The Online Research and Service Management Applications in LPPM Universitas Lancang Kuning

Nurliana Nasution¹, Mhd Arief Hasan²*, and David Setiawan³

¹Informatics Engineering Department, Lancang Kuning University, Indonesia
²Informatics Engineering Department, Lancang Kuning University, Indonesia
³Electrical Engineering Department, Lancang Kuning University, Indonesia

nurliana_2006@yahoo.co.id, m.arif@unilak.ac.id, and dsetia@unilak.ac.id

*Corresponding Author
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Abstract: Institute of Research and Community Service of Lancang Kuning University (LPPM-UNILAK) is an institution that manages all research activities and community service to improve the lecturers’ quality. Besides, LPPM UNILAK already become middle class, it is a proud achievement that will be upgraded to the main class. But in realizing it, it still has some problems. One of the points to reach the main class should be assessed on the use of technology. This manual model often leads to errors intentional or not. Besides that, the research and community service data management give weakness in the security of the data that are not assured. Hence, it is needed a computerized system using a special program based online application which is expected to support the needs of existing information systems in LPPM quickly and accurately.

Keywords: Universitas Lancang Kuning; LPPM; Web; Services; System.

1. Introduction

Institute of Research and Community Service of Lancang Kuning University (LPPM-UNILAK) is an institution that manages all research activities and community service to improve the lecturers’ quality. Besides that, LPPM UNILAK already become middle class, it is a proud achievement that will be upgraded to the main class. But in realizing it, it still has some problems. One of the points to reach the main class should be assessed on the use of technology.

It is as a weakness for already running. Where the research data are managed manually using Microsoft Excel application Nor Word. Data recording is done in many different files and storage complex. So, it causes the file which is irregular. And often it will be loss. And also in the search of data takes a long time because of the difficulty of finding the file.

By manual models like this often leads to errors intentional or not. Besides that, the research and community service data management give weakness in the security of the data that are not assured. Hence, it is needed a computerized system using a special program based online application which is expected to support the needs of existing information systems in LPPM quickly and accurately. So that the existing problems during this time can be resolved properly and to minimize errors that occur.

Besides that, the needs for this system is not only that but also includes the initial process of the research and community service in the filing itself. This application will allow the lecturers to access the online system. The lecturers can submit the research and community service proposals directly by online without coming to LPPM.
2. Literature Review

2.1. The Nature of System
According to Kristanto (2008:1), a system is a network of procedures that are interconnected, gathered together to perform an activity or solve a particular target.

2.2. The Nature of Information
According to Hanif (2007: 9), the information is data that has been processed into a form that is meaningful for the recipient and useful in decision making current or future. Thus the information as data that has been processed or data has meaning.

2.3. The Nature of Research
According to the Law of the Republic of Indonesia Number 18 of 2002 on the National System of Research, Development and Application of Science and Technology (Chapter I General Provisions, Article 1) study the activities carried out under principles and scientific methods systematically to obtain the information, data, and information relating to the understanding and proving the truth or untruth of the assumption and / or hypotheses in science and technology and attract the science conclusion, for the advancement of science and technology.

2.4 The Nature of Community Service
According to the Directorate of Research and Community Service (2011: 4), community service or activity includes efforts in terms of expansion of the insight, knowledge and by the academic community as an active to improve the welfare and economic empowerment of the weak. The meaning of LPPM ongoing process basically consists of two research institutes and institutions uniting the two agencies with the name LPPM comprising assisted by Deputy Chairman of the Research Society.

3. Material & Methodology

3.1 The Research Framework
In this chapter will be described the research methodology and research framework used in the completion of this research. This framework is the steps to be taken in the framework of the settlement issue to be discussed. The stages frameworks needed in the preparation of this study as follows:

3.1.1 The Problem Analysis
The step analysis of the problem is to be able to understand the problems that have determined the scope and limits. By analyzing the problem that has been done, it is expected that the problem can be well understood. The analysis technique used with the following steps:
1. Identify step is: identifying the problems occurred
2. Understand step is: understand more about the problems that exist in a way to collecting the necessary data.
3. Analyze step is: look for the weaknesses of existing systems and information about the needs of further required by the user.
4. 

3.1.2 The Technique of Collecting Data
To support this research, one of the supporting is data, in the data collection step the form of important files that are owned by Unit LPPM- Lancang Kuning University.

3.1.3 Input - Output Design Applications
In this step, the designing the input - output is done by using UML notation by the diagrams in it.

3.1.4 Design
In this step, the designing of Application Management Research and Services in LPPM UNILAK by using the programming language PHP and MYSQL Databases.
3.1.5 Application Implementation

In this step, the authors implement the Application Management Research And Service in LPPM-Unilak by running the application in the Institute of Research and Community Services - Lancang Kuning University

4 Results and Discussion
4.1 The Overview System

The overview of this system is a mechanism that is currently running. Making the proposed letter of assignment research, service proposed by the lecturer and the proposed letter of assignment to the invitation received from outside parties who may be attending seminars, workshops, training lecturers, workshops and more. To illustrate the system that is currently running to use tools such as document flow diagram.

4.2 The Requirements Analysis System

To run as designed; the system chooses some of its own needs. These needs consist of functional requirements, non-functional requirements, information needs and user requirements.

4.2.1 Functional Requirements

Functional requirements are requirements relating to what can be done by a system in accordance with its function. These needs include:

1. The system should be able to update information,
2. The system should be able to manage access rights,
3. The system should be able to perform data manipulation: insert, edit and delete,
4. The system should be able to accommodate the input data from the user.

4.2.2 Hardware Requirements

The hardware used to support the design of this system as follow:

1. Processor Core 2 Duo 2.90 GHz,
2. Hard Drive 250 GB,
3. Memory / RAM 2GB,
4. Monitor LCD 15 ”,
5. Mouse,

4.2.3 Software Requirements

The software used to support the design of this system as follow:

1. Operating System Microsoft Windows 7,
2. Xampp Control Panel For Windows 32 bit,
3. Adobe Dreamweaver CS5,
4. Browser Mozilla Firefox / Google Chrome,
5. Adobe Photoshop CS2,
6. Artisteer ver 3.0 for web design.

4.2.4 Information Needs

This analysis is conducted to analyze the information provided by the system when it works. The informations are such as lecturers’ information, research and service and receiving the information.

4.3. System planning

The system design is a description of the software structure to be implemented in the algorithm used. The design of the system in the form of context diagram illustrating the process flow system in general. The design can be seen in the following figure:
The results of the design can be seen in Figure 1 is a context diagram that there are two entities involved in the system namely Admin, Student, the head of LPPM and Dean. For example the Admin’ entity necessary data include student data, research data, the data service and others that will be used as Filing Information Systems Research And Web-Based Community Service Office LPPM Lancang Kuning University.

4.4 Data Flow Diagram (DFD) Level 0

DFD level 0 discusses the translation system to be designed based on a context diagram. The design can be seen in the following figure:

![Figure 2 Data Flow Diagram Level 0](image)

4.5 The Implementation System

a. Front page

The front page is the interface that connects the user with the system, in the front page of the menu consists of Home, Profile, Research, Vision and Mission, Contacts, Programs, and admin login.

![Picture 1 Main Page](image)
b. Login page
   Login page provides restrictions on the system to be able to grant access to the user level that consists of administrator and user.

   ![Main Page](image)
   
   **Picture 2 Main Page**

c. Registration Program
   On this page, the registration will be registered, Program/ Skim the research in LPPM Unilak.

   ![SKIM research data collection page](image)
   
   **Picture 3 SKIM research data collection page**

d. Documenting Research
   On this Page will be datad all the research and service that ever accepted in LPPM UNILAK.

   ![Checking Research data](image)
   
   **Picture 4 Checking Research data**

5 Conclusions and Suggestions

5.1 Conclusions
   1. By the management information system of research and service in LPPM UNILAK is expected to facilitate the LPPM to log the Research and Service in Lancang Kuning University.
   2. The existing system already meets the requirements of existing services in LPPM UNILAK to encourage researchers to continue to develop a research and service.

5.2 Suggestions
   1. The system needs to be implemented to see what the problems in the field during implementation.
   2. The Problems will be summarized for future system development.

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