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Waste bank data processing system in palembang city

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A B S T R A C T

The development of web technology is getting better with the support of an adequate internet connection in the environment. Waste Bank is a term for waste management activities where the community (referred to as customers) deposit waste where the deposited waste is still suitable for sale or recycling such as plastic, paper, iron, battery, aluminum and others to the Waste Bank manager. as an effort to maximize the value of waste with the aim of creating a healthy, clean, green and beautiful environment, reducing waste to landfill, changing people's behavior, educating people about environmental care and organization, increasing creativity, and providing benefits for waste producers. The research methodology used in making this web-based information system is the Waterfall methodology which includes system engineering, analysis, design , coding and testing. The research design method uses descriptive methods, while the data collection methods use observation and interview methods. There is also software for program design and implementation using Xampp as a server . The results of the research can be used by officers for inputting registration and transactions carried out, and leaders can find out information on monthly transaction reports and customers can find out details of transactions that have been carried out through the web.

I. Introduction

Cleanliness must be maintained so that pollution and environmental damage do not occur. Keeping the environment clean is one way to maintain the balance of nature. This can be done by not throwing garbage anywhere. Garbage that is not managed properly will result in unsightly views, environmental pollution, cause disease, and even disasters such as floods.

Garbage is an environmental problem that never ends. The more modern human life, the quantity of waste produced is increasing. This can be seen from the tendency of increasing waste production in both urban and rural areas. Less than optimal handling will cause various environmental problems, such as flooding, disease incidence, worsening environmental sanitation, accelerating global warming and so on. Therefore, there is a need for joint handling between the government and support from the community, however in the field there is still a lack of understanding or conventional public perspective on waste. Some people still view waste only from the negative side, in fact not all waste must be destroyed, but a perspective or understanding that must be changed, where waste is seen as raw material, by-products that can still be processed and are a potential source of income.

The development of web technology that is getting better with the support of an adequate internet connection in the corporate environment allows the integration of ongoing filing methods with a system that can facilitate the performance of the finance department in managing the filing of cash receipts and cash receipts in the company. Among the conveniences that can be obtained include in terms of data retrieval, data recapitulation and data security.

Therefore, it is necessary to design an application that can be used by officers for inputting registration and transactions carried out, and leaders can find out information on monthly transaction reports and customers can find out details of transactions that have been carried out through the web. Waste Bank is a term for waste management activities where the community (referred to as customers) deposit waste where the deposited waste is still suitable for sale or recycling such as plastic, paper, iron, battery, aluminum and others to the Waste Bank manager. Furthermore, the waste deposited by this customer will be converted into a balance in each customer's account according to the price and type of waste that is worth selling.

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1.1. Formulation of the problem

1) How to analyze from the created project?
2) What are the components contained in the web?
3) What are the things that must be considered in making a website?
4) How do I make this website?
5) What views have been created?

1.2. Purpose

1) Provide solutions to the community about waste.
2) Utilize the proceeds from depositing waste to the waste bank.
3) Reducing the level of flooding in the surrounding area.
4) Make the environment around the community beautiful and attractive.

1.3. Scope of problem

This program does not yet have a way for people to take the results from their deposits. And as a program that is only for the city of Palembang.

II. Literature Review

2.1. Information Systems

The information system is a combination of 4 (four) main parts, namely: Software, Hardware, Infrastructure, and Human Resources who are trained to create a system that can manage data into useful information [1].

An information system is a system within an organization that brings together the daily transaction processing needs, supports operations, is managerial and strategic activities of an organization and provides certain outside parties with the necessary reports. The definition of an information system can also be defined as a framework that coordinates resources (human, computer) to convert input (input) into output (information), in order to achieve company goals. [2].

2.2. Website

The World Wide Web or WEB is one of the services obtained by computer users who are connected to the internet. According to Yuhefizar, the web is a method for displaying information on the internet, whether in the form of interactive text, images, sound or video and has the advantage of linking (link) one document to another (hypertext) that can be accessed via a browser.

Website is a term for a group of web pages (webpages) which are generally part of a domain name or subdomain on the WWW on the internet. Websites are also static or dynamic which form a series of interrelated buildings, each of which is linked by a network (hyperlink). It is static if the information content is fixed, rarely changes and the information is in the same direction only from the website owner. It is dynamic if the information content of the website is always changing. Websites that have an information function generally place more emphasis on the quality of their content, because the purpose of the site is to convey its content [3].

2.3. Garbage Bank

Waste Bank according to the Regulation of the Minister of Environment of the Republic of Indonesia Number 13 of 2012 is a place for sorting and collecting waste that can be recycled and/or reused that has economic value. Meanwhile, according to Green and Clean, Jombang Regency defines a waste bank as an effort to maximize the value of waste with the aim of creating a healthy, clean, green and beautiful environment, reducing waste to landfill, changing people's behavior, educating people about the environment and organizing, increasing creativity, and providing benefits. for waste producers [4].

III. Method

3.1. Method of collecting data

In designing the system the author uses the interview method, literature study, and system requirements analysis.

Interview

Interviews were conducted by way of question and answer to teachers or school staff which aims to ask questions about the current system and the problems faced.

Study of literature

This method is done by looking for and looking at research that has been done previously either through the media, books, journals and others.

System Requirements

System requirements analysis is carried out to determine software and hardware requirements. At this stage will produce system specifications and requirements that must be available.

3.2. System Development Method

In systems engineering, the method that the author uses for the Website-Based Sriguna Junior High School Academic Information System is the Waterfall method. The waterfall method is a method that is systematic or sequential in building an information system.

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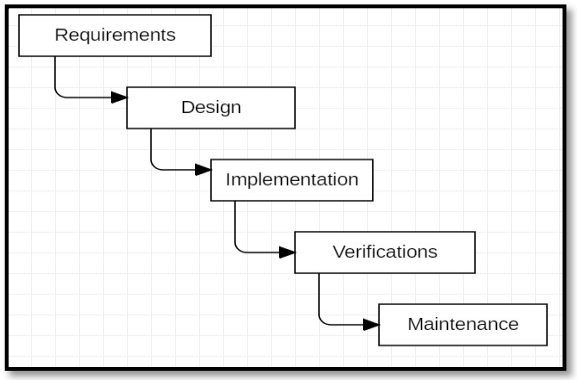

Figure 1. Waterfall Method

1) Requirements, where at this stage the designer will analyze the data or existing problems.
2) Design, after doing an in-depth analysis, then after that do the design.
3) Implementation, where at this stage the design that has been designed by the designer will be implemented into the program language.
4) Verification, or the testing phase where the system that has been implemented will be tested first to see how far the system is running.
5) Maintenance, is the stage of care where the finished system will be treated.

IV. Results and Discussion

4.1. Needs Planning

Stages of the needs plan, carried out the data collection process. The data collected will be analyzed to obtain results in the form of a system flow.

Performance

The current performance of the Waste Bank is quite good, but several obstacles were found, such as customer registration still using book records and the transaction process carried out still using the recording system in the Waste Bank's book and then rewriting it in the customer's savings book. This can be overcome by utilizing a computerized transaction process.

Information

The Waste Bank is currently distributing information through leaflets in the form of pamphlets to make it easier for the public or customers to get information about the Waste Bank. The information dissemination system for the introduction of the Waste Bank or access to other information is quite good, but can be optimized by dissemination through the official website of the Waste Bank. So that the reach of information dissemination is wider, and it can make it easier for customers who want to see more detailed transaction information by accessing the website.

Economics

Use of Waste Bank funds is in accordance with the procedures and programs from the center in determining waste prices, so that the funds spent to pay for the waste of residents or customers do not harm the Waste Bank. This can be improved with a computerized system so that outgoing and incoming costs become more structured so that transaction reports become more effective and reliable.

Control

The Waste Bank in recording both customer registration and transactions still uses the book belonging to the Waste Bank and then rewrites it in the customer's book. This can lead to errors that will occur such as loss of books, not being recorded in the books belonging to the Waste Bank and recording errors due to the large number of transactions made and customers who want to know transaction details must come to the location. Based on this case, it can be overcome with the official website of the Waste Bank. The website can assist officers in entering transactions, so as to minimize the possibility of errors that occur. Helping customers to find out transaction details without having to come to the location by accessing the website.

Efficiency

The registration process and transactions carried out by the Waste Bank need to be improved, because currently they are still using records in the book belonging to the Waste Bank and then rewritten in the customer's book. For customers who want to know the latest information and see detailed transaction information, they must come to the location so it will take a little longer. This can be optimized by using the website to make it easier for officers to input data, making it easier for citizens or customers to obtain fast, accurate and reliable information through the official website.

Service

The Waste Bank currently does not provide services that are in accordance with the target. This is because the Waste Bank has not been able to socialize the importance of utilizing unused waste to the surrounding community. So it is necessary to explain about the purpose and benefits of the Waste Bank from house to house. With the official website of the Waste Bank, it is hoped that it can help the surrounding community to understand and contribute to becoming customers at the Waste Bank.

Design process

Stages of system design, system design is carried out into several forms, as follows:

1) System data flow design into DFD/UseCase
2) Class Diagram Design
3) Activity Diagram Design
4) Program interface design

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Implementation

After the design of the system to be made has been approved by both the user and the analyst, at this stage the programmer develops the design into a program. The program is built using Sublime Text and XAMPP applications with the PHP programming language and the CodeIgniter framework. After the program is completed either partially or in whole, then the process of testing the program is carried out whether there are errors or not before being applied to an organization.

Data Flow Diagrams (DFD)

DFD is a data logic model or process that is created to describe where the data comes from and security with the aim of data coming out of the system where the data is stored what process produces the data [5].

Entity Relationship Diagram (ERD)

ERD is the earliest form of database design. The database is a collection of data stored systematically so that it can be accessed to obtain information from the database [6].

4.2. System planning

Running System Analysis

Ongoing analysis is the main step that must be carried out before giving the form of the proposed system. Because basically there must be a basis for building a system, it can be in the form of problems that occur and must be resolved immediately.

a. Use Case as Admin

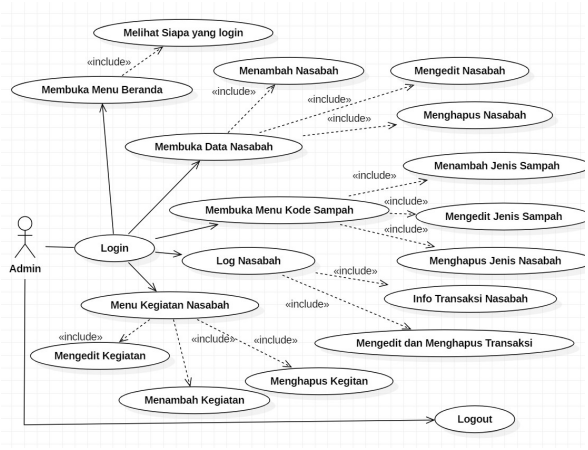

Figure 2. Running admin use case

admin has the task of inputting , editing, and deleting all data that nominate as a waste bank customer.

b. Use Case as a Customer

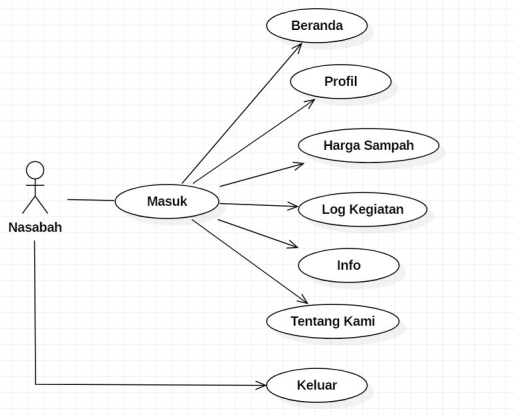

Figure 3. Current Customer Use Case

Here customers who have registered with the waste bank will get a username and password to view the contents of the web page, not only that, customers will also be notified of balance information and prices for some waste and information on activities that will be carried out by the waste bank.

c. Class Diagram

Class diagram is a diagram that shows the classes in the financial information system. This class diagram describes the static structure of the system that was created at the design stage which is a complete description of the classes handled by the system, where each class has been equipped with the required attributes and operations.

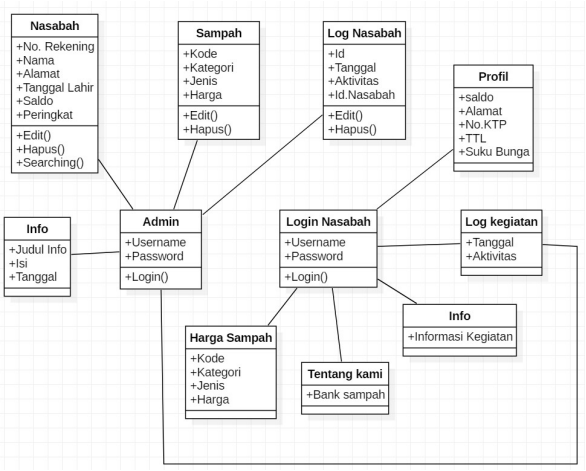

Figure 4. Class Diagram

d. Activity Diagram

Activity diagrams describe the various flow of activities in the system that is being designed, how each - each initial flow.

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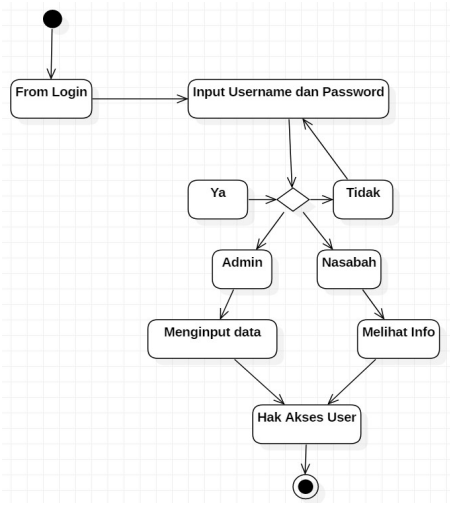

Figure 5. Activity diagram

Project Results

a. Menu Login As Admin

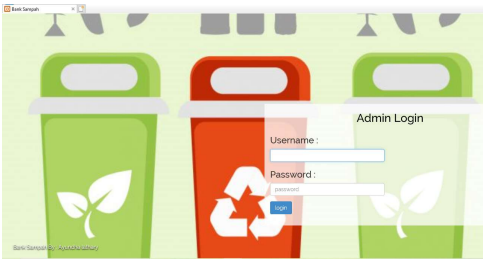

Figure 6. Menu Login As Admin

b. Admin Home Menu

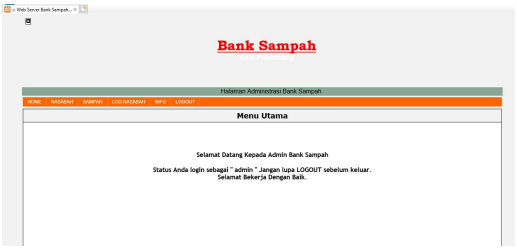

Figure 7. Admin Home Menu

c. Customer Menu

Figure 8. Customer Menu

In this menu, the admin adds members / customers who register with the waste bank, not only that, the admin can also edit, delete, if the data changes to the customer. Not only that , the admin can also see the developments that occur for every customer who has registered himself with the waste bank.

d. Junk Data Menu

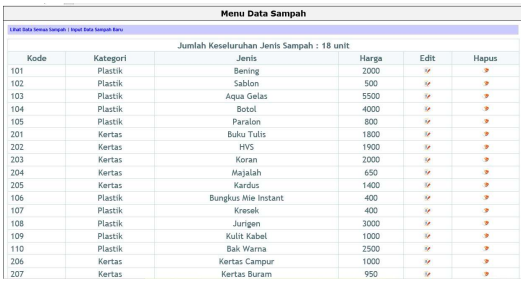

Figure 9. Junk Data Menu

This menu is used by the admin to add , edit, and delete any trash that will be changed, for example, the admin will change the price of the trash. So, later on in each customer's account you can see the change in the price of the waste.

e. Customer Log Data Menu

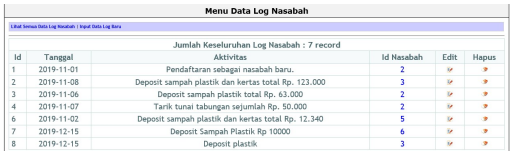

Figure 10. Customer Log Data Menu

Here the admin will tell each customer account what activities have been carried out and customers can also view and adjust their estimates before they deposit their waste to the waste bank.

f. Information Menu of Activities Carried Out

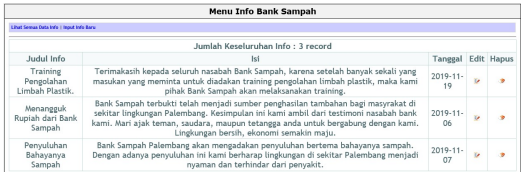

Figure 11. Information Menu Of Activities Carried Out

If the Waste Bank holds an activity, the admin will inform each customer account that is a member to participate in the money activity that has been held by the waste bank.

g. Login Menu for Customers

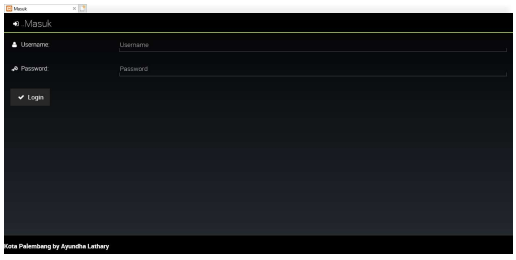

Figure 12. Login Menu for Customers

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This Login menu is specifically for customers who register to become members of the Waste Bank.

h. Home Menu

Figure 13. Home Menu

This menu is the first display that customers see in each of their accounts.

i. Profile Menu

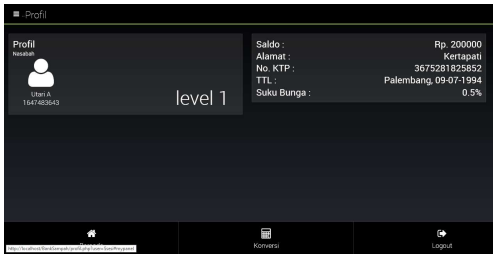

Figure 14. Profile Menu

Here, customers can know their respective profiles and here they will also know how much balance they have gotten from depositing in the Waste Bank.

j. Junk Price Menu

Figure 15. Junk Price Menu

And this is where the Customer can find out the changes in each waste price.

k. Activity Log Menu

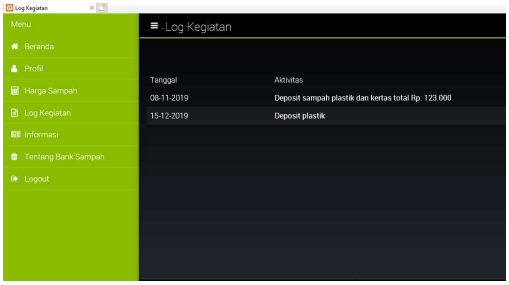

Figure 16. Activity Log Menu

This menu is the admin who will notify customers of the activities they have done.

l. Price Conversion Menu

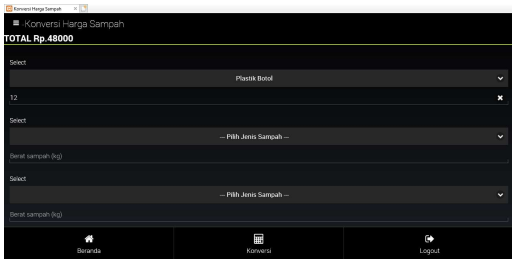

Figure 17. Price Conversion Menu

Here, customers can convert the price of waste before they deposit their waste to the Waste Bank, take a sample of plastic bottles whose price per kilo is 4000 multiplied by 12 kilos, the total above will show the result, which is 48000 thousand.

m. Activity Information Menu

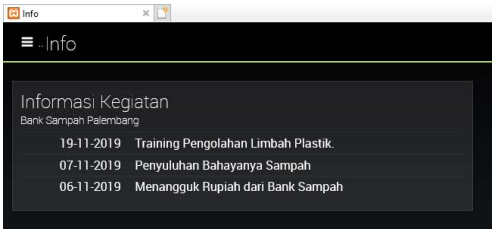

Figure 18. Activity Information Menu

And this is an information menu to the Customer. If the Waste Bank holds an activity, the Customer is expected to participate in that activity.

n. Menu About Waste Bank

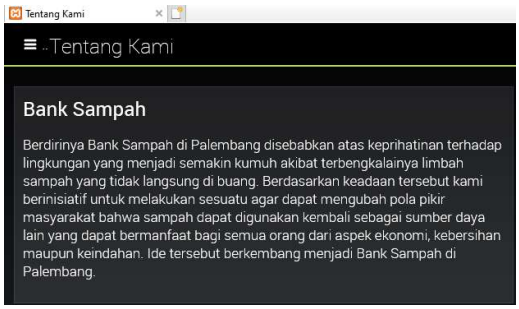

Figure 19. Menu About Waste Bank

This menu discusses the problem of the formation of a Waste Bank.

V. Conclusion

The development of web technology that is getting better with the support of an adequate internet connection in the corporate environment allows the integration of ongoing filing methods with a system that can facilitate the performance of the finance department in managing the

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filing of cash receipts and cash receipts in the company. Among the conveniences that can be obtained include in terms of data retrieval, data recapitulation and data security.

Therefore, it is necessary to design an application that can be used by officers for inputting registration and transactions carried out, and leaders can find out information on monthly transaction reports and customers can find out details of transactions that have been carried out through the web.

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