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Designing A Web-Based Bicycle Modification Sales System

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Abstract. Bike modification is one of the activities for bicycle enthusiasts. This modification can be interpreted as changing certain parts of one type of bicycle for various user needs. However, not all workshops have complete components to produce optimal modifications, so customers have to look to several workshops to get them. This proposal aims to design a website-based application system that functions as a place for selling bicycle components or ordering home service services in installing components or modifying bicycles. The research method used in this research is descriptive analysis with a qualitative approach. The results of the research are the formation of a website-based sales system to sell various bicycle components and provide home service services that can be accessed on various consumer devices. The main concept of this website is a price list of bicycle components. In it there is a search feature to find bicycle components that consumers want to order and there is a bicycle modification recommendation feature that helps consumers to make bicycle modifications. In addition, this website has a home service feature for component installation or bicycle modification and has an e-payment or electronic payment feature to facilitate the transaction process. Therefore, a sales system like this will facilitate bicycle users in meeting their needs.

Keywords: Bike Modification, Components, Website

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1. Introduction

Bicycles are still a vehicle that is often used by people for travel, exercise, entertainment and some are just for decoration. There are even some people who prioritize bicycles as the main vehicle for various activities, such as going to work, going to school, selling and others [1]. In

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its use of course required maintenance or proper operation so that the condition of the bicycle remains in good condition and its quality is maintained [2,3]. In order to form a bicycle of good quality, it is necessary to modify or repair in case of damage. In today's digital era, to deal with this problem there is a fairly effective and efficient way, only a website is needed as a medium for selling bicycle components and home service services to make it easier for potential customers [4,5].

Bike modification is one of the activities for bicycle enthusiasts. According to the KBBI the definition of modification is a change or change [6]. So, the definition of bicycle modification is changing certain parts of a bicycle with aftermarket or parts made by the manufacturer of a bicycle to be different from the factory default. Changes to the bicycle are not made in total, only change or replace some bicycle components with aftermarket components [7]. It can be exemplified by the MTB type bicycle which incidentally is a mountain bike, modified into a Hybrid bicycle that can glide quickly on paved roads by replacing some components of the MTB bicycle such as wheels and wheels [8,9].

This study aims to design a website-based bicycle sales and modification system that functions to streamline time and make it easier for customers to make bicycle modifications for those who are new to the world of cycling in Indonesia. On the other hand, this website-based bicycle sales and modification system generates its own advantages or benefits for the owner. Because apart from being easy to operate, this system can be reached anywhere and anytime. In a website-based sales system, the owner can see the profit and recession of the results of his business.

2. Method

The research method used in this research is descriptive analysis using a qualitative approach to convey the research design. In system design, it will be made in the form of a website using Visual Studio Code and XAMPP to create a database with the system development method through prototyping. With the prototyping system development method, it requires interactive communication from users or customers. This prototyping method focuses on the interface or user interface that will be implemented with communication, planning, modelling, construction and conclusions [10]. The results of this prototyping will be the figures or projections in the research. Therefore, good interface communication between developers and users is very important for a better website.

3. Results and Discussion

3.1. Identifying Requirements

This website is designed to help bicycle enthusiasts to modify and buy bicycle components in Indonesia, especially in the city of Cimahi. This website has a search feature for components you want to buy, recommends bicycle modifications and has an e-payment feature to make it easier for potential customers. The website menu structure (see Figure 1).

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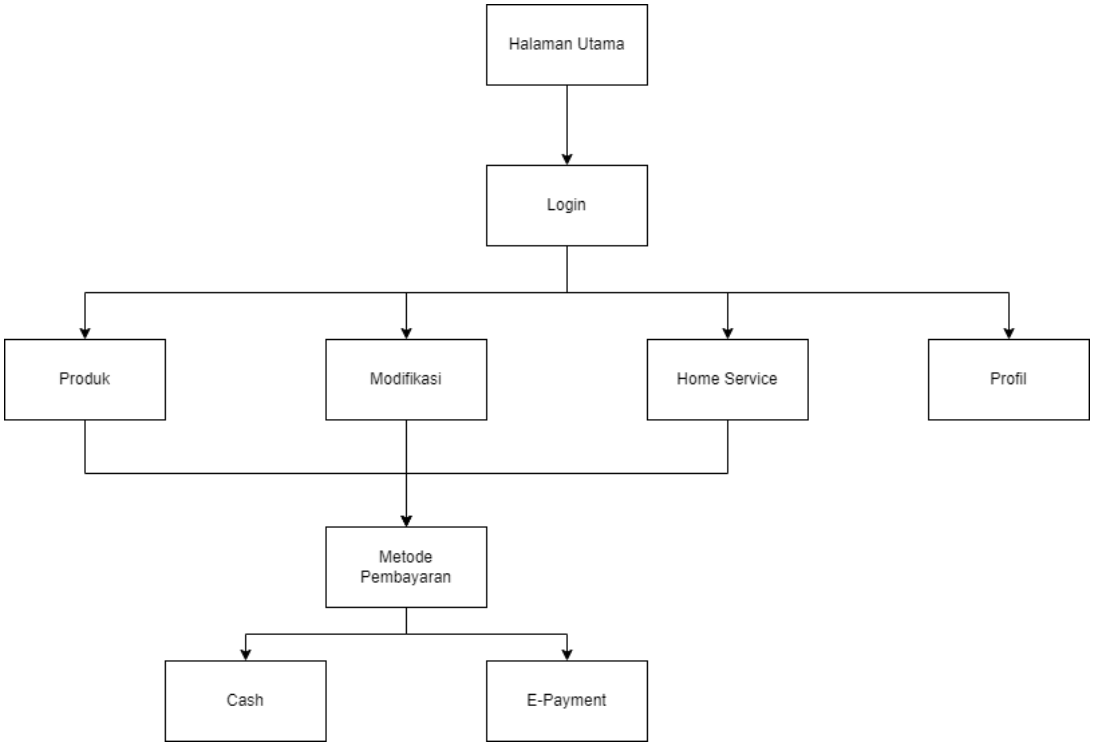

Figure 1. White Workshop Website Structure

The picture above shows a diagram of the website structure that will be created. This diagram is a brief description of the website which is divided into 4 sub menus. First there is the Product menu which lists the components of the bicycle. Second, there is a Modification menu containing recommendations for bicycle modification. Third, there is the Home Service menu which contains an order form for calling mechanics from the workshop to install the components that have been ordered. Fourth, there is a Profile page to manage customer profiles on this website.

3.2. Developing Initial Prototype

In the early stages of making the prototype, the main page contains a brief description of the website and displays the most dominant components ordered by customers or best sellers (See Figure 2).

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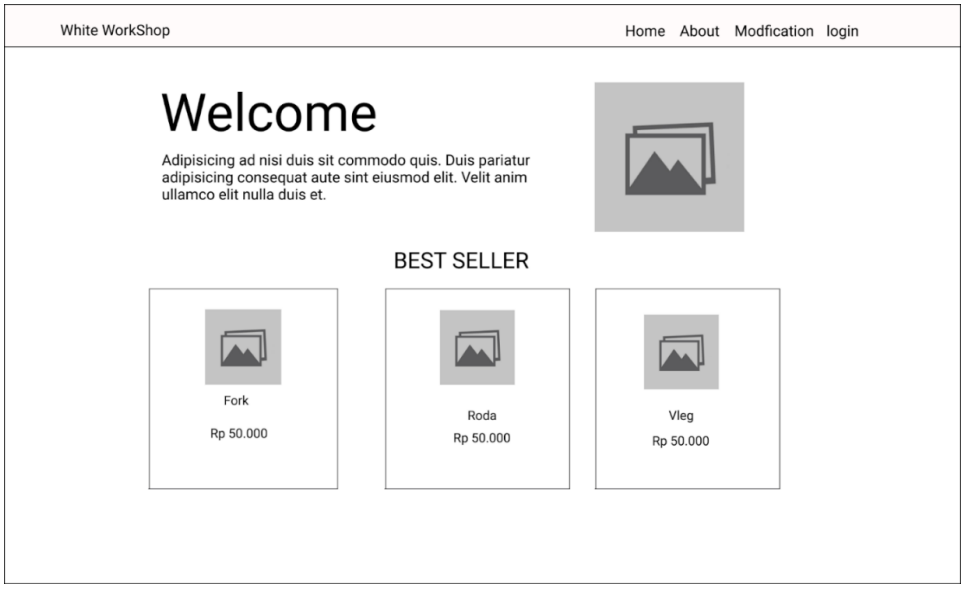

Figure 2. The Main Page of the White Workshop Website

The picture above shows the initial view when accessing the White Workshop website. There is a welcome speech and some of the dominant components ordered. Before customers buy components or order home service services, customers are required to login or register their account first to validate their data with the White Workshop database which is marked with the login button in the upper right corner (See Figure 3).

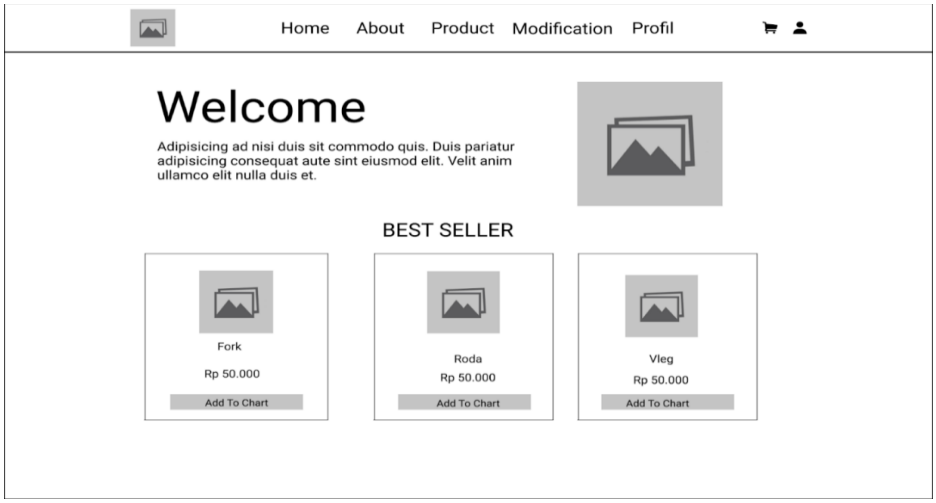

Figure 3. Homepage

On the Home page, it is still the same as the main website page, such as greetings and best sellers. However, in the best seller section there is an additional Add to Chart button to add orders for components to be ordered into the cart (see Figure 4).

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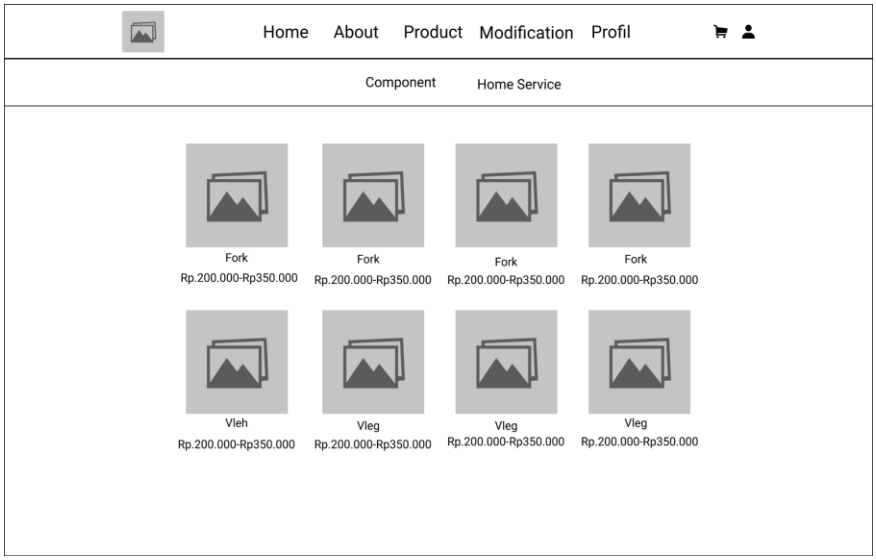

Figure 4. Product Page

The Product page contains all the components for sale, be it vlegs, wheels, forks and others. In addition to containing all the components that are sold, on the Product page there is also a Home Service feature to offer home service services so that it is easier for customers to install the components that have been ordered.

Figure 5. Profile Page

This page displays the profiles of customers who have registered their accounts on the White WorkShop website. On this page customers or users can change their profile such as profile photo, email, phone number and address.

4. Conclusion

The White Workshop website is designed to facilitate bicycle enthusiasts who want to modify their bicycles or buy bicycle components, so that bicycle users do not need to come directly to

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the workshop. This makes bicycle enthusiasts more flexible in maintaining or operating their bicycles and makes it easier for owners to manage and develop their business.

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