

Prototype Development of Research And Community Service Web Based Information System (SIM-PPM) of LPPM Unimed

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Abstract

The development of SIMPPM is indispensable for the development of an information system for the Research and Community Service Institute. Information system development will be developed through the web. Currently, LPPM has made the system which will continue to be developed according to the needs and will be integrated with the system at the University. The research object is the LPPM Unimed information system. The research method used was ADDIE (Analysis, Design, Development, Implementation, and Evaluation), the first thing to do was to conduct a needs analysis about the research and service process that switched from manual to IT-based. After finding out what are the requirements for the process of proposal, assessment, monitoring and evaluation to the final report, a model is designed in the system to address the needs of the research and community service implementation process. Then the initial design, a storyboard is developed so that researchers, reviewers and admins can carry out all the processes in the SIMPPM page. The implementation of the system is conducted by researchers/lecturers, by conducting trials and making improvements to the results of the main trials to involve a wider audience. From the test results, the evaluation of user satisfaction is improving than the conventional way. The results of this study resulted a website in the form of SIMPPM which is intended for prospective researchers and civil servants, operators and reviewers who will carry out the process of receiving proposals, selection to reporting. This study provides an innovation in the LPPM information system. This study makes the development of an information system web based so that it can be used independently and anywhere.

Keywords: Information technology, R&D, SIMPPM

1. Introduction

The aim of research and community service institutions (LPPM) is to produce research and community service by carrying out quality development and innovation as a solution to stakeholder problems in the academic and non-academic fields. Creating a climate and culture of research and community service for lecturers and students through training, coaching and mentoring. Creating technological innovations to encourage economic development in Indonesia by commercializing the results of research and community service. Providing solutions based on academic studies of needs, challenges, or problems faced by society, either directly or indirectly.

Producing innovative research-based work and community service that can enhance Unimed image and reputation. Encouraging creativity, innovation, and productivity of lecturers in conducting quality research and service at the local, regional, national and international levels. This study is to produce research and community service for developing and innovating services / products that can be used for income generation. Improve the function of LPPM as a media and means of scientific

communication based on the results of research, community service, and innovation. Cooperating with various parties in the field of research and community service.

The purpose of the LPPM refers to the Unimed 2020-2022 Long-Term Development Plan (RPJP), namely the consolidation of Unimed educational innovators, industrial engineering / culture. Therefore Unimed has a goal to achieve the RPJP, one of which leads to producing scientific work to develop Unimed as a center for learning and research innovation. Through the Community Service Institute (LPPM) synergizes with the Faculty to encourage lecturers to carry out research and dedication, the output of which will produce innovative and creative products that are able to provide added value to the business world and the industrial world (DUDI).

To achieve the research output in accordance with the Rector's contract with the Minister, the university, through the LPPM, carries out research and service activities with the university's PNBP funds. The implementation of this research and service is carried out to obtain research outputs that are reputable scientific publications, the number of Intellectual Property (KI), prototypes and innovation products. The output is a product that supports filling in the completeness of innovation performance, research performance and community service performance. Information system development will be developed through the WEB and the lppm.unimed.ac.id/simppm website. Currently, LPPM is trying to make this system which will continue to be developed according to the needs and will be integrated with the system at the University.

2. Method

This study uses a Research and Development model. Research and development methods are research methods used to produce certain products and test the effectiveness of these products [1]. The same thing was also conveyed by [2] who said that research and development is a process or steps to develop a new product or improve an existing product, which can be justified.

Research and development produces a product, so it is different from ordinary research. Products resulting from research and development are not always in the form of objects or hardware such as books, modules, learning aids in class or in laboratories, but can also be in the form of software such as computer programs for data processing, classroom learning, libraries, or models of education, learning, training, guidance, evaluation and others [3].

Based on the explanation from the experts above, it can be concluded that development research is a research method to produce a product or to improve existing products, both physical and non-physical objects that can be justified.

1. Location and Time of Research

Research on the development of the SIMPPM information system was carried out at the State University of Medan

2. Research Objects

The object of research on the development of the SIMPPM information system is with two media experts to validate research products.

3. Data Collection Methods

The data collection methods used in the research on the development of information system media in SIMPPM are observation and interviews. Researchers made observations by users, namely researchers and service providers then conducted interviews with related users to obtain data as the basis for carrying out the research.

The steps of development research are divided into several parts by [4], namely (1) potential problems, (2) gathering information, (3) product design, (4) design validation, (5) design improvement, (6) product testing, (7) product revision, (8) usage trial, (9) product revision, and (10) mass manufacturing. In this information system development research, we carried out in accordance with the needs of the

problem formulation in this study. The next improvement of this study will be continued by future researchers. The following is a description of the research steps.

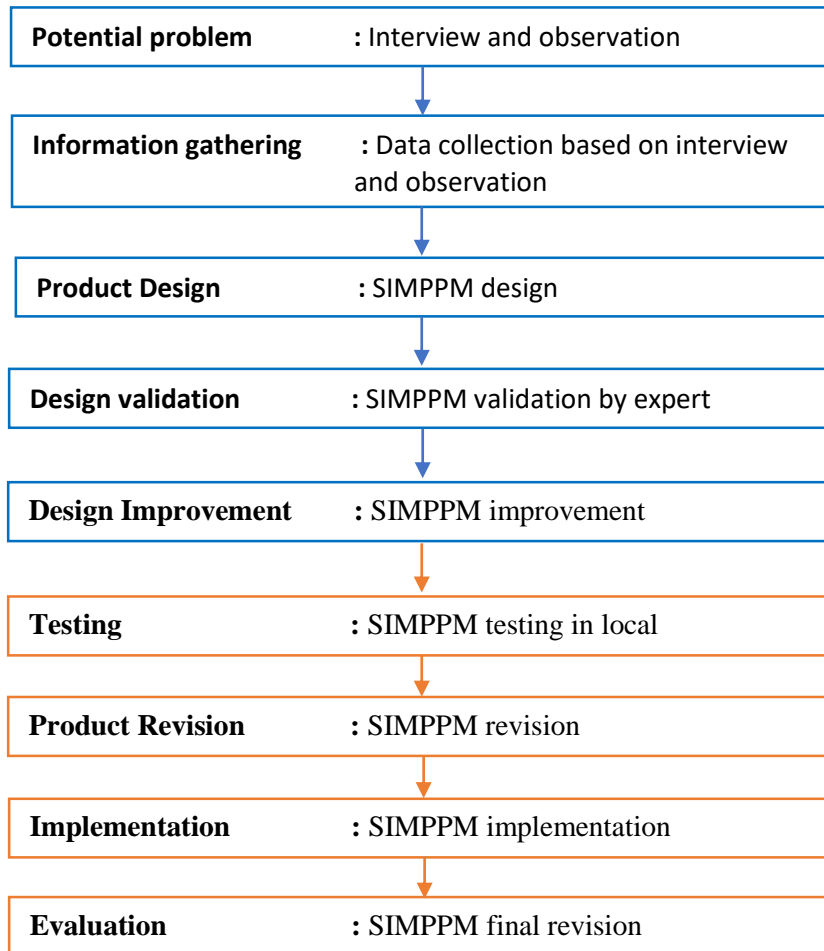


Figure 1. Research Step

4. Result and Discussion

This study utilized the ADDIE model that consists of Analysis, Design, Development, Implementation and Evaluation [5].



Figure 2. ADDIE Model [6][7]

4.1 System Requirement Analysis

In this step, we conduct an interview to figure out the needs of user and LPPM as the executor of this system. Based on the interview, we find out that LPPM needs a system that could manage the selection process of research and community service submission. We also carry out the interview for lecturer and students of Unimed as the user of the system later.

4.2 System Design

After the system requirement analysis completed, the next step is system design. In this step, we managed the information system design based on the interview done on the previous step.

4.3 Development

In this step, we develop a system based on the requirement and design from previous step by coding. We used PHP and MySQL as the tools to develop that web information system.

4.4 Implementation

The system that has been developed will be used en mass to the researchers and students as the user of this system.

4.5 Evaluation

After the system completed, we managed the testing of system to the user and performed the maintenance if there is a component that needs improvement.

5. Conclusion

After completing the development of SIMPPM development, we obtained the user satisfaction in research and community service submission. Since the result of this study, could improve the awareness of researchers to conduct their research more easily and regularly through this system. But beside that, we also found that there are some researchers that are difficult to adapt to this system. Over time, we

believed that the use of SIMPPM will improve the quality of researchers and the research that are resulted by Unimed lecturers and students.

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