Terbit *online* pada laman web jurnal : https://jes-tm.org/index.php/jestm/index

Journal of Engineering Science and Technology Management

| ISSN (Online) 2828 -7886 |

Article

Design and Development of a Web-Based Financial Management Information System for a Wedding Organizer (Case Study: Novita Wedding Bangkinang)

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DOI: 10.31004/jestm.v6i3.483

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ARTICLE INFORMATION

Volume 6 Issue 3
Received: 29 August 2026
Accepted: 20 October 2026
Publish *Online*: 26 October 2026
Online: at https:

Keywords

Financial Management,
Wedding Organizer,
Information System,
Website,
FAST

A B S T R A C T

Novita Wedding Bangkinang is a wedding organizer business that provides various wedding services, including wedding packages and event management. Its financial management process, including recording customer data, income, expenses, and financial reports, is still conducted manually using notebooks. This condition causes several problems, such as recording errors, data duplication, difficulty in searching transaction information, and delays in preparing financial reports. This research aims to design and develop a web-based financial management information system for Novita Wedding Bangkinang. The system was developed using the FAST (Framework for the Application of System Thinking) method and implemented using Laravel 10 with MySQL as the database. The system provides features for managing customer data, wedding packages, income, expenses, division assignments, cash balances, and financial reports in an integrated system. System testing was conducted using functional testing, non-functional testing, and User Acceptance Testing (UAT). The test results show that the system functions according to the identified requirements and is accepted by the users. The developed system can support more structured, computerized, and efficient financial management processes at Novita Wedding Bangkinang.

1. Introduction

The development of information technology has brought significant changes to various business sectors, including data and financial management. The proper use of information technology can improve work effectiveness and efficiency while supporting data management and decision-making processes (Ahadiyah, 2024).

One of the growing business sectors is the Wedding Organizer (WO), a service business that assists in planning and organizing various needs for wedding event (Rachman et al., 2023).

Novita Wedding is a Wedding Organizer business located in Bangkinang City and has been operating since 2016. The business provides various wedding packages and also accepts service requests according to customer needs. In carrying out its business activities, Novita Wedding is supported by 13 divisions with a total of 35 workers who handle various wedding event requirements.

Based on observations and interviews with the owner of Novita Wedding, the financial management process is still carried out manually using notebooks. The recording of income and expenses, customer data management, and financial report preparation have not yet been integrated into a single system. This condition causes several problems, including the risk of data loss, recording errors, data duplication, difficulty in retrieving transaction information, and delays in preparing financial reports. In addition, tracking customer payment histories, such as down payments and final payments, still requires manually searching through separate records.

These problems indicate the need for a financial management information system that can integrate customer data and financial transactions into a single platform. A web-based system was selected to transform into a computerized system, allowing data to be stored and managed in a more structure manner. The developed system includes customer data management, wedding packages, income, expenses, cash balance, division assignments, and financial reports.

This research aims to design and develop a web-based financial management information system for Novita Wedding and to implement the system to support customer data and financial transaction management. In addition to system development, this study evaluated the implemented system through functional, non-functional, and User Acceptance Testing to assess functional accuracy, usability, security and authorization, reliability, availability, and financial calculation accuracy. The system was developed using the Framework for the Application of System Thinking (FAST) method, while Laravel was used as the development framework and MySQL as the database.

2. Literature Review

2.1 System Design and Development

System design and development is the process of analyzing requirements to create a new system where none previously existed, or to refine an existing system so that it operates more effectively (Maulani & Nursolihah, 2022). System design encompasses the steps to transform the outcomes of the planning (analysis) phase into program code, with the aim of detailing how each system component is built and executed (Andreani et al., 2024).

2.2 Financial Management Information System

A financial management information system is a financial management process encompassing planning, organizing, and monitoring to ensure the efficient and effective use of funds, This process includes budgeting, cash flow management, and the recording of financial transactions to ensure that the resulting data is accurate and available in a timely manner (Juliani et al., 2025). A financial management information system is a system used to support financial planning, management, recording, and control activities, It helps organizations manage financial data systematically so that information can be obtained accurately and in a timely manner, In this research, the financial management information system is applied to manage customer data, income, expenses, cash balances, and financial reports at Novita Wedding (Mapata et al., 2024).

2.3 Wedding Organizer

A Wedding Organizer (WO) is a professional service that assists customers in planning and organizing wedding events, from preparation to implementation, The services provided may include wedding packages and various supporting services according to customer requirements, The complexity of wedding event management requires proper data

and financial management to ensure that operational activities can be monitored effectively (Rahmawati & Abadi, 2023).

2.4 Novita Wedding

Novita Wedding is a wedding planning service provider based in Bangkinang City, specifically on Jalan Mayor Ali Rasyid. Established in mid-2016, the business offers a wide range of wedding services through various packages tailored to client needs, spanning from budget-friendly to premium options. Novita Wedding is supported by 13 service divisions and a total workforce of 35 personnel, including photographers, masters of ceremony (MCs), henna artists, makeup artists, wardrobe teams, wedding content creators, lighting technicians, acoustic music groups, coordinators, decoration teams, videographers, photobooth services, and tent providers.

2.5 Website

website is a collection of information pages that can be accessed through the internet using a web browser, Website-based systems can be used to manage and present information in an integrated manner (Rahmi et al., 2023). Websites can generally be categorized into static and dynamic websites, A dynamic website allows its content to change according to user interaction and data stored in the database (Rianto, 2025).

2.6 FAST Method

Framework for the Application of System Thinking (FAST) is a system development methodology that provides systematic stages for analyzing, designing, developing, and implementing information systems, The FAST method consists of eight stages: Scope Definition, Problem Analysis, Requirements Analysis, Logical Design, Decision Analysis, Physical Design and Integration, Construction and Testing, and Installation and Delivery (Dudi et al., 2022).

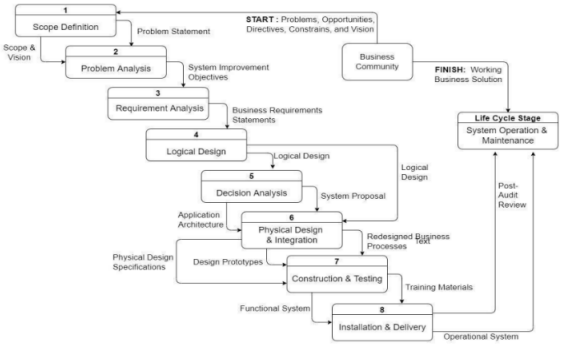


Figure 1. Stages of the FAST Method (Argaputri et al., 2023)

The FAST method was selected because it provides a structured sequence of stages from problem identification and requirements analysis to system implementation and testing. This approach was considered suitable for the study because the identified problems and user requirements could be progressively translated into system design, implementation, and validation. The main outputs of the FAST stages include defined scope and problems, system requirements, UML and logical designs, technology decisions, database and interface designs, an implemented and tested system, and the delivered system.

2.7 Laravel

Laravel is a framework based on the PHP programming language that is designed to optimize the efficiency of web application development through a structured and secure infrastructure, PHP functions as a server-side scripting language that enables applications to interact with databases and generate dynamic web pages (Pradipta Wistika et al., 2023).

2.8 MySQL

MySQL is an open-source relational database management system (RDBMS) that uses Structured Query Language (SQL) for data management and operations, MySQL stores digital data in organized tables that are related to one another to maintain data integrity and consistency, Its multi-user architecture also allows multiple users to access data simultaneously with stable performance (Putri et al., 2023).

2.9 Black Box Testing: User Acceptance Test (UAT)

Box Testing is a software testing method performed without examining the program code; instead, it focuses on system functionality based on inputs and outputs. This method is used in functional testing to ensure that each feature operates according to requirements. Additionally, non-functional testing and User Acceptance Testing (UAT) are conducted to evaluate system quality and user acceptance (Pratama et al., 2023).

2.10 UML

Unified Modeling Language (UML) is a standard modeling language used to visualize and document software system designs. UML employs object-oriented system design concepts and is independent of any specific programming language. It can be used to describe business processes and general system requirements, regardless of the programming language employed (Nasirudin Sabiq, 2023).

3. Research Methodology

3.1 Research Approach

This study employed a qualitative approach to identify the financial management problems and system requirements at Novita Wedding Bangkinang. Data were collected through observation, interviews, documentation, and literature study. The interview was conducted with the owner of Novita Wedding to obtain information about the existing financial management processes, including customer payments, operational expenses, division payments, financial record-keeping, and financial reporting.

The requirements elicitation process was carried out by analyzing the results of observation, interviews, and documentation to identify existing problems and user needs. The existing process showed that financial transactions were recorded manually in notebooks, while customer data and payment records were maintained separately. These conditions created difficulties in tracking transactions, verifying payment histories, calculating financial information, and preparing reports. The collected information was then translated into functional and non-functional system requirements.

The identified requirements were used as the basis for designing and implementing the proposed system. Functional requirements were implemented according to the access rights of Admin, Owner, and Division users, while non-functional requirements were evaluated through usability, availability, security, performance, reliability, and environment testing. The relationship between the identified problems, requirements, and system features is presented in Table 1.

Table 1. Identified Problems and Elicited System Requirements

Identified Problem	Elicited Requirement	System Feature
Manual financial recording	Digital transaction recording	Income and Expense
Separate customer and payment records	Integrated customer payment data	Customer & Payment History
Difficulty preparing financial reports	Automated financial reporting	Financial Report
Difficulty monitoring division payments	Division payment monitoring	Division Payment

3.2 FAST Development Stages

The system was developed using the FAST (Framework for the Application of System Thinking) method, which consists of eight stages. The first stage is Scope Definition, which determines the scope and objectives of the web-based financial management information system for Novita Wedding. The second stage is Problem Analysis, which identifies problems in the existing financial management process, particularly in recording customer data, income, expenses, and financial reports.

The third stage is Requirements Analysis, which identifies the functional and non-functional requirements of the system based on the results of observation and interviews. The fourth stage is Logical Design, which models the system requirements using UML, including Use Case Diagram, Activity Diagram, Sequence Diagram, and Class Diagram.

fifth stage is Decision Analysis, which determines the software and hardware required to support system development. The sixth stage is Physical Design and Integration, which

includes designing the database structure, Entity Relationship Diagram (ERD), and system interfaces. The seventh stage is Construction and Testing, which involves implementing the system using the Laravel 10 framework and MySQL database, followed by functional and non-functional testing, User Acceptance Testing (UAT), and user feedback evaluation.

The eighth stage is Installation and Delivery, which involves preparing the completed system for implementation and use by the users of Novita Wedding. The eight FAST stages provided a structured connection between the identified problems, system requirements, design decisions, implementation, and testing. The requirements identified during the analysis stage were used as the basis for the UML models and database design, while the selected technologies supported the implementation of the required system functions.

4. Results and Discussion

4.1 System Requirements Analysis

The system requirements analysis identified three primary actors: Admin, Owner, and Division. The Admin has the authority to manage customer data, wedding packages, revenue, expenses, division tasks, wedding schedules, financial reports, and user accounts. The Owner can access the dashboard and financial reports to monitor the financial status, while users from the divisions can view assigned tasks and event schedules, as well as update task progress relevant to their respective divisions. These system requirements were then modeled using UML, encompassing Use Case Diagrams, Activity Diagrams, Class Diagrams, and Sequence Diagrams.

4.2 System Interface Implementation

In The Web-Based Wedding Organizer Financial Management Information System was implemented with interfaces for three user roles, namely Admin, Owner, and Division. The system provides a login page with email, password, and password recovery features, followed by a dashboard according to each user's access rights (Figure 2).

The Admin Dashboard presents financial and operational information, including total income, total expenses, cash balance, customer data, payment status, financial statistics, and wedding schedules (Figure 3).

The Customer Data page provides information about customers, selected wedding packages, event dates, and payment status, along with features for adding, editing, deleting, and searching customer data (Figure 4).

The Wedding Package page manages package information, including package names, prices, and service items provided in each package (Figure 5).

The Income and Expense pages are used to record and manage financial transactions, while the Division Assignment page displays division tasks, budgets, payments, remaining payments, and task status (Figure 6), (Figure 7) dan (Figure 8).

The Wedding Schedule page presents registered wedding events in a calendar view to facilitate event monitoring (Figure 9).

The Financial Report page provides information on total income, total expenses, customer receivables, cash balance, and transaction details, with filtering by month and year and PDF export functionality (Figure 10).

The system also provides a User Management page for managing Admin, Owner, and Division accounts (Figure 11).

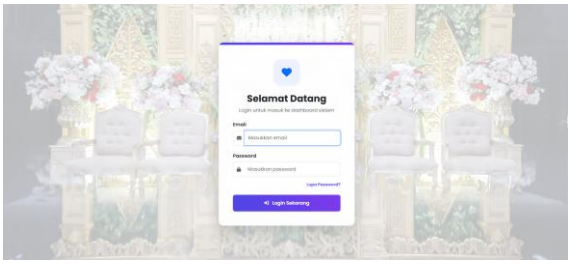


Figure 2. Login Page

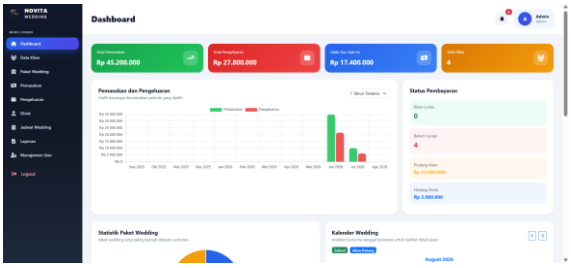


Figure 3. Admin Dashboard Page

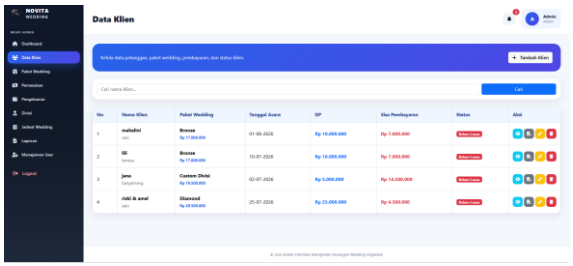


Figure 4. Customer Data page

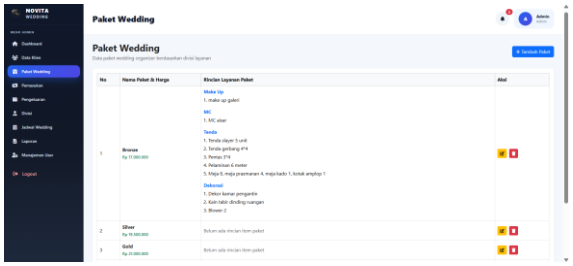


Figure 5. Wedding Package page

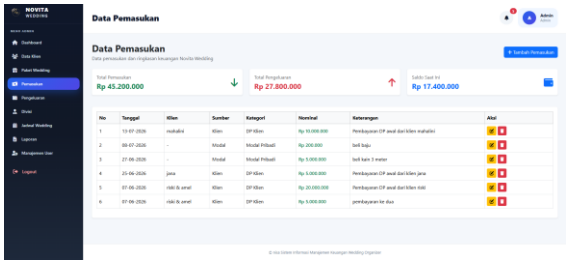


Figure 6. Income Pages

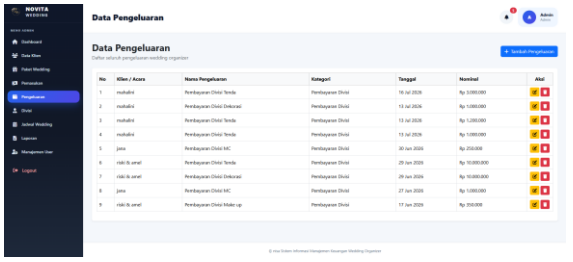


Figure 7. Expense Pages

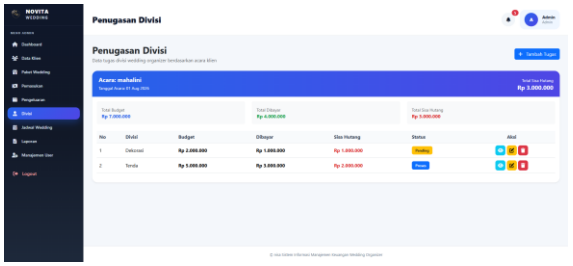


Figure 8. Division Assignment Page

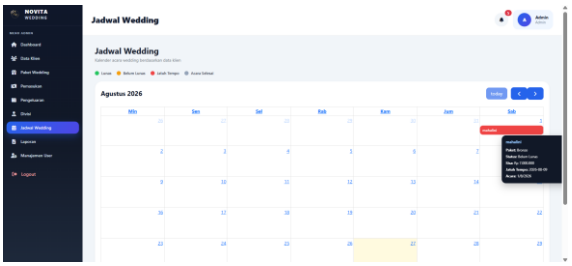


Figure 9. Wedding Schedule Page

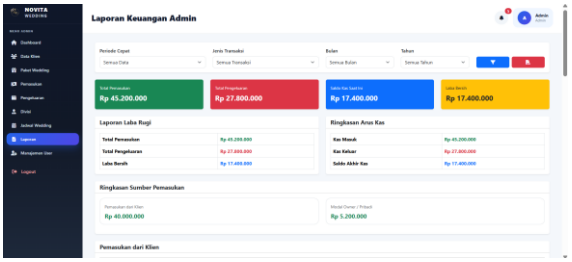


Figure 10. Financial Statements Page

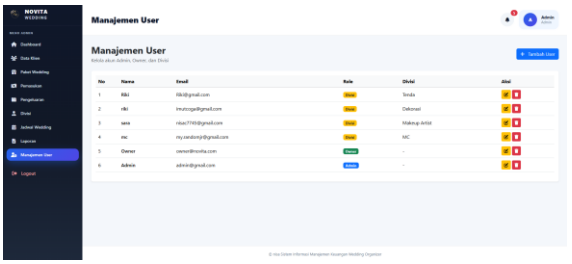


Figure 11. User Management Page

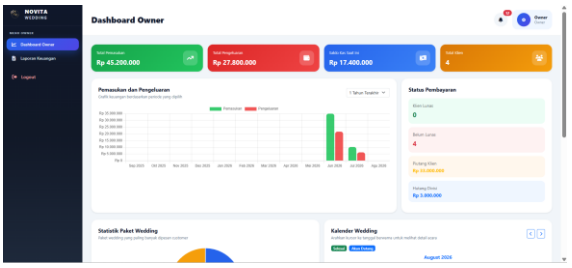


Figure 12. Owner Dashboard Page

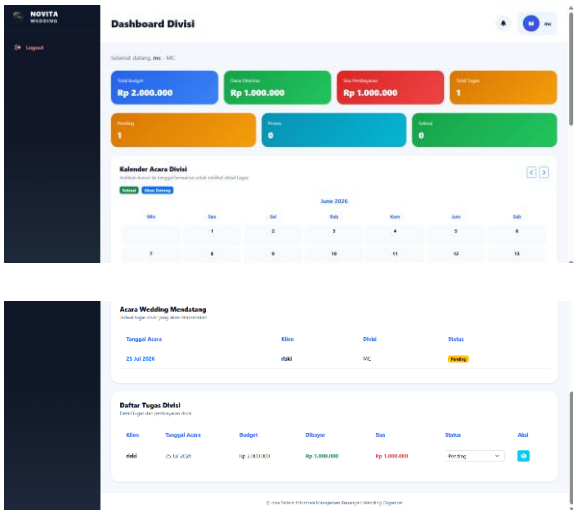


Figure 13. Division Pashboard Page

4.3 System Testing Result

System testing was conducted to verify and validate whether the developed system fulfilled the functional and non-functional requirements identified during the requirements analysis. The testing consisted of functional testing using the Black Box Testing approach, non-functional testing, and User Acceptance Testing (UAT). Each test case was prepared based on the identified system requirements and included testing steps, expected results, actual results, and testing status.

Functional testing was performed on the main system features, including user authentication, customer management, wedding package management, income and expense management, division task management, wedding schedules, financial reports, and user management. Each function was tested by providing the required input and comparing the actual result with the expected result. A function was considered successful when the actual result matched the expected result.

For non-functional testing, the system was evaluated based on security, usability, performance, calculation accuracy, data reliability, system environment, and availability. Performance testing was conducted by opening the dashboard, customer data, income, expense, and financial report pages. The evaluation focused on whether the system could display the required data quickly and without errors. The results showed that the tested pages displayed the required information without errors and were recorded as successful. The performance evaluation was conducted using scenario-based observation and did not include quantitative response-time measurements. Usability was evaluated through scenario-based observation of system navigation and interface use. The results indicated that the tested interfaces could be accessed and used according to the users' assigned functions.

User Acceptance Testing (UAT) involved participants representing the main user roles of the system. The Owner role was represented by Ibu Novita Sari as the owner of Novita Wedding, while the Division role was represented by Riki from the Tent Division and Elvizar from the Decoration Division. Admin-related testing was conducted by the system developer. The participants tested the system according to their respective access rights and functions. The UAT was conducted in June 2026.

The UAT instrument consisted of structured test cases containing the test ID, test description, reporter, completion date, test steps, expected result, actual result, and status. A test case was considered accepted when the actual result matched the expected result and the recorded status indicated successful completion. The detailed test cases covered system functions according to the access rights of Admin, Owner, and Division users.

Tabel 2. Representative User Acceptance Test Cases

Test ID	Test Function	Expected Result	Status
UAT-TC-04	Income Management	Income data is stored correctly and updates the cash balance.	Successful
UAT-TC-05	Expense Management	Expense data is stored correctly and updates the cash balance.	Successful
UAT-TC-08	Financial Report	Financial reports are displayed according to the selected period and can be exported to PDF.	Successful

Test ID	Test Function	Expected Result	Status
UAT-TC-12	Owner Financial Report	Owner can view and export financial reports according to the selected filter.	Successful
UAT-TC-15	Division Task	Division can view assigned tasks and update task status.	Successful

The representative UAT results show that the tested functions operated according to the defined requirements. The testing covered financial functions such as income, expenses, and financial reports, as well as supporting functions related to Owner and Division access. The complete UAT also covered Admin, Owner, and Division users, with each test case documenting the testing steps, expected results, actual results, and status.

The non-functional testing also examined financial calculation accuracy, including income, expenses, cash balance, customer payment records, and division payment records. The results showed that the system calculated and displayed the financial information according to the transaction data entered into the system. Data reliability, security, system environment, and availability were also tested and recorded as successful.

Regarding security and authorization, the system was tested according to the defined user roles and access rights. The test results showed that users could access system functions according to their assigned roles, while unauthorized access to restricted functions was denied. Data privacy, backup mechanisms, and audit trails were not evaluated as separate technical features in this study and therefore remain areas for future system improvement.

Based on the functional, non-functional, and UAT results, the developed system fulfilled the identified requirements and supported the financial management process at Novita Wedding Bangkinang. The comparison between the expected and actual results provided validation that the tested system functions operated as intended.

5. Conclusion

This study successfully designed and developed a web-based financial management information system for Novita Wedding Bangkinang using the FAST (Framework for the Application of System Thinking) method. The system was implemented using Laravel 10 and MySQL, providing features to manage customer data, wedding packages, income, expenses, task allocation, wedding schedules, financial reports, and user accounts. It integrates financial and supporting operational data into a centralized system to streamline financial management. Functional testing, non-functional testing, User Acceptance Testing (UAT), and user feedback collection were conducted to evaluate the developed system. Test results indicate that the system functions effectively and supports financial management activities at Novita Wedding Bangkinang. Future development could focus on enhancing system features and expanding capabilities to meet evolving operational needs.

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