ANALYSIS AND DEVELOPMENT OF LABORATORY INFORMATION SYSTEMS

(CASE STUDY : INFORMATICS ENGINEERING LABORATORY, BHAYANGKARA UNIVERSITY, SURABAYA)

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ABSTRACT

At first information systems do not have to be associated with information technology, but with the development of the times,nowadays an information system can not exist without the use of information technology. A system is needed to facilitate the affairs of an organization. The effecctiverss of the system will affect the success of the organization under it. The development of Web-based Information Systems is an effort to develop the implementation of practice and in order to improve the quality of services to students that are effective, efficient and transparent, and directed to achieve the establishment of information networks and service transactions to qualified students without restrictions on partition and space. The end goal is the development of Laboratory Information System is expected to accommodate the concept, the essence and the nature of service to students with excellenees. The results of the test based on questionnaire data. Presentase conformity system reach 92%, where the system runs in accordance with the wishes of responden. While the system discrepancies reach 8%.

Keywords: *Information Systems, Informatics Engineering Laboratory, Faculty of Engineering, University of Bhayangkara Surabaya, Excellent service.*

1. INTRODUCTION

At first information systems do not have to be associated with information technology, but with the development of the times, nowadays an information system can not be separated from the use of information technology a system is needed to facilitate the affairs of an organization. Good bad system will affect the progress of the success of an organization under it

On the other hand, the development of Information and Communication Technology has penetrated in various areas of life and it is undeniable that Telematics can help improve the effectiveness and efficiency of the work of an organization. Therefore, the efforts of the laboratory management to deceive telematics is through the acceleration of the development of e-government, whose implementation is to develop from the Information System informatics engineering laboratory of Bhayangkara University Surabaya.

The development of Web-based Information Systems is an effort to develop the implementation of Practic and in order to improve the quality of services to students that are effective, efficient and transparent, and directed to achieve the establishment of information networks and service transactions to qualified students without restrictions on partition and space. The end goal is the development of Laboratory Information System is expected to accommodate the concept, nature and nature of service to students with excellent service.

1.1 Problem Limitation

a. Design and process reports related to laboratory administration and finance at Informatics Engineering, Bhayangkara University Surabaya.
b. Data collection was taken from the list of Informatics Engineering students at Bhayangkara University Surabaya.
c. This website application was developed to handle financial process data, loan tools and inventory of goods, print free practic letters and print financial reports per period.

d. In the development of this application will use the language PHP 7, Framework CodeIgniter 3 and MySQL database.

1.2 Problem Formulation

a. The academic information system that the researcher developed includes processing value data, absent data.
b. Discussing the system of making free practic letters and borrowing laboratory equipment
c. Regarding the absence of educated personnel who can implement practic information systems properly and correctly, there are still lecturers and other campus devices who are still unfamiliar with how to use information systems.

1.3 Research Objectives

a. Complete needs that have not been adjusted to laboratory activities related to correspondence and reporting of Study Programs and Faculty of Engineering
b. Complete needs that have not been adjusted to laboratory activities related to correspondence and reporting of Study Programs and Faculty of Engineering.
c. Provide and provide direct printing facilities for free practic and borrow laboratory equipment for students who need it.

2. BASIC OF TEORY

2.1 Information System Management

Management information systems (MIS) is a field that began to develop since the 1960s. Even though there is no consensus single, SIM is generally defined as a system that provides information used to support operations, management, and decision making of an organization. SIM is also known by the expression such as: “Information System”, “Information Processing System”, “System Information and Decision Making”. SIM describes a unit or special agency tasked with collecting news and processing it become information for organizational managerial purposes by using system principle. It is said to use the system principle because of the news that spreads in various forms are collected, stored and processed and processed by one body which is then formulated into an information system.

2.2 Information Systems Analysis

System Analysis can be defined as the decomposition of a a complete information system in its component parts with the intent of to identify and evaluate problems, the expected needs so that improvements can be proposed.

3.3 Information System Development

System Development is the preparation of a new system to completely replace the old system or repair existing system. Information systems can technically be defined as a set of interrelated components, collecting or obtain, process, store, and distribute information for support decision making and control in an organization. In addition to supporting the decision-making process, coordination, and supervision, Information systems can also help managers and employees analyze problems, describe complex things, and create products new.

3. ANALYSIS AND DESIGN SYSTEM

3.1 System Flowchart

Flowchart can be defined briefly that serves to graphically depict the steps and sequences of procedures of a program. Monologic flowchart of analysts and programmers to break down problems into smaller segments and help in analyzing other alternatives in the operation of each function. Flowcharts are usually to make it easier if there is a problem, especially a problem that can be studied and can be evaluated further, so the role in making the system is really needed for the flowchart so that you know the problems that can be solved properly and accurately.

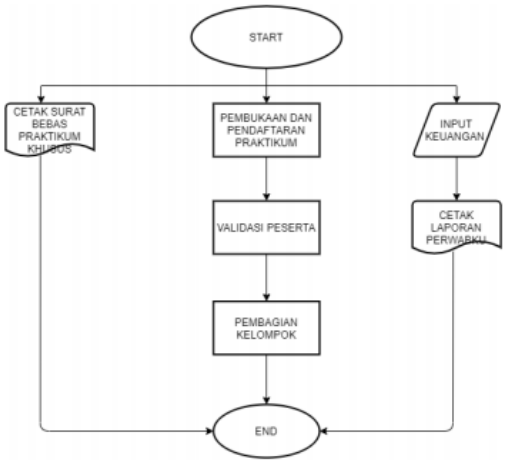


Figure 3.1 *Admin System Flowchart*

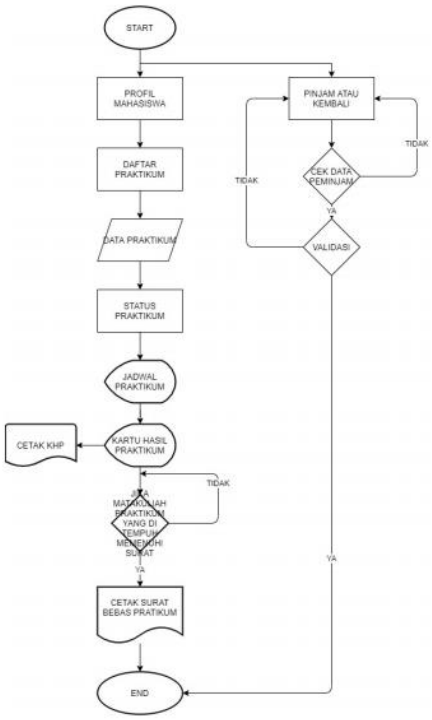


Figure 3.2 *Mahasiswa System Flowchart*

4. Results and Discusion

4.1 Test Result

The following are the results where testing occurs at the time of testing rather than developing an information system for the informatics engineering laboratory at Bhayangkara University Surabaya which will be explained in detail for the functions that happen.

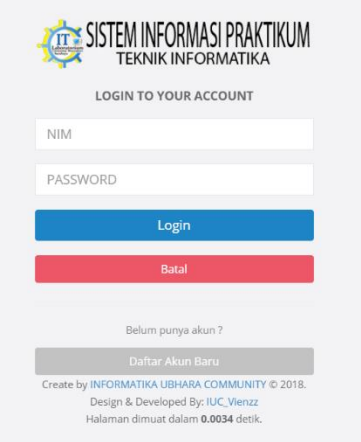


Figure 4.1 *Login*

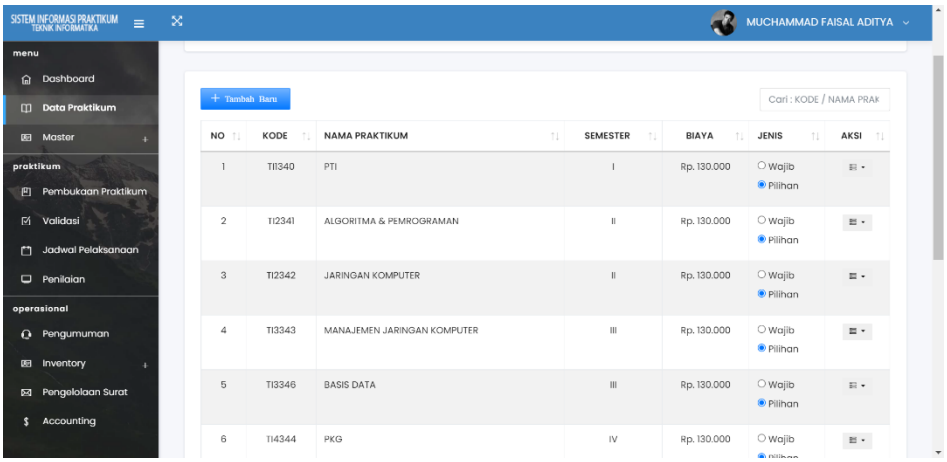
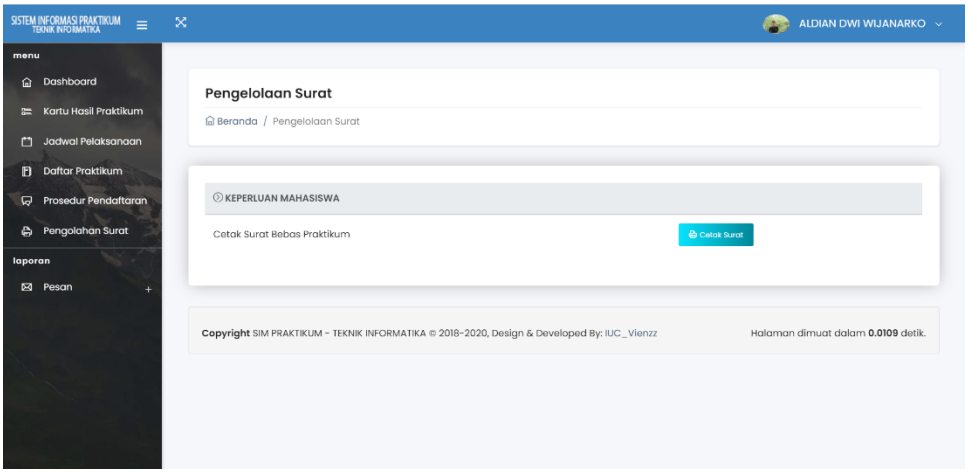


Figure 4.2 *Practical Data*



Picture 4.3 *Results of Selection of Practic Data Types*

5. CLOSING

5.1 Conclusion

Based on the activities that have been carried out by the author to analyze the Information System of the Informatics Engineering Laboratory, Bhayangkara University Surabaya, the following conclusions can be drawn:

1. The Laboratory Information System that is available now makes it easier for work related to the practic carried out by the Informatics Engineering Laboratory, Faculty of Engineering, Bhayangkara University, Surabaya.
2. he system can also print reports related to reporting and administration that have previously been stored in a database which will later serve as monthly or annual reports for the Laboratory. Informatics Engineering, Faculty of Engineering, Bhayangkara University, Surabaya.

5.2 Suggestions

1. It is necessary to carry out periodic maintenance and supervision from the party responsible for the system
2. Determine the user or admin who is responsible for using the system so that there are no errors in using the system.

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