
Design Of Financial Information System in Web-Based Trading Unit (Case Study of Lerta Rahayu Village Owned Business Entity, Samida Village)

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ABSTRACT

The swift advancement of technology has heightened awareness regarding the significance of employing technology throughout many facets of life, particularly information technology. An example of this is financial information systems, which facilitate efficient data administration within firms. The Village-Owned Enterprise Kerta Rahayu in Samida Village, a nascent institution, encounters difficulties in overseeing its business divisions and financial management, which are still traditionally organized and susceptible to inaccuracies, especially within the trading unit. This study intends to construct a web-based Financial Information System utilizing the Extreme Programming methodology, PHP, MySQL, and the CodeIgniter3 framework. This system aims to enhance efficiency and mitigate the risk of errors in handling financial and inventory data, hence facilitating improved company management. The ramifications of this discovery are substantial. Implementing this Financial Information System will improve transparency and accountability in financial operations, facilitating expedited decision-making via real-time data availability. The system could also be a prototype for other village-owned firms encountering analogous issues, fostering more technology integration in local governance and business administration. This research ultimately aids in formulating sustainable practices that can improve the community's economic welfare. The financial information system comprises four primary participants: the master administrator, the village chief, the general director or chairman of BUMDes, and the BUMDes treasurer. The master administrator oversees the system to guarantee efficient functioning, while the other participants operate as report evaluators.

Keywords: Financial Information System, Trading Unit, The Village-Owned Enterprise

INTRODUCTION

The Village-Owned Enterprise is a commercial entity created by the village authority in response to the village's needs and potential. The Village-Owned Enterprise is essential for enhancing the village economy and generating employment for the local populace.

The Village-Owned Enterprise Kerta Rahayu in Samida Village is a recently founded Village-Owned Enterprise susceptible to challenges with the administration of business units and financial oversight, especially within the trading unit. Financial record-keeping and inventory data management constraints, which remain typical in the trading unit, result in numerous issues, including recurrent conflicts between reception data and the financial ledger.

Finance is an essential asset that necessitates effective data management procedures. Establishing a financial information system for the village-owned enterprise is essential to aiding the administration of The Village-Owned Enterprise Kerta Rahayu in developing an application that guarantees systematic financial documentation and business oversight for the trading unit. The web-based system employs Agile Extreme Programming as the development methodology, utilizing the PHP programming language, CodeIgniter 3 framework, and MySQL database to enhance the design process.

Design

Design serves as the fundamental basis for application development, intending to give programmers a clear and thorough understanding of the application to be created. Design entails a sequence of processes to convert analytical outcomes and a system into a programming language, specifying the implementation of system components (Fu et al., 2022) .

System

"A system is an organizational network that facilitates daily transaction management, supports operations and fulfills managerial functions in strategic activities while delivering essential reports to external parties." (Ren, 2022)

"A system is a network of interconnected processes that collaborate to execute an activity or attain a particular objective" (Jiang, 2024).

Information

"A system is an organizational network that manages daily transactions, supports operations and facilitates managerial functions for strategic activities while providing external parties with requisite reports." (Kania & Tanjung, 2021).

"A system is a network of interconnected processes that collaborate to execute an activity or attain a particular objective." (Hassan et al., 2019)

Information System

"Information systems integrate information technology with the activities of individuals utilizing that technology to facilitate operations and management." (Setyaningtyas et al., 2024).

"The functions of an information system encompass data collection, data and information processing, data and information storage, and information dissemination to managers or leaders." (Yassin et al., 2021).

Financial Information System

"Financial Information Systems are tools organizations utilize to ensure the effective management and monitoring of all financial activities." (SUMARYATI et al., 2020).

"Financial Information Systems are defined as technology-driven systems designed for the collection, management, and processing of financial data within an organization." (Stoel et al., 2012).

Government Accounting

Government Accounting includes all accounting activities conducted by each governmental unit. It supplies information for decision-making that influences economic policy and produces financial reports by recording, classifying, summarizing, and interpreting governmental financial transactions (Juwita, 2013).

"The adoption of Government Accounting Standards will substantially influence financial report outcomes; consequently, the government, as the producer of these reports, must improve oversight of the quality of government financial reporting." (de Freitas et al., 2020).

Information Technology

"Information technology refers to the technology employed for the storage, generation, processing, and distribution of information." (Megawaty et al., 2021).

"Information technology can be defined as a system comprising hardware and software that efficiently supports and improves the quality of information for all societal strata." (Song et al., 2019).

Financial Reports

"Financial statements are documents that encapsulate a company's financial data for a designated accounting period, demonstrating the company's performance through financial activities." (Zaman & Adhitya Pratama, 2023).

"Financial statements are reports that illustrate the financial position derived from an accounting process over a designated period, functioning as a communication tool for stakeholders." (Eluyela et al., 2019).

In light of the aforementioned dilemma, the author undertakes this research to develop a financial information system.

METHOD

This study utilizes a qualitative research design with a case study methodology. It concentrates on the Village-Owned Enterprise Kerta Rahayu in Samida Village to analyze its financial management procedures and ascertain the prerequisites for a web-based Financial Information System. Data collecting procedures encompass semi-structured interviews with critical stakeholders, including the village chief, the general director or chairman of Village-Owned Enterprises, the Village-Owned Enterprises treasurer, and staff engaged in financial management, examining their experiences and expectations. Furthermore, questionnaires will be disseminated to collect quantitative data regarding customer satisfaction with present processes, while document analysis will examine existing financial records to identify inefficiencies.

The system development will employ the Extreme Programming (XP) technique, prioritizing customer satisfaction and adaptability through iterative stages of planning, design, coding, testing, and feedback acquisition. Qualitative analysis methods will elucidate the data, discerning themes related to financial practices and user requirements. The Financial Information System will be implemented in Kerta Rahayu and will be accompanied by continuous monitoring and feedback collection to assess its efficacy in improving financial management. Ethical considerations will guarantee informed permission, confidentiality, and compliance with data processing norms. The anticipated results encompass a functional web-based system that enhances efficiency and accuracy in financial operations, augments transparency and accountability, and is a prototype for other village-owned firms encountering analogous issues.

DISCUSSION

The interview results can serve as a reference for the researcher in developing the financial information system for the trading unit. This data pertains to the requirements of the financial information system for Village-Owned Enterprises Kerta Rahayu in Samida Village.

a. Design

A use case can be defined as a particular task. The use case diagram for the financial

information system features four actors: Master Admin, Village Chief, Chairman of Village-Owned Enterprises, and Treasurer. The following is a detailed account of the business events and user interactions with the system:

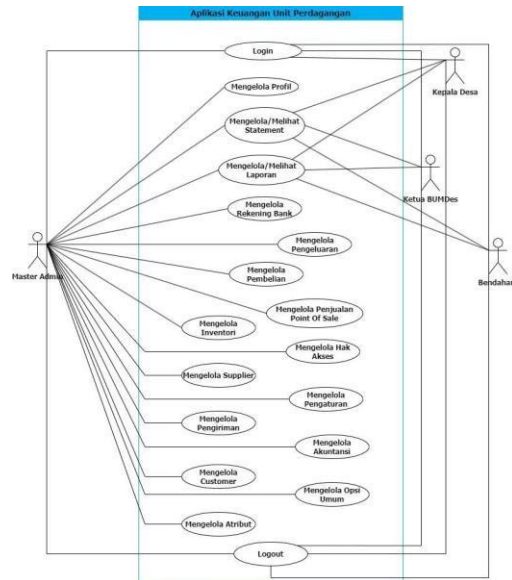


Figure 1. Usecase Diagram

Table 1. Use Narrative Login

Use Narrative Login	
Objective	Log in and enter the financial information system
Description	This system allows actors to access financial information systems.
Actor	Master Admin, Village Head, Chairman, Treasurer
Initial Conditions	Open system system displays the Login page
Actor	System Reaction
Opening the System	Displaying login form
Fill in email and password	
Select the login button	Verifying user login
	If correct, the system will redirect the User to the dashboard according to each User's access rights.
	If incorrect, the system will display a login error validation message.

Table 2. Use Narrative Managing Profiles

<i>Use Narrative Mengelola Profil</i>		
Objective	Perform management profile	Perform management profile
Description	Description This system allows actors to manage profiles	
Actor	Master Admin	
Initial Conditions	The system displays the Profile page	
Actor	System Reaction	
Master Admin, Village Head, BUMDes Chairman, Treasurer Chooses Profile	Display Profile Data in detail	
Master Admin, Village Head, Chairman	Show details Change password	
BUMDes, Treasurer Selects Sub Menu Change password		
Master Admin, Village Head, BUMDes Chairman, Treasurer Change password		
Master Admin, Village Head, BUMDes Chairperson, Treasurer selects the Update Password button	The system checks data changed by the Master Admin, Village Head, BUMDes Chair, Treasurer.	
	If the form matches the system, the system saves the data to the database and returns to displaying the Profile page.	
	If the form is not correct, the system displays a validation error and returns to displaying the Change Password form.	
Master Admin, Village Head, BUMDes Chairperson, Treasurer selects the Close button	The system displays the Profile Data in detail again.	

Table 3. Use Narrative Managing/Viewing Statement Reports

Use Narrative Manage/View Reports	
Objective	Perform management and view reports
Description	This system allows actors to manage reports and view reports.
Actor	Master Admin, Village Head, BUMDes Chairperson, Treasurer
Initial Conditions	The system displays the Report Data page.
Actor	System Reaction
Master Admin, Village Head, BUMDes Chairperson, Treasurer selects the Report Data menu	Showing Sales Report Data Return Report
Master Admin, Village Head, BUMDes Chairperson, Treasurer selects the Report Data time range	Displays Report Data based on the selected time range
Master Admin Selects the view/edit button	Show Edit Report details
Master Admin Change Report Data	
Master Admin selects the Update Report button	The system checks the data changed by the Master Admin
	If the form matches the system, the system saves the data to the database and returns to displaying the Report page.
	If the form is not correct, the system displays a validation error.

b. Activity Diagram

An action Diagram depicts the progression from one action to another inside a system. The Activity Diagram illustrates the workflow or activities within a system. This graphic illustrates a process's sequential phases or activities and their interconnections. The following activity diagram illustrates the workflow of a menu system within the financial application:

a. Activity Diagram Login

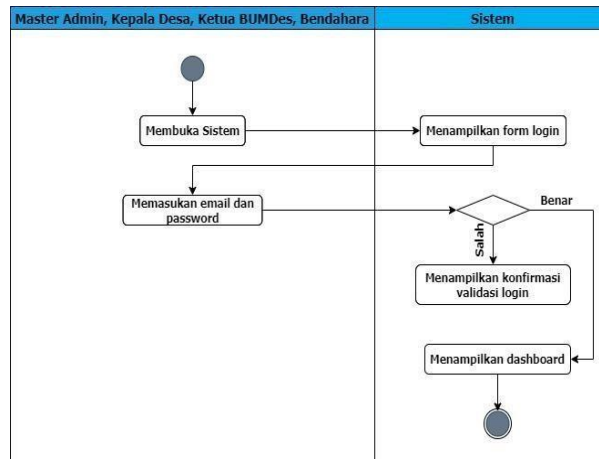


Figure 2. Activity Diagram for Login

b. Activity Diagram Managing Profiles

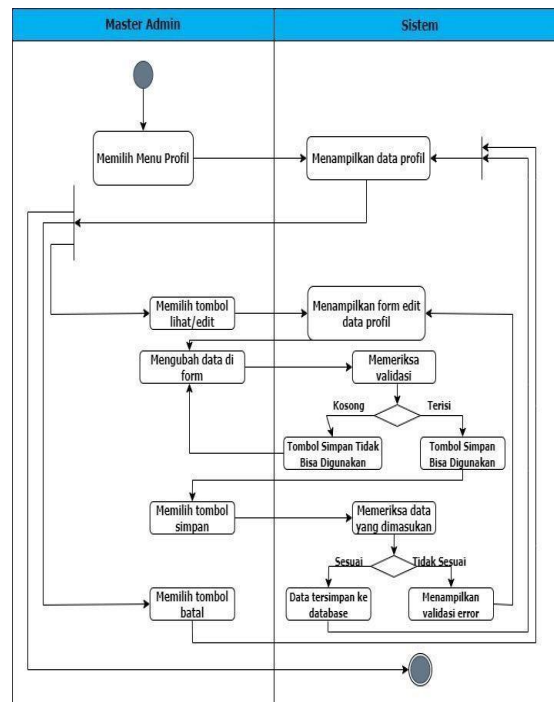


Figure 3. Activity Diagram Managing Profiles

c. Activity Diagram View Statement

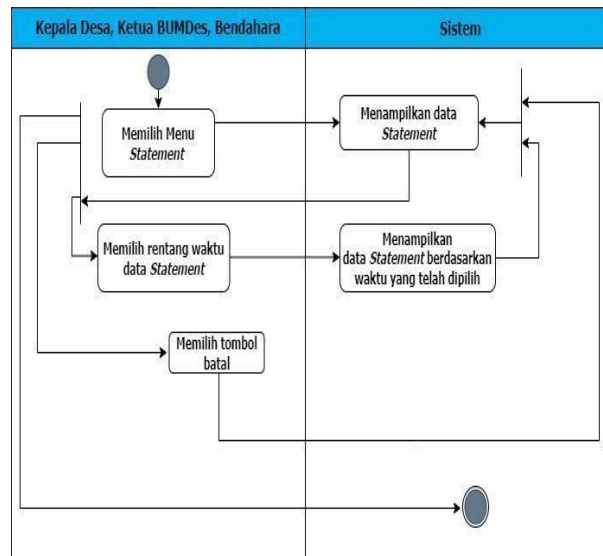


Figure 4. Activity Diagram Viewing Statements

d. Activity Diagram Managing Reports

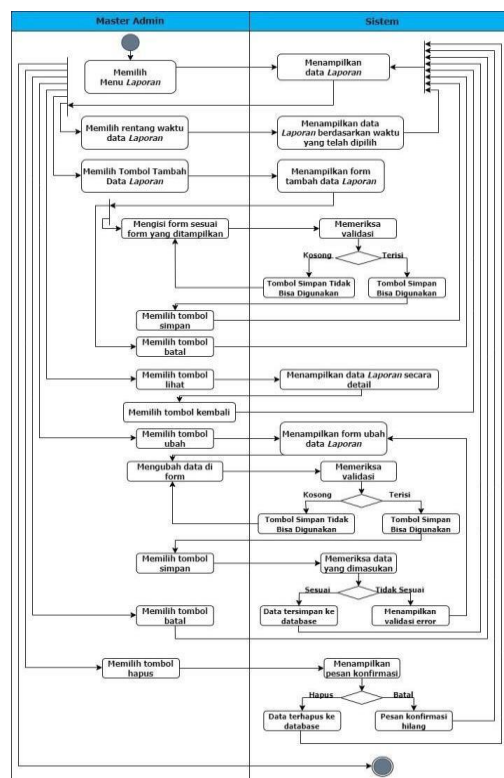


Figure 5. Activity Diagram Managing Reports

b. Stock Table

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	mid	int(11)			No	None			Change Drop More
3	manufacturing	date			No	None			Change Drop More
4	expiry	date			No	None			Change Drop More
5	qty	int(11)			No	None			Change Drop More
6	description	varchar(255)	latin1_swedish_ci		No	None			Change Drop More
7	date	date			No	None			Change Drop More
8	added	varchar(255)	latin1_swedish_ci		No	None			Change Drop More
9	purchase	decimal(11,2)			No	None			Change Drop More
10	selling	decimal(11,2)			No	None			Change Drop More

Figure 10. Stock Table

f. Implementation of Interface

During the interface implementation phase, the design formulated in the preceding step is executed to enhance user comprehension of the system.

a. Login Page



Figure 11. Login Page

b. Dashboard Page

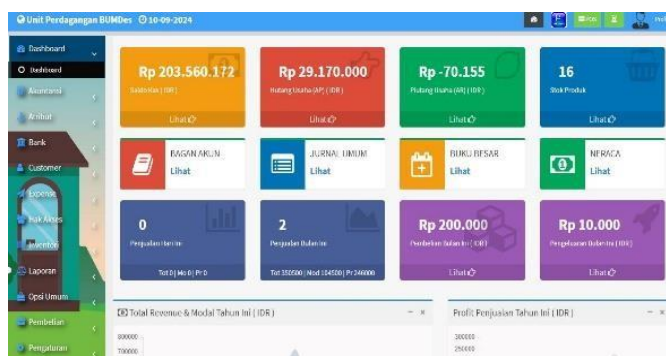


Figure 12. Dashboard page

c. Data Statement Page

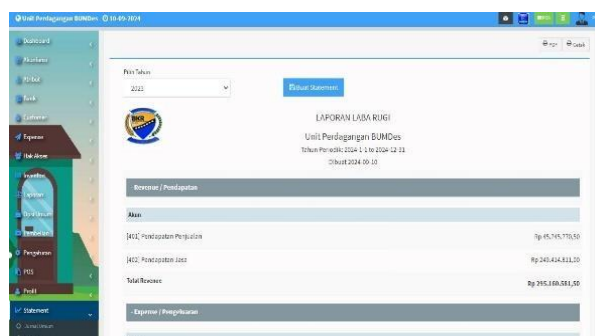


Figure 13. Data Statement Page

d. Report Data Page

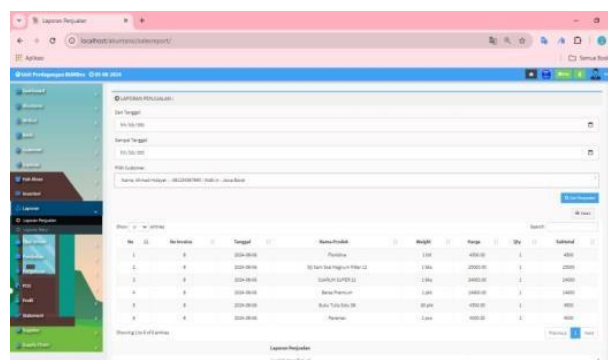


Figure 14. Report Data Page

CONCLUSION

The research findings indicate that this project aims to develop a web-based financial information system tailored to optimize the operations of the trading unit inside the Kerta Rahayu village-owned firm. This system encompasses inventory management and financial reporting. Access is restricted to internal users of The Village-Owned Enterprise, including the Village Chief, General Director or Chairman of The Village-Owned Enterprise, Treasurer, and trading unit personnel, thereby assuring data confidentiality and security. The system employs a web-based methodology, using the PHP programming language, the CodeIgniter3 framework, and a MySQL database, thereby enhancing financial reporting and data management at the Kerta Rahayu village-owned firm.

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