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Web-Based Bangun Jaya Workshop Information System

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Abstract: Bangun Jaya Workshop is a business in the field of car service or repair. Bangun Jaya Workshop serves painting and engine repair, buying and selling used two-wheeled vehicles and motorbikes at the Bangun Jaya Workshop. Currently, if you want to repair your car, customers are required to complete the payment administration data via transfer. Current information technology allows people to communicate in multiple directions without having obstacles of distance, place and time. The role of the information technology system also greatly supports data processing in a company, organization, institution or agency with the intention of making it easier to obtain relevant, accurate and timely information. The purpose of the research is to produce a website- based workshop information system to improve the quality of workshop services to customers so that they can order service online. The input requirements for this system are admin data, customer data, company profile data, car and motorbike spare part sales data and used motorbike sales data and motorbike and car spare part service data. The process requirements for this system are the login process to the system, the consumer data processing process, the motorbike and car spare part data processing process, the incoming goods data processing process, the outgoing goods data processing process and the service transaction data processing process and the motorbike and car service data processing process. The output needs are information on spare part data reports and information on incoming goods data as well as information on motorcycle and car service data reports.

Keyword: Bangun Jaya Workshop, HRD Data, Leadership Data, Online Registration, Web, Workshop Information Stem.

INTRODUCTION

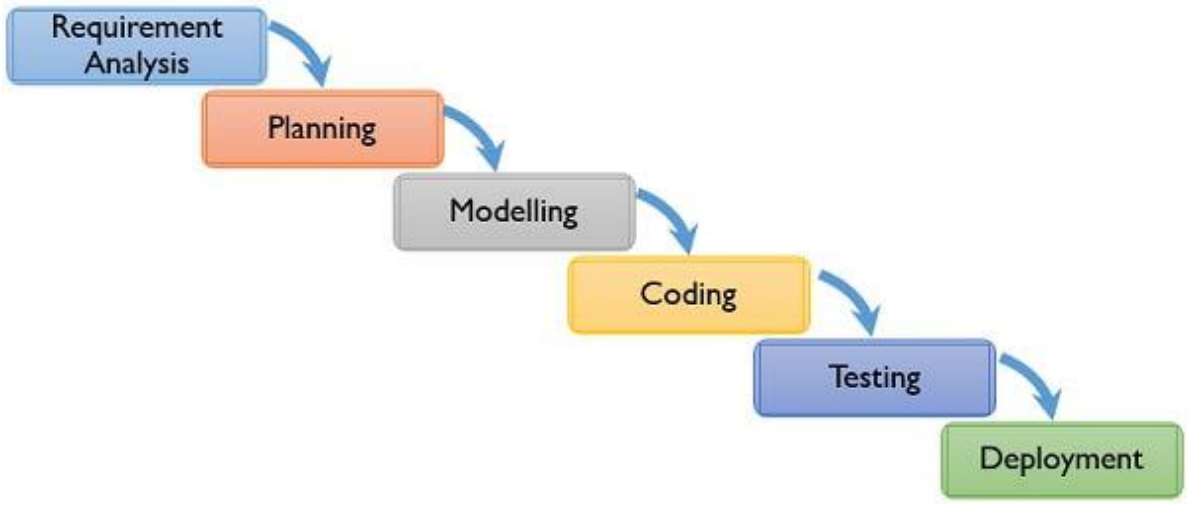
Today's information technology allows people to communicate in multiple directions without barriers of distance, place, and time. The role of information technology systems also strongly supports data processing in companies, organizations, institutions, or agencies to

facilitate access to relevant, accurate, and timely information. Information is one of an organization's strategic resources; therefore, to support the achievement of an organization's vision and mission, information management becomes one of the keys to success. Information systems are one of the organizational subsystems for managing information. Currently, information systems are operated by almost all human resources in an organization, making them inseparable from the organization's operations and life.

Various types Organizations today need information systems to support their business processes, workshops are one of them. Today's information technology allows people to communicate in multiple directions without barriers of distance, place, and time. The role of information technology systems also strongly supports data processing in companies, organizations, institutions, or agencies to facilitate access to relevant, accurate, and timely information. Information is one of an organization's strategic resources; therefore, to support the achievement of an organization's vision and mission, information management becomes one of the keys to success. Information systems are one of the organizational subsystems for managing information. Currently, information systems are operated by almost all human resources in an organization, making them inseparable from the organization's operations and life. Various types of organizations today need information systems to support their business processes, workshops are one of them.

METHOD

This study uses a system development method with waterfall development. The waterfall method is a waterfall method that provides a sequential or sequential approach to the software lifeflow starting from requirements analysis, design/design, coding, testing, implementation, and maintenance (S. Sukamto, 2013). The researcher chose this model because it is quite effective to use as a system development model because the steps are easy to apply and focus on good documentation (Cahyo Nugroho, 2019). The chart of the research methods applied using the waterfall method is as follows:



Source: https://binaryterms.com/waterfall-process-model.html

Figure 1. Waterfall Model

Requirement Analysis

Bangun Jaya Workshop is located on Jl.Serunai Malam 1, Rt02, Rw00, Suka Karya Village, Kota Baru District, Jambi City, Jambi, 36127, Indonesia Jambi City, 36254. In managing data or recording car repair services that customers still use manually or conventionally, recording with a ledger or like an agenda book with a running system The Jambi City Bangun Jaya Workshop Information System helps the mechanics and staff at the Jambi City Bangun Jaya Workshop. From the process of managing car repair data, there are several weaknesses or shortcomings in the Jambi City Bangun Jaya Workshop Information System, namely: Manually recording customer car repair service data is prone to errors in recording, the period of storage of customer car repair service data files in physical form is still limited, slow mechanical performance in terms of managing repair data or knowing the obstacles faced by customers.

Based on the results of the analysis of the Jambi City Bangun Jaya Workshop Information System, and to overcome the problems found, it is hoped that the system developed can meet the needs of the system, namely the procedures of the system that are made do not undergo many changes from the system that is running, only differing in the use of computerized systems that can help the process of input, editing, and deleting data and can make it easier in terms of data search and can provide updates that are expected to expand the scope of processing of the Jambi City Bangun Jaya Workshop Information System Overview for the proposed system design in general is that admins and customers can know and the Jambi City Bangun Jaya Workshop Information System.

Planning

This stage is closely related to the results of the analysis of the design of the Jambi City Bangun Jaya Workshop Information System. The process of designing a data input information system must be in accordance with the design method that has been determined, namely using a data flow diagram or (DFD) Data Flow Diagram. A Data Flow Diagram (DFD) is a visual representation of the flow of data in an information system. DFD is used to show how data is handled by various processes, as well as the source, purpose, and storage of data (Sholikhah et al., n.d, 2024). Data flow diagrams include: Context Diagram, DFD level 0 process 1, Level 1 process 2, and level 1 process 4 as:

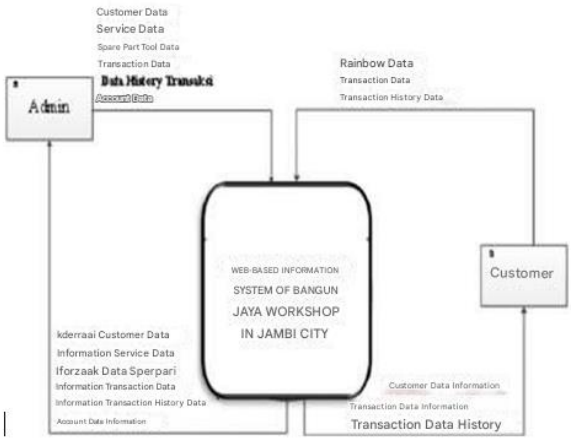


Figure 2. Context Diagram

Relationships between tables describe the subdivision between one table and another table used to manage the operation of a *database*. The following is the relationship between the Jambi City Bangun Jaya Workshop:

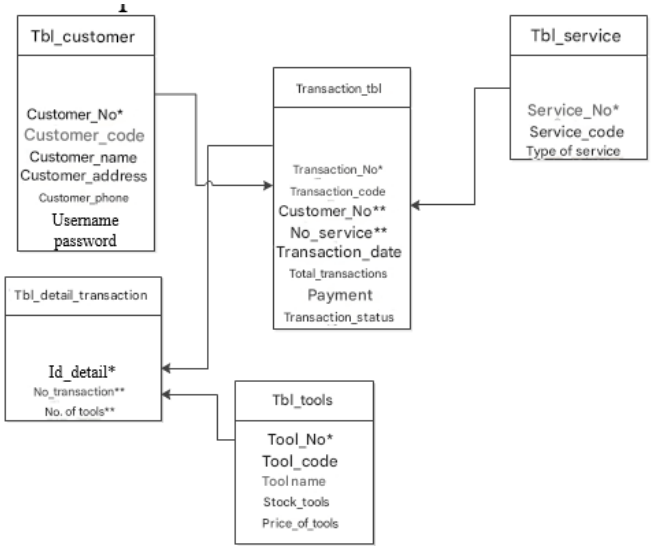


Figure 3. Table Relationship

Modelling

At this zero level, *DFD* describes the main process of the data flow system between processes, namely *the Input* and *Output* processes on the system and the data storage used to store and retrieve information. Figure 4 The following explains *the DFD* Level zero of the Jambi City Bangun Jaya Workshop Information System:

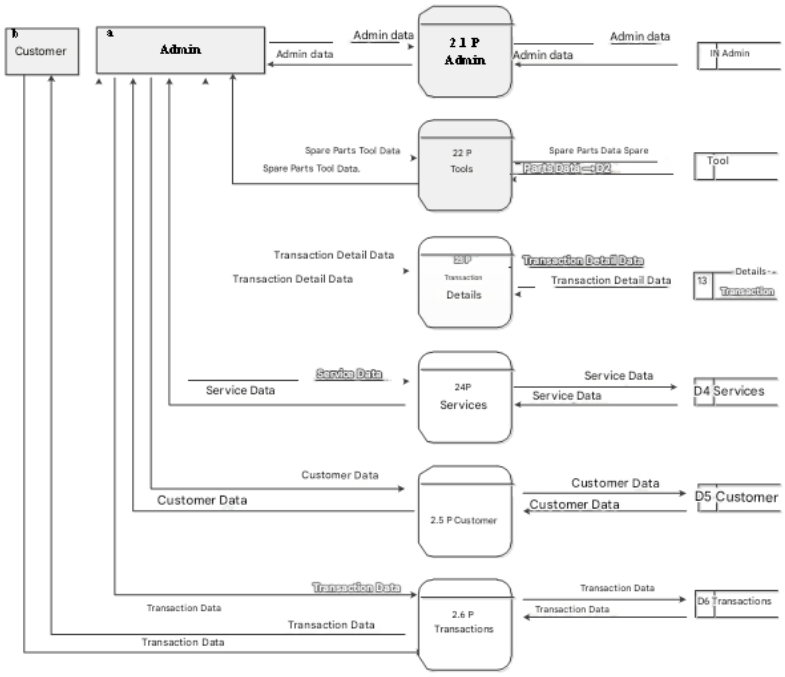


Figure 4. DFD Level zero

Coding

In the coding stage of building the system, the researcher uses a web programming language and uses a MySQL database. A database is a set of information that is stored in a computer systematically and is a source of information that can be checked using a computer program and functions to store information or data (Helmi, 2018, h.115). Other definitions of

database are A database is a database or a collection of data that is managed in such a way according to certain provisions and interconnected so that it is easy to manage, while MySQL is an excellent tool for managing information in understanding databases and tables (Junaidi Surya, 2024). For system processing, it is supported by using the javascript programming language. javascript can be run using only a browser, unlike PHP which works on the server side, to run javascript scripts does not require a refresh on the browser (Abdullah, 2022, h.10).

Testing

In the system testing stage, the researcher uses black box testing which focuses on the unit and function of the system. The functional purpose is for software quality testing that focuses on software functionality (Aminuddin et al., 2022). Here are the results of the test of the built system:

Table 1. Table of system test results using black box testing

Exam Activities	Expected results	Conclusion
Menu Login	Log in	Successful (V)
Home	Appears Home	Successful (V)
Data input	Stored data	Successful (V)
Knob	Works well	Successful (V)
Data Search	Data found	Successful (V)
Report	Reports appear	Successful (V)

Deployment

As for this stage, the researcher periodically monitors and repairs the system for errors or bugs according to the user's needs

RESULTS AND DISCUSSION

At this stage, the system design process will be implemented into the real form of a website, starting from the user page, admin page, to reports. Implementation requires data, where the existing data will later be input into the table so that the record can be seen on the displayed page. The following is the implementation of the Web-Based Bangun Jaya Workshop Information System. The first design is a user data page. A user page is the initial page on a user. This page is used to convey information around. There is a home menu, workshop profile, workshop history, workshop vision and mission, title, logo, username and password as well as online login from here. Here's a picture of the user page. The main page is the page that the user uses when they first access the system. This page also displays a customer registration menu, where this menu is used to register as a new customer who has or will service vehicles at the bangun jaya workshop. So that customer data will be recorded in the system, both new customers and old customers. The main page menu is in Figure 5 below

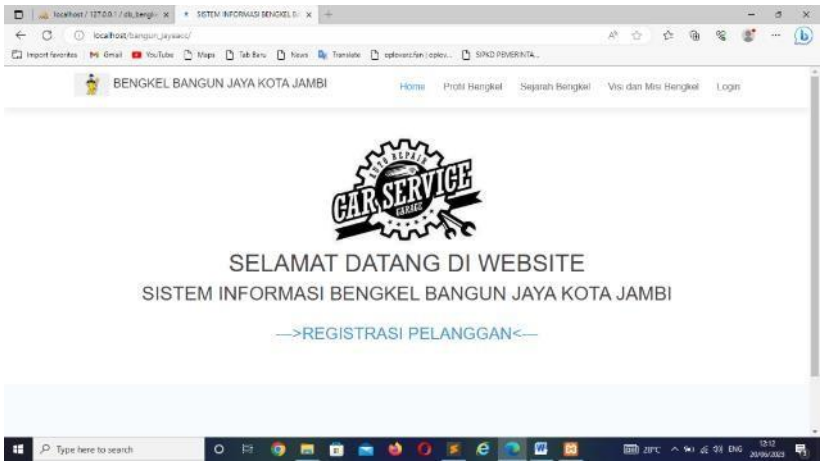


Figure 5. Home Page

As for displaying the main homepage, there is a profile and history menu. The profile menu is used to display information about the company name, address, contact and email of the owner to make it easier to access and information publicly, while the history menu displays a brief overview of the company and the forms of services available. The menu display is in Figure 6.

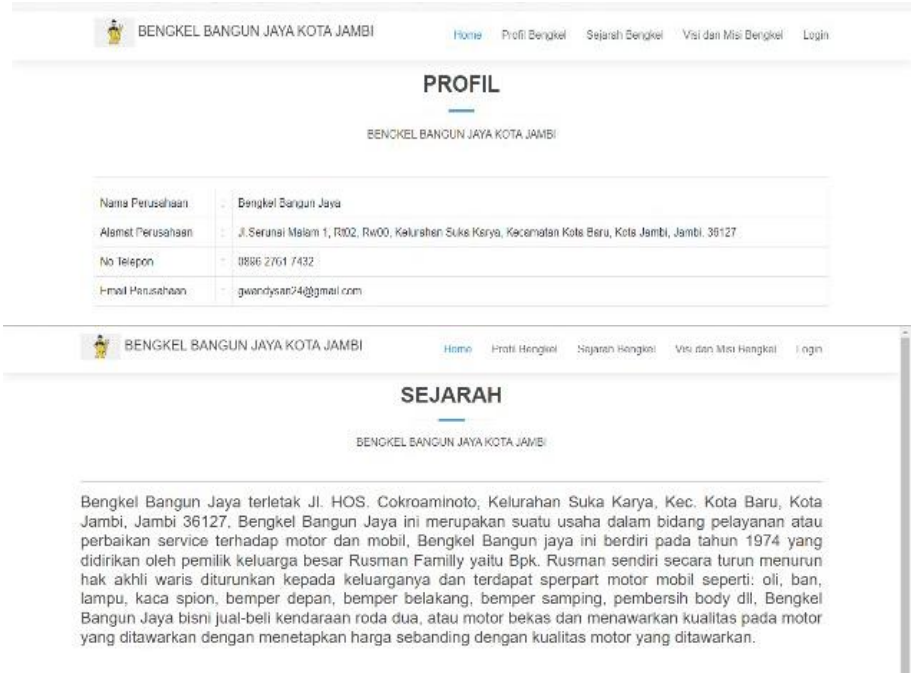
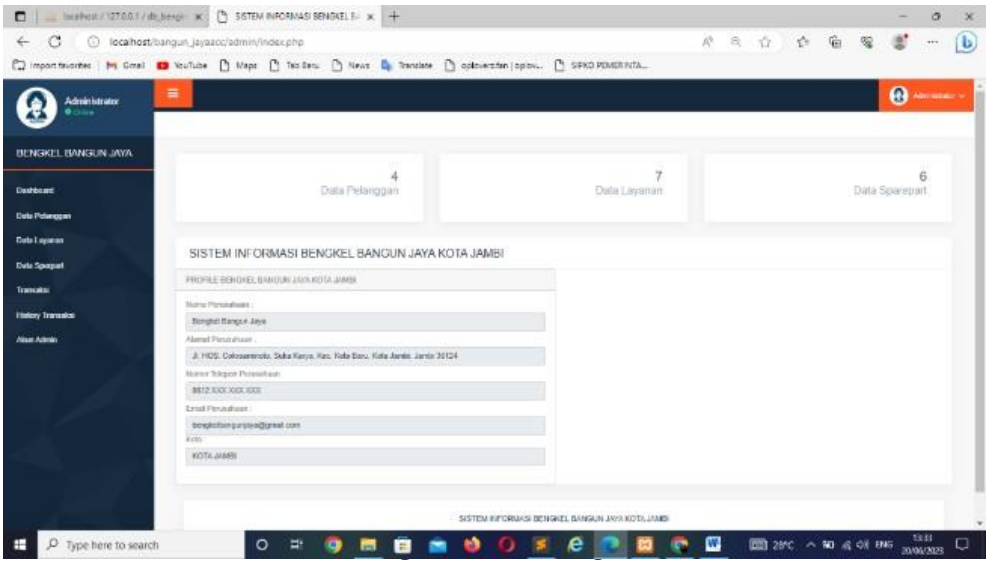


Figure 6. Profile and History Pages

In addition to the main display menu, there is an admin page menu. This page is used by admins to input data into the system which includes customer data input, report data, spare part data, service data, transaction history, and admin data. This menu can only be accessed by admins in the workshop who already have access or are recorded in the system. If the admin wants to change access or add new admin data, then there is an admin data menu in the system. The admin page is in Figure 7.



On this page there are several menus that can be used by admins: namely, the customer data menu menu, this menu is used to record all customers registered in the workshop or customer data that has registered in the main menu. The service menu is a menu used by the admin to record the code and type of service in the workshop. The spare parts menu is data about the tools that are available and ready to use in the workshop. The transaction menu is a menu that displays the payment process from the results of the service or the purchase of spare parts from the workshop. As for the transaction history menu, it displays the History Record or transaction process that has been carried out in the system. The following is the display of the customer data menu and spare part data contained in Figure 8.

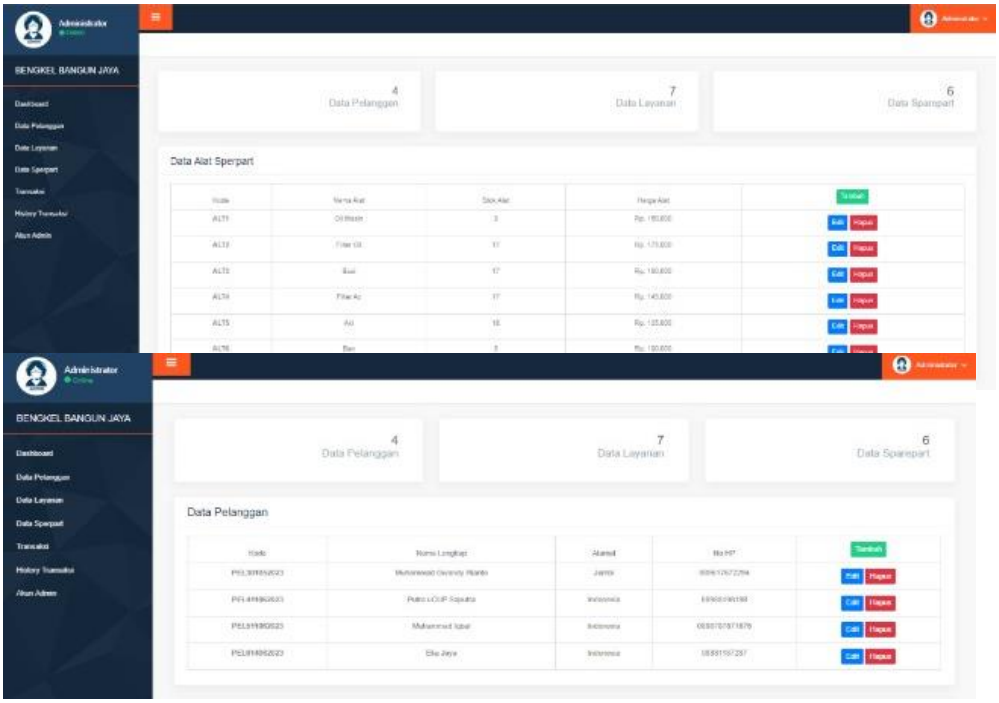


Figure 8. Customer data page and spare parts data

CONCLUSION

Based on the research that has been conducted by the author, it can be concluded that the web-based information system of the bangun jaya workshop can be more efficient in data information such as admin data and customer data. With the existence of this system, it is hoped that it can be an alternative in assisting the company in managing data, making it easier for workers and controlling data and accessing information, so that time and energy can be used optimally, as well as helping in producing accurate and appropriate data information for the workshop as a whole.

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