CASHCLASS AS AN EFFECTIVE AND PRACTICAL CLASSROOM CASH FINANCIAL MANAGEMENT APPLICATION FOR STUDENTS IN AN EDUCATIONAL ENVIRONMENT

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ARTICLE INFO

Received: 14 Nov 2023
Accepted: 07 Mar 2024

ABSTRACT

This article discusses a class cash financial management application designed to facilitate a class financial administrator in managing cash finances in an educational environment. This application provides features such as recording income and expenses, tracking transactions, automatic financial reports. The purpose of this application is to improve the efficiency, accuracy, and affordability of classroom financial information. Another advantage of this class cash financial management application is its ability in the reporting process. This application can generate automatic financial reports that can be customized as needed. This is very useful for reporting purposes to the authorities or for audit purposes. With this application, the process of preparing financial reports becomes faster, more accurate, and more efficient. Overall, this article discusses a class cash financial management application that provides benefits in financial management efficiency, easy access to information, and reporting capabilities. This application can be a useful tool for class financial administrators such as class treasurers in managing class cash finances more effectively and efficiently. The test results of this CASHCLASS application show that this CASHCLASS application functions properly in accordance with the requirements and expectations that have been set.

Keywords: Finance, Financial management app, Effective and practical.

1. Introduction

In today's millennial era, the influence on the development of information systems is very significant. In following technological advances, information systems continue to develop to meet the needs of their users. One of the efforts made to encourage this progress is to create a more effective class financial management application [1]. The rapid development of times and technology requires accurate, fast, and precise information to deal with the dynamics and changes that occur in society. Information System becomes a system that aims to meet the needs of the organization in processing daily transactions, supporting operations, and having managerial and strategic aspects in an organization. In addition, this system also provides reports required by certain external parties. Moreover, personal financial management really needs the help of information technology. Because the existence of a computer is considered very important to simplify and speed up the work that must be done, for example in personal financial management which in this study makes it easier to manage budgets, income, expenses and also make reports that have not previously used the application [2].

Financial management in a classroom environment is a very vital activity, considering that almost every activity that takes place in a campus or school requires an effective financial management system. Managing classroom cash finances can be a time-consuming and energy-consuming task. Recording transactions, and tracking expenses can be challenging, especially if everything is done manually. However, with the advancement of technology, there are now solutions that can help us manage class cash finances more easily and efficiently through class cash financial management applications [3]. Problems that often arise in financial management are when students and students finish making class cash payments. The treasurer capitulates the finances of each cash payment by students and students into a financial notebook, so it takes a rather long time to search for data and make financial reports. Previously, the process was only carried out by standard entry, so the cash payment process for the class was less efficient. This shows that the information management process in a campus or school class is good, but the computerized information management process makes information management more efficient [4].

Financial management is an important aspect of any organization, including in the classroom context. Moreover, the financial management of classroom treasury can be a significant challenge for teachers and administrators. Recording transactions, and tracking expenses manually can be time-consuming and energy-consuming. However, with the advancement
of technology, there is now a solution that can overcome this obstacle, namely a classroom cash financial management application. Classroom cash financial management application is a software specifically designed to assist teachers and class administrators in managing class cash finances more efficiently. This application provides features that make it easy to record transactions, create reports, and analyze class cash finances. With this application, the financial administration process becomes faster, more accurate and organized. One of the main advantages of using the class cash financial management application is time efficiency. With the quick and easy transaction recording feature, class administrators no longer need to spend hours manually recording each transaction. The app allows them to record transactions in just seconds, saving valuable time.

The purpose of this research is to develop a class cash management system with a desktop application so that the class finance department can use information technology to manage class cash, both in terms of financial income and financial expenses. This application is designed to improve the performance of the class funding section of financial administration so that class transparency is available online. Only class administrators and treasurers can use class cash in the form of student-provided class cash funds and class financial fees for specific purposes. Information system for storing and processing class financial data, e.g. B. record the receipt and payment of funds from weekly or monthly payments of cash to students and students to automate the generation of necessary reports in the database. Such data and reports are very important and effective in maintaining good classroom cash management and also as a basis for taking the next step or policy.

This information system makes it easier for financial administrators to control payment information and quickly classify cash payments, receipts and expenses on the computer. The finance department will have no trouble finding information about students who have not paid their cash, and it will also be easier to report on class cash finances. With the class cash financial management application, class administrators can better optimize their financial management. The financial administration process becomes more efficient, structured, and accurate. You can reduce the risk of human error, save valuable time, and focus your attention on developing classroom and educational activities. However, make sure to choose an app that is reliable and secure, and suits the needs and budget of the class.

2. Materials and Methods

The method used in this research is the System Development Life Cycle (SDLC) using the Waterfall model. The SDLC (System Development Life Cycle) method is a systematic approach or process used in the development of software or computer systems. The main purpose of the SDLC method is to ensure that system development is carried out in an organized, efficient, and controlled manner. The method involves a series of steps or phases that are followed sequentially to design, develop, test, and implement a system. The waterfall model, also known as the "Linear Sequential Model", is a classic systematic and sequential approach to software development. It is often referred to as the "classic life cycle" or waterfall method.

The Waterfall method, also known as the down-flow model or linear model, is an approach in the SDLC (System Development Life Cycle) that follows a sequential or linear approach in the development of software or computer systems. This method assumes that each phase of development must be completed in full before the next phase begins. The waterfall method is also often referred to as the linear sequence model or the classic flow of life. System development occurs sequentially, starting from the analysis, design, coding, testing and support stages. The advantage of this method is that the step-by-step process ensures the proposed application is of high quality and the application documentation becomes simpler and better.

a. Stages of the Method

The stages of the waterfall method are as follows:

1) Requirements Analysis
   This stage involves identifying and understanding the needs of users or stakeholders. At this stage, the required inputs, processes to be performed by the system, and outputs to be produced are identified to determine the needs and desired results of the application.

2) Design
   At this stage, the results of the needs analysis are then formed into a display that makes the application easier to use. This stage involves designing the architecture of the system to be built. This includes high-level design and detailed low-level design. This design includes the selection of technology, user interface, data structure, and algorithms to be used.

3) Implementation
   At this stage the system design results are translated into layout and program code. This stage involves translating the system design into real code. The development team implements the business logic, modules, and components of the system according to the predetermined design. The result is executable program code.

4) Testing
   This stage involves conducting software testing to ensure that the system functions as expected and meets predetermined needs. This testing process includes unit, integration, system, and user acceptance testing.

5) Maintenance
   This stage involves maintaining and supporting the delivered system. The development team will perform bug fixes, functionality enhancements, and ensure the system continues to run well according to user needs.
b. **System Analysis**
In making this application, a good design is needed so that the system can function optimally while the design stage is divided into two, namely as follows:

1) Find out about the purpose of the app, which is to make financial management easier.
2) Manage income and expenses and facilitate report generation.

c. **System Design**
System design involves identifying system needs and goals, analyzing user requirements, designing system architecture, selecting appropriate components, integrating those components, and ensuring that the system functions properly. The system design process includes several stages, such as requirements analysis, conceptual design, physical design, implementation, and testing. The detailed application design process begins with designing a database, table relations, context diagrams, data flow diagrams (DFD), screen design, report design, and academic information system software development using the Java programming language and MySQL database management software.

d. **Application Testing**
The process of application testing, otherwise known as application testing, is an important step in software development. The purpose of application testing is to ensure that the application functions as expected, avoids errors or bugs, and provides a good user experience. Application testing involves a series of activities, including identifying test needs, test planning, test case design, test execution, and reporting results. In this article, application testing is done with blackbox testing where the tester tests the system without having detailed knowledge of how the system is implemented or the program code used.

3. **Results**

a. **Design Stage**

1) **Use Case Diagram**
Use case diagram is one type of diagram in software engineering that is used to model the interaction between actors (users) and systems that are in the process of development. Use case diagram is a diagram used to describe the functions or actions that can be performed by actors (users or other systems) and the system being analyzed. This diagram presents a high-level view of how the system interacts with users and other systems. Use case diagrams provide a clear visual picture of the main features offered by the system as well as the interactions that occur between users and the system.

![Use Case Diagram of CashClass Application](image)

Figure 1. Use Case Diagram of CashClass Application

2) **Activity Diagram**
Activity diagram is a type of diagram used in software modeling to describe the flow of work or sequence of activities in a process. This diagram helps in visualizing the activities, tasks, actions, and decisions that occur in a system. In an activity diagram, activities are represented by rectangular boxes with rounded corners. Arrow lines are used to describe the flow from one activity to the next.
b. Implementation

1) Login Page

The login page implementation screen is used as a mechanism to log into the application. Users are required to enter a username and password that have been registered in the MySQL database. A login page is a web page or user interface that allows users to enter their identifying information and password to access certain systems or services that require authentication.

Figure 2. Activity Diagram of CashClass Application
Login pages are commonly used to protect sensitive data and information, and to control access to limited resources. On the login page, users are usually asked to enter unique identifying information, such as a username, email address, or identification number, as well as a secret password known only to that user. Once this information is entered, the system will verify the match of the data provided with the data stored in the database. If the information entered matches, the user will be authorized to access the intended system or service.

Login pages are often used on various platforms, such as websites, mobile applications, content management systems, online forums, e-commerce, and more. Login page security is essential to prevent unauthorized access and protect user privacy.

2) Main Menu Page
The main menu page is the initial page or first view that appears when a user accesses an application, website, or system. This page usually serves as a starting point for navigation and provides access to various features, functions, or other important parts available in the application or website. The purpose of the main menu page is to provide users with clear choices and navigation, so they can easily explore and access the content or features they want. The main menu page contains a student menu that contains student data that has been input into the database and a cash menu in which there are forms for entering and spending class cash.

3) Student Data Page
The student data page is a page in an information system or application that is used to manage and display information related to students. This page usually functions as a student data management center, where users can view, add, edit, or delete student data. The student data page contains a form that is used to input student data which will automatically be saved to the database.
4) Financial Statement Page

The financial report form page is a page in an information system or application that is used to collect and compile financial information needed to prepare financial reports or other entities. This page provides forms or input fields that allow users to enter relevant financial data. The financial report page contains a form that is used to input class cash income and expenditure data which will automatically be stored in the database.

**Table 1. Blackbox Testing Results**

<table>
<thead>
<tr>
<th>Testing</th>
<th>Expected results</th>
<th>Testing Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Input</strong></td>
<td>Entering the amount of cash paid by students and checking whether the system calculates and stores it correctly</td>
<td>Valid</td>
</tr>
<tr>
<td><strong>Functionality</strong></td>
<td>The function of searching transaction data by date, transaction type, or student name is accurate.</td>
<td>Valid</td>
</tr>
<tr>
<td><strong>User Interface</strong></td>
<td>User interface navigation users can easily access the various features and functions of the app.</td>
<td>Valid</td>
</tr>
</tbody>
</table>
From the results of application testing carried out with blackbox it can be seen that this CashClass application functions properly in accordance with the requirements and expectations that have been set. Where the expected test results are valid or in accordance with the application that has been made.

4. Discussion

Based on the findings in this article, the research discusses the development of a cash management application for classroom finances, aiming to enhance the efficiency, accuracy, and accessibility of financial information within an educational environment. The application offers features such as income and expense tracking, automated financial reporting, and customizable financial reports. The study emphasizes the benefits of the application in improving financial management efficiency, ease of access to information, and reporting capabilities for class treasurers. The testing results demonstrate the successful functionality of the CashClass application, meeting the predetermined requirements and expectations.

The research findings align with the broader discourse on financial management applications and systems. It resonates with studies such as [5], which explore factors influencing accountability in village funds, emphasizing the role of technology in governance. Additionally, the study relates to the work of [6], focusing on transparency in household cash flow using an expense tracking application, highlighting the growing trend of utilizing technology for financial management at various levels. Furthermore, the research is in line with the literature on financial literacy and its impact on performance, sustainability, and management, as discussed by [7] and [8], indicating the broader context of financial education and its implications for effective financial management.

Moreover, the study resonates with the growing emphasis on technology-based financial training and management, as evidenced by [9] and [10], reflecting the increasing integration of technology in financial education and management practices. The research also aligns with the broader discourse on financial reporting systems and their impact on decision-making, as seen in the work of [9] and [10], emphasizing the significance of automated financial reporting systems in facilitating informed decision-making.

In summary, the research on the CashClass application contributes to the broader conversation on technology-based financial management, emphasizing the growing role of applications in enhancing efficiency, transparency, and accountability in financial management across various contexts.

5. Conclusions

The conclusion of this research is that the Cash Class application makes it easy to manage class cash finances more efficiently. With features such as recording income and expenses, tracking transactions, and automatic financial reports, the financial management process becomes more structured and easy to do. The app also allows users to input data directly and generate accurate financial reports. With the automation feature, errors in recording and calculation can be minimized, thus increasing the reliability of financial information. And the results of testing the CashClass application using blackbox testing show that this CashClass application functions properly in accordance with the requirements and expectations that have been set.

References


