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Design of a WEB Based Petty Cash Accounting Information System Using MYSQL Data Base at Enno Tour & Travel

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Abstract

Petty cash management is an important element in a company's finances, especially for Enno Tour & Travel which has high daily transactions. Inaccurate recording of petty cash can result in cash leakage and affect the company's financial health. This research formulates problems related to challenges in managing petty cash manually and how a web-based accounting information system can overcome these problems. The purpose of this research is to design and implement an accounting information system that can improve the efficiency and accuracy of petty cash recording. The research method used is software engineering with a waterfall approach, which includes requirements analysis, system design, implementation, and testing. Data was collected through interviews and direct observation at Enno Tour & Travel. The results showed that the developed system can record petty cash transactions in real time, produce accurate financial reports, and increase transparency and accountability. Users reported increased efficiency and reduced recording errors. This study concludes that the designed web-based accounting information system improves efficiency and accuracy in petty cash management and positively contributes to the company's overall financial management.
Keywords*: Accounting, Petty Cash, Web*

Abstrak

Pengelolaan kas kecil merupakan unsur penting dalam keuangan perusahaan, terutama bagi Enno Tour & Travel yang memiliki transaksi harian yang tinggi. Pencatatan kas kecil yang tidak akurat dapat mengakibatkan kebocoran kas dan mempengaruhi kesehatan keuangan perusahaan. Penelitian ini fokus dalam pengelolaan kas kecil secara manual dan bagaimana sistem informasi akuntansi berbasis web dapat mengatasi masalah tersebut. Tujuan penelitian ini adalah untuk merancang dan mengimplementasikan sistem informasi akuntansi yang dapat meningkatkan efisiensi dan akurasi pencatatan kas kecil. Metode penelitian yang digunakan adalah rekayasa perangkat lunak dengan pendekatan waterfall, yang mencakup tahapan analisis kebutuhan, desain sistem, implementasi, dan pengujian. Data dikumpulkan melalui wawancara dan observasi langsung di Enno Tour & Travel. Hasil penelitian menunjukkan bahwa sistem yang dikembangkan mampu mencatat transaksi kas kecil secara real-time, menghasilkan laporan keuangan yang akurat, serta meningkatkan transparansi dan akuntabilitas. Pengguna melaporkan peningkatan efisiensi dan pengurangan kesalahan pencatatan. Sistem informasi akuntansi berbasis web juga memberikan kontribusi positif terhadap pengelolaan keuangan perusahaan secara keseluruhan.
Kata kunci: Akuntansi, Kas Kecil, Web

1. Introduction

Petty cash management is a crucial element in company financial management, especially for companies that have high daily transactions such as Enno Tour & Travel. Petty cash is often used for daily routine expenses that are relatively small, such as postal costs, transportation and other operational needs. Even though the amount is small, improper recording and management of petty cash can have a significant impact on operational efficiency and the accuracy of a company's financial reports. Without good management, companies can experience undetected cash leaks, which can affect daily cash flow and result in bigger financial problems in the future **[1]**. Apart from that, good petty cash management also ensures that every expenditure can be clearly accounted for, supporting transparency and accountability in the company's financial processes.

Good petty cash management is very important to ensure that all expenses are recorded correctly and can be accounted for accurately **[2]**, **[3]**. This practice is very crucial in maintaining transparency and accountability in company financial operations, which in turn increases stakeholder trust in company management. According to Masdiantini et al. (2024), an effective accounting system must be able to record every transaction accurately and provide reliable information for management for strategic decision making. In the operational context of Enno Tour & Travel, effective petty cash management can help reduce the risk of misappropriation of funds and ensure that operational funds are used appropriately in accordance with company policies and procedures. In this way, companies can optimize the use of funds, minimize potential losses, and maintain the company's good reputation in the eyes of customers and business partners. Good management also allows for more efficient audits and makes financial reporting easier, thus providing a clear picture of the company's financial health **[4]**.

Manually recording petty cash faces a number of complex challenges in managing company finances. First, the risk of human error in recording is very high because it is prone to incorrectly recording amounts, dates or transaction details **[5]**. This kind of error has great potential to produce inaccurate information in financial reports, which in turn can provide a false picture to company stakeholders. Additionally, manual record-keeping processes require significant allocation of time and effort from finance staff, which can reduce overall operational efficiency. To overcome this, a more effective solution is needed in managing company finances to increase accuracy and efficiency.

In addition, manual recording often lacks transparency because it relies on processes that are prone to human error and difficult to audit efficiently by external parties **[6]**. In this context, petty cash transactions are often not recorded promptly or even missed altogether, resulting in potential inaccuracies in daily expense tracking. This not only increases the risk of financial reporting errors but also makes it difficult for management to understand deeply and accurately the company's financial position. As a result, companies' ability to make strategic decisions based on accurate and reliable financial information

can be hampered, reducing their ability to respond quickly to market changes and existing business opportunities.

As information technology continues to develop, many companies are adopting web-based accounting information systems as an integral part of their strategy to increase efficiency and accuracy in recording and reporting financial transactions **[7]**. This system not only facilitates real-time transaction recording, but also reduces the risk of errors thanks to the use of advanced automation and integration. The impact on company transparency is very significant, because a more structured and transparent process can increase stakeholder trust. According to Romney et al.Romney et al. (2021), the use of web-based accounting information systems positively contributes to the reliability and timeliness of financial reports. Apart from that, this system also makes the audit process easier by providing better access to the data needed by auditors. In other words, the adoption of this technology is not just about operational efficiency, but also about building a stronger foundation for the company's long-term sustainability and trust in an increasingly complex business environment **[9]–[11]**.

In the context of Enno Tour & Travel, the implementation of a web-based accounting information system for recording petty cash is expected to provide various significant benefits in optimizing the company's financial management. This system is designed to automatically and real-time record every transaction, which not only reduces the risk of errors in recording but also increases overall operational efficiency. With the ability to produce financial reports that are more accurate and available instantly, this system provides additional benefits in the form of easy access to information for company management. This allows management to conduct in-depth analysis of the company's financial health, as well as make smarter, data-based strategic decisions. In this way, Enno Tour & Travel can be more responsive to market changes and better prepared to face business challenges in a more effective way.

The web-based accounting information system implemented on Enno Tour & Travel utilizes the PHP programming language for the server side, which is known as a popular programming language and is often used to develop dynamic web applications. PHP allows developers to create responsive and interactive web pages efficiently. In addition, this system uses the MySQL database as a trusted relational database management system, which is widely used to store and manage company data efficiently. The combination of PHP and MySQL provides a solid foundation for Enno Tour & Travel in providing reliable and scalable information solutions for their accounting needs.

The use of PHP and MySQL offers various essential advantages in the context of developing an accounting information system for Enno Tour & Travel. In the view of Connolly & Begg Connolly & Begg (2015), MySQL not only provides a powerful and flexible platform for data management, but also guarantees unparalleled data security and integrity. Meanwhile, PHP enables the development of web applications that are responsive, efficient, and easily integrated with other technologies, allowing

development teams to build solutions that can be expanded and tailored to a company's specific needs. By combining the power of PHP and MySQL, the accounting information system prepared is expected to optimize Enno Tour & Travel's operational efficiency, provide the flexibility needed to handle dynamic business growth, and ensure consistent and guaranteed data security. This technology integration not only provides a competitive advantage through scalability and easy integration, but also promises a robust platform to support ongoing and timely strategic decisions.

2. Materials And Methods

This research uses software engineering research methods to develop a web-based accounting information system for recording petty cash at Enno Tour & Travel. The software development method used is the waterfall method. This method was chosen because it provides a structured and systematic approach in each development stage, making it suitable for projects with clear and stable requirements **[13]**. The following are the stages passed in this research that is presented on **Figure 2**.

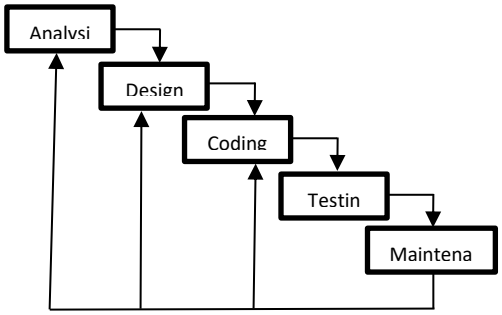

Figure 1. Method Development Stages *Waterfall.*

1. Needs Analysis (Analysis)

The first stage in system development is requirements analysis. This stage aims to understand user needs and identify the features needed in the system. This process involves the following steps:

a. Data Collection: Data collection was carried out through interviews, questionnaires and direct observation at Enno Tour & Travel. Interviews were conducted with various stakeholders, including management, administrative staff, and company accountants, to get a clear picture of the needs and problems faced in managing petty cash **[12]**.

b. Data Analysis: The collected data is analyzed to identify system requirements and formulate functional and non-functional specifications. Functional specifications include features that the system must have, such as recording petty cash transactions, managing accounts, and creating financial reports **[8]**. Non-functional specifications include aspects such as data security, system performance, and ease of use **[14]**.

2. System Design (Design)

The system design stage aims to design the architecture and main components of the system to be developed. This stage involves several important steps as follows:

a. System Architecture Design: System architecture ensures that all components can work in an integrated and efficient manner. This architecture includes designing frontend (user interface) and backend (application logic and database) components. Frontend design uses HTML, CSS, and JavaScript to create a responsive and easy-to-use interface **[15]**. Backend design using PHP and MySQL to manage application logic and data storage.
b. Database Design: Database design is carried out to ensure that all required data can be stored and accessed efficiently. The database used is MySQL, which is a reliable and widely used relational database management system **[12]**. The database design process includes creating entity-relationship diagrams (ERD) and table normalization to reduce data redundancy.
c. User Interface Design: The user interface is designed to ensure that the system is easy to use by the user. An interface prototype is created and tested to get feedback from users. This interface design includes a transaction recording page, account management page, and financial report page **[8]**.

3. Implementation (Coding)

The implementation stage is the stage where the system that has been designed is developed into a usable application. This stage involves the following steps:

a. Frontend Development: The front end of the system is developed using HTML, CSS, and JavaScript to create an interactive and responsive user interface. Frameworks such as Bootstrap can be used to speed up the development process and ensure that the interface is consistent across devices **[14]**.
b. Backend Development: The system's backend was developed using PHP to manage application logic and MySQL to manage data. This process includes creating scripts to handle transaction recording, account management, and creating financial reports. Integration between frontend and backend is carried out through an API developed using PHP **[12]**.
c. Integration and Testing: After the front end and back end have been developed, the integration stage is carried out to ensure that all components can work together. Unit testing is performed to test each component separately, while integration testing is performed to test interoperability between components. System testing is carried out to ensure that the entire system works according to predetermined specifications **[13]**.

4. System Testing (Testing)

The system testing phase aims to ensure that the system that has been developed works well and meets user needs. Testing is carried out in several stages:

a. Unit Testing: Unit testing tests each system component separately. Every function and module is tested to ensure they work according to specifications. This testing was carried out by the development team using white-box testing techniques **[13]**.
b. Integration Testing: Integration testing is carried out to ensure that all system components can work together without any problems. This testing involves testing the workflow from start to finish to ensure that data can flow correctly through the system **[12]**.
c. System Testing: System testing is carried out to test the entire system in an environment close to actual operational conditions. This testing involves end users getting feedback on the performance and ease of use of the system. Black-box testing techniques are used in this stage to test the system from the user's perspective **[15]**.
d. User Acceptance Testing: User acceptance testing is carried out to ensure that the system meets user needs and expectations. End users test the system in real scenarios to ensure that the system can be used effectively and efficiently. Feedback from users is used to make final improvements to the system before full implementation **[14]**.

5. Implementation and Maintenance (Maintenance)

After the system has successfully passed the testing stage, the system is ready to be implemented in an operational environment. The implementation phase includes the following steps:

a. User Training: Training is provided to Enno Tour & Travel staff to ensure that they can use the system effectively. Training includes using the interface, recording transactions, managing accounts, and creating financial reports **[8]**.
b. System Implementation: The system was implemented in stages to ensure a smooth transition from a manual system to a web-based system. Data from the old system is migrated to the new system, and the system is tested again in an operational environment **[12]**.
c. Maintenance and Support: System maintenance is carried out to ensure that the system continues to run optimally. Maintenance includes system updates, bug fixes, and technical support. The system is also monitored regularly to ensure that performance remains optimal and to deal with problems that may arise **[13]**.

The flow of this research will go through 6 stages, as in the flowchart in **Figure 2**.

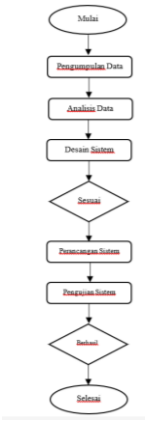

Figure 2. *Flowchart* Research methods

3. Results And Discussion

3.1 Results

In this research, we developed a web-based accounting information system for recording petty cash at Enno Tour & Travel. This system was designed using the PHP programming language and MySQL database. The following are the results of each stage of system development and implementation:

1. Needs Analysis: The needs analysis stage was conducted using interviews and direct observation at Enno Tour & Travel. From the results of interviews with finance and management staff, we identified several main needs in petty cash management, namely:
   a. Transaction Recording: The system must be able to record every petty cash transaction in real-time, including the date, amount, and transaction description.
   b. Financial Reports: The system must produce accurate and easy-to-read financial reports, including daily, weekly, and monthly reports.
   c. Data Management: The system must provide features to manage user data and access rights so that only authorized users can access and change data.
2. System Design: After requirements analysis, we carry out system design by creating data flow diagrams, entity-relationship diagrams (ERD), and user interface designs. The following are some results from the system design stage:
   a. Data Flow Diagram: This diagram depicts the data flow from the user to the system and vice versa. Every transaction the user enters will be stored in the database and can be accessed again for reporting. The data flow diagram can be presented on **Figure 3**.

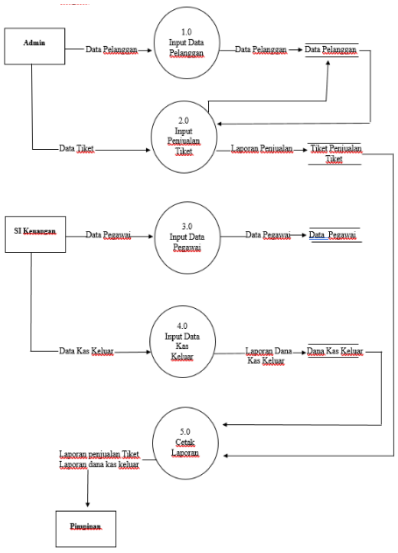

Figure 3. Data Flow Diagram

b. Entity-Relation Diagram (ERD): ERD is used to design the database structure. We created several main tables, such as petty cash transactions, user, and report tables. Entity relationship diagram is presented in Figure 4.

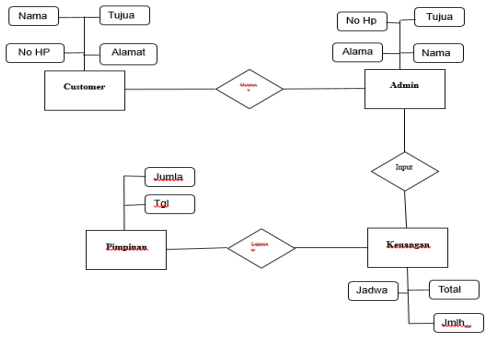

Figure 4. Entity Relationship Diagram

c. User Interface Design: User interface design is created to make it easier for users to operate the system. The interface is designed to be user-friendly and intuitive so users can easily record transactions and generate reports.

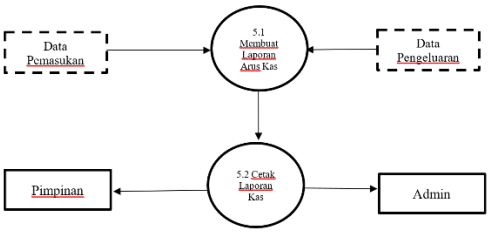

Figure 4. Interface Design

3. System Implementation: System implementation is done by developing web-based applications using PHP and MySQL. The following are some of the main features developed in the system:

a. Petty Cash Transaction Recording: Users can record each petty cash transaction by entering the date, amount, and description. This data will be stored in the database and can be accessed again at any time. Petty cash transaction recording design is presented in **Figure 4.**

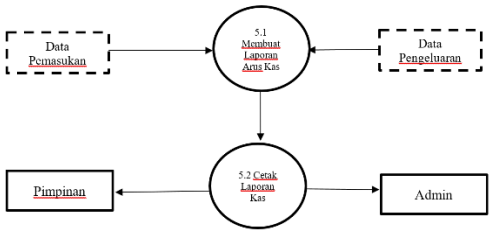

Figure 4. Petty Cash Transaction Recording Design

b. Financial Reports: The system can generate various financial reports, including daily, weekly, and monthly. This report can be downloaded in PDF or Excel format for documentation and audit purposes. The income report can be presented in **Figure 5.**

ENNO TOUR & TRAVEL

Jl. Nasional III No.179 Kec. Kutowinangun Kabupaten Kebumen

Laporan Pemasukan Periode: 01-01-2023 s/d 01-01-2023

Tanggal	Nama Bus	Nama	No HP	Alamat	Jurusan	Harga	Jumlah	Keterangan	Total Harga
01-01-2023	EFISIENSI	Saifi	088227944398		Ambarketawang	Rp. 60.000	3		Rp. 180.000
01-01-2023	PEBEPE	Mas Ahmad Ruyat		Lumbu	Jatiasih	Rp. 180.000	1	10A	Rp. 180.000
01-01-2023	TIVIDI	Masturo			Citereup	Rp. 225.000	1	24	Rp. 225.000
01-01-2023	TIVIDI	Bpk Purnomo	085692291794		Cakung	Rp. 200.000	1	Extra	Rp. 200.000
01-01-2023	EFISIENSI	Bpk Sugeng			Ambarketawang	Rp. 60.000	2	-	Rp. 120.000
01-01-2023	EFISIENSI	Mas Septian			Ambarketawang	Rp. 60.000	2		Rp. 120.000
Total Keseluruhan									**Rp. 1.025.000**

Pimpinan

Retno Dwi Cahyani, S.Pd

Figure 5. Income Report

c. User Management: The system provides features to manage user data and access rights. Administrators can add, change, or delete users and set access rights based on roles and responsibilities. User management design is presented in **Figure 6.**

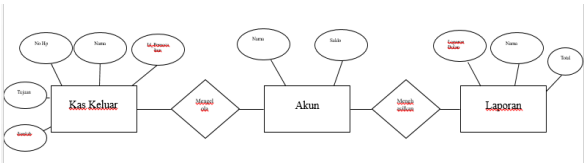

Figure 6. User Management Design

4. System Testing: System testing is carried out to ensure that all functions run well and according to user's needs. Testing is carried out in several stages:
   a. Unit Testing: Each system component is tested separately to ensure each function runs correctly.
   b. Integration Testing: Components that have been unit tested are then tested to ensure that integration between components runs smoothly.

c. System Testing: The system is tested to ensure that all functions work according to user specifications and requirements.

The test results show that the system can function well and fulfill all the needs that have been identified. All petty cash transactions can be recorded in real-time, and financial reports can be generated accurately.

5. System Evaluation: After implementation and testing, the system is evaluated based on Enno Tour & Travel user feedback. Some of the main benefits felt by users are:
   a. Time Efficiency: This system reduces the time required to record transactions and generate financial reports. Users no longer need to record transactions manually, so they can focus more on other, more important tasks.
   b. Data Accuracy: With automatic logging, the risk of logging errors is significantly reduced. The recorded data is more accurate and accountable.
   c. Transparency and Accountability: This system increases transparency and accountability in petty cash management. All transactions are properly recorded and can be audited at any time.

3.2 Discussion

Petty cash management is an important aspect of a company's daily operations, including Enno Tour & Travel. Petty cash is used for routine expenses that are small in nominal value but have a high frequency, such as transportation costs, consumption costs, and other operational needs. Accurate and efficient recording is crucial so that companies can maintain financial transparency and accountability. In practice, manually recording petty cash often faces significant challenges. First, the risk of recording errors (human error) is quite high. Errors in entering amounts, dates, or transaction details can cause discrepancies in financial reports, which in turn can influence managerial decision-making. Second, manual recording requires a lot of time and effort. This process can become an administrative burden that reduces employee productivity.

According to Horngren et al. (2021)An efficient accounting system must record every transaction in a timely and accurate manner. However, manual systems often fail to meet these standards, especially in companies with high transaction volumes. Using a manual system also makes it difficult to carry out audits because data that is not properly documented can be missed or difficult to access. Implementing a web-based accounting information system offers an effective solution to overcome these challenges. The web-based system allows for automatic and real-time transaction recording, thereby reducing the risk of errors and increasing efficiency. According to Laudon & Laudon (2020) using web-based information systems can provide more accurate data that can be accessed anytime and anywhere, greatly supporting better and more timely decision-making.

A web-based accounting information system using a MySQL database and the PHP programming language offers various advantages. MySQL is a powerful and flexible relational database management system, while PHP enables dynamic and interactive web application development. This technology allows petty cash transactions to be recorded more quickly and accurately. The results showed that the web-based accounting information system developed for Enno Tour & Travel successfully improved the efficiency of petty cash recording. Before the implementation of the system, recording was done manually, which was prone to errors and time-consuming. With the automated system, staff can record transactions in real-time, reducing the risk of human error and saving time previously spent on manual processes.

In addition, the system also improves the accuracy of financial reports. With automatic recording, the data generated is more consistent and reliable. Users can easily generate daily, weekly, and monthly reports, which previously required more time and effort to compile manually. As such, management can make faster and more informed decisions based on accurate financial information, which is essential in a dynamic business context. The system implemented has also increased transparency and accountability. Every transaction recorded in the system can be audited easily, clearly showing the company's financial position. This is important for building trust among stakeholders, including management, employees, and business partners. With increased transparency, the company can be more responsive to changes and challenges faced in day-to-day operations.

However, while the study results show a significant positive impact, some challenges must be addressed. The user training process is a key factor in ensuring that all staff can use the system effectively. In addition, system maintenance and technology updates should be carried out regularly to optimize the system's performance. Therefore, recommendations for future research include continuous evaluation of the system and developing additional features that can better support user needs.

4. CONCLUSION

This research succeeded in designing and implementing a web-based accounting information system for recording petty cash using the MySQL database on Enno Tour & Travel. This system is proven to increase efficiency and accuracy in petty cash management. For further development, it is recommended to add additional features such as integration with other financial systems, improved user interface, and data analysis features to support better decision-making.

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