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Web-based student assembly information system in information technology program of muhammadiyah university, palembang

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A B S T R A C T

The rapid development of technology is also a reason why sophisticated technology is needed to help solve the problems experienced in an agency or organization. There are also organizations engaged in various fields student movement. They use internet technology as a place to promote their organization. As is the case with an organization called the Information Technology Student Association (HMTI) at Muhammadiyah University of Palembang. They use the Internet as a place to promote their organization, and to improve organizational performance. With the help of the internet, HMTI can be more flexible in reporting or informing the activities they do. In addition, they can also conduct consolidation and coordination via the internet. For example, if HMTI wants to hold an event that wants to invite various people to their event, HMTI not only informs their event through advertisements posted on the streets, they can also simply post the information via the internet whose scope is not only known. only by the people around him but not limited to any world.

I. Introduction

The world today is inseparable from the development of information technology, ranging from the simplest such as the use of cell phones to smart phones or (smartphones) to the use of the internet with various features that aim to help the public or students in obtaining information. Information and communication technology provides many benefits for human life, one of which is facilitating things such as social media and obtaining information can be done with the help of information technology so that the information conveyed can be accessed easily both by all people. The lack of student understanding regarding information technology causes the information obtained about the set to be not optimal.

Technology is also growing rapidly. Along with technological advances, humans are required to be more efficient and effective in order to obtain accurate and optimal results. Every agency has begun to pay attention to technology to be used as a tool that will improve performance to be more effective and efficient. The rapid development of technology is also a reason why sophisticated technology is needed to help solve the problems experienced in an agency or organization. There are also organizations engaged in various fields

student movement. They use internet technology as a place to promote their organization. As is the case with an organization called the Information Technology Student Association (HMTI) at Muhammadiyah University of Palembang. They use the Internet as a place to promote their organization, and to improve organizational performance. With the help of the internet, HMTI can be more flexible in reporting or informing the activities they do. In addition, they can also conduct consolidation and coordination via the internet. For example, if HMTI wants to hold an event that wants to invite various people to their event, HMTI not only informs their event through advertisements posted on the streets, they can also simply post the information via the internet whose scope is not only known. only by the people around him but not limited to any world.

A good information product is expected to make it easier for the community to complete their tasks and can replace the manual process to a semi-automatic process. One thing that often becomes a problem in the community and gets enough attention is the election of the village head. Almost

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all rural areas in Indonesia still use manual elections, namely by voting directly on the election letter. Because it is still going on manually, automatically the costs and time required are also not small. In fact, it is not uncommon for village head elections to lead to endless disputes among the community. For these problems, it is necessary to have an initiative or idea to be able to transfer the function of the village head election (pilkades) which is still carried out manually by utilizing information technology, namely the electronic-based village head election (electronic pilkades). It is hoped that this new system can provide high accuracy, efficiency, and effectiveness while still upholding the principles of free, open and confidential village head elections.

II. Method

2.1. Data Collection Method

At this stage, data collection is carried out to find out more about the problems studied. From the data collected will be known about the system used at this time. The data can be obtained by direct observation and review of the object to obtain primary data and secondary data.

Observation Method

This observation method is carried out by reviewing and writing directly in the field to obtain and collect the data needed. Observations were made on the design of a stock sales system at the Sehati pharmacy using the waterfall which started on October 30, 2021 until December 5, 2021, direct observation activities of the Information Technology Student Association activities carried out analyzing every agenda or activity set. During this time the authors tried to get the data information needed to design a system design.

Interview

Conducting questions and answers with seniors and founders of student associations which is carried out systematically to collect the data needed to solve the problems found.

2.2. System development method

The research method applied in this research is the development of the waterfall method to design and build an information system for new student admissions. The waterfall method is a step by step process that must be passed waiting for the completion of the previous stage and runs sequentially [1], [2]. The flow of the Waterfall method is as follows:

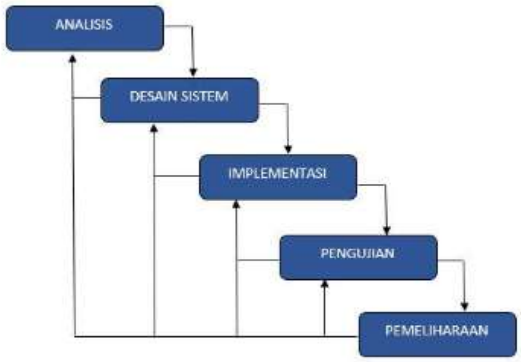

Figure 1. Waterfall method [3]

The picture above is the waterfall method used in this research, while the stages of the waterfall are as follows:

1. Analysis

At this stage the researchers conducted observations and interviews with several members of the student association and students in the Information Technology Study Program to obtain some data, the researchers stored the data as reference material in the analysis phase to determine system services, constraints, and goals determined by the results of consultations with which is then defined in detail and serves as a system specification.

2. Design

After the researcher got the documentation from the analysis, the researcher allocated the system requirements by forming the overall system architecture. Software design involves identifying and describing the basic software system abstractions and their relationships so that the design results will be used by researchers to build information systems.

3.Implementation

At this stage the software design is realized as a series of programs or program units. Testing involves verifying that each program unit meets its specifications.

4.Testing (Testing)

After the application development process is complete, the researcher conducts testing at this stage, the individual units of the program or program are combined and tested as a complete system to ensure the level of success of the system is as expected.

5.Maintenance

Researchers have not yet reached this stage, so this stage has not been implemented. The researcher plans to carry out several treatments not at all stages because this stage is the longest stage.

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III. Results and Discussion

3.1. System Design

Use Case Diagrams

The following is a use case diagram of the system running on the Student Association information system at the Information Technology Study Program as follows:

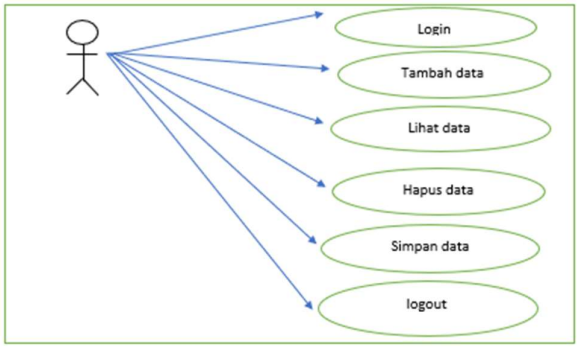

Figure 2. Use Case Diagram

Class Diagram

The following is a class diagram of the system running on the information system. The student association in the Information Technology Study Program is as follows;

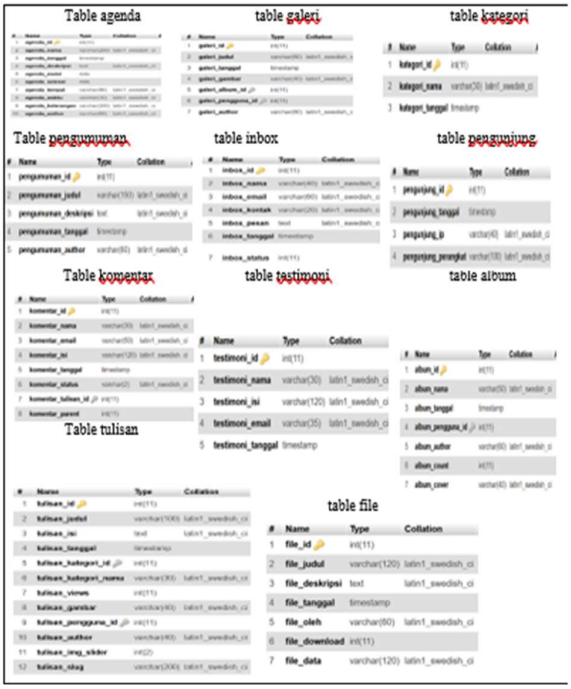

Figure 3. Class diagram

The table above is used as a set of information systems, namely:

1) admin to login to the system created.
2) admin to save, input, add data on the web
3) admins can see the activity of visits on the web and also see comments or input from visitors.

Activity Diagram

The following is a login activity diagram on the system running the Information Technology Student Association Information system as follows:

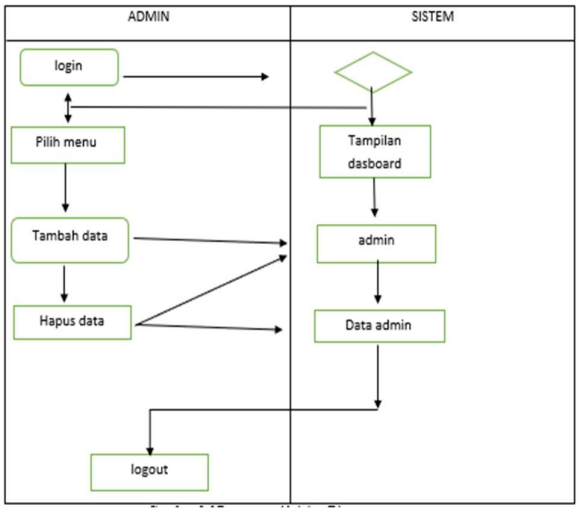

Figure 4. Activity Diagram Design

Based on Figure 4 the activity diagram is described below:

1) Login first if you have entered select the main page
2) Directly enter the dashboard display, there are news, agenda, announcements, etc. views.
3) After entering the dashboard page, the admin can add data, edit data or delete data related to features on the web.
4) After that is done then select the logout menu.

Sequence Diagrams

The following is a sequence diagram on the system running the Student Association Information system.

The description of the sequence diagram is:

1) Admin login first enter the username and password
2) After that, go directly to the menu display there, we can see the menu there, the dashboard display appears
3) After the dashboard has appeared, the admin can manage existing features, then log out.

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3.2. Implementation

Main page

This page is the main display when entering the Association Information System web. In this main page displayed menus on the web:

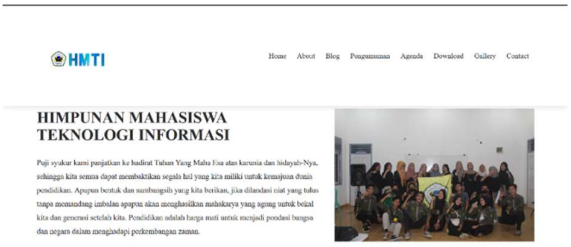

Figure 5. Main page

Login page

This login page is the first design when the system starts. The design of the login data input page where the admin enters the admin username and password to enter the admin dashboard. The following is the login display, is as follows:

Figure 6. Login Page

Dasboard

After clicking the login menu, the main display immediately appears, namely the dashboard to the first page. The information system for the Student Association Information Technology Study Program will use, which is as follows:

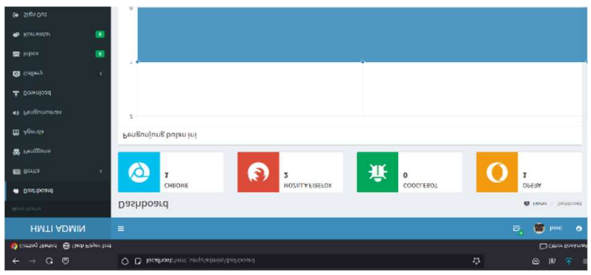

Figure 7. Dashboard page

News Menu Page

This news menu has 3 pages, namely news lists, news posts, and categories. And it can also be deleted. The data are as follows:

1. News list

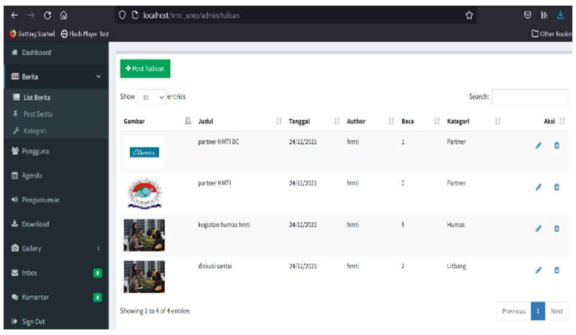

Figure 8. News list

2. Post news

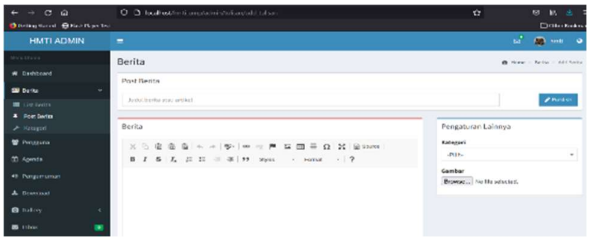

Figure 9. News post

3. Category

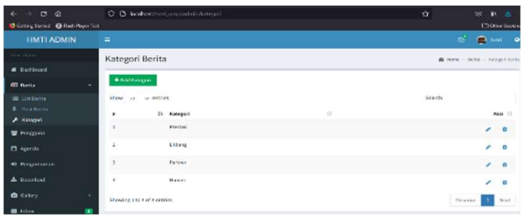

Figure 10. News categories

Agenda Menu Page

Organizer menu page design where admin manages HMTI Agenda data by adding, changing, and deleting data.

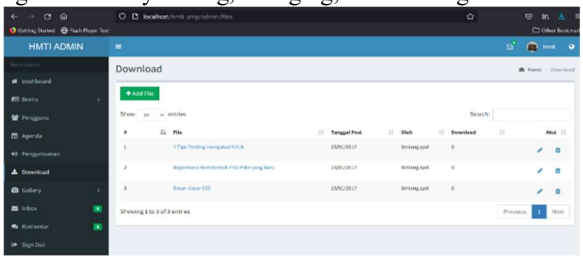

Figure 11. Agenda menu

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Announcement Menu Page

Announcement menu page design where admin manages HMTI Announcement data by adding, changing, and deleting data.

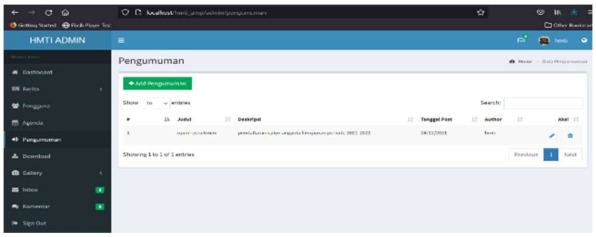

Figure 12. Announcement menu

Download Menu Page

Design of the Download menu page where the admin manages the HMTI Announcement data by adding, changing, and deleting data.

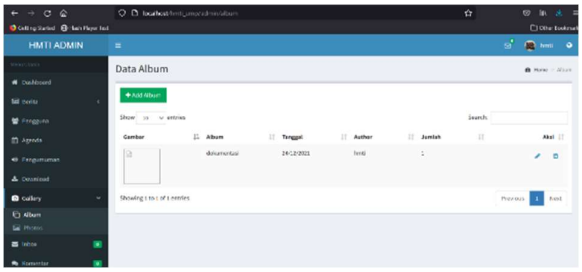

Figure 13. Download menu

Gallery Menu Page

This Gallery menu has 2 pages, namely Albums, and photos. And it can also be deleted. The data are as follows:

1. Album

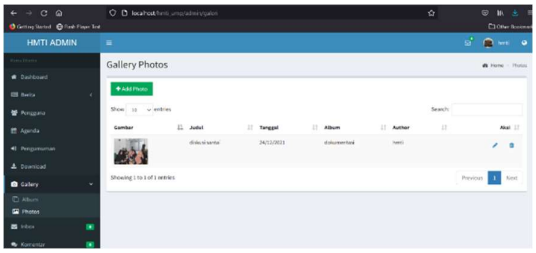

Figure 14. Album

2. Photos

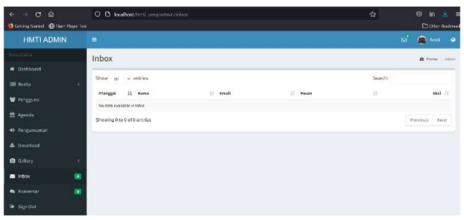

Figure 15. Photo

Inbox Menu Page

Inbox menu page design where admin manages HMTI Inbox data by adding, changing, and deleting data.

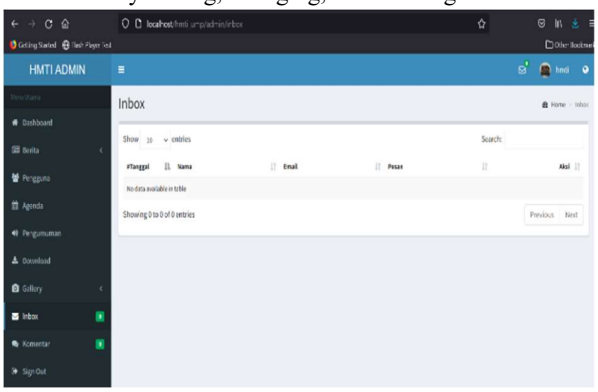

Figure 16. Inbox menu

Comments Page

Design the Comments menu page where the admin can see comments made by visitors on the HMTI web.

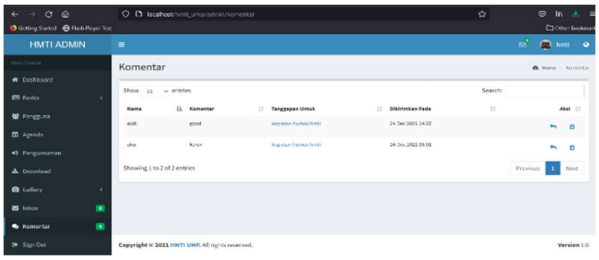

Figure 17. Comments

IV. Conclusion

Research that has been carried out in the Student Association Information system in the Information Technology Study Program using the waterfall method can be concluded as follows:

1) With the Student Association Information system in the Information Technology Study Program, students can access the web to see the activities and activities carried out by the Student Association.
2) Student Associations in the Information Technology Study Program can see or input from visitors as evaluation material so that HMTI can be even better through suggestions that have been left by visitors.
3) With the information system, the Information Technology Study Program and the Muhammadiyah University of Palembang are easier to monitor the Association's activities.

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V. Suggestion

The suggestions given by the author for future development of the website are as follows:

1) This website is expected to be able to use android-based application facilities that can provide notifications on student smartphones when there is new information related to HMTI.
2) To avoid damage or loss of data, users are expected to always back up the database regularly and regularly.
3) Prepare hardware and software support with specifications

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