BUILDING APPLICATION SYSTEM CAR RENTAL RESERVATION AND PAYMENT ONLINE WEB-BASED (CASE STUDY IN THE RENTAL DARAS CORPORATION)

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ABSTRACT

Daras Rental Corporation is a car rental that is in Jl. Merkuri Selatan II No. 17 Margahayu Raya Bandung - West Java 40286. Daras Rental provides car rental services in the form of daily, weekly and monthly. The different types of cars based on type, price, and existing facilities in every car. In the process of promoting the company has done many ways, that is by exchanging information through one customer to another customer and advertising in a newspaper column, it turns out the way it felt less effective because companies cannot provide information about the cars that will be leased in a complete and detailed so the customer cannot getting complete and accurate information about the cars rented by the Rental Daras. During this time car rental booking transactions are performed by the customer in the rental in question via phone or come directly to the rental. The Problems also appear on car rental reservations using the phone will require a long time to obtain information about a car that has not been rented. In other side, problems arise in the process of recording car rental reservations are a lot of time because it is still fed through a desktop application. As well as ordering by telephone because of unsatisfactory customer could not see the pictures of cars that will be rented.

To overcome these obstacles then built a reservation system application and payment web-based online car rental in Daras Rental Corporation, the modeling software used is structured method. The system is web-based, with data security and networking applications is assured, as well as automatic payment process using a third party is Paypal account and transfer.

Based on the research and after do an alpha test and betha of booking and payment system online web-based car rental at Rental Daras, the results to be achieved in the booking and payment system online web-based car rental at Rental Daras can assist in increasing the rental car, can help in the promotion and introducing Rental car leased by Daras, and also can assist in disseminating the marketing and leasing Rental car Daras

1. INTRODUCTION

1.1 Background

Daras Rental Corporation is a rental car that is in Jl.Merkuri Selatan II No. 17 Margahayu Raya Bandung - West Java 40286. Daras Rental Corporation provides car rental services in the form of daily, weekly and monthly. Different types of cars based on type, price, and existing facilities in every cars.

The work done to promote cars that will be leased as well as provide information about Daras Rental Corporation to customers, the company has done various ways, namely by exchanging information through a single customer to another customer and advertising in a newspaper column. After promotion to the second company this way was the way it felt less effective because companies can not provide information about the cars that will be leased and analyzed in detail so the customer lack of complete and accurate information about the cars supplied and leased by the Rental Daras Corporation.

During this time car rental booking transactions performed by the customer in the rental in question via phone or come directly to the rental. The problems also appear on car rental reservations using the phone will require a long time to obtain information

about a car that has not been rented. In addition, problems arise in the process of recording car rental reservations are a lot of time because it is still fed through a desktop application. As well as ordering by telephone because of unsatisfactory customer could not see the pictures of cars that will be rented.

Data processing and report preparation occurring at Daras Rental Corporation at the moment using the data processing is recorded in the form of bookkeeping. All proof of payment transactions per day are collected and made into a ledger recording the transaction to facilitate the processing of transaction data. Each car is taken and recorded in the book is returned the car with the aim of facilitating enterprise data searching cars when there are customers who will make a reservation or ask the amount of product inventory.

1.2 Problem Formulation

Based on the background that have been raised, then the formulation of problems in the booking and payment systems based online car rental web at Daras Rental Corporation was how to build a reservation system and payment of a web-based online car rental in Daras Rental Corporation.

1.3 Purpose and Objectives

1.3.1 Purpose

The purpose to be achieved from this research is to build a reservation system application and payment web-based online car rental in Daras Rental Corporation.

1.3.2 Objectives

The goal of this research are:

1. Facilitate the company in providing complete and detailed information to customers about the cars that will be leased by Daras Rental Corporation, so that customers can get a complete and accurate information about the cars along with pictures of cars that will be leased.
2. Will facilitate the customer at the time of booking car rental without having to come directly to the Rental Daras Corporation to find a car that has not been rented.
3. Facilitate staff in the process of recording and reporting booking car rental will not take much time.

2. MODELS, ANALYSIS, DESIGN AND IMPLEMENTATION

2.1 Models

Software development model in the making of this application using the waterfall model. The stages contained in the waterfall model based on figure 1.1 is as follows:

a. *System engineering* (Software Engineering)
   The first stage is done is to formulate a system that we are building. It is intended that the developer really understood that we are building systems and measures as well as any policy relating to the development of the system.
b. *Requirement analiysis*
   Conducting an analysis of the problems faced and set the software requirements.
c. *Design*
   Produce designs that meet the requirements specified during the requirements analysis phase. The end result of a very detailed design specifications, so easy to be realized at the time of programming.
d. *Coding (implementation)*
   Coding that implements the design into a code or machine language understood by the computer using a particular programming language.
e. *Testing (testing)*
   The testing program that produces truth. The testing process focuses on the internal logic of the software, ensure that all statements have been tested and determine whether desired results have been achieved or not.
f. *Maintenance (Maintenance)*
   Dealing with the finished software to run smoothly and avoid the disturbances that can cause damage.

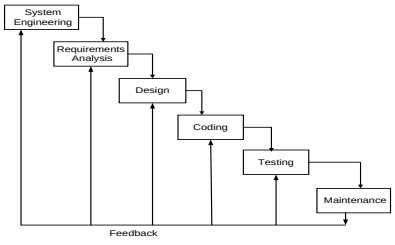


Figure 1.1 *Waterfall* Metode

2.2 Analysis

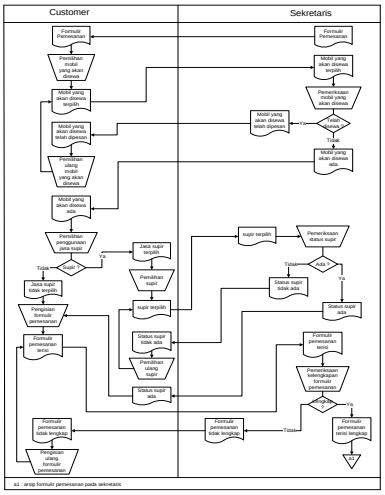
A. Analysis System

A system is a network of procedures that are interconnected, gathered together to perform an activity or solve a particular target [9]. While system analysis is the decomposition of a whole system into its component parts in order to identify and evaluate problems, constraints resulting from the requirement so that it can be proposed and hopefully its make reforms.

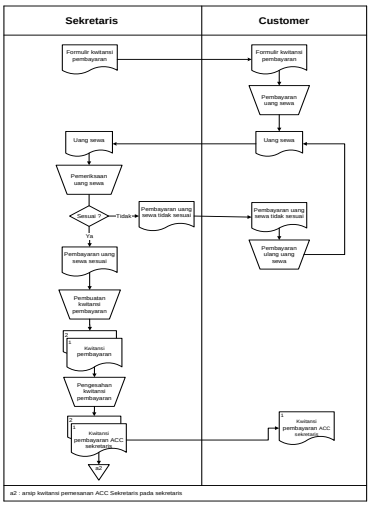
The things done at the stage of system analysis is the analysis of the problem, the procedure is running, the documents involved, coding analysis, analysis of functional requirements and nonfunctional requirements include the analysis of hardware, software analysis and analysis of the user.

B. Fungtional Analysis

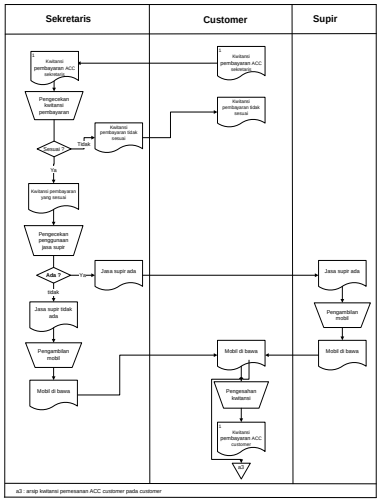
When will build an application program, the first step to do that is by studying and analyzing the running system. Analysis of booking and payment system online web-based car rental at Rental Daras the current operation will be described in *flowmap*.



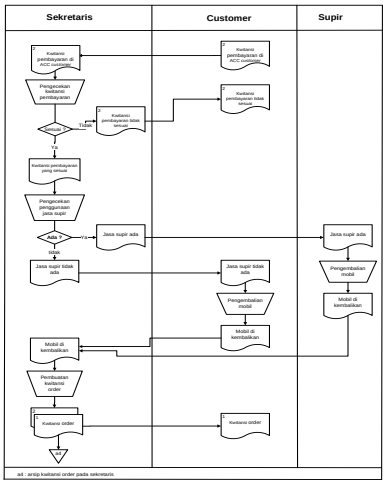
Gambar 2.1 Flowmap Car Rental Booking



Gambar 2.2 Flowmap Pembayaran Sewa Mobil



Gambar 2.3 Flowmap Car Rental Payment



Gambar 2.4 Decision Flowmap Car Rental

C. Database Analysis

The database is a collection of data that can be described as the activity of one or more organizations that are related. This phase is used to analyze any data that are related and are involved in the manufacturing system.

Entity Relationship Diagram (ERD) is a modeling tool that is used to describe relationships between entities that happen, which contains the components of entities and relationships are each equipped with attributes that represent all the facts from some of the real world. Entity Relationship of booking and payment system in the car rental Rental Daras is a network model that uses the order data stored in the system in the abstract.

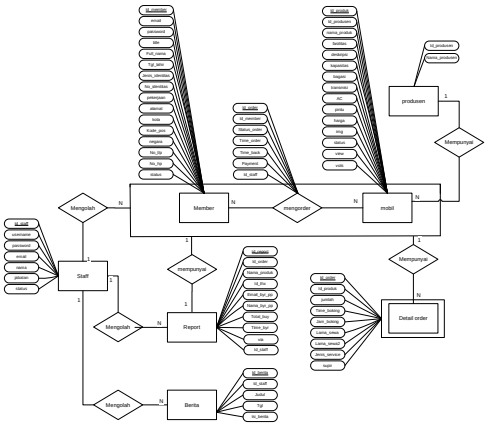


Figure 2.5 ERD at Daras Rental Corporation

D. Analysis of Non-Functional Requirements

1. Context Diagram

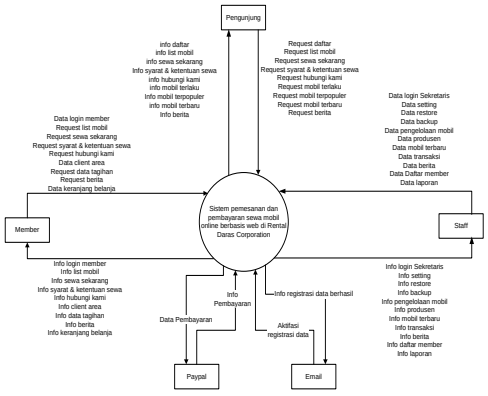


Figure 2.6 Context Diagram

2. DFD Level 0

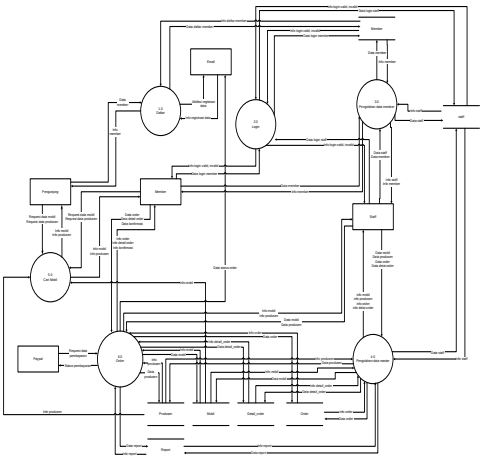


Figure 2.7 DFD Level 0

3. Relation Scheme

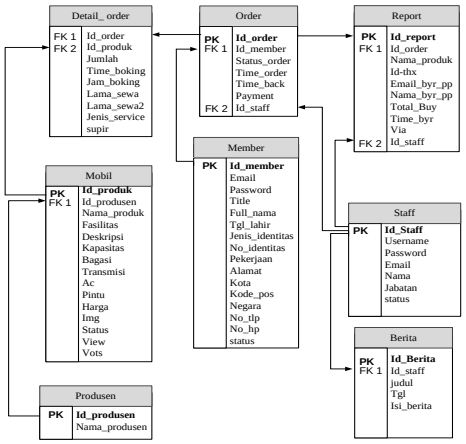


Figure 2.8 Relation Scheme

2.3 Design

A. Menu Structure Design

In designing an application that contains the menu structure required menus and submenus that serves to facilitate users in using the application. Here are described on the menu structure in this application:

1. Visitor Menu Structure

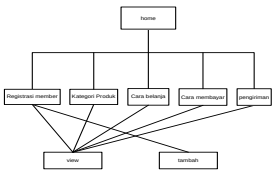


Figure 2.9 Menu Structure of Visitors

2. Member Menu Structure

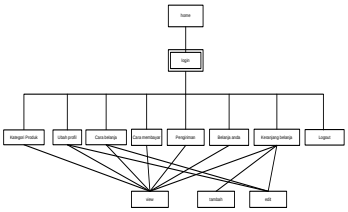


Figure 2.10 Structure Menber Menu

3. Staff Menu Structure

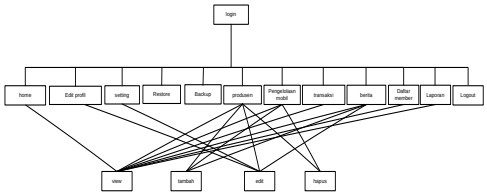


Figure 2.11 Structure of Staff Menu

B. Home Design Applications

Here is a picture design of the main menu for *users* and staff.

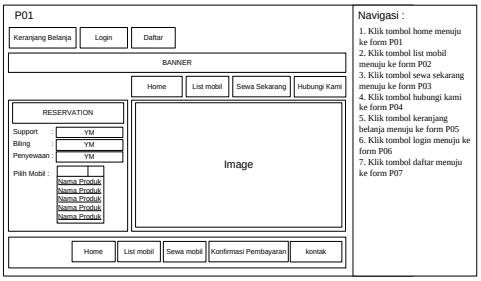


Figure 2.12 Display Home Users

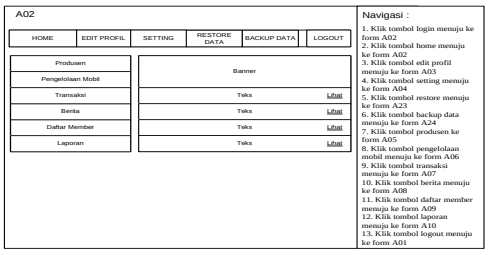


Figure 2.13 Display Home Staff

2.4 Implementation

This stage is the stage where the system is ready for operation, which consists of a description of the implementation environment, and program implementation.

A. Hardware Implementation

The hardware used to implement the system are as follows:

1. *Processor* with a speed of at least 1 GHz + *Motherboard*
2. At least 40 GB of *hard drive* capacity
3. At least 256 MB RAM
4. At least 64 MB VGA *Card*
5. *Monitor*
6. *Lan Card 10/100Mbps*
7. At least 64 kbps *Internet* connection
8. *Mouse*
9. *Keyboard*

B. Software Implementation

The software used to implement the system are as follows:

1. 1. WAMP as a *Web Server*
2. PHP
3. Macromedia Dreamweaver 8 as PHP editor.
4. MySQL as DBMS
5. Interface design *tool Microsoft Visio* 2007
6. Mozilla Firefox and Microsoft Internet Explorer as your *browser*
7. Domain address www.darasrental.com

C. Implementation Form

Implementation of the form carried out to find every page program.Here is the *form* that made implementation.

Table 2.1 Implementation Form

Menu	Description	File Name
Login Staff	Used as Staff Login	login.php
Home	Used as the main page staff	home.php
Edit Profil	Used if staff want to change the profile	edit_profil.php
Setting	Used for setting discount, the price drivers, and currency	setup.php
Restore	Used to restore database	restore.php
Backup	Used to backup database	backup.php
Manufacturers	Used to add, edit, and delete the manufacturer	add_manufactures.php
Car Managenement	Used Cars to add data car with a car description	add_product.php

Transactions	Used to see all the car rental transaction, cancel the transaction, and the car back	tansaction.php
News	Used to view and add news	news.php
Member List	Used to view the data member	member.php
Reports	Used to view transaction reports	reports.php
Logout	Used staff to exit the application	logout.php
List of *members*	used to register the *members*	register_member.php
Login	Used as login *member* login page and forgotten passwords	login.php
Edit Profil	Used to change the profile *member*	edit_profil.Php
Data Collection	Used for data bill orders that have been paid or not	my_order.php
The way shopping	Used to see how to do shopping	service.view.php
Rent Now	Used to fill the orders data	process.php
Contact Us	Used to view the view the company profile	contact_us.php
Shopping Cart	Used to view detailed rental car ever made	cart.php

3. RESULTS AND DISCUSSION

From analysis and design that has been done, the results of the application that was built to look like the following view:

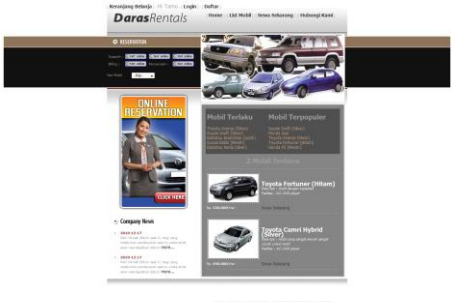


Figure 3.1 ***Form Home User***

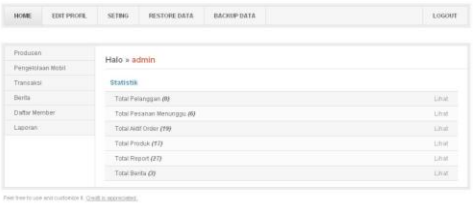


Figure 3.2 ***Form Home*** **Admin**

4. CONCLUSIONS AND SUGGESTIONS

4.1 Conclusions

Based on research conducted by the authors regarding the development of e-commerce applications on the Rental Daras, then some conclusions can be drawn as follows:

1. This application can provide detailed and accurate information on rental cars Rental Daras prospective tenants *online*, so the company helped in promoting the car and expand the network to effectively and efficiently.
2. This application is easier for companies in transaction processing and data management that occurs in Rental Daras.
3. This application helps companies become more nimble in making the report because the staff concerned should not find the data that has been previously archived.

4.2 Suggestion

The author proposes some suggestions that can be considered against the use of systems that have been made, namely:

1. At least need also to open branches in major cities in addition to Bandung, for more developed and more and more *customers.*
2. The interface can be made more attractive.
3. It is necessary to develop the credit card payment system, so that when the *customer* does not have a paypal *account customers* can pay with credit cards.

5. REFERENCES

[1] Jogiyanto HM, Akt MBA. (2005*). Information Systems Analysis*

and Design: a structured approach to the theory and practice of business applications, Andi, Yogyakarta.
[2] Ilham Perdana, 2007, Hand Out Research Methodology, *Scientific Writing Procedures Directive*, the University Computer Indonesia, Bandung.
[3] Marcus, T., (2007), Software Engineering, Elex Media Komputindo, Jakarta, 212-235.
[4] Arbie, *Database Management with MySQL*, Andi, Yogyakarta, 2003
[5] Bunafit Nugroho, *Creating Web-Based Sales Information System with PHP and MySQL*, Gava Media, Yogyakarta, 2008.
[6] Jonathan Sarwono (2008), *Theory of E-Commerce Success in Internet Commerce*, Gava Media, Yogyakarta.
[7] Kurniawan, Rulianto, 2007, 54 *Hidden Tricks PHP*, Maxikom, Kilkenny ..
[8] Kadir, Abdul (2002). *"Basic Dynamic Web Programming Using PHP"*, Yogyakarta, ANDI.
[9] *Information system, the foundation of e-bussinnes, steven alter, Prentice Hall.*
[10] http://people.redhat.com/mingo/TUX-patches/ October 20, 2010
[11] http://www.fenrus.demon.nl/ October 20, 2010
[12] http://www.boa.org/ October 25, 2010
[13] http://www.sejarah-internet.com/ 3 September 2010