

PAPUA PROVINCE OF MSME DATA COLLECTION APPLICATION WITH LARAVEL FRAMEWORK

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Abstract: MSMEs are an essential sector in regional economic growth. Up to now, Papua Province has been trying to improve the economy. Still, it seems not optimal, as seen from the Human Development Index and the Percentage of the Poor Population, where Papua occupies the last rank. One of the causes found here is the processing of MSMEs that have not been optimal. MSME data collection services are still done manually with Microsoft Excel. This impacts making strategic policies for SMEs that are not optimal because their data are not updated. This study aims to develop a web-based MSME data collection application to facilitate the SME field admin and MSME actors for the data collection process. The method used in making this application is the waterfall method, where the development of this application is done sequentially. The final result of this study resulted in an easy application for collecting data on SMEs and updating data. In addition, it is also in the form of data collection reports for MSMEs and mapping of beneficiaries each year.

Keywords: *Laravel Framework*; *UMKM Data Collection*; *Waterfall*

Abstrak: UMKM merupakan sektor yang penting dalam pertumbuhan perekonomian daerah. Selama ini Provinsi Papua berusaha meningkatkan perekonomian, namun terkesan belum optimal, dapat dilihat dari Indeks pembangunan Manusia serta Persentasi penduduk Miskin, dimana Papua menempati Posisi terakhir di Indonesia. Salah satu penyebab yang di temukan disini adalah pengolahan UMKM yang belum optimal. Pelayanan pendataan UMKM masih dilakukan secara manual dengan Microsoft Excel. Hal tersebut berdampak dalam pengambilan kebijakan strategis UMKM yang tidak optimal, karena data yang dimiliki tidak up to date. Penelitian ini bertujuan tunk mengembangkan aplikasi pendataan UMKM berbasis web untuk mempermudah admin bidang UKM maupun pelaku UMKM untuk proses pendataan. Metode yang digunakan dalam pembuatan aplikasi ini adalah metode waterfall, dimana pengembangan aplikasi ini lakukan secara berurutan. Hasil akhir penelitian ini menghasilkan aplikasi yang mudah untuk untuk pendataan UMKM serta updating data. Selain itu juga berupa laporan pendataan UMKM dan juga pemetaan penerima bantuan setiap tahunnya.

Kata kunci: *Framework Laravel*; *Pendataan UMKM*; *Waterfall*,



INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) contribute to the national economy. This is reflected in creating employment opportunities and strengthening regional economic development.[1]. MSMEs also is one essential capital in growing a region [2]. People's economic growth by utilizing the potential of MSMEs can bring benefits to the community's welfare in an area. [2][3]

Papua is the province with the highest poverty rate nationally at 26.80%. Much higher than the national scale of 10.19%. On the other hand, the Human Development Index in Papua also shows that Papua has 60.44 percent and is at the bottom of the national rankings. [4]. This indicates that Papua's economic development is still ineffective and does not impact the community's welfare.[5].

Based on these facts, MSMEs can increase community involvement to encourage development. With appropriate technology and product diversification, MSMEs can empower existing communities and improve a region's economy [6]. The management of MSMEs data in Papua Province was carried out by the Department of Industry, Trade, Cooperatives, SMEs, and Manpower (DISPERINDAKOP UKM and Manpower) Papua Province. This data collection process aims to accurately map the MSMEs' profile in the Papua region. In addition, helping the MSME DISPERINDAKOP and the Manpower Office to provide support for MSMEs and mapping business training for MSMEs registered in the MSME DISPERIN-DAKOP and the Manpower Office.

The data collection process has been carried out conventionally,[7] Data management only uses Microsoft Excel application, causing the processing of

reports or data collection not to be optimal. Admins need more time to manage data. In addition, the data held is not updated, which resulting data mapping being inefficient. [8].

This study aims to develop an MSME data collection application that can help DISPERINDAKOP UMK and Papua Province Manpower as a regulator to monitor the data of existing MSMEs and help the management team to make strategic and targeted decisions for MSME, which is located in the Papua region [7]. This application will manage MSME data profiles, submit grant proposals and manage users.

Application development using the Laravel PHP Framework. This framework uses the rapidly improving "Model - View - Controller" (MVC) concept [9]. This method describes the model of information (data) and business processes. The view contains interface elements such as text, images, or form input, while the controller manages the communication between the view and the model.

METHOD

The research was conducted at the Department of Industry, Trade, Cooperatives, SMEs, and Manpower. This study adopts the Waterfall model. This model proposes a systematic sequential approach to application development, which is carried out through analysis, design, coding, testing, and support stages. The waterfall model is combined with MVC concepts in application development [10]. The research framework is presented in Figure 1.

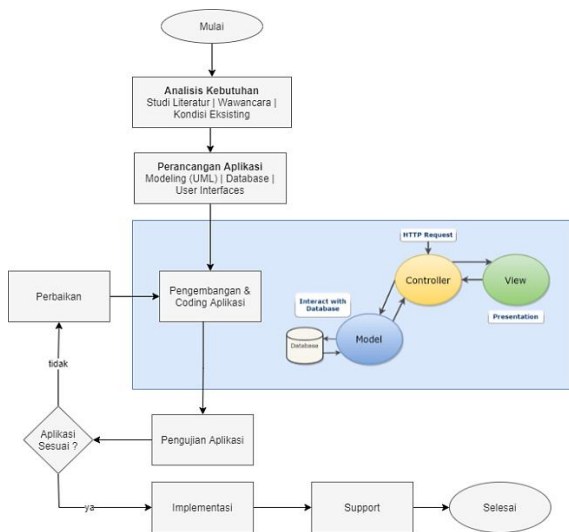


Figure 1. Research Framework

A. Needs Analysis

The analysis stage is needed to find out and understand how users' information needs for software. The authors conducted interviews, observations, and relevant literature review at this stage. The results of the analysis help user need to improve business processes/procedures, including existing conditions and workflows.

B. System Design.

After analyzing the needs, at this stage, the author designs a system modeling using the Unified Modeling Language (UML); This language provides an overview of the business processes carried out in each activity.[11]. In addition, the design of the interface and database are also executed in this stage. The results displayed from this design are user interface design, use case diagrams, activity diagrams, class diagrams, sequence diagrams, and database designs.

C. Coding

Data collection applications, user interfaces, and database modeling are made using the Laravel PHP framework and MySQL database server. The application runs on the Apache webserver.

D. Testing

This stage focuses more on testing the software both logically and functionally. This aims to minimize system errors and ensure appropriate output.

E. Implementation

This implementation phase is executed to ensure that users can run and test the system to determine whether it has met the requirements by users.

F. Maintenance/ Support

Maintenance is essential because there are often threats to viruses or disaster conditions that damage systems. Therefore, plans must be maintained appropriately to assist services in carrying out their business processes.

RESULT AND DISCUSSION

The results of this study are an application for data collection of SMEs. There are two actors in the proposed use case diagram, namely Admin and MSME user Actors.

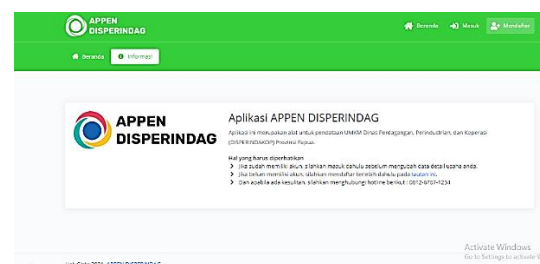


Figure 2 Front end Page

Figure 2 shows the front end page. Users need to log in to the system with a username and password already registered through the application page. However, if not registered, UMKM members need to write into the system first by filling in some mandatory data, as shown in

Figure 3.

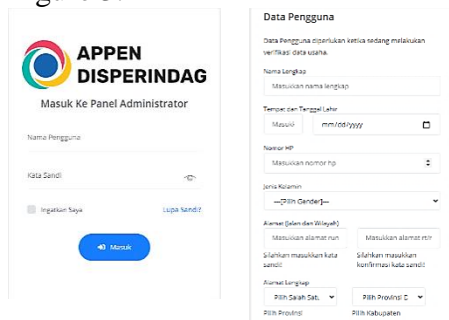


Figure 3 Login and registration page

The dashboard page includes an executive summary of the number of business actors, MSMEs, and proposals for the grant, presented in the following graphic.

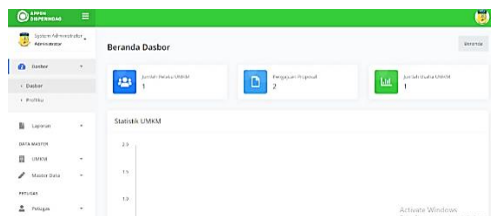


Figure 4 Dashboard page

Figure 5 shows a report on MSMEs in Papua. This data can be offered by year, district, sub-district, and village category. The amount of data displayed can be limited and sorted using table data. It aims to filter information with specific criteria, as desired.

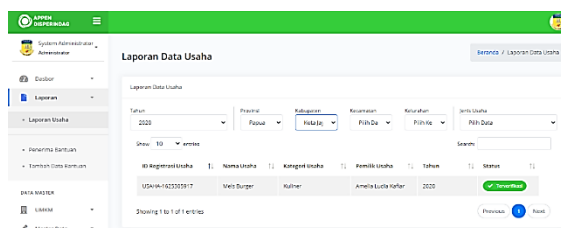


Figure 5 Report Page

The MSME Menu consists of the owner of the MSME and activities sub-menus. This MSME menu will present information about who the MSME owners are, supporting data, MSMEs themselves, and all the supporting data needed. Figure 6

shows data about business owners in detail.



Figure 6 Business owner's detail (MSMEs)

The government allocates some funds to help existing MSMEs, but each business unit needs to provide detailed information regarding the type of business, including supporting documents. Figure 7 Describes the added data page from MSME actors.

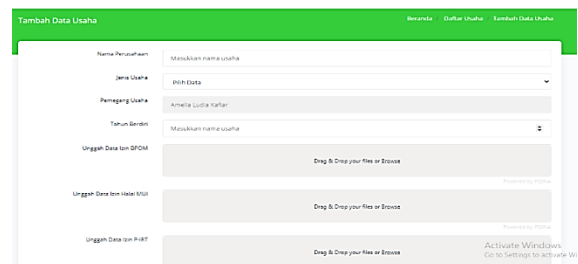


Figure 7 MSMEs information

Figures 8 and 9 are where MSMEs can submit proposals to support their business. This page is only opened during a call for submission time; it will be closed afterward. Every msme can submit a bid through this page.

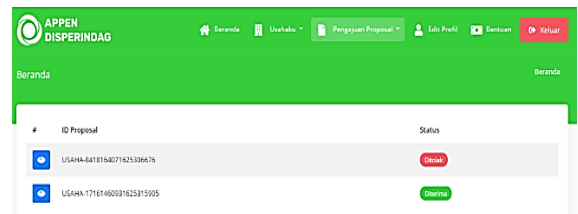


Figure 8 Data Proposal page

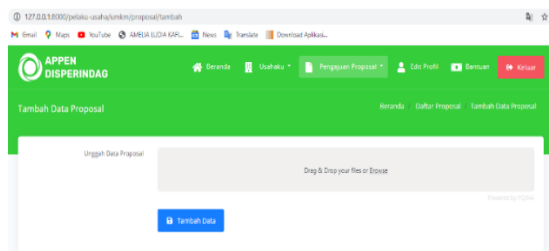


Figure 9 MSMEs Proposal Pages

Login page as an MSME actor. Figure 9 illustrates the business processes carried out by MSME users, namely managing business data, proposal data, and updating data.

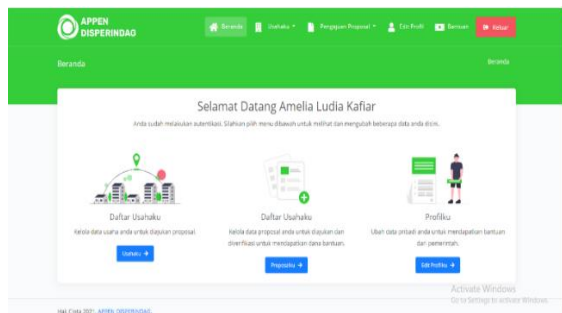


Figure 10 Dashboard MSMEs user

The detailed view of business data is presented in Figure 11. The status of the business carried out will be verified by the relevant Office by completing other supporting documents, as in Figure 11.

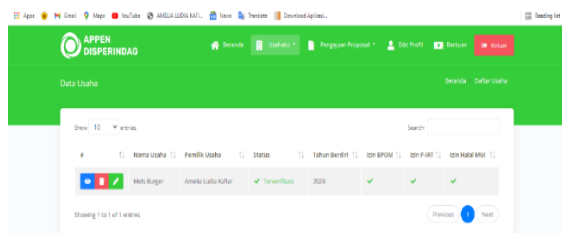


Figure 11 MSMEs Database

Likewise, with the help of information. When the grant proposal has been uploaded, information about the amount and sources of funds, recipients, and service status will be submitted to the sys-

tem so that MSME actors can easily see the progress of the funding provided.

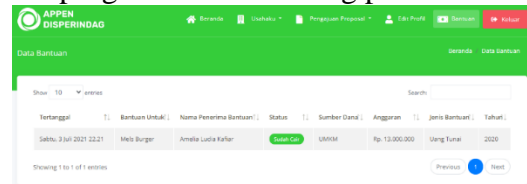


Figure 12 MSMEs Grant data

Black box testing is used to determine whether the software is functioning correctly or not. Black box testing is a method of designing test data based on software specifications and functions. The test data is executed on the software and then checked whether it is as expected. In this section, the test is carried out by entering data according to the procedure to ensure the realization is expected.

Table 1 Testing parameter

No	Testing Item	Detailed testing	Status
1	Registrasi UMKM	Inputting form	successful
2	Login	login validating	Successful
3	Manage MSMEs pemilik usaha	Create, read, update and delete data	Successful
4	Business Management	Create, read, update and delete data	Successful
5	Type of business	Create, read, update and delete data	Successful
6	Manage Proposal	Create, read, update and delete data	Successful
7	Manage Admins	Create, read, update and delete data	Successful
8	Testing feature	The print report, search, and PDF Export	successful

CONCLUSION

This MSMEs Data Collection application has been created and presented at the DIS-PERINDAKOP of SMEs and Manpower of Papua Province. The test results show that the system has worked

well in registering MSMEs and managing monthly data collection reports by the SME Division of the DISPERINDAKOP of Papua Province. Based on interviews, information was obtained that the system used is much easier than the existing method. The implementation process can improve the quality of data collection on MSME actors in Papua Province. Even though it has answered the current needs, this system needs to be tested with the actual work environment, including using a relevant server to accommodate the performance of each transaction in the application. Besides, it needs better development in mobile applications to be utilized broadly. In addition, a review feature by fellow MSME actors and the general public needs to be made to get input from the public about the actual conditions of the existing MSMEs.

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