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My Bengkel Application to Facilitate Bookkeeping for Small and Medium Enterprises in the Automotive Sector

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ABSTRACT

Small and Medium Enterprises (SMEs) are an important part of the economy of a country or region, as well as in Indonesia, these SMEs play a very important role in the speed of the people's economy. These SMEs are also very helpful to the state/government in terms of creating new jobs and through SMEs many new work units are created that use new workers who can support household income. Simple bookkeeping is a standard that must be owned by all SME business people. It is often found that small business actors or SME businesses have never recorded all of their business activities. They don't even use a simple bookkeeping example to help manage and regulate all financial traffic. From these problems, this research seeks to find the right solution where researchers plan to make a business bookkeeping application to make it easier for SMEs. One type of UKM that is the object of this research is the Automotive Workshop field. The workshop is one type of business that is needed by the community, because of that computerized bookkeeping is needed. By using the prototype software development method. The results of this research are in the form of the My Bengkel application which will later be equipped with several features ranging from Sales, Purchases, Expenses, Receipts, Inventory to Payables and Accounts Receivable.

Keywords: SMEs, Book Keeping, Web, Prototype Method, My Bengkel

1. INTRODUCTION

Small and Medium Enterprises (SMEs) are an important part of the economy of a country or region, as well as in Indonesia, these SMEs play a very important role in the speed of the people's economy(Sedyastuti, 2018). These SMEs are also very helpful to the state/government in terms of creating new jobs and through SMEs, many new work units are created that use new workers who can support household income. Based on data available at https://www.kemenkopukm.go.id/ In 2019 the total number of Micro, Small, and Medium Enterprises in Indonesia was 65,471,134 business units, with details of Micro Enterprises 64,601,352 Small Enterprises 798,679 units, Medium Enterprises 65,465 units (Kementrian Koperasi, 2021)

One of the MSME fields that plays an important role in boosting the economy is the MSME automotive sector. The MSME automotive repair sector plays a role in the national automotive industry chain, creating businesses, absorbing workers, reducing unemployment, and overcoming poverty problems. Currently, there are around 400,000 automotive repair business units in Indonesia, 95% of the automotive repair business groups include car repair shops, motorcycle repair shops, body repair and others (Kementrian Koperasi, 2021). During the Covid-19 pandemic, the turnover of MSMEs in the automotive sector fell by 40% to 70% or a value of 62.5 trillion rupiah. This was triggered by social restrictions that were imposed which resulted in decreased sales, difficulties in obtaining raw materials, delays in distribution and production and difficulties with funding.(Mutrofin, Muhammad, & Mahmud, 2021; Utami, 2021).

Another factor that influences this is that many business actors do not know how to manage good cash flow to find out whether their business is profitable or not. Simple bookkeeping is a standard that must be owned by all SME business people. It is often found that small business actors or SME businesses have never recorded all of their business activities. Not even using a simple bookkeeping example to help manage and organize all the financial traffic(Arifin, Agus, Tusholihah, Sanubari, & Mardi, 2019; Legina, Xena, & Sofia, 2020; Sudaryo & Yoyo). In implementing a

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simple bookkeeping example, actually it is not only managing the flow of financial traffic. But basically it can identify, record all assets and debts owned by a business or SME business. Bookkeeping is the process of recording financial transactions from a company starting from recording transaction evidence, journals, ledgers and finally preparing financial reports (Gaikoindo, 2021).

The use of information systems (IS) and information technology (IT) by Small and Medium Enterprises (SMEs) is an interesting thing to know. These systems and technologies are mentioned as drivers of development that play an important role in the sustainable growth of a business organization. Information technology greatly influences each element of the value chain, changes the way value activities are carried out, and changes the relationships between these activities. Information technology makes long-distance communication easier. And also causes information about consumer conditions, prices of raw materials and market conditions in all countries can be known easily and quickly.

In line with the rapid development of today's modern technological world, resulting in changes in human life in dealing with any problems that occur that have to do with the development process as a whole, the system developed is a web-based interface. Mobile Web Application Mobile web application is a mobile application that does not need to be installed or compiled on the target device, this application is able to provide users with an experience like a native application. The applications used for designing mobile web applications include the following XHTML, CSS and JavaScript (Gaikoindo, 2021). This mobile web application does not need to be installed or compiled on a mobile device and allows users to interact with content in real-time conditions, where the action to explore this application is usually done by clicking or touching. Therefore, through this research, the researchers plan to create a mobile web application for MSME automotive business accounting.

Previous research that has made accounting applications for MSME businesses is research conducted by Asyifa Maulida, Ida Farida and Anita Karunia in a study entitled "Effectiveness and Efficiency of Using UKM Accounting Applications on the Preparation of MSME Financial Statements (Case Study on Micro, Small and Medium Enterprises in the Culinary Sector in City of Tegal "where in this study, researchers created an android-based UKM accounting application that aims to make it easier for SMEs in the culinary sector in Tegal to make or compile reports effectively and efficiently. Based on this research in this study, researchers carried out several developments where researchers will use prototype software development method.The results of this research are in the form of a mobile web application in the form of the My Bengkel application which will later be equipped with several features ranging from Sales, Purchases, Expenses, Receipts, Inventory to Accounts Payable and Accounts Receivable. it will help and facilitate automatic MSME bookkeeping.

2. LITERATURE REVIEW

A. SMALL MEDIUM ENTERPRISES IN INDONESIA

In Indonesia agencies or institutions and laws define Small and Medium Enterprises (UKM). There are several definitions put forward, including:

1. According to the Decree of the Minister of State for Cooperatives and Small and Medium Enterprises (Menegkop and UKM), what is meant by Small Enterprises (UK), including Micro Enterprises (UMI), are business entities that have assets maximum net worth of IDR 200,000,000, excluding land and buildings for business premises, and having annual sales of up to IDR 1,000,000,000. Meanwhile, Medium Enterprises (UM) are business entities owned by Indonesian citizens with a net worth of more than IDR 200,000,000 to IDR 10,000,000,000, excluding land and buildings.

2. The Central Bureau of Statistics (BPS) provides a definition of SMEs based on the quantity of labor. Small businesses are business entities that have a workforce of 5 to 19 people, while medium businesses are business entities that have a workforce of 20 to 99 people.

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3. Based on the Decree of the Minister of Finance Number 316/KMK.016/1994 dated June 27, 1994, small businesses are defined as individuals or business entities that have carried out activities/businesses that have sales/turnover per year as high as IDR 600,000,000 or assets/assets a maximum of IDR 600,000,000 (excluding occupied land and buildings) consisting of: (1) business entities (Fa, CV, PT, and cooperatives) and (2) individuals (craftsmen/home industries, farmers, breeders, fishermen, forest encroachers, miners, traders of goods and services)

4. On July 4, 2008, Law No. 20 of 2008 concerning Micro, Small and Medium Enterprises. The definition of SMEs provided by this Law is also different from the definition above. According to Law No. 20 of 2008, what is called a Small Business is an entity that has the following criteria:

   a. Net worth of more than IDR 50,000,000.00 (fifty million rupiah) up to a maximum of IDR 500,000,000.00 (five hundred million rupiah) excluding land and buildings for business premises; and

   b. Have annual sales proceeds of more than IDR 300,000,000.00 (three hundred million rupiahs) up to a maximum of IDR 2,500,000,000.00 (two billion five hundred million rupiahs). Meanwhile, what is called a Medium Enterprise is a business entity that has the following criteria: a. Net worth of more than IDR 500,000,000.00 (five hundred million rupiahs) up to a maximum of IDR 10,000,000,000.00 (ten billion rupiahs) excluding land and buildings for business premises; and b. Have annual sales proceeds of more than IDR 2,500,000,000.00 (two billion five hundred million rupiah) up to a maximum of IDR 50,000,000,000.00 (fifty billion rupiah).

UKM (Small and Medium Enterprises) as a business entity has several specific criteria. According to law no. 1 of 1995 are as follows:

1. Net worth of up to 200,000,000, excluding land and buildings for business premises.
2. Have annual sales results of a maximum of IDR 1,000,000,000
3. Belong to an Indonesian citizen.
4. Stand alone, not a subsidiary or branch of a company owned or controlled by a large company.
5. Form of individual business, legal entity or non-legal entity, including cooperatives.
6. Industrial sector businesses have a maximum total asset of IDR 5,000,000,000
7. Non-industrial sectors have a maximum net worth of IDR 600,000,000 (excluding land and buildings where the business is located) or have annual sales proceeds of IDR 3,000,000,000 in the business being financed .

B. Web Mobile

According to Brian Fling 2009 in Abdurahman Web Mobile is a website specifically designed for mobile devices. Mobile websites often have a simple design and are usually informational (Muhadar, 2016; Standart Akuntansi Keuangan (PSAK), 2016).

3. METHOD

The design of the My Workshop application uses the prototype software development method. In this study using the prototype method. According to Pressman (Siswidiyanto, Munif, Wijayanti, & Haryadi, 2020; Sugiyono) the prototype method is suitable for developing a device that will be redeveloped. This method was developed by students. Then make a flash design which will then be re-evaluated before being produced properly.(Nugraha & Syarif, 2018; "Rancang Bangun Aplikasi Monitoring Kegiatan Menggunakan Metode Prototype," 2021; Syarifudin & Ani, 2019).

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The stages of the prototype software development method itself can be seen in **Fig 1.** below;

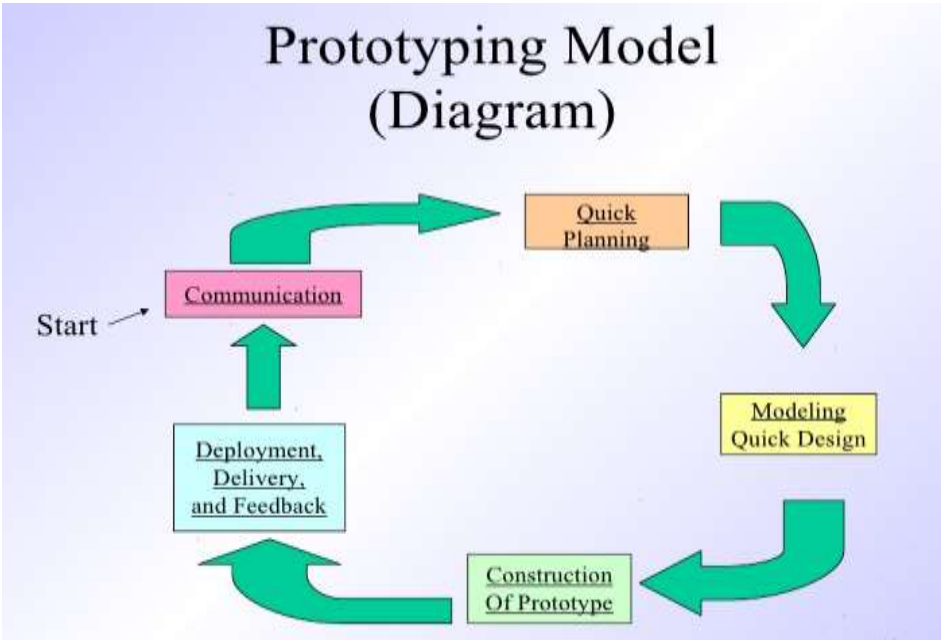


Fig 1. Prototyping Paradigm (Pressman:2015)

The stages in the Prototype method consist of:

1. Initial communication and data collection, namely analysis of user needs
2. Quick design, namely making a general design for further development
3. Prototype formation, namely making prototype devices including testing and refinement starting with collection user needs, in this case the user of the device being evaluated for the prototype, namely making the actual type based on the results of the prototype evaluation
4. Repairing the prototype, namely making the actual type based on the results of the prototype evaluation.
5. Final production, namely producing the device properly so that it can be used by users

4. RESULT AND DISCUSSION

A. Needs Analysis

Needs analysis is carried out to find out to whom the information is conveyed, what information is needed and the purpose of the information for users. Analysis of user needs Functional requirements are the basis for compiling any functions that will be built in the system, these functions will later be used by users according to their needs. In this study the use of the system is:

1. The cashier records consumer data in the book then calculates service and spare parts costs manually. Record entry and exit.
2. Admin Record entry and exit of spare parts and record the type of service needed by consumers which can later be used for salary calculation needs.
3. Mechanic In charge of recording and identifying damage to motorbikes or cars, then the identification results are given to the owner for approval for repairs. Once approved, the mechanic will carry out repairs.
4. Owner Gives approval for repairs to be carried out, and sees the results of reports made by the cashier.

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For more details, through **Table 1**, the following is the result of the analysis of functional requirements for users of the system to be built ;

Table 1. Functional Requiremenets Analysis

User	Operational Needs
Cashier	✓ Process Consumer Data ✓ Process Service and Payment Transactions ✓ Processing Payroll Data
Admin	✓ Process the entry and exit of spare parts ✓ Manage the type of service provided ✓ Manage Employee Data
Mechanic	✓ Manage Crash Data
owner	✓ Give Approval for Repairs ✓ Receive Reports from Admin

A. Context Diagram

The context diagram of the web-based My Bengkel application has four external entities that provide input to the system and receive output from the system. These entities are admin, cashier, mechanic and owner. The context diagram of the web-based My Bengkel management application can be seen in the following **Fig 2**. .

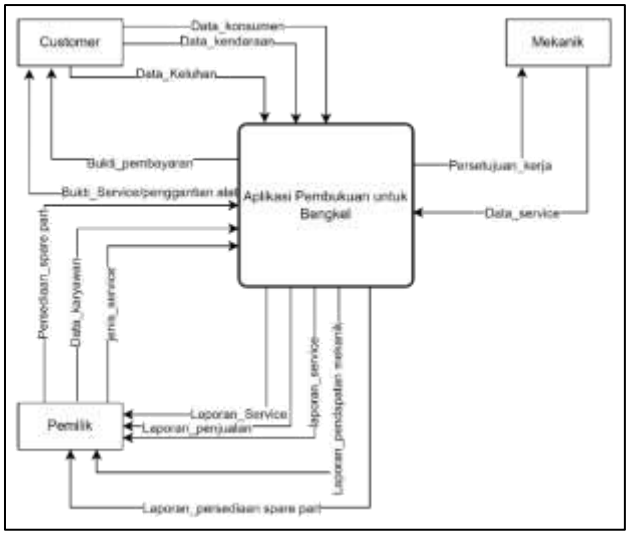


Fig 2. Contect Diagram

B. DFD Level 0 Diagram

DFD level 0 My Bengkel application has three main processes, namely managing master data, managing transaction data and generating reports. DFD level 0 in the My Workshop Application can be seen in the following **Fig 3**;

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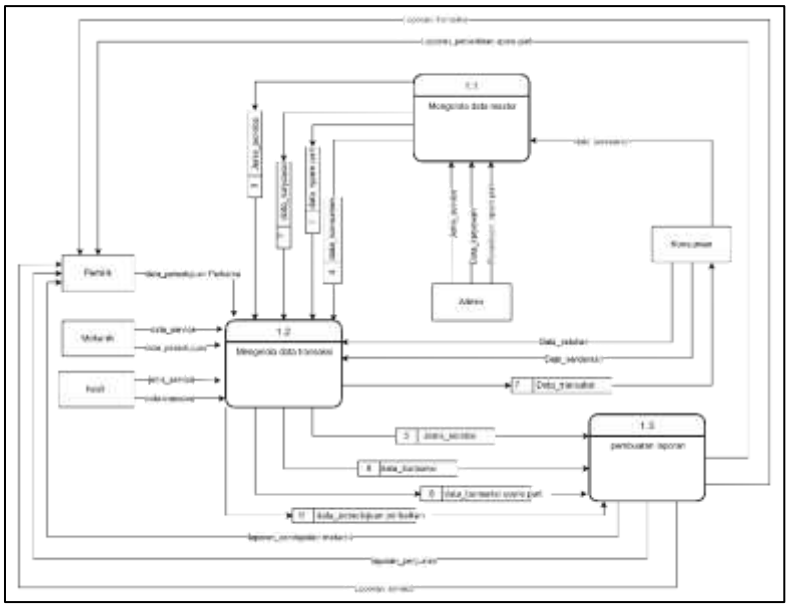


Fig 3. DFD Level 0 Diagram

C. Entity Relationship Diagram

Entity relationship diagrams are used to describe the processes and data relationships used in the system. The design of the My Bengkel application contains several interrelated entities to provide the data needed by the system in the form of a CDM Conceptual Data Model. The CDM from the My Bengkel application has nine tables. Can be see in **Fig 4**, below ;

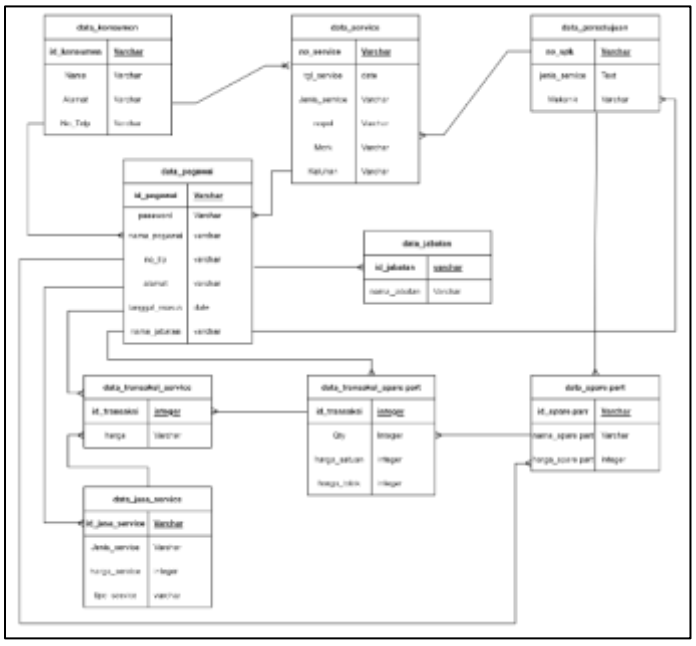


Fig 4. Entity Relationship Diagram

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D. Results

1. Master Data Imput Form

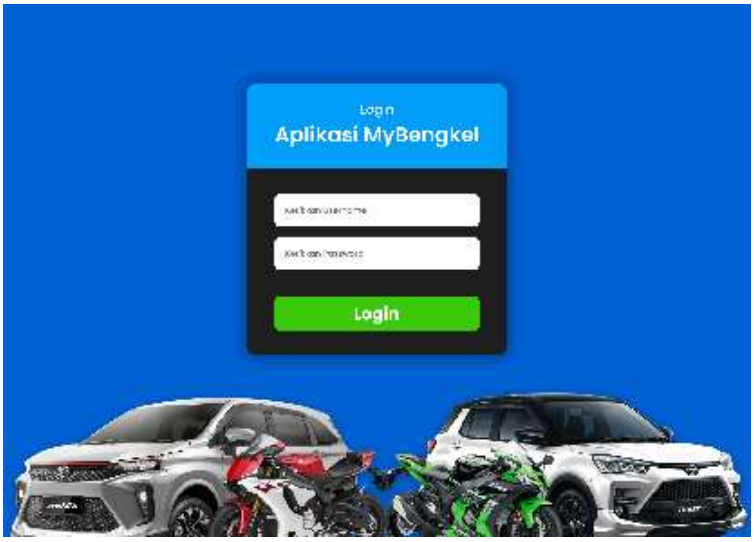


Fig 5. Login Apliksi MyBengkel Displays

In **Fig 5**. above is the page for user login. Where the page will later be used to log in admin, cashier, mechanic and also the owner. After logging in through the application there will also be a different display for the existing consumer master form for the cashier which consists of the customer id, consumer name, address, and telephone number. Then there is the employee master form whose function is to manage employee data that is accessed by the admin, data processing used in this form is the addition and change of employee data in the employee database. There is a spare part master form whose function is to enter spare part data, Service Master Form and Position Master Form for. The following is a display of the Master Data Input form, where in **Fig 6.** displays the Consumer Master Form.

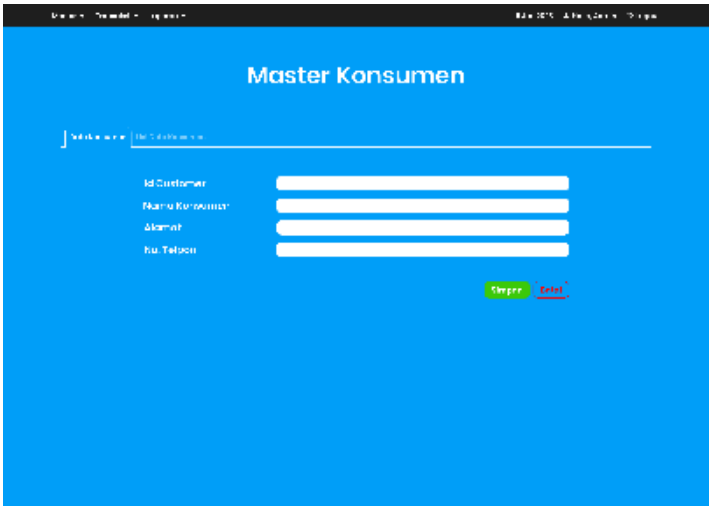


Fig 6. Consumen Master Form Displays

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2. Transaction Processing Form

For the transaction process form itself, there are several forms including the creation of a Service Form which functions to process service transaction forms by entering consumer data., Making Work Orders, Approval of Work Orders and Forms for adding spare parts and service services for the payment process after the service is complete. by the cashier. One of the views of this form itself can be seen in **Fig 7**. below. Where in the image is the display of the Form for adding spare parts and service services.

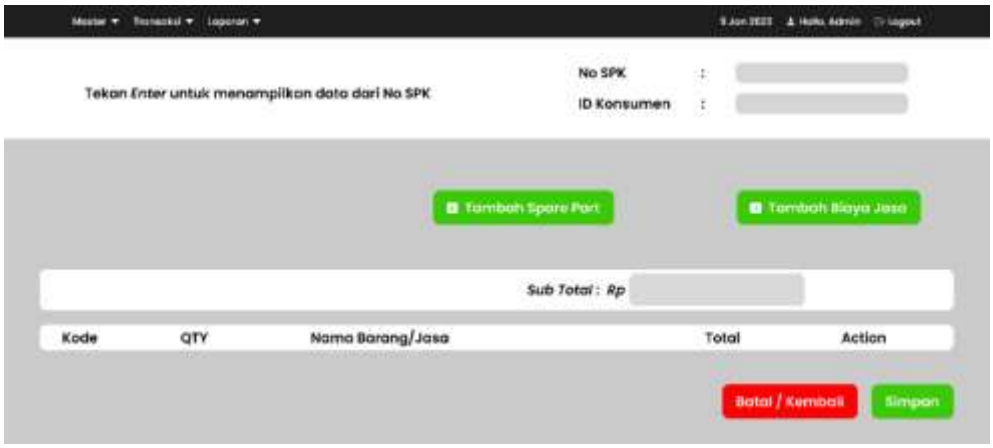


Fig 7. Form for adding spare parts and service services

3. Transaction Output Form



Fig 8. Transaction Output Form Display

In **Fig 8.** above is one display of the Transaction Output Form where the Form is a Transaction Report Form where this report form can be accessed by the owner as a report of service transactions per period, the owner as well as a user can determine a certain period so that it affects the owner's performance. Not only that, in the My Bengkel application itself, for the Transaction Output Form, there is also a Daily Income Report form for sales per spare part, which can be viewed or accessed by the owner as a report on the sales of each spare part, the appearance as shown in **Fig 9**. and Form Spare Part Sales Report as shown in **Fig 10.** This Spare Part Report Form can be accessed by the owner as a result of a service transaction report, so the owner can find out the mechanical income from the service that has been carried out.

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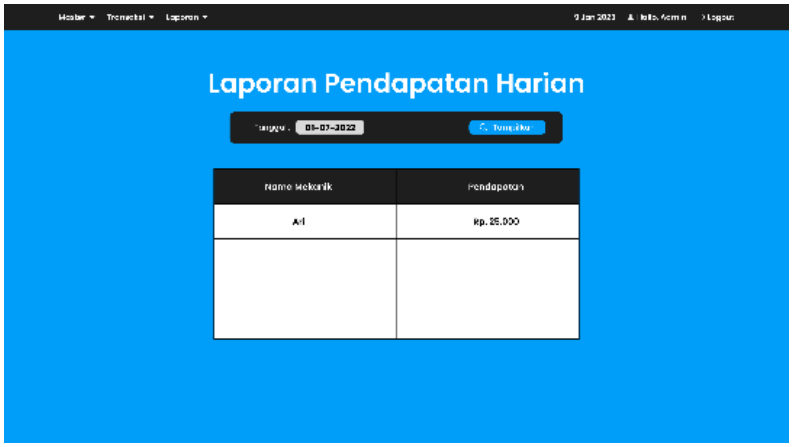


Fig 9. Form Daily Income Report

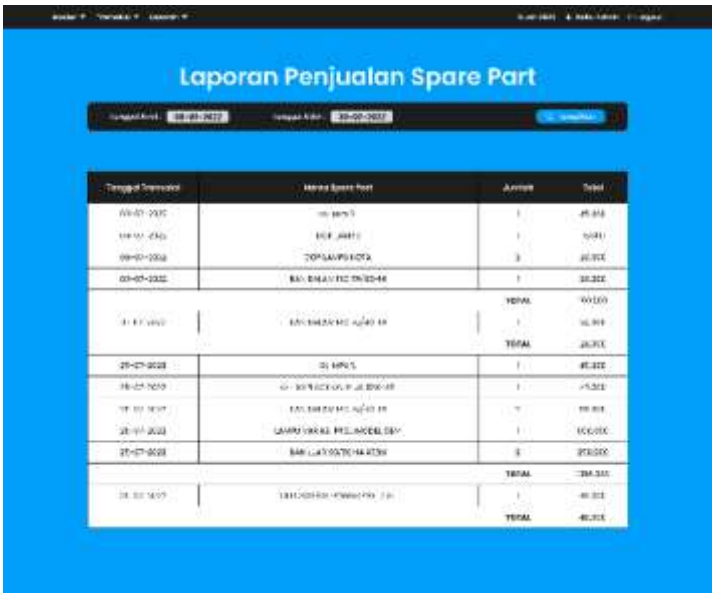


Fig 10. Form Spare Part Sales Report

5. CONCLUSION

Based on the research that has been done by researchers, in this study using the prototype software development method. The researcher succeeded in making the My Workshop Application where the application can already be used to carry out simple bookkeeping in the transaction process at Automotive or repair SMEs. Through this application, the owner can easily view various results reports and service transactions as well as sales of spare parts that have occurred. Not only that, through the transaction history facility in the application, the owner can see various transactions during a certain period so that it can be used as input in making decisions. In the future, maybe the My Workshop application can be further refined and several features can be added that make it easier to book SMEs other than Automotive SMEs.

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