

# **Design of Web-Based Home Service Application Information System on The Sale and Repair of Motor Vehicle Spare Parts Workshop**

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## **Article Info**

### *Article history:*

Received Juni 30, 2023

Revised Juni 30, 2023

Accepted Juni 30, 2023

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### *Keywords:*

Web development

Website

Sales

repair

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## **ABSTRACT**

The Sale and Repair of motor vehicle spare parts workshop is a small and medium business engaged in selling and repairing motor vehicle spare parts established in 2000. Sales are made offline by opening a shop. CV Lancar Motor's business makes sales by serving buyers who come by explaining the problems experienced by their vehicles, then CV Lancar Motor's experts will fix them. During the internship as Web Development at The sale and repair of motor vehicle spare parts workshop for 60 working days, the task given was to create a home service website to serve buyers from home, by bringing mechanics to the customer's house. Making is done by making briefings and project integration and then followed by testing the website that has been made. The internship process that has been completed at The sale and repair of motor vehicle spare parts workshop provides many benefits. Like getting experience how to be a Web Development that makes a website., it is hoped that it will provide useful knowledge and become a new experience in order to be able to do a better job in the real world of work.

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## **1. INTRODUCTION**

At this time, people will minimize going out of the house, which is compounded by the current Covid-19 pandemic. Therefore, business actors are thinking about ways to continue to innovate to minimize the pandemic's impact on their businesses. For example culinary businesses will use messaging services. between Gofood or Grabfood because restaurant operating hours are limited and reduce the number of visitors who want to dine in (eat on the spot). Or as another example, online business actors will think of solutions so that their merchandise quickly reaches consumers' hands, namely by using online delivery services such as Gosend, Lalamove or many other online delivery services.

Of course all of that must be balanced with technological developments that can make innovations continue to be developed and realized. In this increasingly modern era, everything can be done online, one example is buying fruit, no longer needing to go to the market, but simply ordering via the application, the fruit will be delivered to the customer's address. All companies will keep up with the times and understand that technology has become a necessity to be implemented, so companies will start investing in IT needs. So it can be concluded that technology and business have become complementary unit.

Then the author got the idea to participate in providing innovation for the author's internship at The sale and repair of motor vehicle spare parts workshopso that he could implement technology in his business by creating a home service method. With an understandable explanation, The sale and repair of motor vehicle spare parts workshop is willing to implement the idea presented by the author, namely online home service website services. With the design of a good management and information management system, it will greatly affect the improvement of work processes, the implementation of a new system is needed to replace the manual management system that was previously implemented by The sale and repair of motor vehicle spare parts workshopand is expected to be able to help company management properly.

The website itself has a meaning as a document in the form of a collection of interconnected web pages that contains various information in the form of text, sound, images, videos and others, where all the data is stored on the hosting server [1]. And to open a website, the user must have hardware such as a computer, laptop or smartphone that has an internet connection. Web pages are usually in the form of files in the Hyper Text Markup Language (HTML) format which can be accessed via JTTP or HTTPS [2]. The website is also an information medium that can easily be accessed anywhere and anytime.

The result of the apprenticeship that has been carried out is the design of a good management and information management system, which will greatly influence the effective and efficient performance improvement process. The implementation of a new system is needed as a substitute for the existing manual management system which is expected to be able to help The sale and repair of motor vehicle spare parts workshopproperly, so that home service management can be easily carried out easily both by the admin (company) and the user (customer) [4].

## 2. METHOD

### 2.1. Rapid Application Development (RAD)

The sale and repair of motor vehicle spare parts workshop. Future system design in this project will employ the RAD methodology. Because the system is small-scale and basic in comparison to the requirements of the study item, the method is utilized in system design because it doesn't take a long time and incurs little expenditures. One of several incremental strategies focusing on quick-Inventory Sales Information System is Rapid Application Development, or simply RAD. (Kevina Angellin) 3cycle, or reasonably brief development cycles [7].

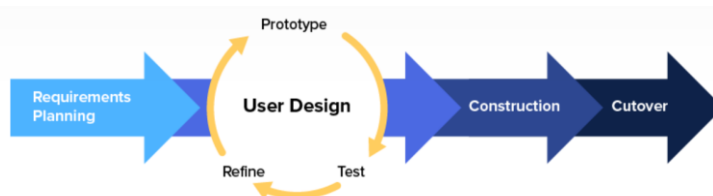


Figure 1. RAD Method Stages. Source [8].

Requirement Planning, User Design, Construction, and Cutover are the phases that make up the RAD, as depicted in Figure 1. Planning for requirements is the initial stage. To ascertain the user needs for the software program, closely consulting with the stakeholders. The cycle for user design is the following Phase. Prototypes, tests, and improvement all take place during this cycle. A Use case Diagram, Activity Diagram, and Class Diagram comprise the UML used at this stage to build the system. Construction Phase follows. XAMPP, the CodeIgniter framework, PHP, and the MySQL database are all utilized in conjunction with HTML at this stage of the system design process. Visual Studio Code is the chosen text editor. Cutover is the concluding stage. The main objective of this phase is to verify that the program works properly and consistently and complies with the objectives and specifications provided by the stakeholders.

## 3. RESULTS AND DISCUSSION

### 3.1. Requirement and Planning

In this early stage, an analysis of The Company's business processes was carried out to find out the needs and problems that occur in the user requirements. In conducting problem analysis, direct interviews were conducted with the owners of The Company. From the results of the interviews conducted, it was found that The Company experienced problems and agree with some proposed solutions.

### 3.2. Use Case Diagram

Use case is a description of the system you want to create. Usually contains a description of the interaction of an actor [3]. The purpose of making use cases is to understand the functions in the system and function as a description of the simplest and most understandable system activities [4]. An explanation of the activity in Figure 3.1, namely:

1. In this activity there are two actors who play the main role, namely the User (customer) and Admin (Employees).
2. Users have access to register (create an account).
3. The user has access to login with an existing account.
4. The user fills in Personal data for home service data.
5. The user inputs the repair schedule to determine the date for repairing the motorbike.
6. the admin can also do Login.
7. The admin also has the duty to check the available schedule to carry out motorbike repairs from the customer's house.
8. Admin also has access to view the database.

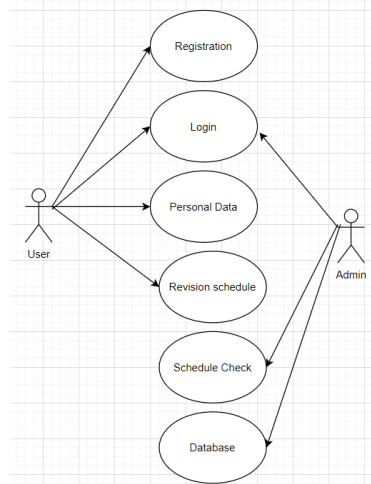


Figure 2. Use Case Website

**3.3 Database**

A database or database is a collection of data that is managed under certain conditions so that it is easy to manage [5]. With the existence of a database it makes it easier to find information, store information and also to delete information [6]. Data input on the website will be recorded in the database. The database can only be accessed by the admin or Lancar Motor employees. The database contains names, emails and passwords, as well as access status (user or admin), there is also a repair schedule [6]. It can be seen in Figure 2 that several activities can be carried out by the admin, including: 1. Edit, to change the planned motor repair plan data. 2. Delete, to delete data that has been completed or failed to be implemented.

**3.4 Kamus Data (Data Dictionary)**

The data dictionary is a written explanation of data in the database so that it has the same understanding of input, output, and data components [7]. The data dictionary is used for documentation and reduces redundancies.

1. Table Admin

Primary key : code\_admn  
 Foreign Key : -  
 Jumlah Field : 2

Table 1. Admin

No	Field Name	Type	Information
1	Username_login	Varchar (20)	Contains the username of the admin account
2	Password_login	Varchar (10)	Contains the password of the admin account

2. Tabel User

Primary key : code\_user  
 Foreign Key : -  
 Jumlah Field : 4

Table 2. User

No	Field Name	Type	Information
1	Username_login	Varchar (20)	Contains <i>username</i> dari <i>account</i> user
2	Password_login	Varchar (10)	Contains <i>password</i> dari <i>account</i> user
3	Data_diri	Varchar (50)	Contains user or customer personal data
4	Buat_Rencana	Varchar (100)	Contains a record of customer motorbike damage constraints

- 3. Tabel Jadwal Perbaikan  
 Primary key : id\_jadwal  
 Foreign Key : -  
 Jumlah Field : 5

Tabel 3. Repair Schedule

No	Field Name	Type	Information
1	User_name	Varchar (20)	Contains the name of the user
2	Email_user	Varchar (10)	Contains the email from the user
3	Phone_user	Int (12)	Contains the phone number of the user who can be contacted for confirmation
4	Tgl_Rencana	Varchar (100)	Contains the date of the repair plan
5	Cat_Kendala	Varchar (100)	Contains a description of the motor constraints experienced

**3.5. System Implementation**

In its implementation, CV Lancar Motor's home service website is implemented directly. Every feature on the home service website includes registering, logging in, filling in personal data, and planning motorized vehicle repairs. The appearance on the website presented is in accordance with the input from the owner of CV Lancar Motor.

**3.5.1. Start Page Implementation**

Figure 3 below shows the initial appearance of the home service website that the author made for CV Lancar Motor. There are several features available on the website, namely Login (for users who already have an account), Register (for users who don't have an account), home, home service, Contact Us, About Us [10][12][13].

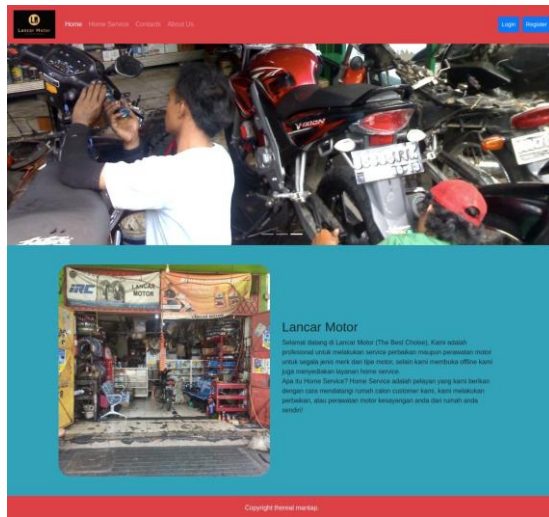


Figure 3. Initial View of the Website

**3.5.2 Home Page Implementation**

Figure 4 below is the home view of the home service website, this section displays a brief history of the founding of Lancar Motor and the Vision and Mission of Lancar Motor. All of the author's information is obtained from the Owner of Current Motor.

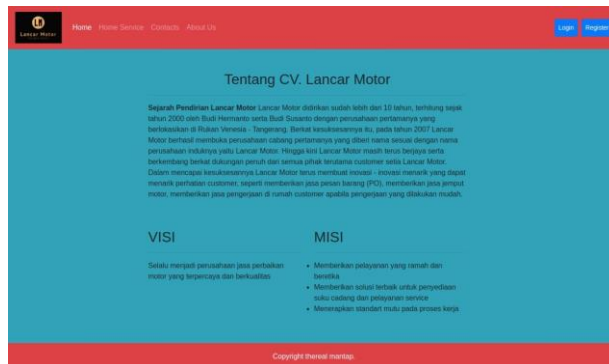


Figure 4. Home View

### 3.5.3 Implementation of Login Form Pages

This home service website is also equipped with a Login feature for Users (customers) or Admin (employees). User login to book motorbike repair slots online, and login for admin can delete slots that have been completed. As shown in Figure 5 below.

Figure 5. Login Form

### 3.5.4 Home Service History Page Implementation

Figure 6 below shows the history of Home Service that has been registered on the website, in this history you can see the customer's personal data such as name, phone, address, special notes, motorbike brand, as well as the planned date. Also can delete repair plans that have been completed or canceled.

Figure 6. Home Service History

### 3.5.6 Implementasi Halaman Form Rencana Home Service

Figure 7 below shows a page for users to fill in personal data to make a home service plan. The following describes the purpose of filling in customer personal data, namely:

1. Name to find out what the customer's name is.
2. Mobile number so that it's easy to contact when looking for a destination address.
3. The address listed is the address where the motor repair will be carried out.
4. The special note in question is to list what damage occurred, so the mechanic can bring the equipment according to the damage written.
5. The brand of the motorbike needs to be listed as well because of the different brands of motorbikes, the spare parts and tools are also different.
6. The date of the plan is written down to find out when repair work can be carried out.

The screenshot shows two forms on the Lancar Motor website. The left form, titled 'Riwayat Home Service', displays service history for 'tes nama 1' (ID: 32323232) and 'POpaye' (ID: 0812191103392). The right form, titled 'Buat Rencana Home Service', is a registration form with fields for Name, NO HP, Alamat, Merik Kendaraan (Honda), Tanggal Rencana, and Catatan Kendala / Kerusakan. A 'Buat Rencana' button is at the bottom.

Figura 7. Form Home Service Planning

### 3.5.7 About Us Page Implementation

Figure 8 below displays the About Us page which contains the address of Lancar Motor, Maps to the workshop location, as well as a contact person to contact.

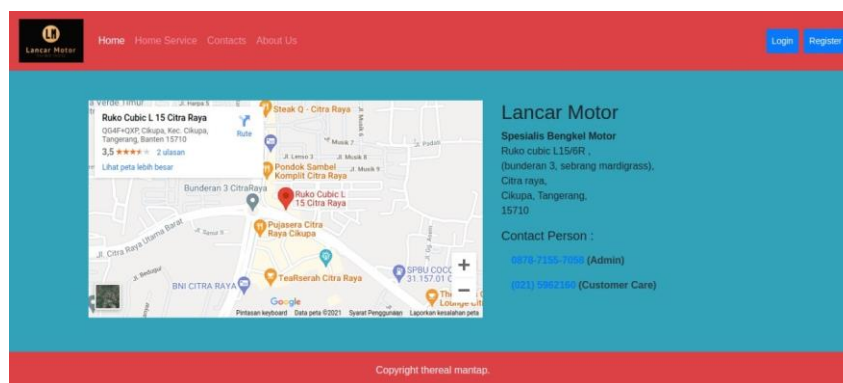


Figura 8. About US

## 4. CONCLUSION

The sale and repair of motor vehicle spare parts workshop is a small and medium enterprise (UKM) engaged in the sale and repair of motorized vehicle spare parts which was established in 2000. Sales are carried out offline by opening a shop. CV Lancar Motor's business sells by serving customers who come by explaining the problems experienced by their vehicles, then CV Lancar Motor's experts will fix them. Secondly, the second evaluation of the Humanvue website demonstrated a significant improvement in efficiency.

## ACKNOWLEDGEMENTS

Thank you to Multimedia Nusantara University for the support that has been given from the beginning to the end of this research.

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