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# Implementation Of The Cash-Based Accounting Method In A Web-Based Mosque Financial Management Application (Case Study Of A Mosque In Bandung City)

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## *Abstract*

*The financial management of a mosque in Bandung currently relies on a semi-manual system that is susceptible to input errors, duplicate records, and delays in report generation, thereby obstructing transparency and accountability. This research seeks to develop and implement a web-based financial management application that uses the Cash Basis Accounting approach, which documents activities based on cash inflows and outflows. The system is built with Laravel 10 and a MySQL database. The applied testing approach is Black-Box Testing to verify that each capability performs as specified. This research yields an information system comprising two primary interfaces: a public page for congregants that transparently displays financial reports, activity schedules, and donation information, and an admin dashboard for the centralized management of all financial data, schedules, and donations. The testing findings demonstrate that the system operates effectively, resolves the deficiencies of the previous system, and improves the efficiency and transparency of the mosque's financial management.*

***Keywords :*** *Information System, Financial Management, Mosque, Cash Basis Accounting, Laravel*

## INTRODUCTION

A mosque functions as both a site of worship and a hub for social and community engagement. An essential facet of mosque administration is financial management, particularly when the majority of funding originates from the community. Consequently, openness and accountability in financial management are essential. Nevertheless, optimal financial governance principles are frequently unachieved in many mosques throughout Indonesia.

This problem has also been observed at a mosque in Bandung. Interviews with the Treasurer of the Mosque Prosperity Board reveal that the financial recording process is exclusively dependent on traditional methods, particularly the manual documentation of all transactions in a physical cash book. This entirely manual approach exhibits numerous deficiencies, including a significant risk of human error, slow and inefficient financial report generation, and a lack of real-time transparency for congregants.

An information system serves as a platform that assists users in processing and managing various types of data once implemented (Alarco & Auccahuasi, 2023). A financial information system is an application designed to enhance financial management through the utilization of information technology (Yusuf et al., 2023).

The Cash Basis is a clear and understandable accounting method, as indicated by Evianti and Hasibuan (2025) and Sari et al. (2021). This system records transactions solely at the point of cash receipt or disbursement, making it suitable for organizations such as mosques. It identifies transactions and events that directly impact cash flow.

RAD is an approach that prioritizes the swift production of information system prototypes and iterative improvement. This methodology

emphasizes user feedback and swift development, resulting in reduced time and costs via improved user involvement and flexibility (Yu, 2021).

Laravel is an open-source PHP framework for online application development that employs the model-view-controller (MVC) architecture. This framework assists programmers by optimizing development through advanced syntax and a range of features, including routing and authentication (Rahayu & Yulianto, 2023; Sa'diyah & Yuhertiana, 2021).

UML (Unified Modeling Language) is a visual modeling technique utilized for the design of object-oriented systems. UML is a standardized language utilized for visualizing, constructing, and documenting systems, widely acknowledged as the standard blueprint language for software development (A. D. Putra et al., 2024). UML aims to optimize software development by comprehensively and accurately addressing all user needs. The classifications of UML include the following, according to Novaris Maulana et al. (2026): a Use Case diagram is a type of UML diagram that illustrates the interaction relationships between the system and its participants. Use Cases outline the various interactions between the system's users and the system. According to Novaris Maulana et al. (2026), an Activity Diagram enhances Use Cases by offering a more detailed representation of activity flows. This diagram illustrates the logical sequence of tasks. 3) According to (S. A. Putra & Varina, 2021), a Sequence Diagram represents dynamic interactions, illustrating the temporal interconnections among items within a process.

Implementing a modern accounting information system is crucial to address this issue. The cash basis accounting method is the most appropriate and practical choice. This method documents transactions solely upon the actual receipt or payment of cash, rendering it especially suitable for the majority of mosque transactions. The benefits include clarity and simplicity in understanding and implementation for members of the Mosque Prosperity Board, lacking formal accounting education. The online program seeks to improve the transparency, precision, and accessibility of the mosque's financial management for all stakeholders.

## METHOD

This study methodology utilizes a qualitative approach to ascertain requirements and design the system, employing the Rapid Application Development (RAD) method for implementation. A qualitative methodology is employed via a case study of a mosque in Bandung. Data collection methods encompass observation, which entails directly monitoring the manual financial recording process to comprehend the workflow and identify existing challenges; interviews, which involve obtaining detailed information from mosque officials about system requirements, data types, and user expectations; and literature review, which consists of analyzing pertinent literature to create a robust theoretical framework.

### System Development Method

The Rapid Application Development (RAD) methodology is employed because of its focus on a condensed development cycle. The process encompasses requirement planning, wherein data is collected via interviews and observations to ascertain issues and needs; system design, which involves crafting the system flow through use

cases, activity diagrams, sequence diagrams, and developing a prototype interface; and implementation, during which the system is constructed in accordance with the design, deployed for users, and its functionality is evaluated.


**Figure 1. Stages of the RAD Model**

## RESULT AND DISCUSSION

A. System Design

System design is conducted systematically with UML to represent functionality, workflow, and database architecture.

1) Use Case Diagram

The functional design is shown by a use case diagram that delineates two primary actors: the congregation (public users) and the administrator. The congregation can access public information, whereas the administrator possesses complete access rights to manage all system data once logging in.

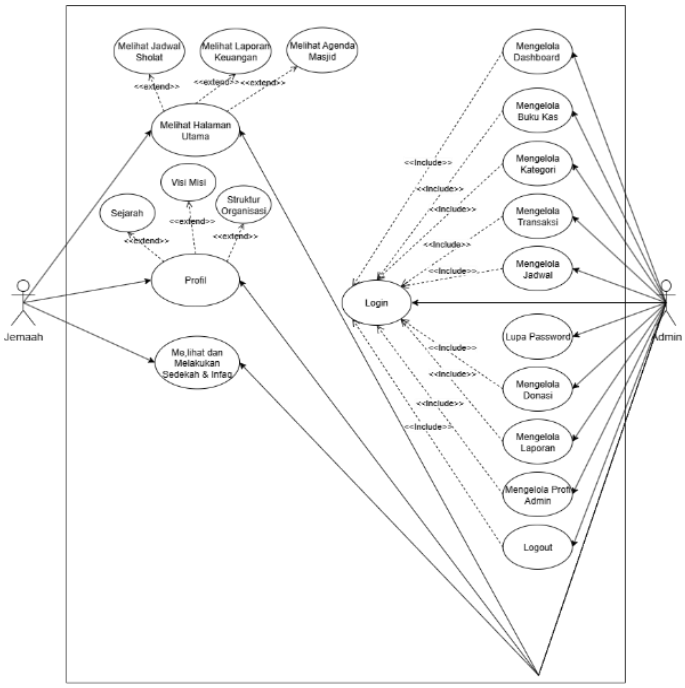


**Figure 2. Use Case Diagram**

2) Table Scenario

Each discovered use case is subsequently elaborated in a tabular format. This scenario delineates the sequential interaction between the actor and the system, encompassing the

initial conditions, standard flow, and anticipated final state of a functionality.

**Table 1. Definition of Actors**

| No | Actor | Description |
|---|---|---|
| 1 | Admin | The individual has the highest level of access privileges within the system. The Treasurer may assume this responsibility. |
| 2 | Congregation | General or public users accessing the frontend of a web application. These actors do not require a login to use the provided services. |

3) Activity Diagram

The system workflow is illustrated by activity diagrams that visually represent the progression from one activity to another, delineating the process steps and decision-making within the system.

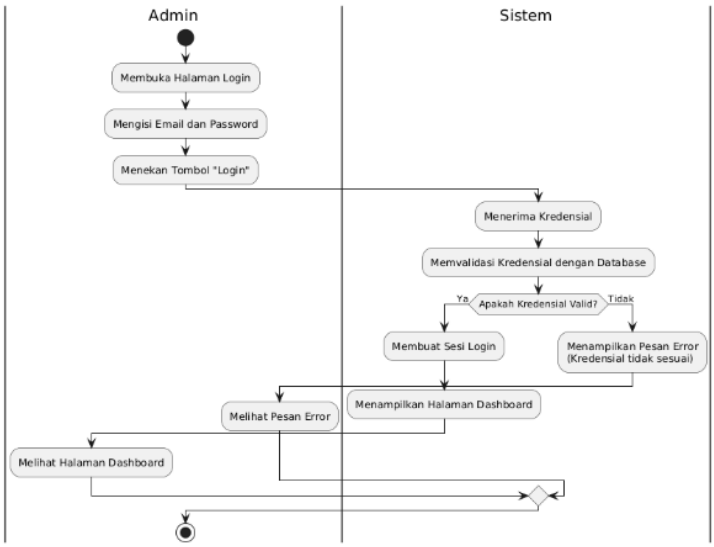


**Figure 3. Admin Login Activity Diagram**

4) Sequence Diagram

Sequence diagrams depict the interactions among objects within a system, illustrating the messages transmitted and received, as well as the sequence of events over a given period.

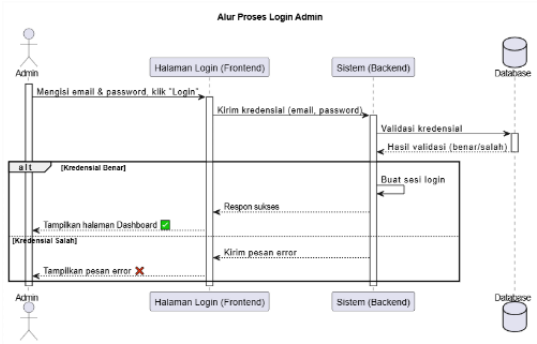


**Figure 4. Sequence Diagram of Admin Login**

5) Class Diagrams and Database Design

The database architecture is modeled using a class diagram to illustrate entities, attributes, and interrelationships among tables. The primary tables in this system comprise users, cashbooks, categories, transactions, schedules, and donations. A one-to-many relationship is established between cashbooks and both categories and transactions to preserve the integrity of financial data.

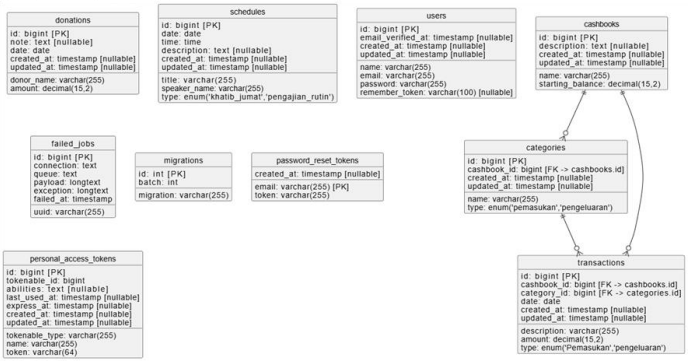


**Figure 5. Database Class Diagram**

6) Menu Structure Design

The menu architecture is developed independently for each actor. The public menu for Jemaah comprises Home, History, Mosque Prosperity Council Structure, and Charity & Donations. The Admin's private menu is intended for extensive data administration, including Dashboard, Cash Book, Categories, Transactions, Schedule, Donations, and Reports.

B. System Implementation

1) Database Implementation

The database titled db_masjid_attijaniyah is constructed using MySQL. All tables delineated in the class diagram have been properly established, along with their corresponding relationships.

**Figure 6. Transactions Table**

2) Interface Implementation

The user interface (UI) is built according to the designed prototype.

1. The public page is crafted with a contemporary, informative aesthetic to clearly facilitate the congregation's access to financial information and mosque activities.


**Figure 7. Public Home Page View**

2. The administrative page features a useful dashboard structure that facilitates data management for administrators through organized menus.

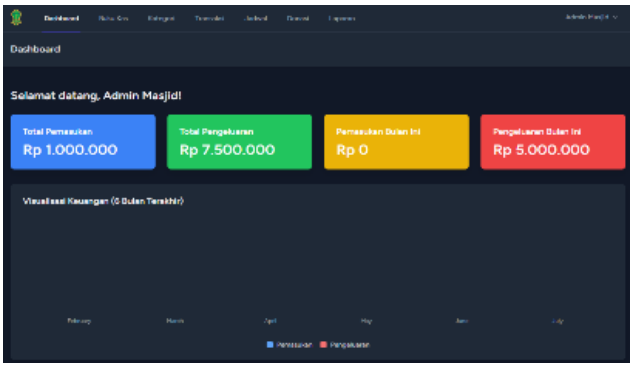


**Figure 8. Admin Dashboard View**

C. System Testing

1) Black Box Testing

All system functionalities undergo testing according to defined scenarios. Consequently, all functionalities, encompassing navigation, dynamic data presentation, login procedures, all CRUD operations by the administrator, and report generation, are considered successful and function as intended.

**Table 2. Congregation Functionality Testing (Public)**

| No. | Feature Name | Testing Scenario | Input Data | Expected results | Test Results |
|---|---|---|---|---|---|
| 1. | Menu Navigation | Clicking each menu in the main navigation. | Click on the menu "Home", "History", "DKM Structure", "Alms & Donations". | The system successfully redirects to the appropriate page without error. | Succeed |
| 2. | Prayer Schedule | Open the main page and observe the prayer schedule widget. | - | The widget displays a moving digital clock and prayer times according to your location. | Succeed |
| 3. | Financial statements | Open the main page and view the financial report section. | - | This section displays a summary of income, expenses, and balances for the last period that had transactions.. | Succeed |
| 4. | Mosque Agenda | Open the main page and view the agenda section. | - | This section displays a list of the 3 nearest upcoming activity schedules. | Succeed |
| 5. | Alms & Donations Page | Access the page and try to copy the account number. | Click the "Copy" button on one of the accounts. | The system displays a notification dialog "Account number copied successfully". | Succeed |
| 6. | "Back to Top" button | Scroll down the page, then press the green arrow button. | *Scroll > 100px, then click the button.* | The button appears when scrolling and the page returns to the top smoothly when pressed. | Succeed |

**Table 3. Admin Functionality Testing**

| No. | Feature Name | Testing Scenario | Input Data | Expected results | Test Results |
|---|---|---|---|---|---|
| 1. | Login | Login with incorrect credentials. | Email: admin@salah.com, Pass: salah | The system rejects the login and displays an error message. | Succeed |
| 2. | Login | Login with correct credentials. | Email: admin@attijaniyah.com, Password: password_benar | The system successfully logged in and directed to the admin dashboard page. | Succeed |
| 3. | Manage Cash Book | Add new cash book data. | Name: "Orphanage Fund", Beginning balance: "500000" | New data is saved and appears in the cash book list table. | Succeed |
| 4. | Manage Categories | Add a new category to an existing cash book. | Cash Book: "Orphan Cash", Category Name: "Routine Assistance" | The new category data is saved and appears in the table. | Succeed |
| 5. | Manage Transactions | Record new expense transactions. | Category: "Electricity Costs", Amount: "250000", Description: "July Payment" | New transaction data is saved and financial reports are on the page utama ter-update. | Succeed |
| 6. | Manage Schedule | Adding a new activity schedule. | Title: "Tafsir Study", Speaker: "Ustadz Fulan", Date & Time. | The new schedule data is saved and appears in the "Mosque Agenda" section on the main page. | Succeed |

| No. | Feature Name | Testing Scenario | Input Data | Expected results | Test Results |
|---|---|---|---|---|---|
| 7. | Manage Donations | Record new incoming donations. | Amount: "100000", Note: "For Development" | New donation data is saved and appears on the "Alms and Donations" page with the name "Servant of Allah". | Succeed |
| 8. | Report | Print monthly reports for a specific cash book. | Cash Book: "Main Cash", Period: "July 2025" | The system displays a print preview page containing the accurate report table. | Succeed |
| 9. | Logout | Exit the system. | Click the "Log Out" button and confirm "Yes". | The system successfully logged out and redirected to the main page. | Succeed |

2) User Acceptance Testing (UAT)

UAT engages end users to get direct feedback.

The Admin and Treasurer of DKM offer highly favorable qualitative feedback on the testing findings, particularly concerning the instant report feature, which is deemed to conserve considerable time and streamline tasks.

The testing findings for Jemaah indicate that the quantitative analysis from five respondents produces an overall approval rating of 98.67%. This outcome is derived from the subsequent questionnaire data:

**Table 4. Results of the UAT Questionnaire by the Congregation**

| No. | Question | Score | | | | | Number of Respondents |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| 1 | How easy is it to find Financial Reports? | 0 | 0 | 0 | 1 | 4 | 5 |
| 2 | How easy is it to find prayer times? | 0 | 0 | 0 | 0 | 5 | 5 |
| 3 | How easy is it to find the Activity Schedule? | 0 | 0 | 0 | 1 | 4 | 5 |
| 4 | How easy is it to find the History of the Mosque? | 0 | 0 | 0 | 0 | 5 | 5 |

| No. | Question | Score | | | | | Number of Respondents |
|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | |
| 5 | How easy is it to find the Vision and Mission? | 0 | 0 | 0 | 0 | 5 | 5 |
| 6 | How easy is it to find the DKM Structure? | 0 | 0 | 0 | 0 | 5 | 5 |

Scale: 1 (Very Difficult) - 5 (Very Easy). The high acceptance rate (98.67%) indicates that the public interface is very easy to use and informative.

## CONCLUSION

Based on the outcomes of the system's design, development, and testing, it can be determined that this web-based application has been successfully developed using the Cash Basis Accounting approach. This system efficiently replaces manual operations, enhancing record-keeping accuracy and reducing the likelihood of human error. Moreover, the system can enhance financial transparency for the mosque through real-time reporting capabilities available to both managers and Jemaah, thereby increasing accountability in fund management. The adoption of the Cash Basis Accounting approach, enhanced by an accessible interface and an automated summary procedure, significantly supports mosque management in financial administration without requiring formal accounting expertise.

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