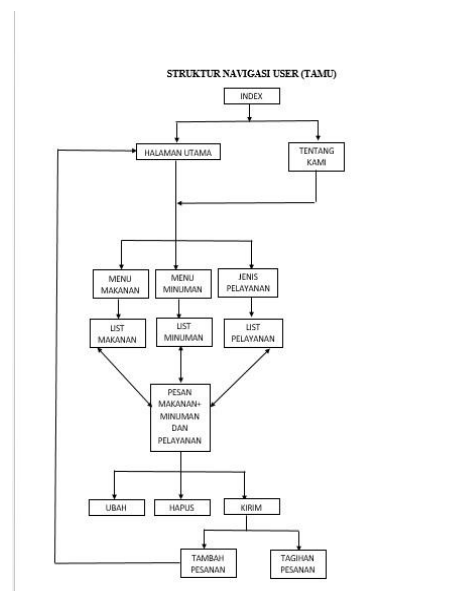
### 3.2.2. Designing the Navigation Structure

Navigation structure is the sequence of information flow from a multimedia application. By using the right navigation structure, a multimedia application has a clear guidance and information direction. The navigation structure of the service

room service system in this study is divided into two namely admin navigation structure and user (guest) navigation structure. These two navigation structures use a hierarchical navigation structure. An admin has the right to full access to all tables to manage data on the system and monitor users during the order process, whether there is an entry from each room and make a report.



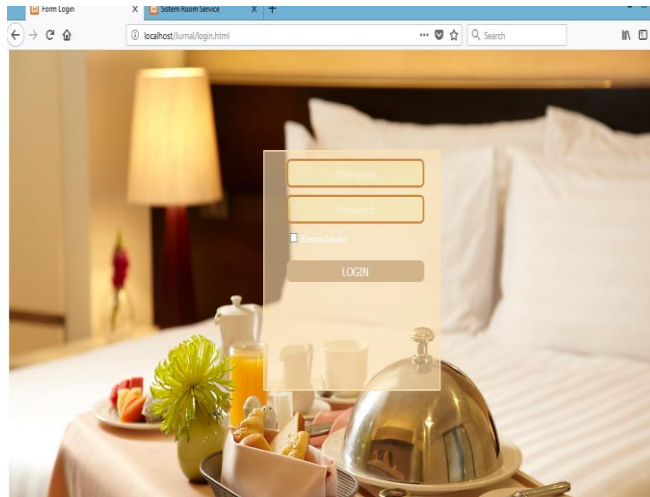
Picture 4. Admin Navigation Structure



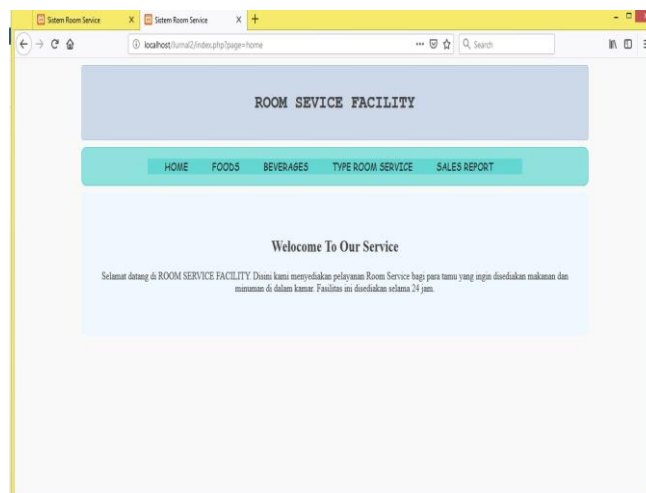
Picture 5. User (Guest) Navigation Structure

### 3.2.3. Admin Display

The implementation of the display service room service system is in the form of a prototype, for the admin side a server computer is used. On the login page an admin is required to enter the username and password that he has to be able to enter the system. Admin who has successfully logged in and entered the system, it will go to the main page. After entering the main page, an admin can monitor orders that come in from each room and will receive a sales report on that day.



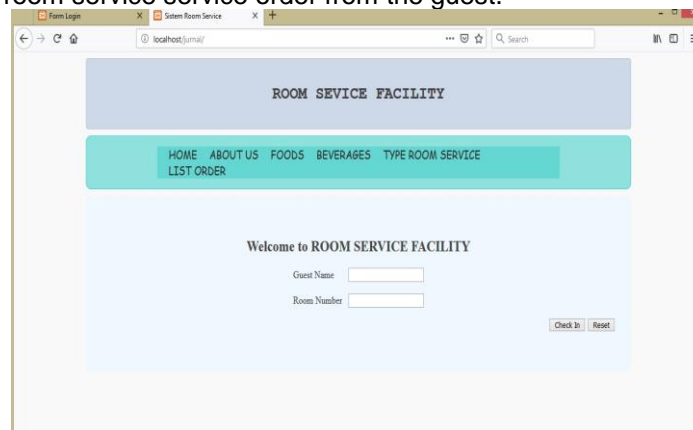
Picture 6. Prototype Display Admin Login



Picture 7. Prototype Home Admin

#### 3.2.4. Display of Users

Implementation of the system view for the user side is used by a personal computer (PC). On the home page a user is required to enter a name according to the name at check in and room number to be able to proceed to the next navigation menu to place an order. After guests order room service, the order list will be sent directly to the server computer and the taker order that receives the order will immediately process the room service service order from the guest.



Picture 8. Prototype Home User

#### **4. Conclusions**

Based on research conducted by researchers, it can be concluded that the manual method carried out by the hotel to order room service facilities is very ineffective for hotels and guests. Many mistakes that occur when the order is done manually, of course this can damage the reputation of the hotel. With the design of a web-based room service service system, of course, it can accelerate the order process and reduce errors that may occur at the time of booking and become a tool of assessment for guests of service facilities in the hotel where they stay. Guests can also make it easier to order room service via a smartphone anytime and anywhere. With this system, guests will feel satisfied with room service services that are easier and faster. So that guest ratings will be much better for the services provided by the hotel.

#### **References**

- [1] Defrina, D., & Lestari, D. P. (2017). APLIKASI PEMESANAN MAKANAN DAN MINUMAN ONLINE BERBASIS MOBILE BROWSER PADA RESTORAN TIGA SAUDARA. *Jurnal Ilmiah Informatika dan Komputer Vol. 22 No. 3*, 158-170.
- [2] Hendri. (2016). PROTOTIPE APLIKASI PEMESANAN MAKANAN (ELECTRONIC MENU) PADA RESTORAN BERBASIS ANDROID DAN WEB. *Jurnal Ilmiah Media Processor Vol.11, No.1*, 622-635.
- [3] Hendrienza. (2015, December). *Room Service Paper*. [Hendrienza.blogspot.co.id/2015/12/makalah-room-service-hd.html/](http://Hendrienza.blogspot.co.id/2015/12/makalah-room-service-hd.html/)
- [4] Hidayat, H. (2011). *Cara Instan Menguasai Pemrograman Web*. Jakarta: Agogos Publishing.
- [5] Purnomo, R., & Nurdin, A. (2017). Aplikasi Layanan Delivery Order Berbasis Web Pada Rumah Makan Podoteko. *semanTIK, Vol.3, No.2*, 23-29.