Information System of Student Affairs at Stmik Pringsewu Based on Web Mobile

Sri Ipnuwati [1)*]**, Riza Imam As'ari** [2)]**, Sri Surya Mandala** [3)]

[1)2)3)] *STMIK Pringsewu Lampung*
Jl. Wisma Rini No. 09 Pringsewu Lampung, Indonesia
[1)] nengachie@gmail.com
[2)] rizaimam85@gmail.com
[3)] suryatunuk@gmail.com

Abstract

Student affairs are part of the higher education system including and covering the process of planning, organizing, processing and developing student interest in talents, improving student welfare and other supports. Student Affairs are an intra-campus student organization which is an executive institution at the university level, the field of student affairs is also a place for student aspirations in submitting complaints, suggestions, to improve campus progress in the student or academic fields. Information is a message (sound or expression) or a collection of messages consisting of the following items in sequence, symbols or meanings that can be explained from a message or a group of messages. This website is a collection of pages on the internet created in the following way: Specific purpose, and can be interrelated and widely accessed through this page by visiting the home page (home page) using a browser from the website URL.

I. INTRODUCTION

Student affairs are part of the higher education system including and covering the process of planning, organizing, processing, developing student talent interest, improving student welfare and other supports. In the campus environment, especially in organizations, an important factor greatly influencing is communication. The sector of student affairs is a student organization on campus and is an executive executing agency within the scope of higher education. The student affairs are also a forum for students to convey all forms of aspirations, complaints and provide suggestions in order to improve student progress or the academic field on campus. In the concept of campus organization information, organizational activities can also be accessed through the website. Website should be made attractively and informatively so that visitors often visit the website. To be informative means that the website provides the necessary information and does not cause confusion. Of course, an attractive website must use a dynamic website that can interact with its visitors. This means that the number of pages when the site is created is small, but the appearance can be changed as needed.

According to Irwan Rusda, Legiman Slamet, Dedy Irfan (2019) in a study the use of the PHP Framework Codeigniter programming language can be developed on the information system of Executive Council of Student at Padang State University in order to help students to obtain student information easily [1]. Sasmito Ginanjar Wiro., Et al. (2015) In a study Implementation of the E-Academic System at Politechnics of Harapan Bersama has formed an electronic academic system that can provide information about informatics engineering study plans (D IV) and is integrated with the institution's information web (simultaneously online and realtime).

This website will display details of student activities, BEM work program agenda, profile of existing UKM, relationships, organizational structure. By online, we can use the website as a means of obtaining and disseminating all kinds of information to STMIK Pringsewu students and the STMIK Pringsewu academic community. A website is a computer network-based information medium that can be accessed anywhere at a relatively low cost. With a website, an institution will easily publish and promote to the wider community its profile, activities, and anything that an institution can do.

[*] Corresponding author

Based on the above situation, the authors conduct research and make a mobile website-based student information system with the aim of improving and developing the presentation of data and information, processing information on student activities, agenda of BEM work programs, profile of existing UKM in STMIK Pringsewu, relations and organizational structures so that the community of the general public, students and the campus community can get information and inform it again without experiencing any difficulties or obstacles and all parties in the community and institutions in the field of education can inform the school through the official website of STMIK Pringsewu student affairs.

In this research, the description of the information system in the field of student affairs of STMIK Pringsewu based on mobile web will be made using the programming language PHP, MYSQL as well as HTML with the output that will be generated in the form of an initial display describing a little about STMIK Pringsewu as well as information on student guidance, student activities, Legislative Council of Student (BLM), the agenda of the Executive Council of Student (BEM) work program, the profile of the Activity Unit of Student (UKM) at STMIK Pringsewu, relations, organizational structure, achievement, scholarship, and counseling.

Problem Formulation

With reference to the background above, the problem formula is as follows;
  a) Still using conventional information delivery processes and less effective.
  b) The need to communicate by being able to bridge Deputy Chair 3 in charge of student affairs and STMIK Pringsewu students so that they can communicate quickly and accurately and the need for communication media that can be integrated with the system running at STMIK Pringsewu.
  c) The necessary communication media integrated with the system running at STMIK Pringsewu.

The Objectives and Benefits of The Research
  a) To facilitate the process of delivering information in the campus environment and the academic community of STMIK Pringsewu.
  b) To make it easier in connecting students to introduce and provide accurate information in the Sector of Student Affairs.
  c) Easily to send information messages, the latest updates about the campus to the campus environment and the STMIK Pringsewu academic community through the website.

II. RELATED WORKS/LITERATURE REVIEW (OPTIONAL)

The Theory About the Object of Research

The creation and design of this system is based on a website designed to inform all student activities, the Legislative Council of Student (BLM), the Executive Council of Student (BEM), the Activity Unit of Student (UKM) to the campus environment and STMIK Pringsewu of academic community.

System

The system is a network of interconnected programs grouped together to carry out an activity or use it for a specific purpose [3]. According to Fatansyah (2015: 11) that "The system is an order (integration) consisting of several functional components (with special functions and tasks), interrelated and work together to complete a certain process. From the above understanding, the authors can conclude that the system is a collection of several elements, a group of elements, and components that are interconnected and interact to achieve goals ".

Information

Information is data processed into a meaningful form for the recipient and is useful for current or future decision making [3]. Based on the understanding of information by these experts, it can be concluded that information is a collection of facts converted into data, so that it is more useful and can be used by anyone needing it. Knowledge can be used in making decisions.

Information Systems

An information system is a system within an organization that summarizes the daily transaction processing needs to support the function of the management organization in the strategic activities of the organization so that it can provide reports to certain external parties when needed [4]. Suggesting information systems is a combination of

organized data, computer hardware, software, communication networks, supporting factors for gathering, modifying and disseminating information within an organization. The combination of all these factors makes the resulting information system.

WEB Mobile

   WEB Mobile is a form of new technology that can meet the needs of searching for information with internet access via mobile devices. Previously, access to information on websites on the internet could only be accessed through computers, so using mobile WEB technology with mobile devices (such as cell phones and PDA / PDA) can be used [5]. According to Sibero (2013: 11) "The WEB is a documentation system functioning as a medium for displaying all kinds of forms of text, images, multimedia, etc. on the Internet".

System Theory Used
PHP (Hypertext Preprocessor)

   The definition of PHP or Hypertext Preprocessor is a programming language used to create dynamic websites, although it can also be used to create other programs [6]. PHP itself is a language designed for WEB development but is also used as a general-purpose programming language. In the current era, PHP has been used by more than 244 million websites and 2.1 million WEB servers. The beginnings of PHP were discovered by Rasmus Lerdorf in 1995. Implementation references of PHP are currently produced by The PHP Group. This PHP is interpreted by the WEB server with the PHP processor module which will generate the WEB page. The PHP command itself can be directly inserted into an HTML document rather than calling an external file to process data. It has also evolved to have the ability to enter a command-line interface and can be used as a standalone graphics application.

Java

   Java is an object-oriented high-level programming language, and Java programs are made up of parts called classes. Class consists of methods functioning after work and return information [7]. According to the definition of Sun Microsystem, in the book M. Saladin and Rosa A.S. (2010: 1) Java is the name of a set of technologies used to create and run software in a stand-alone computer or network environment.

MYSQL

    MYSQL is a database management system (database management) using the well-known basic SQL (Structured Query Language) commands. This multi-user and multi-process MySQL database management system (DBMS) has been used by more than 6 million users worldwide [8]. According to Raharjo (2011: 21), "MYSQL is an RDBMS (or database server) that can manage databases quickly, can accommodate many users, and can be accessed by many users".

III.   METHODS

Data Collection Methods

Data collection for preparation of research preparation studies are as follows:

1.   Observation Method
     In this method the researchers make direct observations because the authors could find out directly about the problems experienced by the Deputy Chair 3, the field of student affairs at STMIK Pringsewu.
2.   Interview Method
     In this interview method, the researchers went directly to the student affairs division of STMIK Pringsewu to see how things work in general and to see the system that is currently running in the sector of student affairs at STMIK Pringsewu.
3.   Literature Method
     In the literature method, researchers have examined, researched and understood related theories about titles taken through books in libraries and the internet such as journal articles, with these theories still related to problems to be discussed in order to obtain a solution.

Design Methods

Waterfall Model

   The method used in the design process of this research study uses the waterfall process model. In general, the use of the waterfall method is a method often and commonly used by system analyzers. The waterfall method is the work

performed by a system sequentially or linearly. Therefore, each stage must be completed completely and in detail before entering the next stage to avoid repetition of these stages. Basicaly the waterfall method has the following steps:
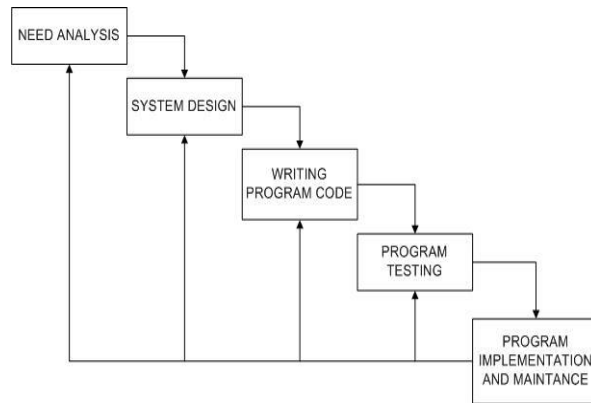

Figure 1. Waterfall Model

Research Framework

   The framework in this study describes the flow and design of information systems in the field of STMIK Pringsewu student affairs. This study aims to facilitate the delivery of information in the campus environment and the academic community of STMIK Pringsewu.
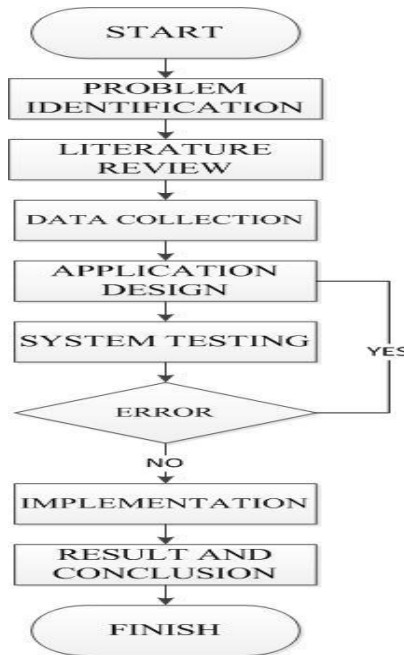

Figure 2. Flowchart diagram

IV. RESULTS

Design

Admin Flowchart

   Website design in the field of student affairs researchers uses the admin flowchart with the flow diagram below:
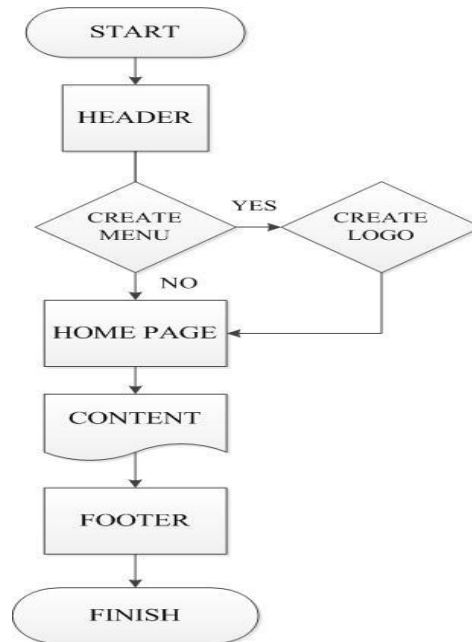
Figure 3. Admin Flowchart

Visitor Flowchart

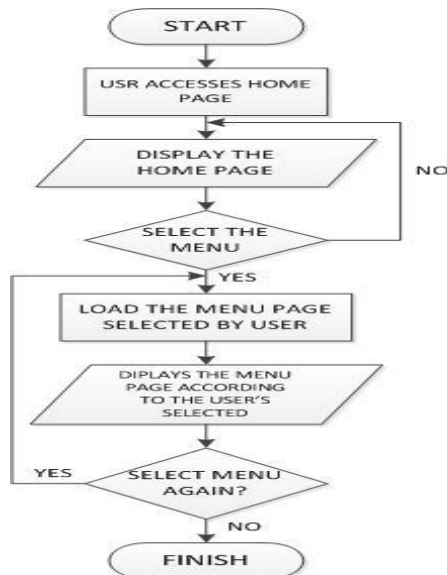Website design in the field of student affair researchers uses a visitor flowchart with the flow diagram below:

Figure 4. Visitor Flowchart

Interface Design

In interface design, it describes the appearance of a mobile WEB design when it is going forward.
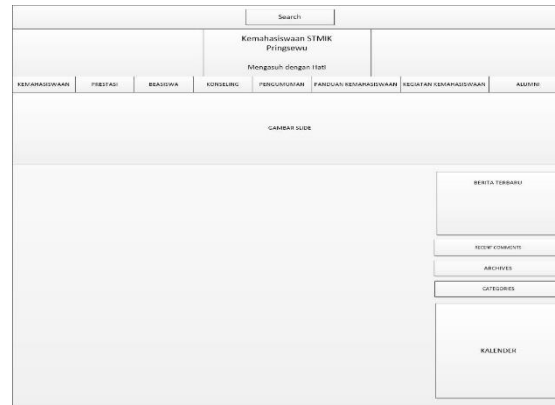
Figure 5. WEB Interface Design

The start page displays the menus that will be displayed by the website, including:
1. Student Affairs
   The page of student affairs displays the profiles of student affairs.
2. Achievements
   The achievement page displays the results of students performing well in their fields.
3. Scholarships
   The scholarship page displays the scholarships available at STMIK Pringsewu
4. Counseling
   The counseling page displays a guidance form for students that want to consult about problems in lectures.
5. Announcement
   The announcement page displays information about upcoming or ongoing event activities.
6. The guide of student affairs
   The guide page of student affairs displays the procedure in the process of implementing STMIK Pringsewu student activities
7. Student Activities
   The page of student activities displays student activities from both BEM and UKM at STMIK Pringsewu
8. Alumni
   The alumnus page displays data on STMIK Pringsewu alumni who have completed their education.

Implementation
   The implementation part is the process of running the system to be tested as a first step before improving the system so that there are no errors on the website created. The aim is to experiment with hardware as a means of processing data and displaying information. Activities that can be carried out at this implementation stage are the process of opening a website, selecting a menu to open, the system implementation stage including the following activities:
   a) Preparing an implementation plan.
   b) Activities of implementing or testing
      1. Selection, personnel training
      2. Selecting, preparing the location as well as the system location
      3. Applying a testing system
      4. Performing system conversion.
   c) Realization of further implementation is also the process of exchanging the old system with the new system or storing it.

Main Page
   By opening the URL access on the main browser page or the homepage of the mobile web, it is shown in Figure 5, which is the initial page that the User first visited when accessing via the URL. The main page display on this website is the front display screen as well as the menu to start the website running.

Figure 6. Website Home Page
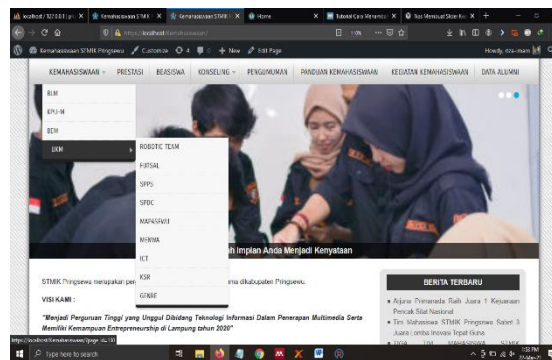
Display Menu of Student Affairs

Figure 7. The Menu of Student Affairs

Achievement Menu

Figure 8. Display Menu Of Achievement

V. DISCUSSION

When the system is finished, it will be used to solve existing problems. The following is the author describes the flow of the frame of mind before conducting the research, as follows:
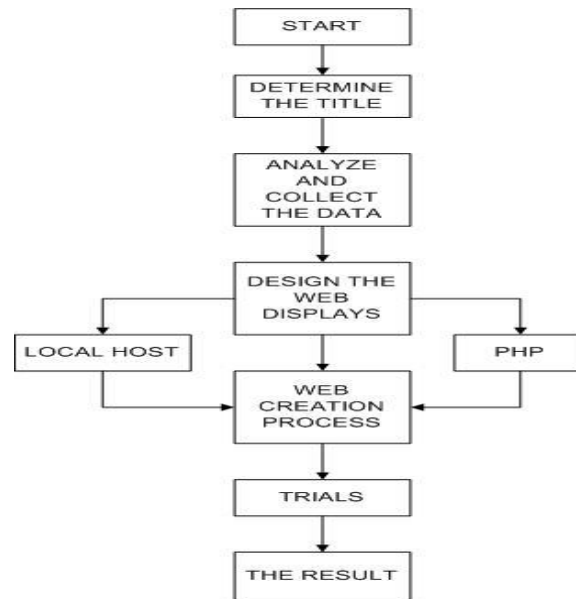
Figure 9. The Chart of Thinking Framework

Needs Analysis

The process of finding the needs of the system by analyzing data sets such as interviews or literature studies, as well as determining priorities in future system development. Need analysis has the function of looking for problems in terms of financial, security, or other pressing obstacles to work.

A. Hardware

The support for hardware specifications that the author uses to build an information system in the field of student affairs of STMIK Pringsewu is as follows:

1. CPU Processor Intel Core i3 1.8 Ghz
2. Random Access Memory 6 Gigabyte
3. 500 Gigabyte hard drive
4. 4.14 inch Liqiud Crystal Display
5. Video Graphic Array 1 Gb Nvidia GT624
6. USB 2.0, USB 3.0.

Supports for the minimum hardware specifications for mobile devices recommended for users to use or access the student information system of STMIK Pringsewu are as follows:

1. Using 2 Gigabyte of Random Access Memory
2. Using Read Only Memory 16 Gigabyte

B. Software

The supports for software specifications proposed by the author so that the system runs:

a. Operating System: Android OS 5.0 / Windows
b. Information System for Student Affairs STMIK Pringsewu

Analysis of Results

According to the results of the tests that have been carried out, the mobile web functions on the menu of student affairs, achievements, scholarships, counseling, announcements, student guidance, student activities, and alumnus data. After completing the process of conducting the test, both in terms of menu functions on the mobile web, the results show that the website meets the requirements, also in accordance with what is planned, but in terms of constrained design, it is less attractive but in terms of the program it can run well. According to a test of 15 people, 70% of them liked it a lot, while 30% didn't like it at all.

Program Testing

In the testing phase, this program aims to find out all problems and whether or not the mobile WEB has been properly designed and made. Below is the system test table:

Table 1. Test System

No	System Test	Running	Error	Information
1	Student Affair Menu	Running	-	Success
2	Achievement Menu	Running	-	Success
3	Scholarship Menu	Running	-	Success
4	Counseling Menu	Running	-	Success
5	Announcement Menu	Running	-	Success
6	Guide Menu of StudentAffairs	Running	-	Success
7	Menu of Student Activities	Running	-	Success
8	Menu of Alumnus Data	Running	-	Success

From the description of the system test table above, it can be concluded that from the 8 system tests that have been carried out, all the features or menus on the mobile WEB are running normally. With this, the information system for student affairs at STMIK Pringsewu deserves to be published.

VI. Conclusions

With this, based on the results of the discussion of all the previous chapters, the following conclusions can be drawn:

a. The information system used by Student Affairs at STMIK Pringsewu is made using My Structured Query Language (MySQL) as well as Hypertext Prepocessor (PHP)

b. From the existence of the information system website of student affairs at STMIK Pringsewu, it will facilitate and assist in processing information about student affairs at STMIK Pringsewu.

c. With this website, the delivery of information to students and lecturers at STMIK Pringsewu will be faster and easier, because the entire academic community can access it easily and the general environment can get all the information that will be accessed or available easily and effectively through the website.

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