

Developing Web-Based E-News Application as an IT-Based Facility

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Abstract

Information technology is one of the fastest growing technologies at this time. With the advancement of information technology, access to data or information available can take place quickly, efficiently and accurately. The function and purpose of this application is to provide convenience in posting articles in a web to provide information processing convenience by using CI-based web services. This application is made with web-based and uses the PHP programming language, in addition to using the PHP and MySQL programming languages as the database. In making this application adjusted Web-Based E-News Development as a Means of Information Technology. Information with website-based and by using the Mysql database to collect data on active users, posting with categories, clear and accurate information, making it easier for readers to find out information on E-News web users and any information will be known by visitors who have subscribed via the website.

Keywords

E-News applications, PHP, MySQL, Yii Framework, administration

1. Introduction

E-News is an alternative news information about the relationship of IT Technology. This encourages the development of technology that is believed to have played a role in minimizing mistakes that are often made by humans or human errors. This E-News provides an information article about IT in the post Indonesian polytechnic campus environment. many deficiencies in the association of article making. In this project which will be developed with additional application categories and comments pages to make it easier for visitors to read and criticize the articles that are made. In addition to creating new technology, people can also develop existing technology. The existence of technological development is also expected to improve existing technology and add to the shortcomings of existing technology. Like the case that the writer will adopt in this project 2, which is about a web-based application from an article called E-News. The e-News will be used in the system to post information articles about the IT world, especially on the Polytechnic Pos Indonesia campus. But for business processes that are in it only limited to blog

posts / articles. Seeing the development of technology and the development of the company, additional updates are needed in the website application to make it more complex. If the existing application focuses on the customer. The author feels the need for development that will be useful for article authors.

From the background that the author has previously described about the application that we want to build, the author has formulated several problems, which are: How to Design a new Information System for the development of accurate information and how to Implement E-News Information Systems on Mysql/Sql.

Also from some of the formulation of the problems that have been obtained, the authors found, several objectives in planning the development of the letter archiving application, which are making a development of information in accordance with the update of information so that what is implemented is in accordance with the contents of the information blog around the campus page in the postal polytechnic of Indonesia and to improve and add the database table / E-News information system design to the development that will be used as a means of student information on the postal polytechnic campus of Indonesia.

In the proposed project 2 research, the issues to be discussed will be limited to the scope of the discussion including: Management of E-News Information System Development. In this process, the administration of E-News information facilities will manage an E-News information system development that will be implemented in the system that will be run. This application is expected to provide benefits and information for the management of Indonesian postal polytechnics for the achievement of good governance and web categories and the quality of service to students.

2. Literature Review

Application programs (often only referred to as applications) are "programs created by users intended to perform a specific task" (Pradana & Novitasari, 2017). E-News (the latest news) is an information, learning, measurement or scientific training conducted. E-News are usually made to allow these activities to be carried out in a controlled manner. Information Technology is a general term for any technology that helps humans create, change, store, communicate and disseminate information. The World Wide Web (WWW), better known as the web, is "one of the services obtained by computer users connected to the internet". The web was originally an information space on the internet, using hypertext technology, users are led to find information by following the links provided in web documents displayed in a web browser (Silvianita & Tan, 2017).

Databases are logically connected data and are designed to meet the information needs of an organization. Examples of databases that are widely used today are discussed in Saragih et al. (2018). MySQL is a database management system software SQL (English: database management system) or a multithread, multi-user DBMS, with about 6 million installations worldwide. MySQL is available as free software under a General Public License (GPL), but they also sell under a commercial license for cases where users do not match the use of the GPL.

Unlike projects like Apache, where software is developed by the general community, and copyrights for source code are owned by their respective authors, MySQL is owned and sponsored by a Swedish commercial company MySQL AB, which holds the copyright for almost all the code the source. The two Swedish and one Finnish who founded MySQL AB are: David Axmark, Allan Larsson, and Michael "Monty" Widenius (Kartawinata et al., 2020). Normalization is "a data analysis technique that regulates data attributes in groups to form entities that are nonredundant, stable, flexible, and adaptable" (Dewi et al., 2019). Information system is a unity of elements that interact with each other systematically and regularly to create and shape the flow of information that will support decision making and control the running of the company (Pradana & Wijaksana, 2018).

XAMPP is a popular web server bundle used for trial and error on Windows because of its easy installation. The open source program bundle includes, among others, Apache web server, PHP interpreter, and MySQL database. After installing XAMPP, you can start programming PHP on your own computer or try to install web applications (Saraswati & Basri, 2016). UML which stands for Unified Modeling Language is a set of convection modeling that is used to determine or describe a software system in relation to objects. UML can also be interpreted as a standard graphics language used to model object-based software. UML was first developed in the mid-1990s in collaboration with James Rumbaugh, Grady Booch and Ivar Jacobson, who each developed their own notation in the early 1990s (Pradana, 2015).

Use case diagrams illustrate the expected functionality of a system emphasized is "what" the system does, and not "how" a use case represents an interaction between the actor and the system. Class is a specification that if instantiated will produce an object and is the core of object-oriented development and design. Class describes the state (attributes / properties) of a system, while offering services to manipulate the state (method / function).

Class diagram illustrates the structure and description of package classes and objects along with their relationships with each other such as containment, inheritance, association, and others. Object diagrams are similar to

class diagrams, but rather than describing object classes, it is better to use object diagrams that model the actual object instances by displaying the current values of the attribute instance (Pradana, 2016).

Statechart diagram illustrates the transition and change in state (from one state to another) an object on the system as a result of the stimuli received.

The following is a picture of the three system components in a use case diagram

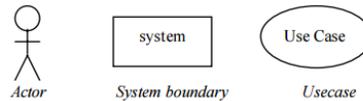


Figure 1: Component of Use-Case Diagram

The steps for using the Unified Modeling Language (UML) including the following: First, make a list of business processes from the highest level to define the activities and processes that might occur. Next, map the use case for each business process to define precisely the functionalities that must be provided by the system, then use the use case diagram and complete it with requirements, constraints and other records. Make a deployment diagram roughly to define the physical architecture of the system. Define other non-functional, security and other requirements that must also be provided by the system.

Based on the use case diagram, start making activity diagrams. Define the top level objects of the package or domain and create a sequence and / or collaboration for each workflow, if a use case has the possibility of normal and error flow, make another diagram for each flow. Create a user interface design model that provides an interface for users to run use case scenarios. Based on existing models, make a class diagram. Each package or domain is broken down into a class hierarchy complete with attributes and methods. It would be better if for each class unit tests were made to test the class's functionality and interactions with other classes.

After the class diagram is created, we can see the possibility of grouping the class into components, so make a component diagram at this stage. In addition, define an integration test for each component to make sure it can react properly. Refine the deployment diagram that has been made. Detail the capabilities and requirements of software, operating systems, networks and so on. Map the components into the node. Begin building the system. There are two appropriate approaches used, the first is the use case approach by assigning each use case to a particular development team to develop a complete unit of code with a test. The second component approach is assigning each component to a specific development team.

3. Design and Analysis

System analysis can be defined as the decomposition of a complete information system into its component parts with the aim of identifying and evaluating problems, opportunities, obstacles that occur and the needs that are expected so that improvements can be proposed (Pradana & Wijaksana, 2018). In this section, it will discuss the analysis of procedures and the flow of documents that are running which are described in the form of flowmaps, coding and analysis of non-functional systems that include hardware and software used, and analysis of users involved in the Development of E-News Applications [10].

The current system consists of three procedures, namely inputting IT information articles, checking view of available article visitors, and E-News Information output input process. In the article procedure involves 2 entities namely Admin and User. First of all, the user visits the E-News article. Next the user looks for the articles needed on the E-News website, then the user reads and marks the available articles, then the admin requests the article to be assessed by the user. Admin records the data of the article visitors during the articles posted via the E-News website. Then the process of providing articles goes according to the information made, then the results will be visited by students and as learning about the world of IT (Technology). The flowmap that is currently running is as follows:

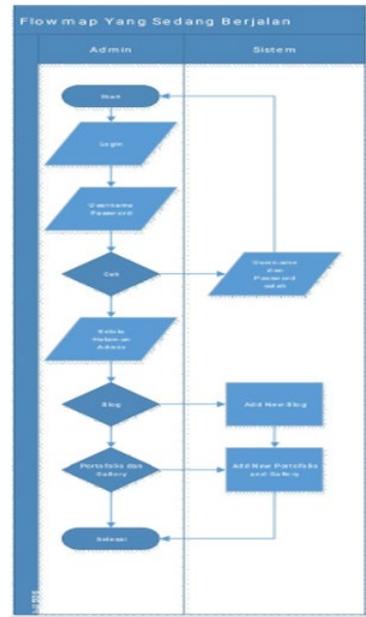


Figure 2: E-News flow map

4. Implementation

The implementation step is the most important thing that must be implemented in order to get the most out of the software built (Pradana et al., 2020). This software implementation is applied as an application that can be accessed by the E-News admin itself. Based on the design of the system compiled, the framework used is the Ci Framework and MySQL. On MySQL, database creation facilities are available optimally making it easier to arrange files from the table.

The application implementation environment uses supporting software and hardware. So that the design of this system can be used properly. The software used is minimum. Which includes the environment:

4.1 Interface of Login Page

This page is a page to check admin permissions by entering a username and password.



Figure 3: Main Page Menu

Next is the page of the newest article.



Figure 4: Newest Article page

Next, we have post list menu:

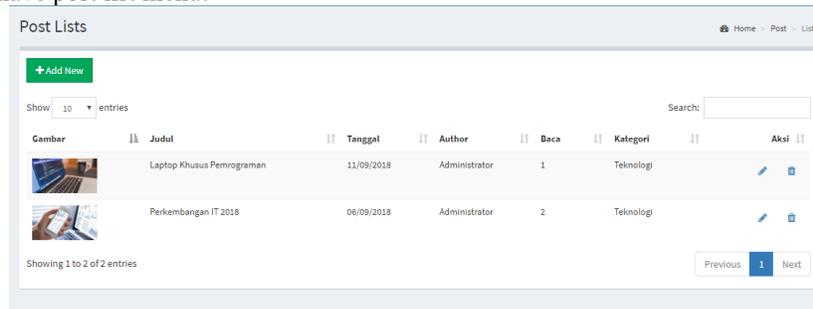


Figure 5: Post list page

To review the laboratory users regarding menu, stock of tools and materials, lab transactions, reports, singups and logouts, we conducted a satisfaction questionnaire as seen below.

Table 1: Laboratory Users Questionnaire

No	Questions	Answers		Target Achieved %
		Agree	Disagree	
1	The menu is easy to use.	80 %	20%	100%
2	The flowchart is useful for the task.	70%	30%	100%
3	The relationship between menus are discoverable	60%	40%	100%
4	I will recommend using this news page	65%	35%	100%

5. Conclusion

After analyzing, designing and implementing an e-news application to disseminate information technology, it can be concluded that the application developed has been able to answer the problems discussed in the previous chapters, and has succeeded in achieving its objectives namely, Simplifying the procedure of making articles by developing categories and comments column in running every article post that has been published via the web.

Suggestions to be conveyed to further develop this Application System is in the future it is hoped that this application can be developed further with other different programming bases, such as adding a wider report system, blog structuring system on each table in testing. Last but not least, making this application is expected to be a means for users to know the development of E-News Information Technology Dissemination Facilities.

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