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## Web Based Sales Transaction and Report System Design

### (Study at a Motorcycle Spare Parts Company)

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Heri Wahyudi<sup>1</sup>, Deri Hendriawan<sup>2</sup>

STMIK Mardira Indonesia, Bandung<sup>1,2</sup>

Email: heri@stmik-mi.ac.id<sup>1</sup>, derihndri666@gmail.com<sup>2</sup>

#### ABSTRACT

*Interviews with a motorbike spare parts company revealed various observations regarding their present business procedures and challenges. Specifically, they lack transaction operations, stock management, and sales reporting software. Hence, deploying an appropriately automated system, precisely a web-based sales transaction and reporting system, is imperative. Using descriptive analysis research techniques and object-oriented system development methodologies, namely Object-Oriented Software Engineering (OOSE). In order to assist a motorcycle spare parts company in streamlining and expediting their transaction procedure. The outcome of developing this system is a web-based application for sales transactions and reports.*

*Keywords: Transaction, Report, Web*

#### INTRODUCTION

Through interviews with a motorbike replacement parts company, various discoveries were made on the current business procedures and their challenges. The transaction procedure at a motorbike spare parts company is relatively straightforward. The customer purchases the goods and proceeds to make payment to the cashier. Subsequently, the cashier utilizes a calculator to process the transaction. Accurate information regarding the stock of goods is not readily available. When goods run out, the only way to keep track is by manually writing a list of the depleted items and referring to a copy of the transaction notes. However, this method could be more efficient. Due to potential errors, a motorbike replacement parts firm aims to enhance its transaction system by implementing a more methodical and computerized approach to streamline the transaction process. (Laraswati & Supriyatna, 2021; Pasaribu, 2021; Fauziah, Latifah, Rahardja, Lutfiani & Mardiansyah, 2021)

Design is the systematic process of determining a project's specifications, structure, and constraints, employing many methodologies. It encompasses the delineation of the overall framework and the specific elements and restrictions that will be encountered throughout the implementation phase. (Li, & Zhang, 2021; Wang, Chen & Zghari-Sales, 2021)

A system is an assemblage of diverse components integrated in a structured manner according to their purposes. This results in a unified entity, the trade of commodities and

services among individuals, firms, and other organizations, and other factors that impact a company's economy. (Alzoubi, Alshurideh, Kurdi, Alhyasat & Ghazal, 2022; Centobelli, Cerchione, Del Vecchio, Oropallo & Secundo, 2022; Rahardja, 2022)

Sales reports are a compilation of crucial data for decision-making regarding marketing strategies, pricing, and sales techniques. Sales reports serve a crucial purpose and must be entirely precise, without any mistakes or inaccuracies.

The activities sellers perform to sell products or services to generate profit from these transactions can be understood as transferring ownership rights of the goods or services from the vendor to the buyer. (Nikou, 2021; Tsolakis, Niedenzu, Simonetto, Dora & Kumar, 2021)

PHP is a supplementary programming language to HTML that enables the development of dynamic applications capable of data manipulation and processing. The server will execute all specified syntax, and only the results will be transmitted to the browser. It is a server-side scripting language written as a script and executed on the server. The results will be transmitted to the client, who utilizes a web browser. PHP is a server-side scripting language commonly used with HTML tags to generate dynamic websites, including Active Server sites (ASP) and Java Server Pages (JSP). PHP is a freely available software for anybody to use and modify. (Appelbaum & Nehmer, 2020; Zhou, Wang, Yang, Fu, Sun & Wu, 2021)

A web server is a software application that receives HTTP requests from client computers, specifically web browsers, and fulfills them by delivering an HTTP response containing data content. A database is an organized collection of information kept in a computer, designed to be queried by a computer program to retrieve specific information. CodeIgniter is a PHP framework designed to facilitate the development of web-based applications for web programmers. (Hu & Li, 2021; Oluyisola, Bhalla, Sgarbossa & Strandhagen, 2022)

Wamp is a software bundle that includes the Apache web server, PHP programming language, and MySQL database management system. Install WAMP on a single computer, which will function as a local web server accessible through the local host.

Given the information above, there is a requirement for a solution that can assist a motorbike replacement parts company in effectively managing and enhancing transaction processes, generating reports, and organizing stock information. Hence, the transaction procedure conducted at a motorbike spare parts company necessitates the assistance of a well-implemented computerized system. The author proposes a solution to address the abovementioned issues in a Web-Based Sales Transaction and Report System Design research study(Study at a Motorcycle Spare Parts Company).

## **METHOD**

This study aims to create and execute an online transaction and sales reporting system for a motorcycle replacement parts firm. In order to accomplish this objective, the study uses descriptive analysis and an Object-Oriented Software Engineering (OOSE) methodology. A descriptive analysis is performed to comprehensively understand the company's present transaction and sales reporting system. This analysis aims to identify any needs, challenges, or weaknesses that exist in order to make specific improvements.

This study opts for OOSE as the basis for choosing a suitable development method. The selection of OOSE is predicated on its capacity to offer a modular and object-oriented framework, augmenting system flexibility and facilitating maintenance. The subsequent stages entail a comprehensive examination of existing literature to assess the utilization of Object-Oriented Software Engineering (OOSE) in developing web-based information systems.

The web-based transaction system encompasses various elements, including user interface, database structure, business logic, and integration with pre-existing systems. This design is specifically tailored to fulfill the organization's operational requirements and resolve previously recognized problems. The design of the web-based sales reporting considers the format, kind of information, and visual presentation of the company's managerial and operational needs.

Subsequently, the system prototype derived from the design is executed and evaluated within the company's operational setting. Prototype evaluation entails the participation of end-users and firm management, with the outcomes serving as a foundation for subsequent analysis and enhancement. The research findings include an assessment of the effective execution of the system, as well as suggestions for future enhancements. The research is anticipated to favor improving the efficiency and efficacy of transaction operations and sales reporting in the motorcycle spare parts industry.

## RESULTS AND DISCUSSION

### System Analysis and Design

#### 1. Business Process Analysis

Below is the operational sequence of activities at a company specializing in manufacturing and selling motorcycle spare parts: The cashier conducts transactions, documents the purchased things in a ledger, and tallies them individually using a calculator. *Reports* are documents that include records of past financial transactions.

#### 2. Proposed New System

##### a. Use case diagrams



Figure 1. Use Case Diagram

##### b. Narrative use cases

Ukr Case No. 1	
Judul Use Case	Login
Aktor	Admin Kasir/Owner
Deskripsi	Use case ini menggambarkan proses Login admin kasir ke dalam sistem.
Prasyarat	Admin kasir sudah berada di halaman awal.
Langkah – Langkah / Scenario Utama	
Aktor	Sistem
1. Admin Kasir/Owner pergi ke halaman login.	2. Sistem menampilkan halaman login.
3. Admin Kasir/Owner memasukkan data – data di form login seperti User ID dan Password.	
4. Admin kasir/Owner menekan tombol "Login".	5. Sistem memvalidasi data yang di masukan apakah valid atau tidak.
	6. Jika data yang dimasukkan valid, sistem akan memberi akses kepada admin kasir dan menampilkan halaman dashboard.
	7. Jika data yang dimasukkan tidak valid, sistem memberikan pesan kesalahan atau pesan "user id atau password anda salah." Admin kasir dapat mencoba kembali untuk memasukkan data login yang valid agar mendapatkan akses ke dalam sistem.
	8. user selesai.
Postkondisi	1. Admin Kasir/Owner berhasil login dan mendapatkan akses ke dalam sistem.

Figure 2. Narrative Use Case

c. Activity diagrams

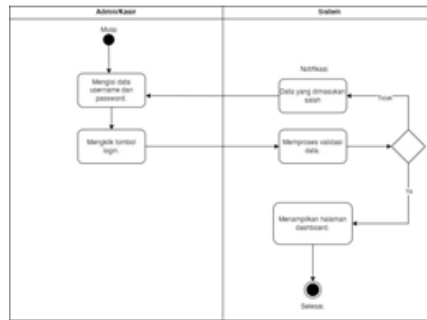


Figure 3. Activity Diagram

3. Database Design

a. Class Diagram

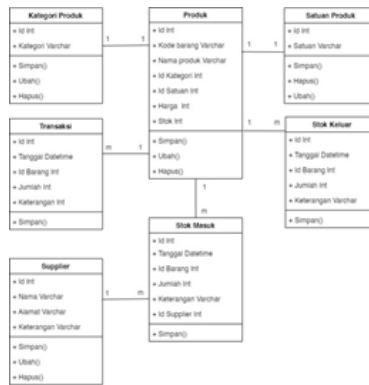


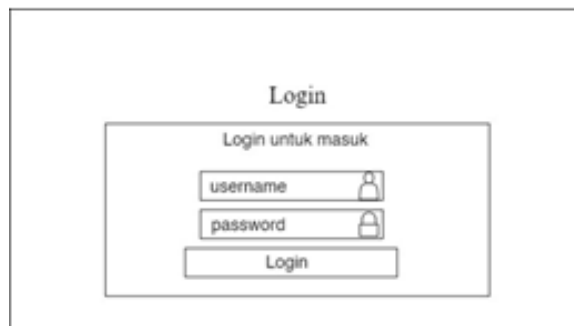
Figure 4. Class Diagram

b. Menu Structure Design



Figure 5. Menu Structure Design

c. Interface Design



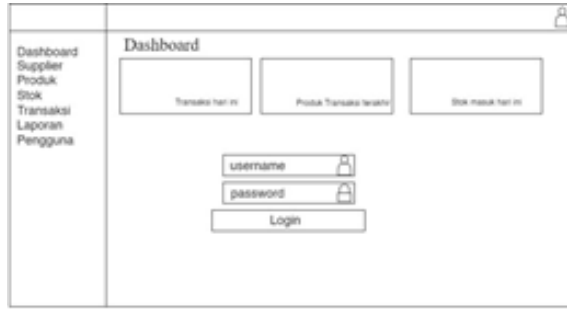


Figure 6. Interface Design

### System Implementation

System implementation involves putting a designed and produced system into a natural operational environment. System implementation aims to guarantee the smooth operation of the system being constructed in strict agreement with the users' requirements.

1. Login Page Display

Figure 7. Login Page

2. Dashboard Page View

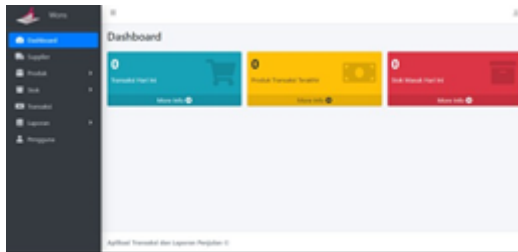


Figure 8. Dashboard Page

3. Transaction View



Figure 9. Transaction Display

4. Sales Report View

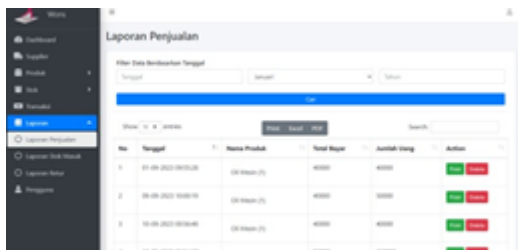


Figure 10. Sales Report Display

### CONCLUSION AND RECOMMENDATION

Based on the research findings and the design and implementation of this final assignment, the transaction and sales report system designed for the motorbike replacement parts

company offers numerous advantages and solutions for streamlining the transaction process and generating sales reports. The author has derived the following conclusions. By utilizing this specifically engineered application, the transaction process can be executed with more speed and precision. The system generates sales reports that are highly precise and readily accessible. This condition facilitates store managers in making more informed judgments based on more dependable data.

The author recommends enhancing and advancing this application to achieve superior and ideal outcomes. This conclusion can be accomplished by conducting further research and incorporating payment functionalities using Qris, as well as enabling the inclusion of product photos. Upon the completion of developing this application, it is advisable to provide sufficient technical assistance and regular maintenance to guarantee the optimal performance of the application in the long run.

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