Design of Fish Sales Information System PT XYZ Using Laravel Framework

Dimas Aditya Pratama1*, Syaifudin2, Teddy Siswanto3

Information System Study1,2,3, Faculty of Industrial Technology, University of Trisakti

Abstract— The development of an information system for fish sales, produces an information system that includes various procedures that record, calculate, and create documents in the form of reports on management requirements. Reports are used for decision making, starting from supplier orders, recording inventory, to selling goods to consumers. Sales record information is still manual, so there may be entry errors and branch companies that are late or have not submitted sales reports. With the existing problems in this company, then in this final project research will create a sales system. Based on these problems, a sales information system was made at PT XYZ. The design of PT XYZ’s Sales Information System uses the waterfall method with the Laravel php framework. The resulting system is to record and update purchase order data, goods data, and sales order data and can print reports according to the desired date, month and year.

Index Terms— Waterfall, Sales Information System, Inventory, Purchase Order, Sales Order

I. INTRODUCTION

In the current era of globalization, competition between companies is becoming increasingly high in improving the quality of services or goods. This triggers a company to build information systems that are applied in various fields of an organization in the context of corporate strategic decision making, one of which is sales. Sales information system is an information system that includes various procedures that record, calculate, and make documents in the form of reports for management’s needs in making decisions, ranging from ordering goods to selling to consumers [1].

PT XYZ is a company engaged in the field of fisheries. The main business of this company is fishing and selling fresh fish directly to consumers. However, the company does not yet have an information system that can record every operational activity so that the recording is still manual and there may be an error in the entry of goods ordering data, goods data, and fish sales data. Given the problems that exist in this company, this final project research will create a fish selling system using a Laravel framework. This system will record every order data, inventory data, and sales data. From this data, companies can also print reports that can later help companies make decisions.

Systems can be developed and combined into resources in processing data into information to be able to meet the needs and achieve the goals of an organization. Not only companies that get benefits, but consumers also more easily get the information needed about the services and products offered by the company, so consumers can more easily order and buy it.

II. LITERATURE REVIEW

A. System

The system is a collection of elements or components that are combined to achieve a goal. The basic model of the form of this system is the presence of inputs, processes, and outputs. A system can be developed into a form of storage media. The system can be divided into two, namely open systems and closed systems. Open systems, namely the system can receive some input from outside the environment, while the closed system is the opposite [2].

B. Information

Information is data that is processed into a form that has meaning and has value for the user. A data depicts real events and unity. In the business world, these events can be in the form of sales [2].

C. Information System

From the understanding of the system and information above it can be concluded that the information system is a system built to support the various operational needs of an organization and is managerial in nature. Information systems are an important part of the organization in helping management and decision making. To implement an effective and efficient information system Laravel requires planning, implementation, regulation and evaluation in accordance with the goals of an organization [2].

D. Sales

Sale is the transfer of ownership of an item or the provision of services to someone where a seller will benefit from the sale to the buyer at an agreed price or value between the two parties [3].

E. Framework
Framework is a solution to a problem using the basic conceptual structure based on complex issues that exist. A framework already contains a collection of architectures / concepts that can make it easier to solve a problem. In a framework, usually there are various kinds of features for building a system, including standard coding, best practice, design patterns and common functions. By utilizing various features that are already available on the framework, the application development process can be done quickly. Framework usually uses the Model View Controller or MVC method which is a method of separating data (Model), interface design (View) and function (Controller). [4].

F. Laravel

Laravel is a PHP framework that is used to build a web with the concept of MVC (Model-Controller-View) using the command line tool called "Artisan". Laravel uses a bundle packaging and installation bundle through the command prompt [5].

III. RESEARCH METHODOLOGY

A. Methods for Developing Linear Sequential Systems (Waterfall Model)

The methodology used in research in building sales information systems is the Waterfall development method which has the advantage of identifying and analyzing system requirements, long before programming begins and limiting changes during the project [6].

B. System Planning

In this study, the system to be built is a sales application at PT. XYZ uses the PHP Laravel and MySQL Framework. This application was built with the aim of being able to provide useful information in the form of inventory data, purchase order data, and fish sales orders which can later be processed according to user needs [7].

C. Needs Analysis

The needs analysis is used to provide a detailed explanation of why this system needs to be built and for whom it is intended. This system was built to meet the needs of 4 users namely admin, manager, warehouse and marketing. Admin can add or change user, user level, and access control. Admin can determine the access rights or roles on each account to prevent data changes arbitrarily by other accounts. User managers can add or change supplier data and purchase order data so that the account manager can control the entry of goods data and ordering goods. Warehouse users can add or change goods data and inventory data, warehouse users also control the amount of goods inventory. User Marketing can add and manage each item sales transaction.

D. System Design

Data Flow Diagrams (DFD) are a description of all sales activities so that they are easily understood in the data processing.

Database design in this sales system is made to include database tables. This design uses the ERD (Entity Relationship Diagram) design as the basis for making database tables. In this system there are 4 tables, namely the users table, the purchase order table and the order table.

E. Implementation
At this implementation stage is realized based on the design that has been made previously and needs to prepare several software or applications to build sales applications, including:

- XAMPP version 7.1.30
- Google Chrome
- Laravel 5.7
- Composer

IV. VISUAL STUDIO CODE RESULTS AND DISCUSSION

A. Initial Appearance

The Login page is the initial display of the sales application on PT XYZ. Users and admins must login to enter the sales application. Admin and user login pages are in the same user, but application users have different access rights.

Fig 5. Login page

B. Admin Page Views

The Access Control, Master User, Settings and Master User level display pages are views in the form of a list of users and their access rights. This page view can only be changed and accessed by the admin.

1. Access Control page

Fig 6. Access Control Page

2. Master User Page

3. Master User Level Page

Fig 7. Master User Level Page

4. Setting Page

Fig 8. Master User Level Page

Fig 9. Setting Page

C. Warehouse User Page Views

The Item Master Menu page, Media Library, Stock Corrections and Stock Reports display a list of inventory items along with details of items that can only be set by the Warehouse user.

1. Goods Master Page
The Master Supplier Menu page, Purchase Order, Indent List and PO Report displays the list of Purchases of goods along with details of items purchased which can only be set by the Warehouse user.

D. User Manager Page Views

The Master Supplier Menu page, Purchase Order, Indent List and PO Report displays the list of Purchases of goods along with details of items purchased which can only be set by the Warehouse user.
Fig 17. Purchase Order Report Page

E. User Marketing Page Views

The Sales Menu and Sales Report page displays the list of Sales of goods along with details of items sold and can only be set by the Marketing user.

1. Sales Order Page

Fig 18. Sales Order Page

2. Sales Order Report Page

Fig 19. Sales Order Report Page

V. CONCLUSION

The results of the study were made with the aim to assist PT XYZ in recording and displaying information ranging from purchasing data, stock items to sales. This application is expected to help companies be helped in making decisions and operations can run well.

REFERENCES

[1] J. Martin and A. R. Tanaamah, “PERANCANGAN DAN IMPLEMENTASI SISTEM INFORMASI PENJUALAN BERBASIS DESKTOP WEBSITE,” vol. 5, p. 58, 2018.
[2] T. Sutabri, Konsep Sistem Informasi. Jakarta: Andi, 2012.
[3] C. Lianawati and U. Mursafl, “PERANCANGAN SISTEM INFORMASI PENJUALAN PADA PERUSAHAAN JASA SERVICE PROVIDER,” Comtech, vol. 3, no. 1, p. 128, 2016.
[4] L. Dwiarita, Menyelam & Menaklukan Samudra PHP. Bogor, 2014.
[5] R. Awaludin, Seminggu Belajar Laravel. Leanpub empowers, 2015.
[6] A. Dennis, B. H. Wixom, and R. Roth, System Analysis and Design, 5th ed. Don Fowley, 2012.
[7] Waryanto, “ANALISIS DAN PERANCANGAN SISTEM INFORMASI PENJUALAN PADA KEDAI T-SHIRT YOGYAKARTA MENGGUNAKAN FRAMEWORK CODEIGNITER,” Tugas Akhir STMIK AMIKOM Yogyakarta 2013

Dimas Aditya Pratama, born in Jakarta Agustus 4, 1997. Students at Trisakti University, Department of Information Systems, Faculty of Industrial Technology.

Syaifudin, completed his Bachelor's study at Gadjah Mada University in 1988, his Masters at the University of Indonesia in 1996 and his PhD at Universiti Utara Malaysia in 2011. As a lecturer at Trisakti University from 1988-present. Areas of expertise are Statistics and Information Systems. His current position is the head of the Laboratory of Software Engineering and Information Systems. He once served as chairman of the 2013-2017 Information Systems Study program. Research that has been done is about Knowledge Management and handwriting recognition (pattern recognition).

Teddy Siswanto, completed his Bachelor of Mechanical Engineering at Brawijaya University in 1986, had worked at a number of private companies as computer programmers by self-taught, then continued his studies by completing the Master Degree of Information System at Bina Nusantara University in 1995 and now working full time at the University Trisakti Information Systems Study Program as a Regular Lecturer. The research field of interest is related to Bioinformatics and is incorporated in the MABBI membership (Indonesian Bioinformatics and Biodiversity Society).