OnlineOpticalShop Application

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Abstract: The ordering and purchasing system of eyeglasses at Mandarin Optical Pringsewu is still done manually, so the customers must come directly to the optic to make transactions. It makes the Mandarin Optical Pringsewu difficult to get many customers who come from outside the city. Therefore, the web application is considered suitable to be implemented, in addition to facilitate the purchase process, it can also be used as a promotional tool. This system has the main characteristics of implementing the SDLC (System Development Life Cycle) methodology.This website is divided into two parts, namely administratorand customer.Administrator is used to control the system that has been created, while the customer is made so that the customers can do the online order and purchase. From the results of the questionnaire that has been collected, it can be concluded that the information system website application on Mandarin Optical Pringsewu has been able to meet the needs properly, and has quite complete features.

Keywords: E-commerce, Mandarin OpticalPringsewu.

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1. INTRODUCTION
1.1. Background
The competition of eyeglasses sales have taken place in Indonesia. Nowadays, many optics that are selling various types of eyeglasses. In big cities like Jakarta, Surabaya, Bandung, and Medan, there are many new optics. Similarly, as faced by Mandarin Optical in Pringsewu. Mandarin Optical Pringsewu sells various types of eyeglasses, contact lenses, lenses, and also other eyeglasses accessories. This optics is located at Ahmad Yani Street at Pringsewu Market, Lampung. In Pringsewu, many optics that compete each other so for those who lose compete, they will experience a decrease in income. In addition to the above problem, there are several obstacles faced by Mandarin Optical Pringsewu such as for the promotion and the customer problems who are outside the city.This optic rarely promotes new products because of the promotion costs is expensive. Another problem that is often faced by Mandarin Optical Pringsewu is in terms of purchases. Currently, the purchase is still done manually, i.e.customers come to the optic and then make purchases manually (discuss with the seller), so the customers who come from out of the city sometimes have difficulty to make a purchase whereas this optic has a lot of customers who come from outside the city. Due to the above problems, the Mandarin Optical Pringsewu will develop a website that can handle the process of offering, buying and selling products which are effective and has promotional and ordering features that will greatly assist the Mandarin Optical Pringsewu to overcome the obstacles encountered. In this research, the writer developed an agent for the *e-commerce* system at Mandarin Optical Pringsewu.

1.2. Research Question
Dari uraian di atasmakadibuatlahrumusanmasalahsebagai berikut:
From the description above, the research questions are:
1. How to build *e-commerce application*atMandarin Optical Pringsewu?
2. What methods are used in making *e-commerce application*at Mandarin OpticalPringsewu

1.3. Research Objective
The objective of this research is to make an application to handle the promotion, sale, and purchase of goods for Mandarin Optical Pringsewu.

2. THEORITICAL BASIS
2.1. Definition of System
The *system* consists of components that are interrelated and work together to achieve a goal. The system consists of natural systems (solar systems, galaxy systems), and systems made by humans (computer systems, sales systems, accounting systems). (Leman, 2012: 2).

The system is a collection of components that work together. The system is a set of interrelated or integrated elements intended to achieve a goal. It also has the characteristics of having elements (subsystems), boundaries, the external *environment*, *interface,* and *input*. (Wahyu in the journal of Wijaya, B. 2011).

The system is a network of interrelated procedures gathered together to carry out an activity or to complete a certain goal ". (Jogiyanto, 2005: 1).

From the description above, the writer concludes that the meaning of the system is the components that work together from one component to another, to achieve the goals or objectives.

2.2.Definition of Information

Information is data that is processed and data that has meaning. (Mc. Leod, Raymond, 2011). Information is data that has been processed into a form that is useful and real or in the form of values that have meaning for the recipient. Information is the result of processing data into a more useful form which describes a real event and used as an aid in making a decision. (Kristanto Andri in the journal Wahyudi, S, 2012).

Information can be defined as the result of processing data in a form that is more meaningful to the recipient who describes a real *event* (*fact*) that is used for decision making. Information is data that is processed and then processed into information that is used in decision making. (Jogiyanto, 2006: 692)

2.3.Definition of Information System

Information systems can be defined as systems made by humans that consist of components in the organization to achieve the goal of presenting the information. (Leman, 2011: 13).

The information system is a system within an organization that meets the needs of processing daily transactions, supports operations, managerial and strategic activities of an organization and provides certain external parties with reports that are needed. (Leitch Davis in the journal Indriyanto. M. W 2011).

The information system is an activity of the procedures that are organized when it is executed will provide information to support the decision making and control within the organization (Lucas, 1988). From some of the definitions above, it can be concluded that the information system is processed data components that are used in achieving the objectives of Mandarin Optical Pringsewu.

2.4.Definition of*E-Commerce*

E-Commerce can involve electronic fund transfers, electronic data exchanges, automated inventory management systems, and automated data collection systems. The meaning of*E-Commerce* according to several experts:

According to (MarizaArfina and Robert Marpuang, 2011: 2) E-Commerce or better known as E-Com can be interpreted as a way of shopper or trade online or *direct selling* that utilizes internet facilities where there are *website* that can provide *get and deliver* services.Whilst, according to Roger Clarke in Electronic Commerce Definition states that *E-Commerce* is "*the conduct of commerce in good and service with the assistance of telecommunications and telecommunications-based tools*" that *E-Commerce* is a procedure for trading goods and services by using media communication and telecommunications as its tools. There are several definitions of *E-Commerce* from several sources including the following:

1. Associated with buying and selling clothes through the *internet* especially Word, Wide, Web.
2. An act of conducting business transactions electronically by using the *internet* as the main communication medium.
3. Selling the merchandise or services via the *internet*.

The processes that occur in *E-Commerce* are as follows:

1. Electronic Presentation (*Website* making) for products and services.
2. Direct order and the availability of bills.
3. Secure customer *account* automation (account number or credit card).
4. Payments are made directly (*online*).

Some of the advantages that businesses

have with *E-Commerce* include:

1. Cheap and efficient, transaction costs are cheaper than using an ATM. It is free if the customers access the internet through Hotspot.

2. Shortening the distance, so the product delivery is done *online* allows instant shipping.

Some of risks and disadvantages of using *E*-Commerce:

1. Loss in financial terms because of cheating.

2. Theft of valuable confidential information.

3. Lost the business opportunities due to service interruptions.

4. The use of access to sources by unauthorized parties.

5. Loss of trust from the costumers.

6. Worthless losses.

2.5. Definition of Mandarin Optical Pringsewu

Mandarin Optical Pringsewu is a place that sells a variety of eyeglasses, contact lenses, frames, etc.

Eyeglasses (according to Rifa'i, 2010) are thin lenses for the eyes to normalize and sharpen vision (some are framed and some are not). Besides being a visual aid, eyeglasses are also a complement to the style and a special tool to enjoy entertainment such as three-dimensional special glasses.

2.6. *E-Commerce* at Mandarin Optical Pringsewu

Mandarin Optical was founded in 2001, at the first time it was built only consisted of one room and was shaped simply. With the technology that develop rapidly, then it began to use information technology in sales at our Optic by using an online media application. *E-Commerce* Application at Mandarin-based Optical *Website* is an application system that can help the optic

promotion through the *Website* so that marketing or promotion of Mandarin Optical Pringsewu extends its marketing. So that it will increase sales of various types of eyeglasses, contact lenses, frames, accessories, and others at Mandarin Optical Pringsewu.

3. METHODOLOGY AND SYSTEM ANALYSIS

3.1. System Development Life Cycle Method

From the definition above, the writer took the *System Development Life Cycle* (SDLC) *method* which focuses on the e-commerce system method and the technicians used in building a system. The stages of the *System Development Life Cycle* in an *E-Commerce* at Harapan Jaya Pringsewu Store:

Figure 1. SDLC Method

1. **Planning**

In this stage, the writer made a plan by collecting materials and a feasibility study of the needs of *E-Commerce* applications in Mandarin Optical Pringsewu.

2. **Analysing**

In this stage, the writer analyzed all system requirements for the proposed application system. By establishing the capabilities needed for the end user's information needs, which is useful for completing the stages of Mandarin Optical Pringsewu information system.

3. **Designing**

This stage was modeled link information from each page if there is a database in the system, the *development* and *database*

design stages are used.

4. Implementing
Program writing and installation. The writing stage of the program that has been analyzed and designed for all the programs used was MySQL.

5. System Maintenance
There were several stages carried out by the writer, namely:
- Fixing the errors design in the *E-Commerce* application program.
- Then modify the system to adapt to environmental changes.
- Involving the system to solve new problems.
- Maintenance the system from possible

problems in the future.

3.2.Analysisand System Design
The current sales and ordering system at Mandarin Optical Pringsewu is that the customers come to Mandarin Optical Pringsewu, then they look for the desired frame or eyeglasses model. After getting the desired frame, there is a bargaining price. Then if the price is a deal, the customer is asked to pay a minimum of Rp. 100,000.00 so that the glasses can be ordered. For more details about the flow of the order and purchase of eyeglasses at the Mandarin Optical at this time, it can be seen in Figure 2.
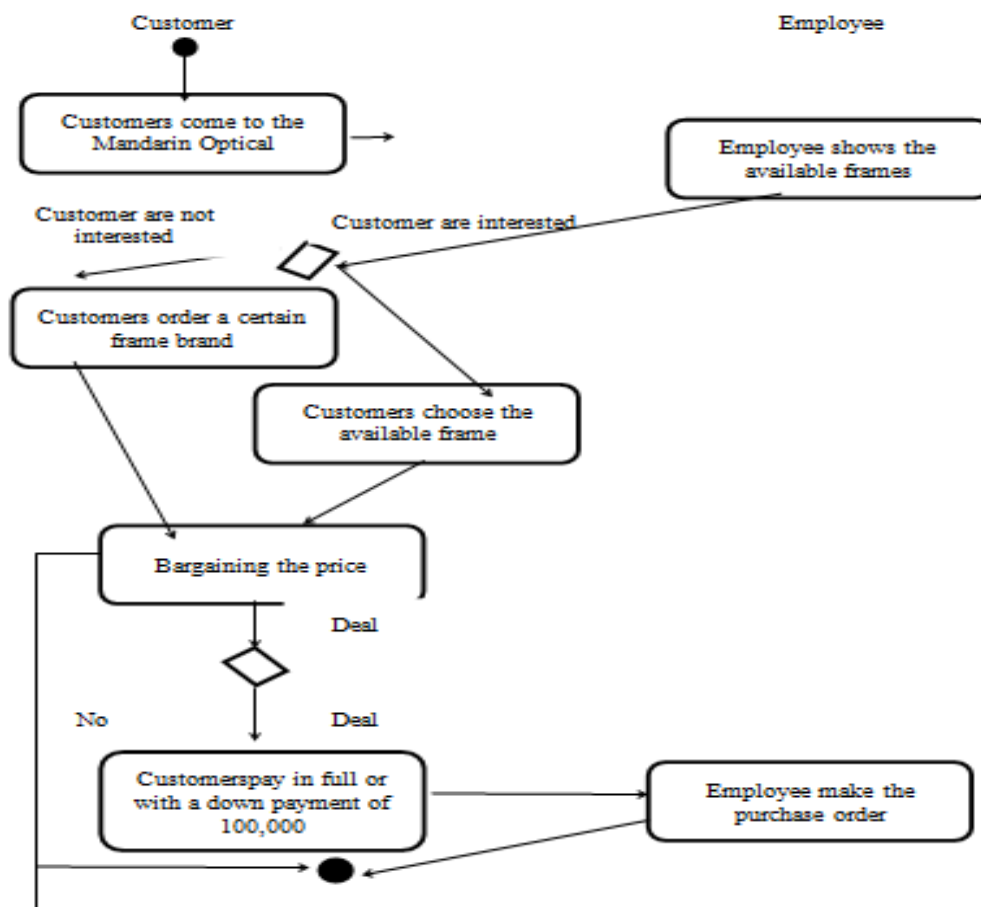Analysis and design of the system built by using the UML model.

Figure 2. Activity Diagram for the process of buying eyeglasses manually by using Case Diagram

For admin website that will be used at Mandarin Optical Pringsewu can be seen in Figure 3.
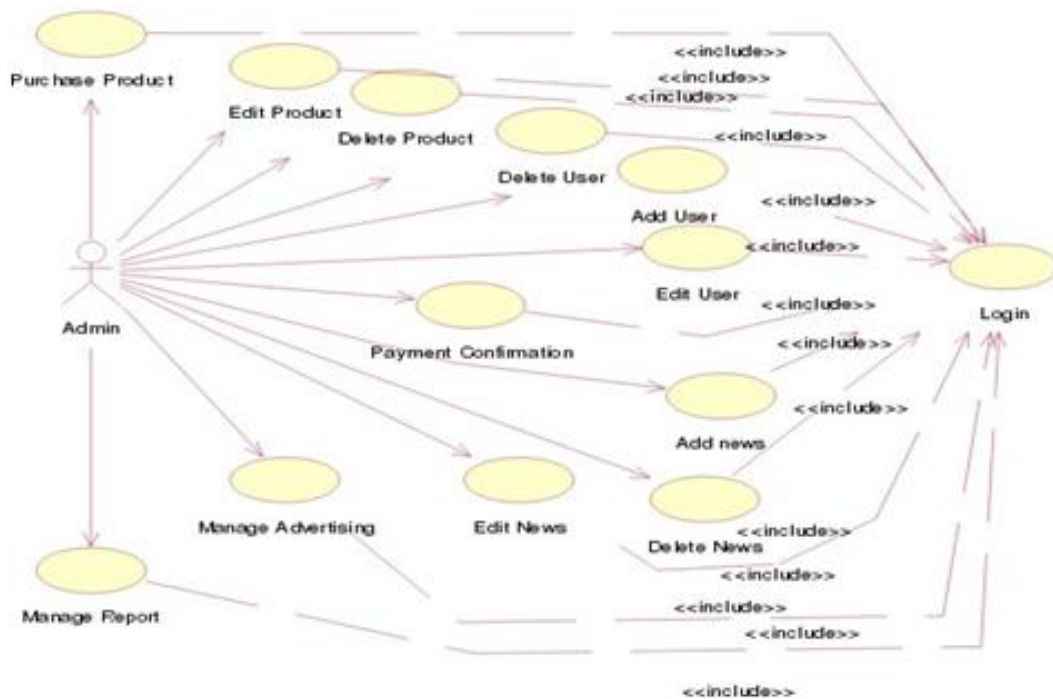
Figure 3. *Use Case* Diagram Website Admin Mandarin Optical Pringsewu

In the Figure 3 it can be seen an admin can use all facilities in the website. Use Case Diagram for members and guests in the website that will be used in Mandarin Optical Pringsewu can be seen in Figure4.
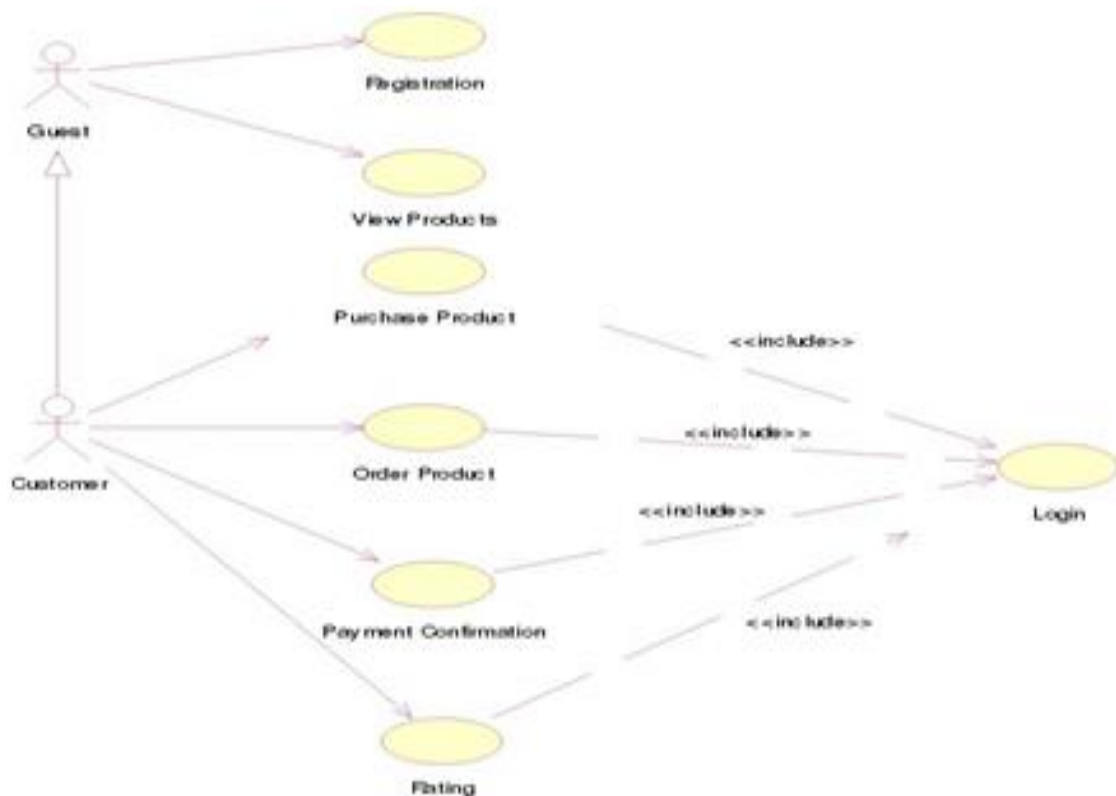

Figure 4. *Use Case Diagram* for members and guests

The next stage is designing ERD which will be used in database making.

Figure5. Conceptual Data Model

4. IMPLEMENTATION ANDTESTING

The *e-commerce* application is built with PHP programming language and MySQL database. Tests carried out on pages or menus in the program to determine the feasibility of the program to be used.

The administrator's main page is the page that appears first when the admin web accessed. The administrator's main page can be seen in Figure 6.

Picture 6. The main administrator page

On the administrator's main page there is a login form. This login form serves to restrict the customers who can access the menu found on the administrator page. To access the administrator menu, the customers must log in first. In the login form if the username and password entered are correct, then the user can access the admin menu page as shown in

Figure7. If the username and password entered do not match, an error message will be displayed.

Figure7. Administrator Menu Display

On the Administrator menu, there are facilities including: Manage Users. This page will display fields for adding new users. Admin can add members or users to this page by entering the desired data and the status of a member or admin. The display page as seen in Figure 8.

Figure8. Web Main Page

5. CLOSING
5.1. CONCLUSION

Based on the research conducted, the following conclusions can be drawn:

1. E-Commerce applications can make it easier for customers to make buying and selling transactions without having to come to the relevant place

2. It has a feature that already represents the store in question in the *E-Commerce*application.

3. By using this e-commerce application, it can increase turnover for the RinaRini Collection Boutique.

5.2. SUGGESTION

Based on the conclusions above, the following suggestions are expected:

1. Applications that are made require improvements so that all information can be displayed in detail and following the wishes of the customer or buyer.

2. The display is made with attractive design to increase the interest of the customer or buyer in ordering products.

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