Financial Management Information System Website for Contributions in Taman Kradenan Asri Cluster Area

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Abstract— A social contribution payment system in a housing estate is usually applied for specific purposes. At Taman Kradenan Asri Cluster Area several fees are imposed. The system used today is still conventionally applied, where the person assigned to collect the contribution bill records when payment is made in a book. Because there are several fees, several books are needed and adjusted to the type of contribution. This system requires more workforce and costs and allows human error to occur. Besides, residents cannot access it to check their bills. Therefore, research was carried out with the title "Financial Management Information System Website for Contributions in Taman Kradenan Asri Cluster Area" to solve the solution to the problem above. In its creation, this web page applies the CRUD concept (Create, Read, Update, and Delete) and connects to a MySQL database which is used to store data in real time. This system has an admin and citizen side, where the admin side can carry out the process of adding, updating, and deleting contribution billing data. Meanwhile, on the citizen side, they can see data on paid contributions and make an appointment to collect contributions. Testing of this system was carried out by conducting interviews with related parties and the results of these interviews showed that the system designed could facilitate the process of recording and checking contribution bills from the side of officers and residents.

Keywords— *information system, website, waterfall*.

I. INTRODUCTION

A social contribution payment system in a housing estate is usually applied for specific purposes. At Taman Kradenan Asri Cluster Area, several fees are imposed. There are contributions paid every month to provide wages for housing security guards, cash contributions paid every month when social gathering activities are carried out, and the last one is contributions made if an activity is going to be held, for example, activities to commemorate Indonesia's Independence Day and so on.

The system used at Taman Kradenan Asri Cluster Area is still applied conventionally, where the person assigned to collect the dues bill records when payment is made in a book, and because there are several fees, several books are needed and adjusted to the type of contribution. With a system like this, only officers can access the registration of dues bills, and residents cannot see or check whether there are unpaid dues bills or whether paid dues have been properly and accurately recorded. This conventional recording requires more energy and costs to buy books and stationery. Another problem is human error, where the clerk records the wrong date so that the bill book has lots of streaks and looks untidy.

With the advancement of technology, the system that will be created to overcome the problems above is implemented as an Information System which is a combination of information technology with user activities, to support operations and management [1]. The information system

that is built should be able to respond according to user needs regarding new requirements [2]. The system that will be developed is using a platform named XAMPP, a small sized practical open source that will make it easier to develop and test a website [3]. The programming language that will be used is PHP (Hypertext Preprocessor) and Javascript that has a flow that is not complex [4].

The system is implementing a CRUD system or Create, Read, Update, and Delete by displaying a dashboard to make it easier for officers to collect data and then connect to a database, collections of data that are related to each other to form a data building that aims to inform the flow of data transfer [5], namely MySQL so that the data that entered can automatically integrate, be recorded in real-time, and stored safely and be able to recover data if there are major problems [6]. So that residents can also view data reports according to what has or has not been paid by accessing this system.

In developing this system, the user interface must be considered. If it is not designed and adapted to the user's point of view, it will have a negative impact on the software that has been built [7]. The user interface is built using CSS which was first developed in the World Wide Web Consortium (W3C) [8], a tool that can separate components making it easier to maintain and organize web pages.

After completing the development of the system, the hosting process will be carried out. Where a web hosting system usually consists of one or more machine clusters and a fast internet connection [9] which functions to design, integrate, operate and maintain all the components needed to run an application web-based [10]
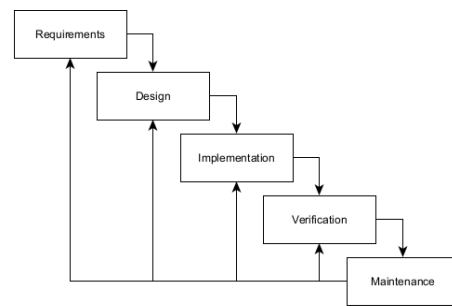
II. METHOD

Figure 1. *Waterfall* Method

Figure 1. The application development method used in this study is the waterfall development method. The waterfall method is divided into five stages of work. It starts with collecting the requirements that are needed for this system. The second stage is to design a system design that will produce an overview of the system architecture relationship between hardware (hardware) and software (software). The third stage is an implementation using a programming language and then testing the success of each unit. The fourth stage is system integration and testing, whether it is in accordance with user needs. The last stage is the operation and maintenance of the system, where the designed system is ready for use and repairs and adjustments to the system if there are things that do not meet the user's needs.

2.1 Data Source
In this study, the data sources that will be used are:

2.1.1 Primary Data
According to [11], primary data originates from experimental processes or field studies such as interviews, observations, etc. This study's primary data will be from interviews with officers, treasurers, and residents of RT 3 at Taman Kradenan Asri housing.

2.1.2 Secondary Data
According to [11], secondary data is data that previously existed or was collected by other researchers. In this study, secondary data were

obtained from scientific journals, literature, and other references related to the research topic.

2.2 Data Collections Technique

The method of collecting data and information used in this study consists of the following:

2.2.1 Interview

This interview method is carried out after the designed system is ready. The interview process was carried out by asking several questions regarding the usability and features of the system to the security guard, the neighborhood 3 treasurer, that will later input the data into this system, and several neighborhood residents 3 of Taman Kradenan Asri Cluster Area. This process is carried out to see the success of testing the system that has been designed.

2.2.2 Library Studies.

This data collection method is carried out by collecting data sourced from scientific journals, literature, and references related to the research topic.
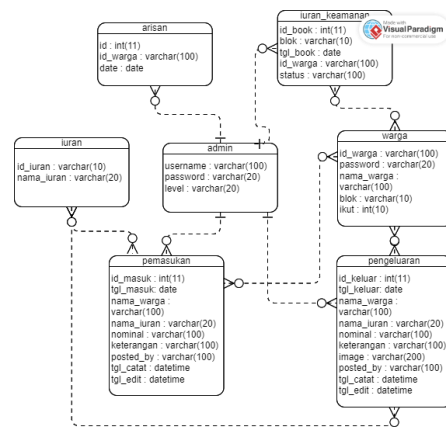
III. RESULTS AND DISCUSSION
A. RESULTS
1. *Entity Relationship Diagram*

Entity Relationship Diagram is one of the central diagrammatic representations of the conceptual model that will reflect user data needs in a database system [12]. This method is used to make it easier for users and developers to understand, model problems in real form, and easily be translated into a database schema [13].
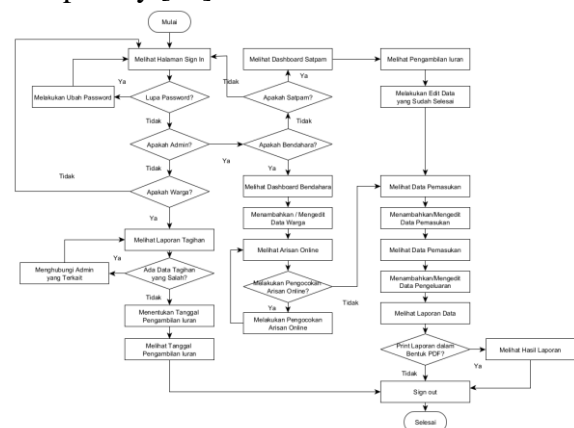

Figure 2. *Entity Diagram Relationship*

The ERD On the Financial Management Information System Website for Contributions at Taman Kradenan Asri Cluster Area can be seen on Figure 2. There are seven tables that will be used: social gathering, security contributions, contributions, admin, residents, income, and expenses.

2. *Flowchart*

Flowchart is a diagram that explains the flow of a process and where a decision taken can affect the events around it and can be used as primary design documents through which systems analysts, computer programmers, and end users can communicate, negotiate, and represent complexity [14].

Figure 3. Flowchart Diagram

This system begins by accessing the sign-in page, where the user needs to sign in first. In addition, users can also change the password process, which is highly recommended for residents to do first

because previously, the password that was given contained the same thing. After the sign-in process, if the system detects the user is a citizen, it will immediately be directed to the citizen billing report page. The following flow is that residents determine the collection of security contributions, and after the process is complete, residents can see the data that has been entered. If you have completed the things needed, residents can carry out the sign-out process, and the flow for residents can be declared complete.

On the other hand, where the system detects that the user signing in is an admin, the system will also sort out whether the admin is a treasurer or security guard level. If the admin level is the treasurer, it will be directed to the treasurer dashboard page. Then the treasurer can manage citizen data, and if he is carrying out the artisan process, the treasurer can do an online gathering where the related features already exist in the system. Conversely, if the system identifies that the admin doing the sign-in process is at the security guard level, he will be directed to the security guard's dashboard page. Then the security guard can view citizen data and manage security fees.

After that, the admin can manage and see the income report from both sides. Then proceed with the process of managing and viewing expense reports. The final stage is to print income and expenditure data reports, but if the admin does not want to do that step, the admin can do the sign-out process, and the flow from the admin side is declared complete.

3. *Use Case Diagram*

Use Case Diagram is a methodology used in systems analysis to identify, clarify, and organize system requirements [15].
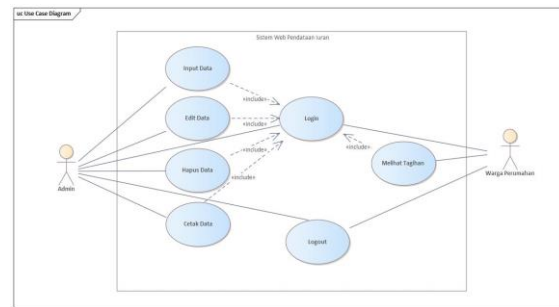

Figure 4. Use Case Diagram

In this system, there are three actors, Treasurer, Security Guard and Residents. Where the treasurer and security guard have the most access to this system because these two actors have the role of managing most of the data inside this system. Meanwhile, residents can only view billing reports and schedule payments for security contributions..

B. DISCUSSION

Figure 5. It is a display of the start page of the Financial Management Information System Website for Contributions at Taman Kradenan Asri Cluster Area. Before accessing the admin and citizen pages, users must sign in first. Where the admin and residents enter the account ID and password that was made before.
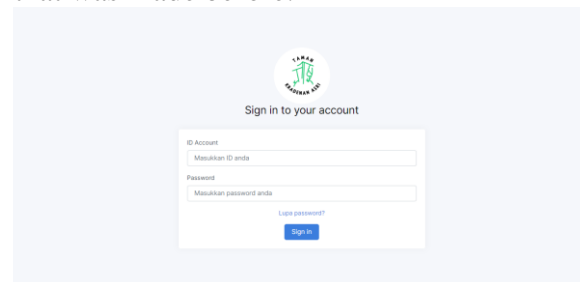

Figure 5. Sign In Page

Figure 6. is the dashboard from the treasurer's point of view. This page displays data regarding social gathering money, halal bi halal money, desk money, cash, social money, and the number of residents in neighborhood three in Taman Kradenan Asri Cluster Area.
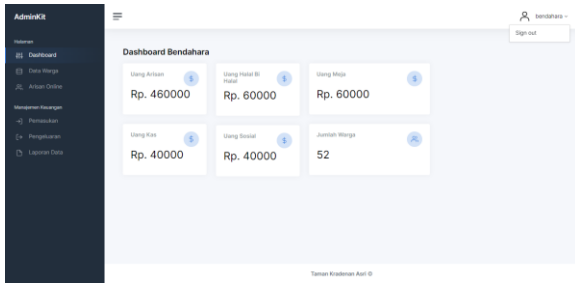
Figure 6. Treasurer's Admin Dashboard Page

Figure 7. It is a page where the treasurer can draw names for the social gathering activities. The name that appears can be saved and data regarding related matters will be automatically updated.

Figure 7. Draw Name for Social Gathering Activities

Figure 8. It is a page where the treasurer can manage the reporting of data that has been paid. Where on this page, there is a table containing information about income data with detailed information, namely entry date, citizen name, contribution account name, nominal, and options to change and delete data. Apart from that, this page also has a button to add income data and features to filter data by date and print data in PDF format.
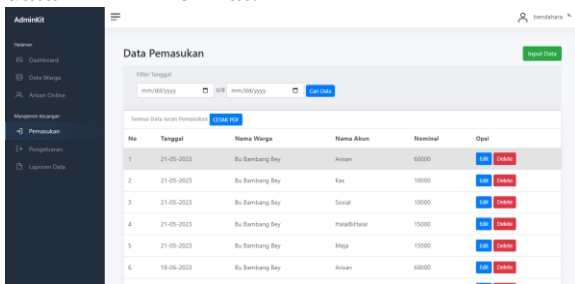

Figure 8. Treasurer's Income Report Page

Figure 9. It is a page where the treasurer can manage the reporting of outgoing data. Where on this page, there is a table containing information about expenditure data with detailed information, namely, date of exit, name of the residents, name of

contribution account, nominal, expenditure requirements, photo evidence, and options to change and delete data. Apart from that, this page has a button to add expenditure data and features to filter data by date and print data in PDF form.
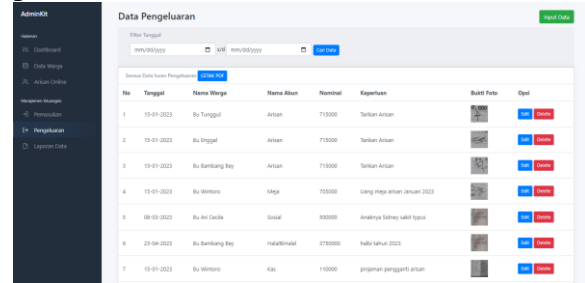

Figure 9. Treasurer's Outcome Report Page

Figure 10. is the Dashboard page from the security guard's point of view. This page contains information about the amount of security contributions that have not been collected by the security guard and the number of residents.
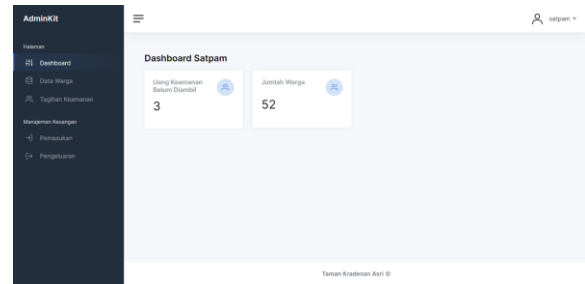

Figure 10. Security Guard's Dashboard

Figure 11. It is a page that displays information about the schedule that has been determined by residents in order to inform the security guard to collect security fees according to the date that has been chosen. This page contains information such as collection date, citizen ID, block of houses, and collection status.
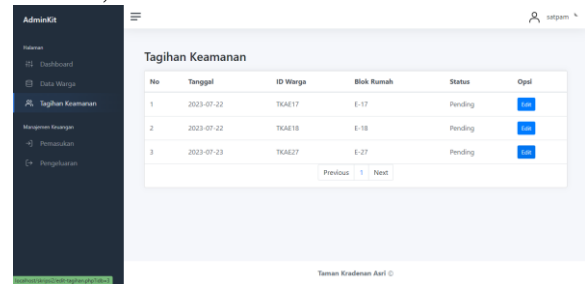

Figure 11. Security Bill Page

Figure 12. It is the security guard's income report page. Where on this page,

there is a table that displays reporting data with detailed information, including date of entry, name of the resident, name of fee, nominal payment, and two buttons to edit and delete data.
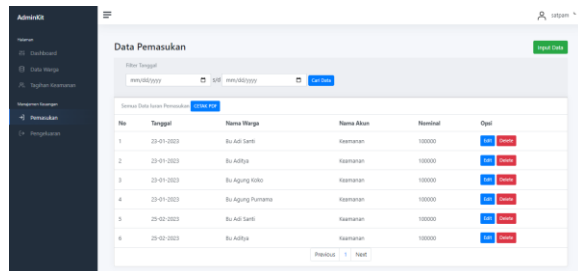

Figure 12. Security Income Report Page

Figure 13. It is a page where security guards can manage data regarding expenditure data that occurs. On this page, there is a table that displays expenditure data with detailed information such as exit date, citizen's name, contribution name, nominal, expenditure requirements, and photo evidence of expenditure as well as buttons that can be used to modify and delete data.
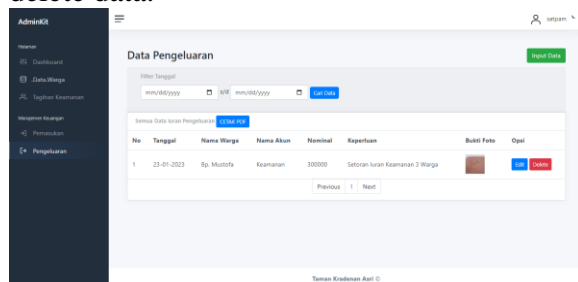

Figure 13. Security Outcome Report Page

Figure 14. It is the first page that appears when residents successfully sign in. On this page, there is information about the name of the citizen, the address of the citizen, and a table containing payment data that the citizen has made with information such as payment date, type of fee, and payment nominal.
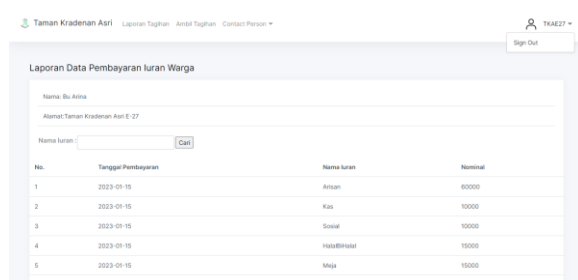

Figure 14. Resident Payment Report Page

Figure 15. It is a page where residents can schedule security contribution collection. On this page, a form is provided that will be filled in regarding the block of houses and dues collection date, as well as a table that will later display data on the date and status of a collection that has been sent to the system.
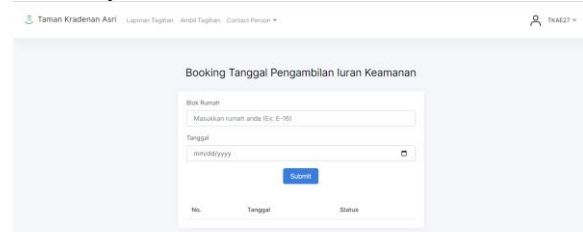

Figure 15. Security Fee Collection Schedule Page

C. SYSTEM TESTING

System testing is one of the stages that determines whether the system development process that has been carried out can run well and function according to user needs. System testing was carried out in research by conducting interviews and asking several questions to several sources regarding the system that had been made. Before interviews, the resource persons will be shown the workings and uses of the Web Financial Management Information System for Contributions at Taman Kradenan Asri Cluster Area. From the interview results, it can be concluded that:

A. Evaluation of the Financial Management Information System Website for Contributions at Taman Kradenan Asri Cluster Area from the Admin Side.

From the interviews that have been conducted, the two admins feel significantly helped by the existence of this website. The coordinator in collecting security contributions is getting better (Mr. Samsuri). According to (Bu Bambang) it is easier to collect contribution data because there are usually discrepancies that must be calculated manually. However, with this website, the admin can see it right away. Besides that, it is also made easy with the online gathering feature, so we do not have to bother making name rolls, we can

immediately click, and the names of the residents appear.

 B. Evaluation of Citizen Data Report Features.

From the interviews that have been conducted, residents feel facilitated and helped. Also, the data filter feature in citizen data reports makes it easier to find the data that we want to see (Mrs. Arina). However, according to (Mr. Agung Purnama) it is suggested that the head of the neighborhood get access to see residents who have or have not paid the bills so that they can be assisted in reminding residents about the related bills.

 C. Evaluation of the Security Fee Collection Scheduling Feature

From the interviews that have been conducted, the scheduling of collecting security contributions is beneficial, and according to (Mrs. Intan) it benefits both parties, the residents and the security guard, where the security guard does not have to go back and forth to residents' homes. According to (Mrs. Maya) she was accommodating, so there was no miscommunication between residents and security guards.

IV. CONCLUSIONS

From the research that has been done, it can be concluded that:

1. The Web Financial Management Information System for Dues at Taman Kradenan Asri is made with PHP programming, displays, and features that can function as needed in collecting data on contributions at Taman Kradenan Asri Cluster Area. The admin case is divided into two accesses, namely (1) Treasurer Access: Arisan Dues, Cash, Social, Halal Bi Halal, and Table Money paid during social gathering activities, and (2) Security Access: Security Fees.

2. With the features found on the Financial Management Information System Web for Dues at Taman Kradenan Asri, it makes it easier for residents to view data reports that have been paid and can facilitate

coordination regarding the schedule for collecting security contribution bills.

3. In addition, the Financial Management Information System Web for Dues at Kradenan Asri Park makes it easier for security guards and treasurers to process income and expenditure data collection and make it easier for treasurers to collect data on selected residents when a social gathering lottery is held.

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