

Analysis and Design Web Based System in LPPM UMN

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Abstract—Institute for Research and Community Service, or called LPPM is a forum for researchers to conduct studies with internal and national scales. LPPM UMN is one of the institutions that provide the container for UMN researchers. However, in the LPPM UMN itself still does not have a web-based system that can be accessed anywhere. This website will be able to share knowledge amongst lecturers by downloading study results that have been done before. After collecting all the requirements, an application is designed using the Rapid Application Development for a limited time spent. The application is built by designing a website and applying MySQL database and PHP programming language with CodeIgniter framework 2.2.2. This website is divided into 3 parts; admins, reviewers, and researcher. Admins are able to see the whole proposal which is sent and appoint a reviewer for one of the proposals. Reviewers have some facilities to review research proposals that have been uploaded. Researchers are able to upload a research proposal.

Index Terms— LPPM, Knowledge Management, Research, Website

I. Introduction

In general, information is data that we had made it into a page that has a meaning and is useful for human needs (Kenneth and Jane, 2012). Knowledge management is a collection of tools, techniques, and strategies to maintain, analyze, organize, enhance, and share understanding and experience (Yahya and

Goh, 2002). Understanding and experience of that kind build on knowledge, either realized in an individual or inherent in the process and applications a real organization. The focus of Knowledge Management is to finding new ways to deliver raw data into information form useful, until it becomes knowledge (Bryan, 2003). Kompas Gramedia is often abbreviated KG, is an Indonesian company engaged in the mass media was established on June 28, 1965 by P.K. Ojong and Oetama headquartered in Palmerah Selatan street 22-26, Jakarta. In the 1980s the company began to grow rapidly, especially in the field of communications. At present, KG had several children company / business unit that varied from the mass media, bookstores, printing, radio, hotel, educational institution, event organizer, and the TV station to the university.

A problem arising from the Human Resources area is not the way that really effective to share the knowledge we have to be studied and understood by other people quickly. It is seen of how the information provided from the campus or one of the lecturers not fully conveyed to another lecturer at the University of Multimedia Nusantara. For example, when a lecturer wants to submit the results research and other lecturers want to learn the results of the research but lecturers does not know what to look for where the results of his research. The idea of this study is to design the knowledge that shared here is explicit knowledge that can be studied and formulated. As a result, the application is made in accordance with the will and can be applied to the UMN LPPM website. The main problem

could be identified to the problem is there is no media which can accommodate for the division of science lecturer to lecturer A literature study is conducted by interviewing orally and in writing to the head of the research division.. With this research is expected for a solution that can support the sharing of human resources in knowledge management. So it is no longer difficult to share the knowledge that they have a way create a website that can share knowledge among professors.

II. Literature Review

In the previous study (Ovi Novianto, 2012) have been discussed about PT ABC which change the HRM section that contains the SOP. PT ABC realized managing knowledge is essential in order not to lose the knowledge to can be generated in the future and the next. The same study also do (Maria Almeida, 2014) that an organization will continue increased if maintaining knowledge and will be better equipped to deal uncertainty of market environment are dynamic. Knowledge application form management is very much of that change into explicit and tacit vice versa. Therefore, knowledge management alone is a bridge connecting organizations with the IT world today. In this study, website was developed by considering all lecturers to be able to share knowledge amongst lecturers by downloading study results that have been done before.

III. Research Methodology

In this study, researchers used the method most suitable for the settlement of the issues examined by using the system RAD development life cycle, Figure 1. Researchers using RAD method because this method can reduce cycle time and increase productivity with the user in question. On generally RAD also alleviate the costs and minimizing risks achieved top customer satisfaction and business needs. However, the risks arising are a researcher must provide a quick response to the user's updating the system

and subsequent shortage of researchers could not use system ever. RAD itself should involve the developer with the corresponding users to this system been made and should require rapid results and implementation produced also reduces the awkwardness aspect of what users want. The initiative to improve software processes started with a traditional, although light-weight, assessment of the current software processes, based on the understanding of the action researchers that improvement should be initiated with an assessment, (Mathiassen et al. 2002)

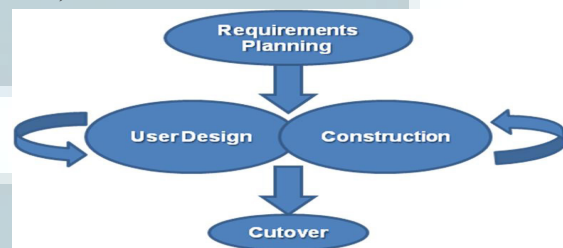


Figure 1. Rapid Application Development Method

a) Requirements Planning:

At this stage of requirements gathering done by researchers begins seek information from the user, designing preparation of applications, conduct interviews, and determine what features will be used in the application. Users and analysts meet to identify the purpose of the application or the system as well as oriented in solving business problems.

b) User Design:

At this stage, researchers are beginning to make the picture look face to face of all the requirements that have been described in the analysis stage. From requirement is already in the can, the researchers can change prior to UML forms or use case that will be able to describe the workings of application to be made and be able to explain the relationship between the system users later.

c) Construction

At this stage the researchers focused on program and development application. In the RAD, the user must continue to participate and

could suggest changes or improvements as the development of the report. Developer task here are doing application development, coding, and testing systems.

d) Cutover

This is the last stage in the implementation of the RAD. Researchers must convert test data, transferred to the new system, and training user. Researchers also have to compare with traditional methods and as result, the new system must be able to be conveyed and operate faster.

IV. Analysis and Discussions

A. Requirement Analysis

The first process is done in stages RAD model is a process planning requirements. At this stage of requirements gathering is done by researchers began looking for information from the user, designing the application preparation, conduct interviews, and determine what features will be used in in the application. Users and analysts meet to identify the purpose of application or system and oriented in solving business problems.

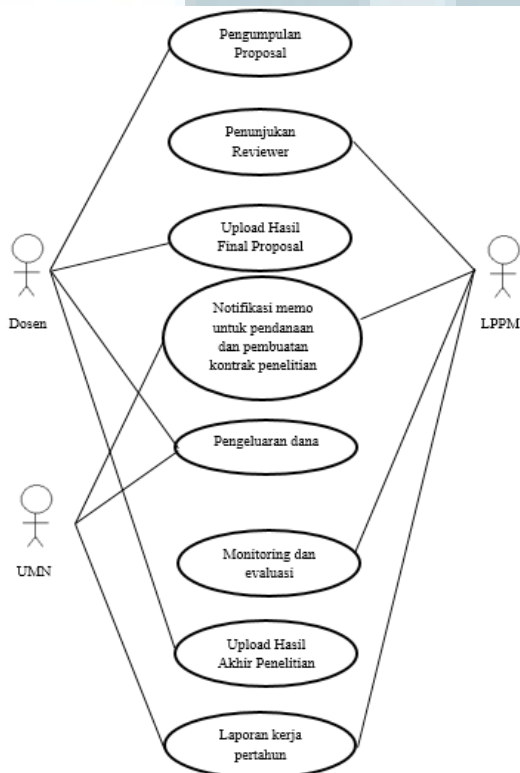


Figure 2. Internal use case

Use Case diagram is used to determine the activity (use case elements in the use case diagram itself) made by the user (actor element in the use case diagram) on application made by the researchers. Here can be seen in the Figure 2 that in the use case diagram, there are three actors involved in the use of applications designed.

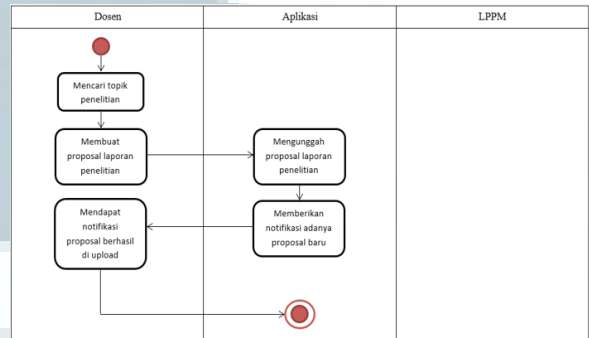


Figure 3. Activity Diagram

Internal activity diagram is a depiction of collecting proposal from the activity in order to access one of the menu in the application developed by the researchers is internal proposal upload menu (Figure 3). In this menu the user can upload the results of their proposals that will be reviewed in the future.

B. User Design

In this phase, researchers conducted the making diagrams Unified Modelling Language commonly called UML. Their type of UML the writers make is the use case diagram, activity diagrams, and sequence diagrams. The Unified Modelling Language (UML) now have started to demand by software developers. Object-oriented characters strongly support the flexibility and speed in generating a program or system (Widodo, 2010). Making the UML aims to describe the process of passage of information and the relationships between entities that exist in the application being developed by researchers. Researchers hoped that the UML can describe application is being made as to what will happen and in the design stage The researchers also designed a database and also described the

relationship the Entity Relationship Diagram (ERD). Relational databases has been proposed by (Connolly and Begg, 2010) which are widely used in almost commercial applications to store, manipulate and use huge data for a specific enterprises and decision making. Figure 4 shown in this menu user can upload the proposal but must fill completeness endorsement sheet and then can upload their proposal that the maximum 20mb and after successful they will be given notification by email.

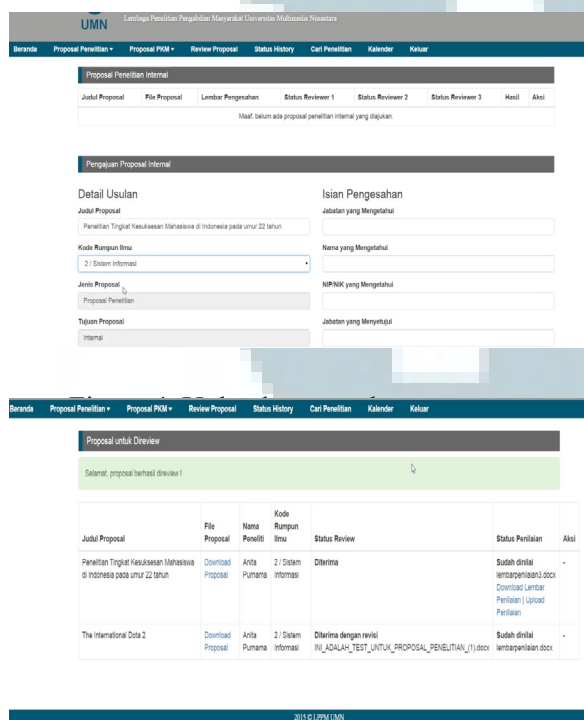


Figure 5. Result of upload proposal

C. Construction

At this stage the researchers focused on the program and application development. In the RAD, the user must continue to participate and could suggest changes or improvement as the development of the report. Developer task here is do application development, coding, and testing systems.

D. Cutover

The cutover is the last stage in the implementation of the RAD. In this step we must conduct user acceptance testing of an application that has been created by researchers. User acceptance testing is carried out by the LPPM UMN so applications have been made in line with expectations. Tester expected on occasion this is UMN lecturers and staff LPPM. At this stage the researchers also conduct training to the faculty and staff LPPM UMN to use application made by the researchers.

E. Analysis Knowledge Management

In the present study, researchers concentrated on knowledge management that is explicit to explicit. As it is known that the explicit knowledge can be digitized in the form of documents, records, and intellectual artifacts other. Explicit knowledge itself is represented and can manipulated in the digital domain. Example: converting the data to information and then information into knowledge that describes continuum of values explicit knowledge. Clear here that the application made.

Researchers are shaped using a website and database, which means entry in the category of combination. This process involves individuals who combine and exchanging different explicit knowledge to explicit knowledge with other people. As well as downloading feature the final results of research on website Researchers created is certainly one form of sample combination (explicit to explicit) described in Figure 6.

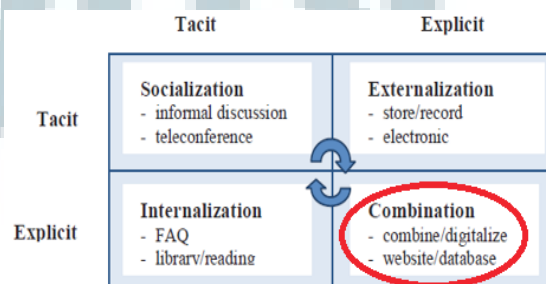


Figure 6. Matrix tacit and explicit knowledge

Therefore, in this study is a form of explicit knowledge is LPPM website and in this website the individual UMN lecturers to exchange different knowledge different. By using the website, the ideal organization can be established where people exchange knowledge across functional areas of the business by using technology and established processes. The exchange can be for policy formulation and strategy, for training and development, or for problem solving because the Internet provides quicker interaction and communication with fellow knowledge workers.

V. Conclusions

It can be concluded that web-based applications for this LPPM UMN has managed to answer the problems that exist. With this application, the process of collecting and evaluating research proposals will be faster. Then with this application, faculty researchers can download the research that has been made previously by other lecturers. UMN lecturers who want to perform research, they must use a manual way to submit their research proposals and reports through email. On the basis of these problems a solution is needed by creating a web-based application to LPPM in UMN. So that prospective researchers can conduct their researches in a new way to upload their reports to the web.

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