
SMART BENGKEL BERBASIS WEBSITE (Studi Kasus : PT.Isuindomas Putra)

Riska Ulya Sabrina¹, Ahmad Zakir², Andi Marwan Elhanafi³

^{1,2,3}Department of Information System, University Harapan Medan, Indonesia

ABSTRACT

The use of SMART in telecommunications has triggered the emergence of web-based service technology. A service that provides car service activities that can be accessed through a mobile network. Putra is one of the business enterprises in the automotive field such as service and spare parts, at this workshop still uses manual system in the processing of data, transactions and handles. Therefore, it is necessary to build a computerized system that will help to reduce processes that are still done manually. In this study, an application was created to provide car workshop services based on a website in which there is customer data management, no antrian, can see the car service process, enter the stock of sparepart goods. The research method uses observations and interviews in person at the P.T. Material and materials are notes, spare part list reports and service jada. The results of the research consisted of a service booking system, no online entries, viewing the vehicle service process, payment invoice processed with visual studio code and testing performed using a database testing according to the requirement.

Keyword : Front Desk, Website, Smart Workshop

Corresponding Author:

Name, Riska Ulya Sabrina
Department of Information System
Universitas Harapan Medan
Jl. HM. Joni No. 70 c

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1. INTRODUCTION

Smart workshop refers to the concept of a workshop that uses smart and innovative technology in its operation and service. Smart which is a clear concept for a long-term career, is certainly measurable because it can be adjusted to the soaring progress that can be achieved with the targets needed which are certainly for the future useful for companies by using smart devices. Smart workshops also provide containers to customers or workshops in carrying out service activities. The development of Smart Workshop cannot be separated from the rapid development of technology. This technology is used to facilitate service transaction activities. That way, providing important input for companies to follow technological developments in order to improve service to customers, it is necessary to manage good company management and improve human resources (source: Kompasiana.com). PT. PT. Isuindomas Putra is a company engaged in the sale of spare parts (provision of vehicle parts) and vehicle service (services for maintenance and repair of vehicle parts) four wheels or more. The system that runs on this company is still manual where customers come directly to the workshop to register for service after that they queue according to the service queue number provided by the security guard, then wait to be served by the Service Advisor (SA) to collect data on customer vehicle complaints and service vehicle data. Then the car will be repaired according to customer complaints. Where after collecting vehicle complaints that want to be serviced, customers can wait in the waiting room that has been provided. Only after that SA gives SPKB (workshop work order) to the head of the mechanic (group leader) before making repairs the leader group checks the customer's vehicle starting from the

condition when entering such as the body, vehicle equipment after that just checking the complaints given by the customer, if in the complaint, must replace spare parts then the group leader check the goods in the warehouse to see whether the spare parts are ready or not, if the spare parts are ready or not, the leader group still reports back to SA to ask for approval to replace the spare parts to the customer, if the customer agrees then it is repaired. After the car is repaired, the customer will be called to make payment to the cashier and hand over the car by a Service Advisor (SA). bBased on this, the author made a proposal system using the smart concept in the form of customer data, service orders, stock of goods, and computerized payments based on the website. With the registration system or ordering car services online, it will be easier for customers to order car service. Such as the ease of time in placing orders anytime and anywhere. Therefore, the author is interested in conducting research with the title "Smart Website-Based Workshop". Information technology is very influential for the progress of a business. All groups have started to do entrepreneurship in various ways to promote their business, one of which is using an e-commerce website or application. At this time, the habit of using perfume is a lifestyle that has been done by many people for a long time, perfume is used because it provides fragrance and freshness for its users, besides that it can be a characteristic of someone from his body scent, and perfume can also increase the confidence of its users and can eliminate body odor. DSS (Decision Support System) serves as an addition for decision makers to expand knowledge and possibilities, but does not replace the assessment system is shown for decisions that require judgment and decisions that can be processed with technical algorithms. Quality Perfume is one of the perfume refill businesses in Medan City. In carrying out work activities, business owners still have difficulty obtaining information because the existing sales system is still carried out manually. Systems that have been running require time to manage data into information. In the perfume industry, competition is getting tougher because of the many perfume products offered by various brands. For customers who want to try perfume will definitely choose the best perfume to use. Therefore, the *Weighted Product* (WP) method can be used as an evaluation to determine the best alternative perfume products that can meet customer needs. Based on the description of the problem above, the author wants to implement a system that can be used to help consumers to choose the best perfume products that are in accordance with the ranking results that will appear in the system. With the application of this method, it can also make it easier for the store to determine the best perfume products. Therefore, the author wants to create a system entitled "**Implementation of the Weighted Product Method to Determine the Best Perfume Alternative (Case Study: Quality Perfume)**".

2. RESEARCH METHOD

2.1 Research Procedure

Research procedures are steps used as a tool to collect data to answer research questions posed in this study. In this research procedure, the author discusses data collection methods and software development methods.

2.2 Data Collection Methods

In preparing the thesis, a method is needed to compile and complete existing data. The stages of the method are as follows:

1. Data collection by interview is a data collection technique by asking a number of questions orally. The interview aims to obtain data that is only known by data sources or sources that are private.
2. Observation Observation is one way to get any information from an event by observing directly. Science is the basis of all events or activities that occur either in a small scope or in a larger scope. This observation also includes systematic recording activities about all the symptoms of the object under study.

2.3 Software Development Methods

System development or research software is a way used to describe the main stages in the system development process for this system development process, including through several stages from planning, analysis until the system is implemented and maintained. System development used in im research, namely using the waterfall system development model.

2.4 System Planning

System design is the stage after analysis of the system development cycle. System design here is in the form of drawing, planning and sketching or arranging several separate elements into a unified and

functioning whole. System design determines how a system will complete what must be completed, this stage includes configuring the software and hardware components of a system so that after installation it will really satisfy the design that has been set at the end of the system analysis stage. The following are the stages in system design using the UML method, including *Use Case Diagram*, and *Activity Diagram*. Here's the diagram:

Perancangan UML (*Unified Modelling Language*)

Modeling is the stage of designing software before doing the stage of making programs (*coding*). In this study, system design was carried out modeling problems in the form of UML diagrams.

1. Use Case Diagram

The *Use Case Diagram* below illustrates the system from the perspective of *customer*, *admin*, *group leader*, so that the creation of *this use case* diagram is more focused on the functionality in the system, not based on the flow or sequence of events. On this *website* there are 8 (eight) interactions including "Register", "Take queue no.", "Fill in car damage information", "Manage workshop and customer data", "Transaction" "Manage all workshop and customer data", "Access service processes", and "View stock of goods". *Use Case* diagram of auto repair shop website seen in figure 1.

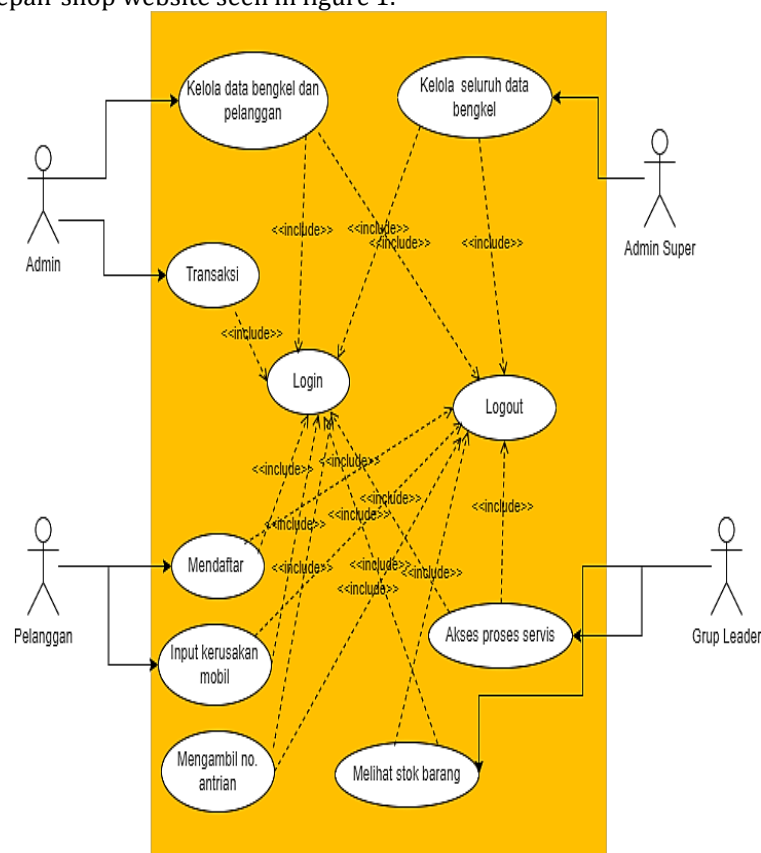


Figure 1 Use Case Diagram

3. Activity Diagram

Activity diagram menggambarkan rangkaian aliran dari aktivitas, digunakan untuk mendeskripsikan Activities are formed in one operation so that they can also be for other activities. On the *car* repair shop website there are 8 (eight) *activity* diagrams as follows:

1. Activity diagram Manage Workshop.

The *activity* diagram starts to open the admin page continue to *login*, if the username and password are wrong then they will be told to re-enter the correct username and password then enter the admin page but the correct username and password immediately display the admin page then choose the menu as needed, then if you choose the transaction menu service then all data is managed by the admin and then saved changes.

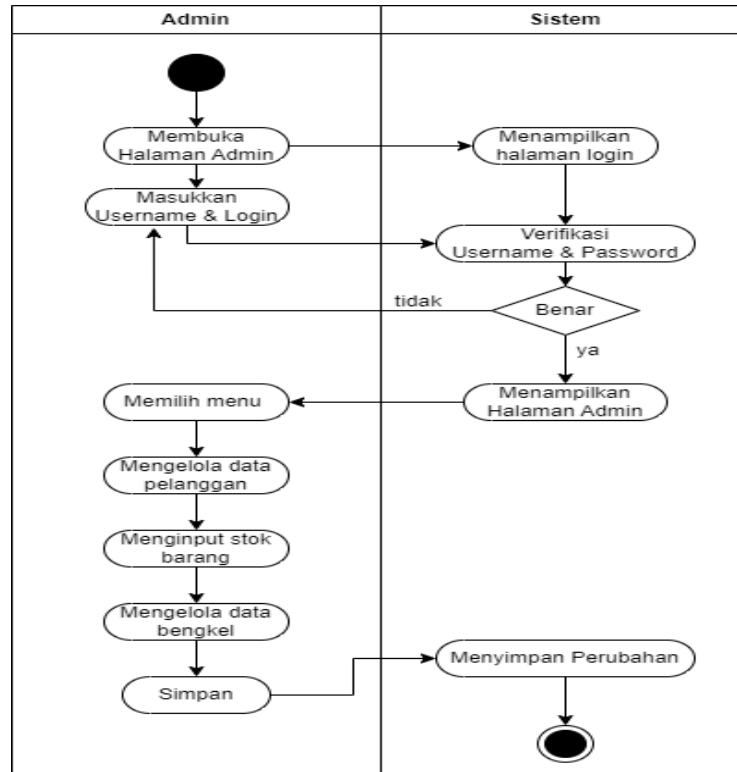


Figure 2 Activity Manage

3. Activity diagram Manage All Workshop Data.

Activity diagram starts from opening the web to the login page, enter the username and password if true will go to the main page then input, edit workshop data then save. The activity diagram manages all workshop data is presented in Figure 3.

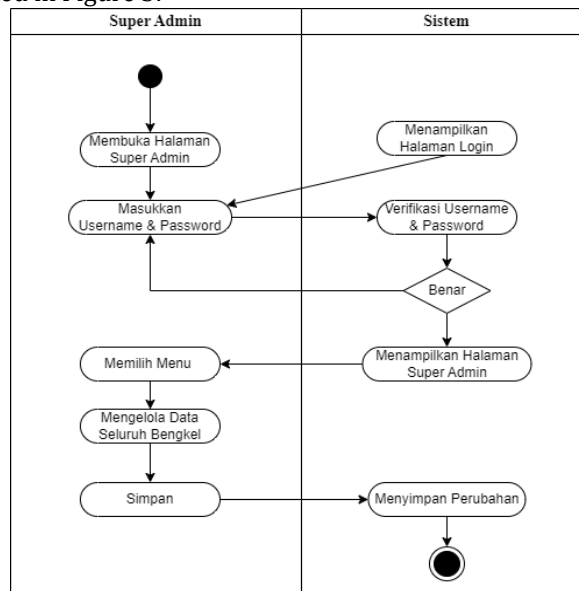


Figure 3 Activity diagram Manage All Workshop Data

4. Activity diagram Retrieves Car Service Queue Number

The activity diagram starts opening the website, then go to the login and register page, for those who already have an account, enter the username and password, but if you don't have an account, click register then fill in the username and password and personal data, then go to the data service page, enter the data Customer vehicle. If the customer is a new customer, then register first by filling in customer data and vehicle data, but if the old customer only fills in vehicle data.

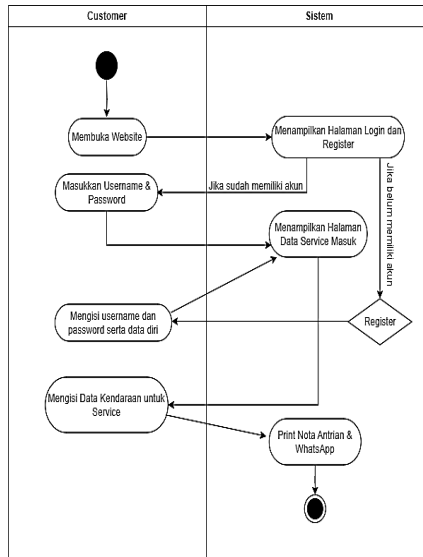


Figure 4 Activity Diagram Retrieving Car Service Queue Number

4. Activity Diagram Input Car Damage Data (Customer) Activity diagram opens the website display for customers will immediately appear service data entering the customer filling in car vehicle data and damage if the customer just eats click add vehicle.

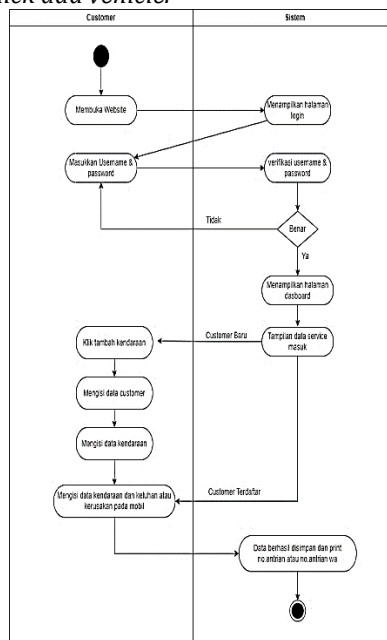


Figure 5 Activity Diagram Input Data Kerusakan Mobil (Customer)

4. RESULTS AND DISCUSSION

3.1 Research Results

The website-based workshop smart information system uses bootstrap as well as PHP and HTML programming languages. Based on admin users and leader groups, this information system consists of Login Pages, Dashboards, Sales, Purchases, Service Transactions, Service Vehicle Data, Mechanics, Masters, Workshop Report Data, Service Report Data, Users, and Workshops while for customer users only the Dashboard Menu and Service Queue.

3.1.1 Login Interface

This page is the initial display when the workshop smart information system is run, serves to connect users, namely admins, group leaders, and customers. All three users go to the main page.

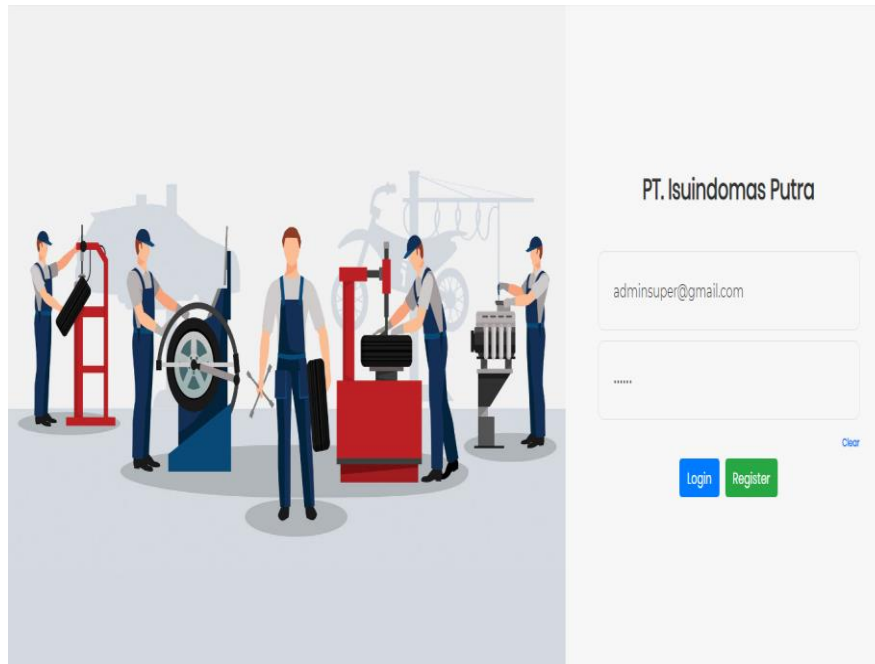


Figure 6 Login Page Interface

In figure 4.1 describes the appearance of the login interface, users must fill in a username and password to be able to enter the system. Next click the login button to start the login process. Login will not succeed if the username and password entered do not match or are incorrect.

3.1.2 Dashboard Menu Interface.

This page is the initial display when the admin successfully logs in, this menu is the initial display when logging into the system.

No.	Kode Barang	Nama	Terjual
1	8-98321-413-A	AIR CLEANER NMR71	1

No.	Kode Barang	Nama	Stock
1	8-98321-413-A	AIR CLEANER NMR71	2
2	7-55500-201-A	AIR CLEANER N55	6

Figure 7 Dashboard Menu Interface (Admin)

In figure 4.2 describes the interface of the admin section dashboard page, which is the initial display when the admin successfully logs in to the system, on this dashboard page the admin can see the service process, stock of goods and others.

This page is the initial display when the customer successfully logs in, this menu is the display when entering the system.

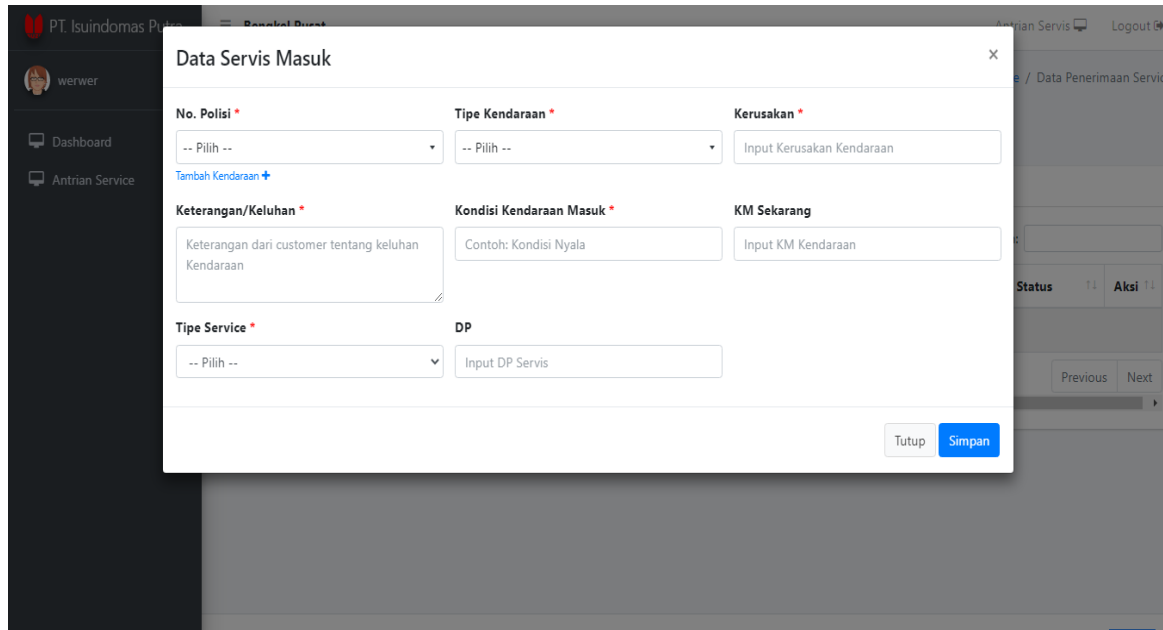


Figure 8 Dashboard Menu Interface (Customer)

In figure 8 explains that the customer dashboard menu goes directly to the incoming service data and fills in according to customer needs.

This page is the initial display when the leader group has successfully logged in, this menu is the display when logging into the system.

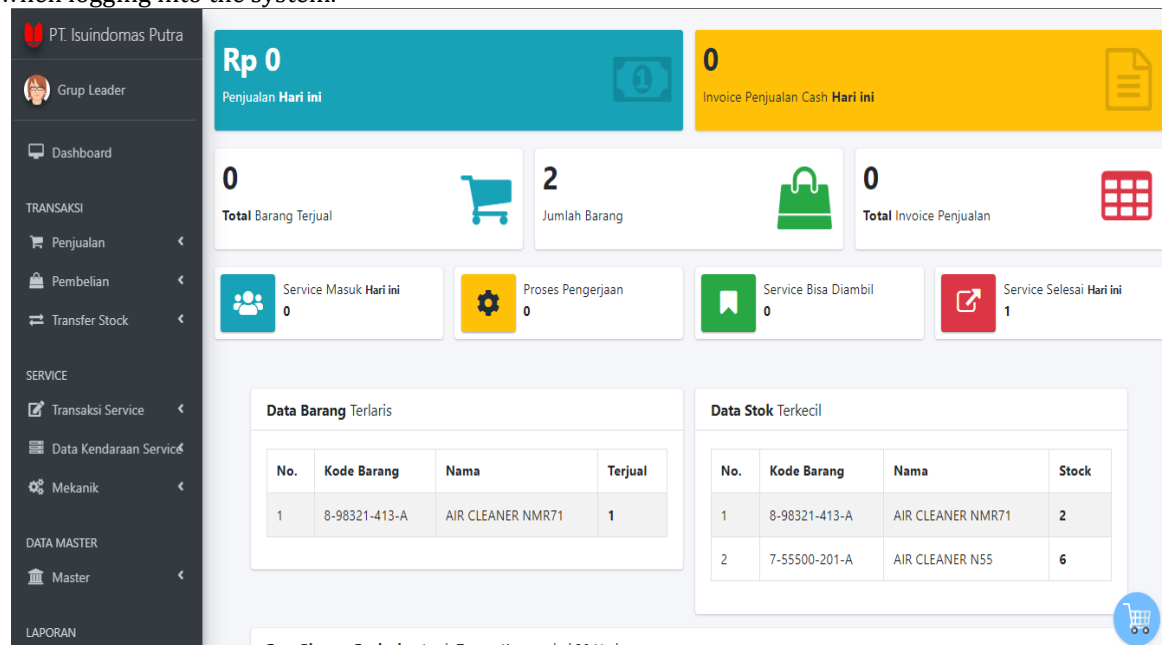


Figure 9 Dashboard Menu Interface (Group Leader)

In figure 9 describes the interface of the dashboard page of the leader group section, which is the initial display when the leader group successfully logs in to the system, on this dashboard page can see the service process, stock of goods and others.

3.1.3 Service Transaction Interface

This page displays service transactions made by the admin if the customer comes directly to the workshop for service, the admin will make transactions of personal data, vehicles first then all customer complaints will be inputted into the system.

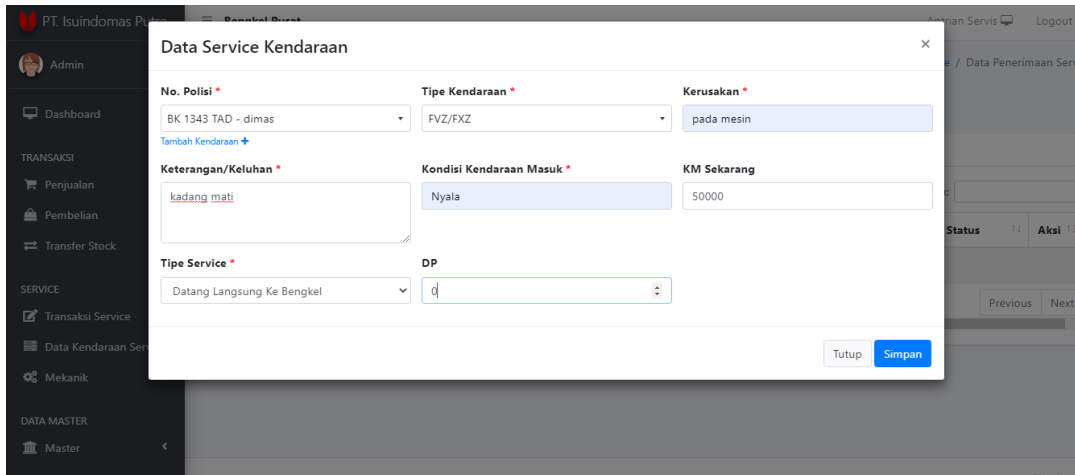


Figure 10 Vehicle Service Data Interface

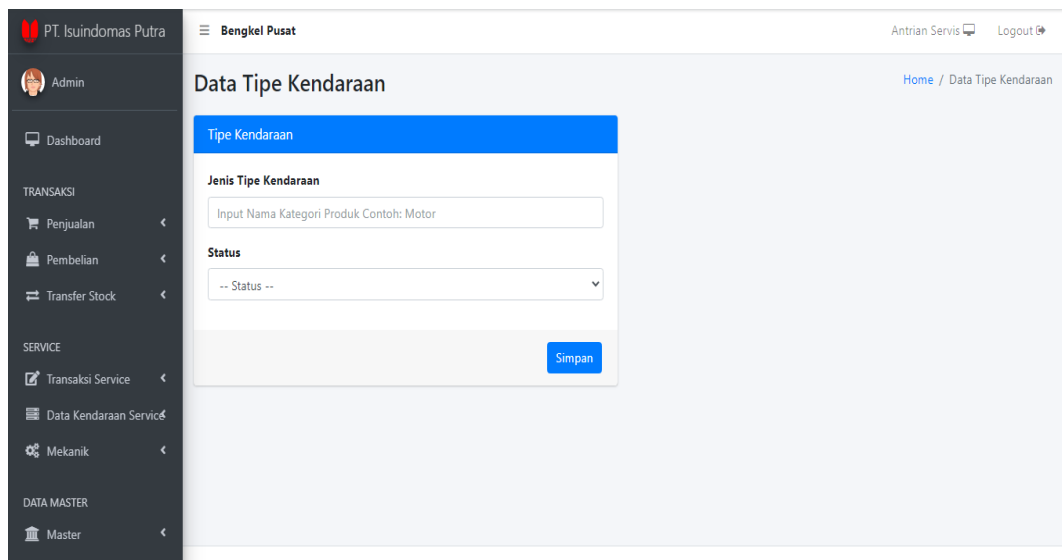


Figure 11 Display Add Vehicle Type Data

This page displays the price list of services which are job services and the price of job services are all inputted on this page starting from the code, type of work, price, time, and type of vehicle.

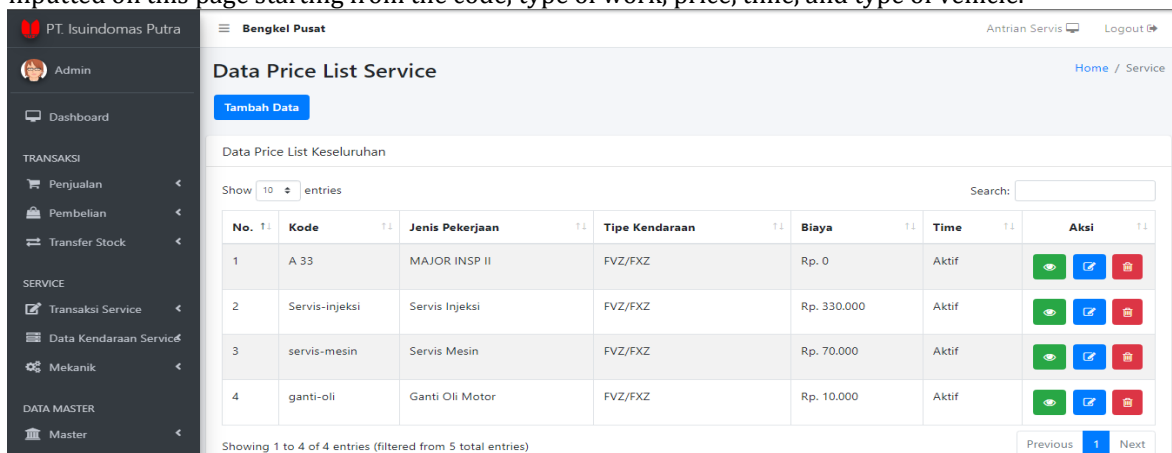


Figure 12 Price List Service Data Display

This page displays added price list service barcode data that is entered only once so it cannot be edited but for other data can be edited, in this added data consists of code, type of work, type of vehicle, service fee, time (time).

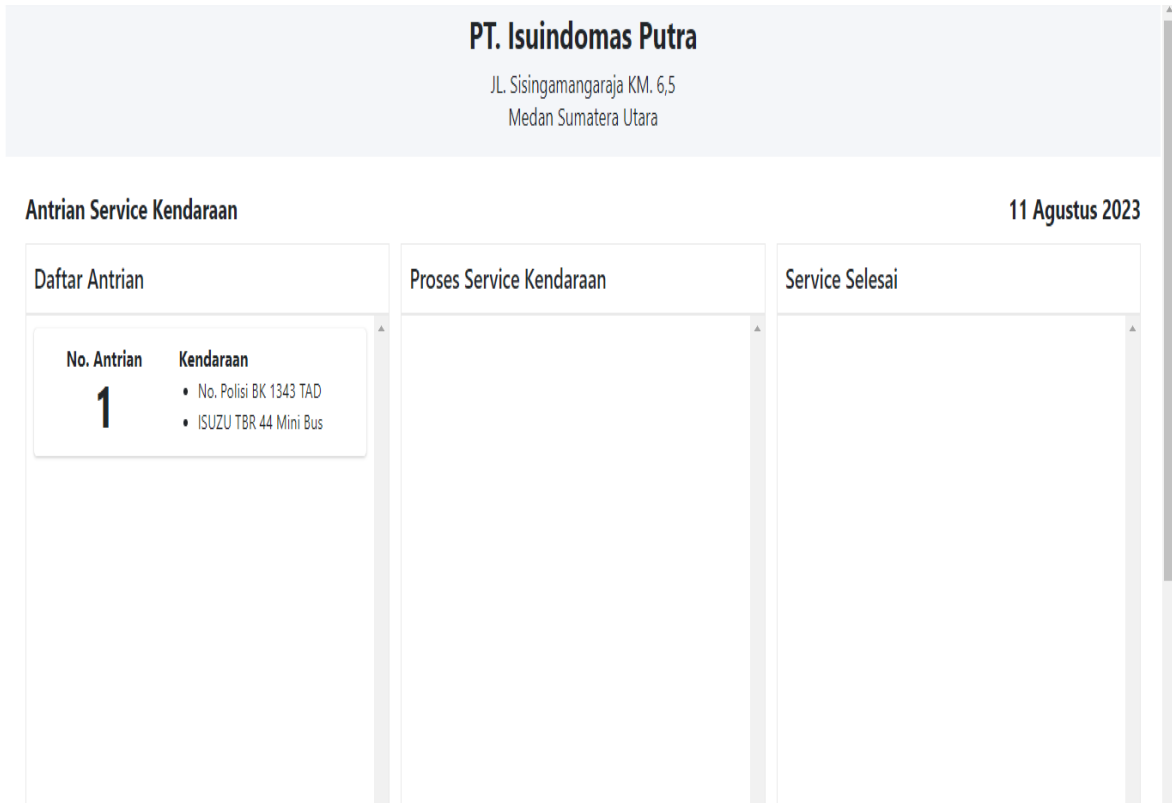


Figure 13 Service Queue View (Customer)

3.1.8 Register Menu Design (Customer)

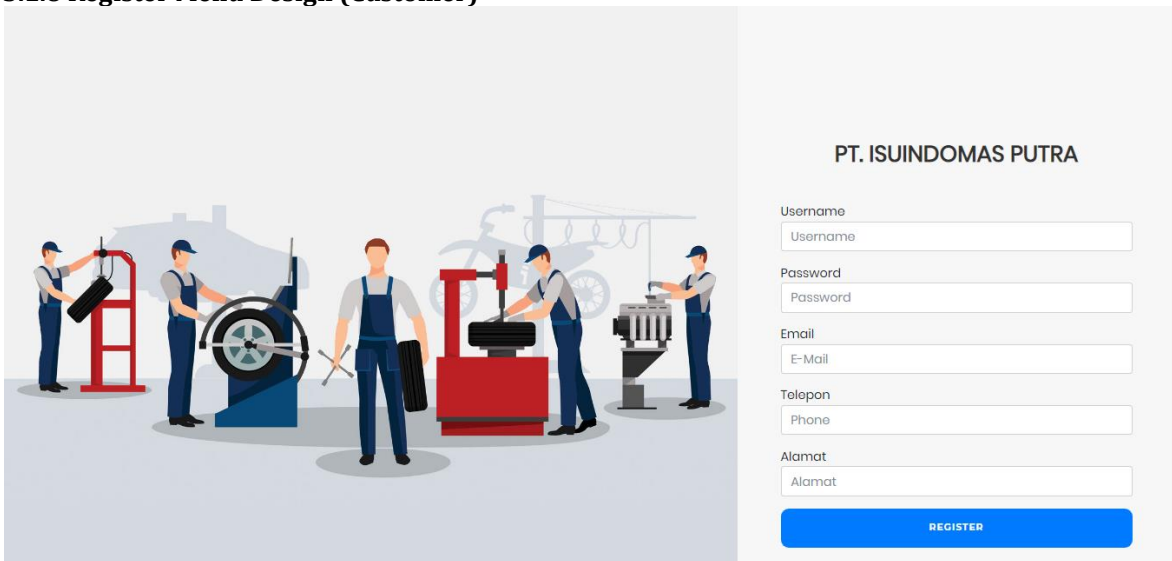


Figure 19 Register Menu Display (Customer)

This page explains for customers who do not have a website account at the time of service and take the queue number.

4.1 Discussion

The design of a website-based workshop smart information system is made with the aim of producing a system that can help customers and workshops to easily conduct service transactions starting from service registration for customers and managing service data for workshop admins in realtime. There are three users who can run this system, namely admin, group leader, and customer. Admin and group

leaders are responsible for customer data and ongoing service process settings while customers are in charge of registration to retrieve service queue numbers. Waterfall is used as a method of system development because it is very appropriate for the creation of this website. Where the phases in each waterfall stage have been implemented so as to produce a good website application and in accordance with the needs of users and companies..

5. CONCLUSION

The conclusions of this study are:

1. This workshop smart information system can display item data such as stock of goods, item names, types of open goods, only that this system also displays a service queuing system that can be seen by users during the service process.
2. This workshop smart information system can be accessed online
3. The application of the waterfall method as a method of making the system has run well by producing website applications that are right for users to use.
4. This website-based workshop smart information system is built with PHP and HTML programming languages.

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