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Analysis academic information system at Muhammadiyah university palembang

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A B S T R A C T

Academic Information System is a system that is used as a tool to facilitate access, the University of Muhammadiyah Palembang Academic Information System accesses a Study Plan Card, Study Result Card, Transcript, Lecture Schedule Input, Course Input, Student Activity Data Reports. In accessing the overall data, it is only given to the Palembang UM Operator, while for the Faculties it is only given access to the work of each faculty by the respective Faculty Operators, and for students they can only access an Online KRS Input, Online KRS Output, KHS Print, and Transcript of Scores.

I. Introduction

Utilization of Information and Communication Technology (ICT) in the field of academic administration services in higher education has become a necessity, not just a prestige or a modern higher education management lifestyle. However, in its implementation, universities encounter many obstacles in implementing ICT in the process of managing this institution, both technical and non-technical factors. Strengthening governance, accountability and public image of higher education institutions will lead to increased performance of higher education institutions and product quality. This policy will be meaningful when it is associated with efforts to fulfill quality educational institution management services, quality teaching programs, quality educational facilities, and quality educational staff as well. Regarding the current context [1].

Based on the entity and its properties, academic information system refers to a set of systems and activities that are used to organize, process, and use information as a resource in the organization (Sprange & Carlson, 1982). The output in the form of information generated by this system will supply information to leaders or decision makers that can be classified for different uses and purposes (in Levin, Kirkpatrick, Rubin, 1982) as below: (a) Academic information system for produce reports in various fields of activity such as academics, finance, personnel, distribution of students in various majors, and others; (b) Academic information system to answer "what if" questions. This information system utilizes stored information that is necessary to consider the consequences of actions; and (c) Academic information system to support decision making, evaluation, and system development. This system supplies information for all levels of higher education organizations.

Academic Information System is a system designed for the needs of academic data management with the application of computer technology both software and hardware and makes the entire process of academic activities manageable into useful information in the management of higher education management and decision making for a leader.

This system aims to assist the implementation of education, so that universities can provide efficient and effective information services to users. both inside and outside the university via the internet. The various needs in the field of education and the regulations that surround it are so high that academic management in an educational institution becomes a very time, energy and thought-consuming job.

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II. Method

2.1. System Development Method

The system development method includes all procedures and research techniques as well as important steps to solve a problem properly and the system development method used from this research proposal is to use the development method of the waterfall because the waterfall method is more systematic in designing a system and also the most widely used method in Software Engineering (SE), this method is called the waterfall method because the process of working on the system goes through a safe stage before entering the next stage, you have to wait for the previous stage to finish and run until it is finished and sequentially according to its name, namely waterfall or water. In the waterfall method, there are 6 (six) stages, namely Analysis Stages, Design Stages,Maintenance stages which are usually described as descending like a waterfall.

In research on New Student Registration Information Systems with Web-Based SMS Gateway Clients, explaining the waterfall development method there are 4 (four) namely analysis means analyzing data input relevant to the purpose of the data not being lost and can be reopened, design means part of the waterfall model that This is done after the analysis and in the design step this system will be designed first before being coded into a programming language, coding means the preparation of a programming language writing step which is carried out in accordance with the system design and finally testing means testing a system that has implemented a network with 2 (two) computers connected to it. one as server and the other as client [2].

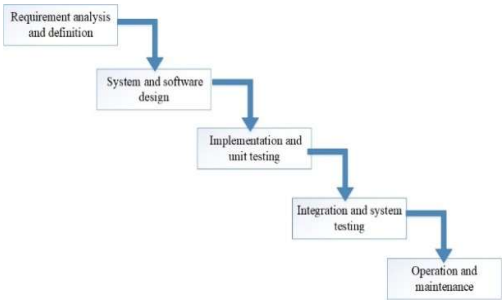

Figure 1. Waterfall Method Drawing

Requirements

This stage of system development requires communication that aims to understand the software expected by users and the limitations of the software.

Design

The requirements specifications from the previous stage will be studied in this phase and the system design is prepared. System design helps in determining hardware and system requirements and also helps in shaping the overall system.

Implementation

At this stage, the programming stage is divided into small module stages which will then be combined in the next stage.

Integration

After the unit or module has been developed and tested in the previous stage, the next stage is to be integrated into the system as a whole.

Maintenance

The final stage of the waterfall model. Software that has been made, run and carried out maintenance. Maintenance includes fixing the errors found in the previous step. Improvement of system unit implementation improvement of system services as a new requirement.

a) Understanding Websites

Website According to Fristanto 2014 is an information storage medium or as an effective and efficient media bridge, which can be searched anywhere with the help of the Internet.

According to Taufik Ginanjar, 2014 Website is a series or a number of pages on the internet that have interrelated topics to produce information

According to Pontoh and Lumenta 2016 a website is often also called a web, which can be interpreted as a collection of pages that display various kinds of text information, data, still or moving images, animated data, sound, video or a combination of all of them, both static and dynamic. , which form a series of interconnected buildings that are accessed using the internet

From the opinion above, it can be concluded that the website is a service media that can be accessed by users connected to the internet, in the form of text, video, images, audio, and websites have the advantage of connecting links from one document to another [3].

b) Understanding PhpMyadmin

According to Sibero in 2011 PhpMyAdmin is a web application created by

by PhpMyadmin.net. phpMyAdmin is used for MySQL database administration". This program is used to access the MySQL database. The command to create a table can use a form that is already available on PhpMyAdmin or can use a form that is already available on PhpMyAdmin or can directly write a script on the SQL menu. PhpMyAdmin is executed by typing http://localhost/phpmyadmin in the web browser [4].

c) Definition User Interface

User interface According to Mcloed 1995 is a mechanism used by users and expert systems to communicate. The expert system displays questions that only the user needs to answer. These questions must be answered correctly and in accordance with the problem faced by the user. The

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interface receives an answer from the user and then the expert system searches and matches it into the rules so that a conclusion is obtained. So the interface accepts input in the form of answers from the user and converts it into a form that can be accepted by the system. In addition, the interface presents information in a form that can be understood by the user [6].

d) Understanding Database

There are several definitions of database, the following is the definition of database according to James Martin: A database may be defined as a collection of interrelated data stored together without harmful or unnecessary redundancy to serve one or more application in an optimal fashion; the data are stored so that they are independent of programs with use the data; a common and controlled approach its used an adding new data and in modifying and retrieving existing data within the database. (Sutanta, 2004). Silberschatz, et al also define a database as a collection of data containing appropriate information for a company, while a Data Base Management System is defined as a collection of interconnected data and a collection of programs to access data (Janner and Iman, 2006) [7].

2.2. Research methods

The research method uses Data Collection Methods:

1. Interview

This interview method will be carried out with the FKIP Admin as the Operator who processes SIMAKAD data and one of the FKIP students as SIMAKAD users.

2. Observation

Observation data collection method aims to study human behavior, work processes.

3. Questionnaire

Methods Data collection is done by giving a set of questions to the respondents to be answered.

4. Document Study

Methods of collecting data that examine various kinds of documents that are useful for analysis.

III. Results and Discussion

Information system is a combination of work procedures, information, users, and information technology organized to achieve goals within an organization (Alter, 1992). The Information System is expected to be able to provide up-to-date and accurate information, one of which is to store all existing data in detail.

According to Laudon (2009) information systems are components that are interconnected and work together to collect, process, store, and disseminate information to support decision making, control, coordination, and to provide an overview of activities within the company.

According to Susanto (2009) an information system is defined as a collection of any subsystems, both physical and non-physical that are interconnected with each other and work together in harmony to achieve one goal, namely to process data into meaningful and useful information.

Meanwhile, according to Mulyanto (2009) information system is a component consisting of humans, information technology, and work procedures that process, analyze, and disseminate information to achieve company goals.

1. Input input is everything that enters and becomes processed material, input in this case is in the form of raw data.
2. The process is the part that makes changes or transformations from inputs into useful and more valuable outputs, in this case in the form of information.
3. Output is the result of findings/processes from the process. In an information system, the output can be in the form of information, suggestions, reports and so on [8].

Tata Sutabri in his book Analysis of Information Systems, defines an information system as a system within an organization that brings together daily transaction processing needs that support managerial organizational functions in strategic activities of an organization to be able to provide certain outside parties with the necessary reports.

The KRS Online information system is used by operations so that they can process student registration data properly. This system is also used by students to make it easy to register lectures. In using the KRS Online information system, computers (hardware), software, communication networks in the form of the internet and data sources are needed

From the definitions above, it can be concluded that the information system is a system that is needed in processing transactions that are managerial in nature and requires a combination of work procedures, humans, and technology in making output in the form of information.

KRS (Study Plan Card) Online is an online system to assist in the process of taking specialization courses for the upcoming semester that will be used by students anywhere and anytime. In this system, students will be facilitated in the process of preparing specialization courses. Students only need to choose the courses that are displayed or offered on the system

This is where the courses offered or displayed have been approved by the Kajur and Academics [1].

Academic Information System (SIMAKAD) is a system where information is used as an information tool for users, including lecturers and students who are assisted by IT STAFF who manage the data in SIMAKAD which can be

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used as a report reference for leaders as support for becoming a university. which is international and makes it easier for users to find their own data, SIMAKAD functions as inputting KRS, KHS, and Courses inputted by the IT UM Palembang STAFF Operator, which will be connected to the respective student pages, which can be checked directly through the website The students are student.um-palembang.ac.id.

This Academic Information System was created to help a the performance of data processing carried out by the Admin, where this Admin will be the intermediary of Lecturers and Students, as for System Information Academic (SIMAKAD) contains data processing including:

a) Student Data Menu
b) Lecturer Data Menu
c) Student Study Plan Card Input Menu
d) Student Value Input Menu
e) Student Study Plan Card Print Menu
f) Student Grades Print Menu
g) Value Transcript Print Menu

Figure 2. Appearance Home SIMAKAD UM Palembang

Figure 3. Appearance Home SIMAKAD UM Palembang (For Student Access)

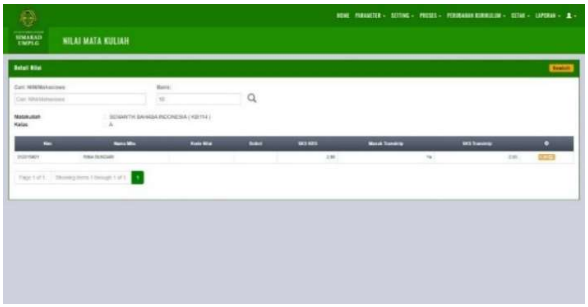


Figure 4. Appearance Input Krs Um Palembang (For Student Access)

Figure 4 shows the KRS Input Menu, this menu is for Inputting KRS Data (Study Plan Cards) for courses according to what is taken by students.

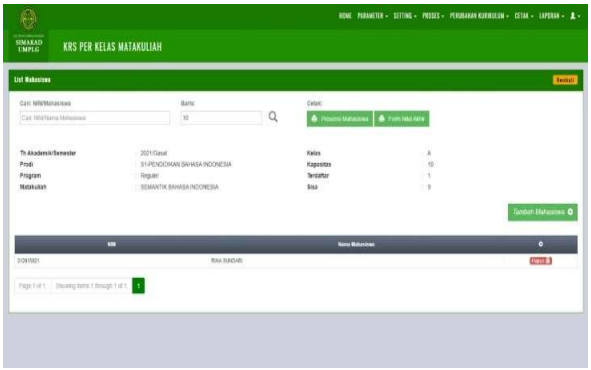
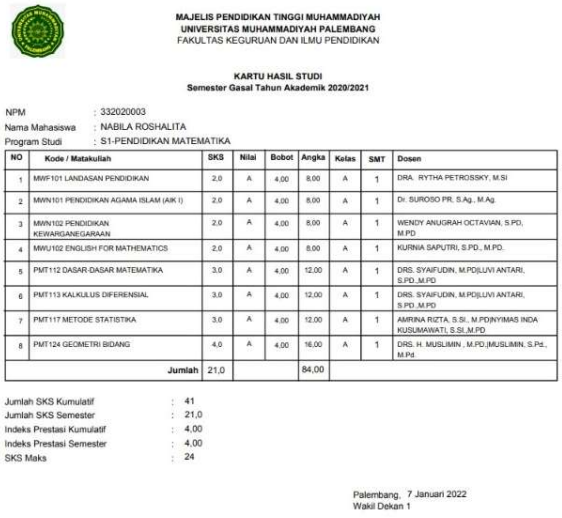


Figure 5. Student Grade Display

Value Input Menu, this menu is for inputting student grades based on what courses are taken by students



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UNIVERSITAS MUHAMMADIYAH PALEMBANG
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Figure 6. Student KHS Display

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IV. Conclusion

SIMAKAD Online available at UM Palembang Especially FKIP UM Palembang is very good with the existence of this system, because this system can be used by operators for inputting student data, checking student data and inputting values practically, and for students the existence of this system makes it very easy to access input. KRS (Study Plan Card), Viewing KHS Results (Semester Result Card) and Transcripts Practically.

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