



**INTEGRATION OF OCR TECHNOLOGY IN MOBILE ACCOUNTING SYSTEM :
A CASE STUDY AT SURJ KARYA BERSAMA COMPANY ON IMPROVING
TRANSACTION RECORDING EFFICIENCY**

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Project Management through Web Integration: A Case Study at Suri Karya Bersama Company

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Abstract

Studi ini menerapkan pengembangan dan implementasi sistem akuntansi dan manajemen proyek berbasis web di PT Sani Karva Bersana, yang bertujuan untuk meningkatkan efisiensi operasional dan koordinasi antar departemen. Banyak perusahaan masih mengandalkan proses manual yang melibatkan lembar kerja dan dokumen fisik, yang rentan terhadap keterlambatan, kesalahan manusia, dan ketidakakuratan data—terutama dalam lingkungan yang mengelola beberapa proyek secara bersamaan. Tantangan ini mendorong kebutuhan akan solusi digital terpadu. Tujuan utama studi ini adalah merancang sistem berbasis web terpadu yang mengintegrasikan pelacakan proyek real-time dan dokumentasi keuangan untuk mendukung perusahaan menengah. Sistem ini dibangun menggunakan kerangka kerja Laravel dan mencakup fitur seperti pemantauan tugas, input biaya, dan koordinasi alur kerja antar departemen. Metode pengembangan prototipe digunakan untuk meningkatkan visualisasi sistem awal dan penerapannya berfokus melalui iterasi dan umpan balik pengguna. Studi ini menerapkan pendekatan studi kasus kualitatif yang melibatkan pengamatan sistem, keterlibatan pengguna, dan evaluasi kinerja berdasarkan transparansi alur kerja dan efisiensi pelaporan. Hasil menunjukkan bahwa platform terintegrasi secara signifikan meningkatkan pemantauan proyek, mengurangi keterlambatan pelaporan, dan memperkuat kolaborasi antar departemen.

Kata kunci: e-dict, web, Laravel framework, transformasi digital, PT Sani Karya Bersama

Abstract

This study presents the development and implementation of a web-based accounting and project management system at PT Sari Karya Bersama, aimed at improving operational efficiency and coordination across departments. Many companies still rely on manual processes involving spreadsheets and physical documentation, which are prone to delays, human error, and data inaccuracy—especially in environments managing multiple concurrent projects. These challenges

highlighting the need for a centralized digital solution. The main objective of this study is to design a unified web-based system that integrates real-time project tracking and financial documentation to support mid-sized enterprises. The system was built using the Laravel framework and includes features such as task monitoring, cost input, and interdepartmental workflow coordination. A prototyping development method was used to allow early system visualization and iterative refinement through user interaction and feedback. The study applied a qualitative case study approach involving system observation, user involvement, and performance evaluation based on workflow transparency and reporting efficiency. The results demonstrate that the integrated platform significantly improves project monitoring, reduces reporting delays, and enhances collaboration between departments.

Keywords: *web-based system, Laravel framework, digital transformation, PT Surt Karya Berania*

INTRODUCTION

In today's fast-paced digital era, project and financial management play a crucial role in ensuring company success and operational viability. However, many companies still rely on manual methods, such as spreadsheets and physical documentation, to manage projects and record financial transactions. This traditional approach involves manual data entry, categorization, and verification, which is not only time-consuming but also highly prone to human error, especially in companies handling multiple projects and high transaction volumes.

Manual systems often lead to inefficient workflows, delays in reporting, and difficulties in tracking real-time project progress or financial status. In addition, physical documents such as invoices and receipts can be misplaced or damaged, creating further barriers to accurate data reconciliation and project accountability. These limitations hinder decision-making, cause data discrepancies, and reduce transparency across departments.

The growing complexity of project-based operations and financial flows requires integrated, technology-driven solutions. Web-based systems offer real-time access, centralized data storage, and automated processing, which collectively improve data accuracy, streamline workflows, and facilitate collaboration between teams. Therefore, creating a web-integrated accounting system is a strategic necessity to improve efficiency, reduce human error, and support long-term business scalability in competitive industries.

Various recent studies have emphasized the growing importance of web-based solutions in **streamlining business and project operations**. Widjaya et al. (2023) developed a web-based project management system using Laravel and MySQL for a construction company, which successfully **enhanced task coordination and employee performance monitoring**. Alfreni and Ruradison (2022) built a project management application using Laravel and Livewire, improving transparency and efficiency in project tracking for a digital services firm. Meanwhile, Huan and Wijayanto (2021) created a Laravel-based job management system for a hospital environment, enabling real-time task updates and reducing administrative delays. These studies collectively demonstrate how adopting modern web frameworks facilitates digital transformation, boosts interdepartmental collaboration, and improves the overall accuracy of project-related data handling.

Although some businesses have successfully implemented web-based accounting systems, many of these studies have focused only on project monitoring or financial reporting without integrating both components. In addition, most systems are designed for educational simulations or very specific industries such as construction or IT, limiting their generalizability. There is limited research on the implementation of a centralized web-based platform that combines project and financial management features designed for medium-sized companies in Indonesia.

In the case of PT Sari Karya Bantara, a company that handles multiple client-based projects, a centralized system that supports real-time project tracking and financial documentation is essential. The existing manual practice using Excel and physical documentation has led to operational inefficiencies and reporting delays. Therefore, a more holistic system was needed - one that unified project management and financial transaction handling.

The purpose of this research is to design and implement a web-based accounting system that can improve operational efficiency at PT Sari Karya Bantara. Specifically, the research aims to: Develop a centralized web platform using the Laravel framework that facilitates real-time project tracking and job monitoring; Improve project workflow transparency and data accessibility across departments involved in ongoing projects; Evaluate the effectiveness of the implemented system in reducing project reporting delays and also improving team coordination.

Methods

This research applies the prototype method as an approach in system development, where an initial working model is created to validate requirements and ideas with users before further development. This is one of the models in the System Development Life Cycle (SDLC) and is used in

the information system development process. The use of prototyping enables iterative interaction between developers and users, which helps minimize system mismatch and allows continuous improvement throughout the development stages.

A similar approach was also applied by Nurohman & Widodo (2018) in their research on the development of a laboratory information system, where each prototype iteration was validated by users before implementation, resulting in a system that better suited operational needs [31].



Figure 1 Prototype Method

The development of this system design the author in its implementation uses a three-stage cycle of prototype model development, ([Pressman 2012],42).

1. Listen to Customers

Listening to Customers. Is the first and one of the most important stages in the system development process, especially when using the prototyping method. This stage focuses on understanding what the customer truly needs from the system. Developers or analysts engage with users through interviews, surveys, observations, or focus group discussions to gather both functional and non-functional requirements. The objective is to uncover what problems users face in their current process and what features or solutions they expect from the new system.

This stage sets the foundation for the rest of the development process. A clear understanding of the customer's needs helps prevent miscommunication and reduces the risk of building a system that does not align with user expectations. The information collected here is later used to design an initial prototype, ensuring that the system's purpose, goals, and features are shaped directly by the users' input. Effective listening at this stage enables a more focused and user-centered design process.

2. Build/revise mock-up

Building and Improving Prototypes. Is the second stage in the prototyping method, where the initial design and development of the system take place based on the requirements gathered from users. At this point, the system's basic structure is created to simulate how the final product will function. The development team begins by designing the system's processes, which involves mapping out workflows, data flows, and interactions within the application. UML diagrams such as use case diagrams, activity diagrams, and sequence diagrams are created to visualize the system's structure and behavior clearly.

3. Prototype Testing

Prototype testing is the stage where users try out the prototype to evaluate its functions and usability. Feedback from users is collected to identify any issues or needed improvements. The prototype is then revised based on this feedback. This process is repeated until the system meets user needs and expectations.

Result & Discussion

1. Use Case Diagram

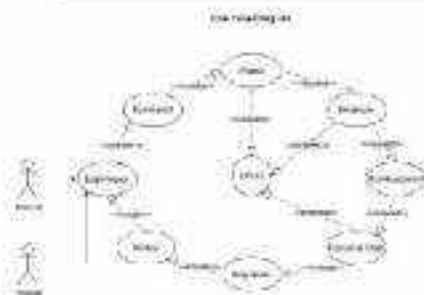


Figure 2 Usecase Diagram

Project Lead, Finance/Accounting, and Director. The Project Lead scans documents, sends data to the accounting system, prints rejected reports, and rejects invalid data after login. Finance/Accounting validates and approves the data, then checks the daily financial reports. The relation between use cases to the web system shows that login is mandatory before accessing other features. The validation process can be extended with data rejection if required.

2. Class Diagram

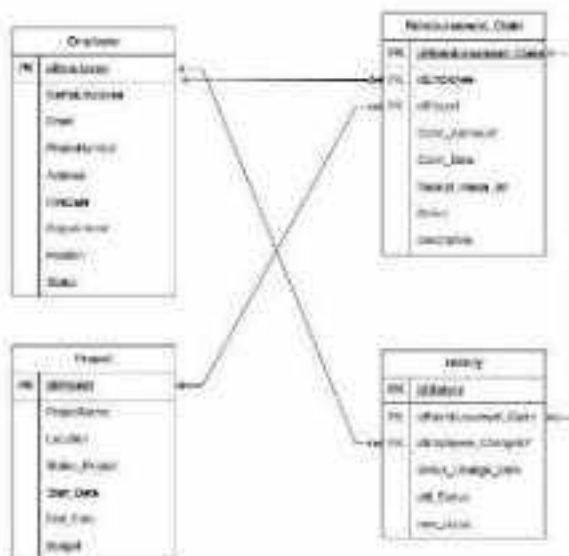


Figure 3 Class Diagram

3. Activity Diagram

1) Activity Diagram and DFD

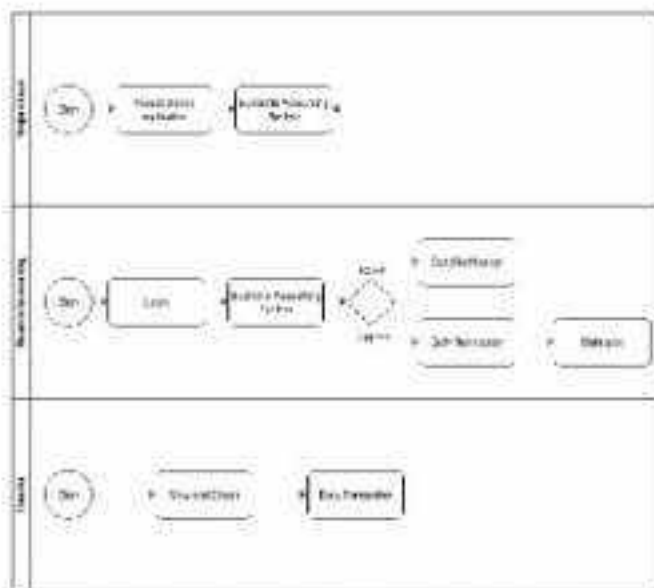


Figure 3. 1 Activity Diagram and DFD

Reimbursement	Upload submissions via mobile	Application form and supporting documents on mobile	Data is entered into the web system and awaits acceptance or rejection.	Success
	The admin receives the application and presses the accept button.	Click the accept button on the web system	Reimbursement data goes into the Daily Report menu	Success
	The admin rejected the application and clicked the reject button.	Click the reject button on the web system	The system sends a rejection email to the applicant.	Success
Customer Code	Add new customer code	Name, unique code	Data saved and displayed in customer list	Success
Daily Report	Display combined reports	Manual input & reimbursement data accepted	Displaying both types of reports in an integrated manner	Success
History	View all reports from the menu	Click the history menu	Display all reports from all completed menus	Success

Conclusion

This research successfully designed and implemented a Laravel-based web system to support project management and accounting at PT Sun Karya Bersama. The system is able to replace previously used manual processes, such as data management through Excel and physical documents, which are prone to errors and slow reporting. Using the prototype development method, the system was built through an iterative approach that allows direct input from users, resulting in a system that better suits operational needs.

Key features of the system include real-time project tracking, financial data validation, and inter-divisional coordination through an integrated web interface. Evaluation results show that the system is able to improve reporting efficiency, workflow transparency, and collaboration between teams. Testing using the black box method also ensures that each system function runs according to the expected business flow. Overall, the implementation of this system is a strategic step in the digital transformation of medium-sized companies in Indonesia, with the potential to be further developed on a larger scale.

References

- [1] A. Widjojo, R. A. Nugroho, and D. Pradana, "Pengembangan sistem manajemen proyek berbasis web menggunakan Laravel dan MySQL pada perusahaan konstruksi," *Jurnal Teknologi dan Sistem Informasi*, vol. 12, no. 1, pp. 45–52, 2023. [Online]. Available: <https://ojs.uajy.ac.id/index.php/jiaj/article/view/3833/1990>
- [2] M. A. Alfonso and I. Ramadhan, "Implementasi aplikasi project management menggunakan Laravel dan Livewire untuk perusahaan digital services," *Jurnal Sistem Informasi dan Informatika*, vol. 9, no. 2, pp. 33–41, 2023. [Online]. Available: <https://www.researchgate.net/publication/391071642>
- [3] M. Husen and A. Wijayanto, "Pengembangan sistem manajemen pekerjaan rumah sakit berbasis Laravel framework," *Jurnal Informatika dan Komputer*, vol. 8, no. 1, pp. 19–26, 2021.
- [4] M. H. Nurohman and R. Widodo, "Pengembangan sistem informasi laboratorium berbasis prototype method," *Jurnal Komputer dan Informatika*, vol. 6, no. 2, pp. 15–22, 2018, doi: 10.1234/jki.v6i2.112.
- [5] R. S. Pressman, *Software Engineering: A Practitioner's Approach*, 7th ed. New York, NY, USA: McGraw-Hill, 2012.

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ABSTRACT

This thesis describes the development and implementation of a web-based accounting and project management system at PT Suri Karya Bersama, which aims to improve operational efficiency and coordination between departments. Many companies still rely on manual processes that use spreadsheets and physical documents, which are prone to delays, human error, and data inaccuracy, especially in environments that manage multiple projects simultaneously. The main objective of this thesis is to design a unified web-based system that integrates real-time project tracking and financial documentation to support mid-sized enterprises. The system was built using the Laravel framework and includes features such as task monitoring, cost input, and interdepartmental workflow coordination. A prototyping development method was used to allow early system visualization and iterative refinement through user interaction and feedback. The thesis applied a qualitative case study approach involving system observation, user involvement, and performance evaluation based on workflow transparency and reporting efficiency. The results demonstrate that the integrated platform significantly improves project monitoring, reduces reporting delays, and enhances collaboration between departments.

Keywords : web-based system, Laravel framework, digital transformation, PT Suri Karya Bersama

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