

## **INTEGRATED CMS WEBSITE IMPLEMENTATION WITH THE CODEIGNITER FRAMEWORK**

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Received : 23 October 2020, Revised: 28 November 2020 , Accepted : 29 November 2020

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### **ABSTRACT**

*Content Management System (CMS) is a system or software in developing content. What is meant by content is all forms of digital information, in the form of image files, audio, video, text and other computer files. CMS makes it easy to create attractive website pages without having to understand how to create a website from scratch. Likewise, Lancang Kuning University has created an Integrated CMS website or integrated with faculty websites at Lancang Kuning University, by creating one database but the frontend and backend templates can be customized as desired. With this integrated website, it will make it easier for the main admin and faculty admin to maintain the website, including in its development. This website was built using the concept of Object Oriented and using a Codeigniter framework.*

**Keywords :** CMS, Website, Codeigniter, Framework, Database

### **1. Introduction**

The development of technology nowadays has progressed very rapidly, one of which is the internet. The benefits of the internet today are felt by the public and have even become a necessity, all information can easily be obtained on the internet as long as there is a connection. This initial step in the emergence of internet technology made several subjects to build on. The use of the website as a medium for communication is so widespread with low cost factors, easy access and efficiency because it can be accessed within 24 hours. Website technology has developed quite rapidly. The current website is not only a readable or static information medium, but has developed into a more dynamic and interactive media(Karlsson, M., & Sjøvaag, H., 2016).

Lancang Kuning University is the first university in Riau which now has more than 10 thousand active students. Lancang Kuning University has been accredited B and is well known by the people of Riau. To be better known and not only in Riau Province, of course, Lancang Kuning University will make steps in carrying out promotions with various media that exist today, such as Instagram, Facebook, WhatsApp, and websites(Kircaburun, K., & Griffiths, M. D., 2018).

Lancang Kuning University has 9 faculties and 1 postgraduate degree. Each faculty and graduate has a website and is currently managed by the admin of each faculty. In managing the website, there are often problems in terms of development and maintenance. Faculty's website in news management is often not up to date and some have even posted news that 1 year has passed. The faculty only assumed that the faculty website was only for an activity such as accreditation, after accreditation the web was never filled with news. Another obstacle is the lack of human resources to manage the admin. Even though the existence of the faculty web will be one of the faculty and campus promotions(Budiarto, M., et. al., 2012).

There are many CMS that have been developed. Examples that we often hear and use are Wordpress, Joomla, Dupla and others. Each of these CMS is paid and free, especially in the template. Every CMS has different features, for example the WordPress CMS which already has the most complete features and added plugins support, as well as Joomla and Dupla, this is only a small part of the CMS(Patel, S. K., et. al., 2011).

Apart from the above technology, internet technology also affects the development of information technology. With internet technology, various kinds of information can be obtained anywhere and anytime. More and more sites that provide information have sprung up with an emphasis on up-to-date content. One of the tools that can be used to manage the content of a website is the CMS. One CMS application that functions as a web service is Joomla. Many people use Joomla in creating websites, because Joomla is an open source CMS. Content Management System (CMS) CMS is a software used to manage content. What is meant by content is all forms of digital information, in the form of image files, audio, video, text and other computer files. CMS is a web-based application that is implemented using a programming language that has web-based programming capabilities. Joomla is one of the many CMS applications that exist today (Priefer, D., 2014). Joomla is also the most widely used. But in general, basically, the CMS has the same characteristics as being modular. Modular nature means modules that can be installed separately, then templates can also be installed separately, and supposedly, modules, components, templates and others are widely available on the internet. From the description above, the researcher will design and build an integrated website between the main website and the faculty website. In building a CMS website, human resources are needed both as the developer and as the admin. Currently, there are many free and paid applications available. This is of course according to what consumers want to use free or paid because each CMS has its advantages and disadvantages (Wakode, B. V., & Chaudhari, D. N., 2013).

The method used in building this integrated CMS website is to integrate the database into one database only. This means that every major website includes news, so the news will automatically appear on the front page of the faculty website. So that the faculty web will always update the news, but it must also be noted that the main admin does not automatically display all news on the faculty website because there is a choice whether it will be displayed on the faculty website or not. Keep in mind that faculty admins also have full rights in submitting news or other features. Also the web admin can change the preferred template. This happens because a group has been created in the table. This grouping the researcher named the group id. Each faculty web has its own group id, so as not to overlap in entering news and displaying news on the main page (Cao, X., & Yu, W., 2010).

## **2. Literature Review**

Related research that has been conducted with web-based object oriented are as follows: Research conducted by Aini, A. Q., & Pribadi, J. D. (2018) examined about this research aims to develop online promotional media in web form at Rumah Crochet Batu. Action Research procedures include planning, action, observation and reflection. The data collection techniques used were observation, interview, documentation and questionnaire. While for the technique of determining respondents using purposive sampling by distributing questionnaires to 11 respondents consisting of 3 marketing experts, 2 computer experts, and 5 potential users. To analyze the data used was a qualitative description analysis method. Based on the results of the research conducted, it can be concluded that the Crochet Batu House web is said to be effective and feasible to be used as a promotional media development to increase sales because it has the quality of convenience on the web so that it creates consumer interest in buying products. Research conducted by Siambaton, M. Z., & Fakhriza, M. (2016), Software has been implemented in the form of a CMS application that has several basic features and provides a web service that can be used by other applications. Implementation has been made of all software requirements specifications. The test results show that the application built can meet all the previous requirements specifications. The Joomla CMS application is dynamic so it is easy to change the content of the website that is built and it is easy to manage the information in it by the admin. Admins can manage the website from any computer online as long as the computer has Joomla installed and a web server like Apache. Research conducted by Iqbal, I. (2009). In the Joomla CMS, there are several features that add value to the use of Joomla. Joomla standard features are Banner, Contacts, Mass Mail, News Feeds, Polls, Syndicate, Web Links, and Search. In general, Joomla CMS users in creating websites only use standard features (such as content systems, web links, contact forms) that are in the Joomla CMS without developing these

features or are also known as passive users. This will be an obstacle if the desired features are not contained in the Joomla CMS. Currently there are quite a lot of Joomla users. Even Joomla is claimed to be an open source CMS with the most users in the world. This is evidenced by the number of the Joomla community in the world which reaches 40,000. However, there are more passive users than active users or developers. Due to the large number of Joomla users, especially passive ones, features or components are needed to accommodate the needs of Joomla users, one of which is an online-based information system component. Today many web developers tend to use CMS because of its simplicity. It also allows the development of a CMS for online based information systems.

21st century learning must be carried out without being influenced by time and space constraints. This learning must be supported by contextual, multi-representative learning media. This study aims to produce a Joomla Content Management System (CMS) based e-learning tool that is suitable for use in physics learning in high school. The method used in this research is the method of research and development of the Dick and Carey model. The e-learning tool displays multiple representations of material exposure. The material is enriched with instructional videos, practice questions, learning evaluation tools, and discussion forums to facilitate interaction between students and teachers. Students learn independently, without being limited by space or time. The e-learning media device has gone through a formative evaluation stage using a Likert 1-5 scale instrument. The results of the feasibility test for the material got a value of 86.33, the feasibility of the media was 86.3, the feasibility of learning was 92.14, the field trial for physics teachers was 91.78, and the field trial with the questionnaire was 85.44. The results of testing the use of e-learning media as a complement to learning provide a gain value of 0.323. From the results of the feasibility test and field testing, the E-learning media based on the Joomla CMS that has been developed is declared suitable for use in high school physics learning with very good quality. Students gain significant additional knowledge after learning independently through this physics e-learning tool. This indicates that the high school physics e-learning media developed with the Joomla CMS can be used as a complement to high school physics learning (Bakri, F., et. al., 2018).

Amidst the increasing number of purchases of goods, buyers can order without having to go directly to the store to get the items they need, the presence of conventional shops is still needed and attracts some buyers. But unfortunately, conventional shops like this haven't done much to develop their business through other media, including the internet. Prayoga Sport, located in the Cikupa area, Tangerang District, is one of the shops that sells various types of shoes by relying on buyers who go directly to the store. The problem that occurs is, the Prayoga Sport store is less well known because the promotional and sales media used are still conventional. For this reason, the researcher conducted an assessment of business needs at the Prayoga Sport Store and implemented the E-Commerce system for the CMS Joomla modules VirtueMart that was suitable to be applied. The goal is to market and make transactions online. The benefits of implementing the E-Commerce system CMS Joomla modules VirtueMart for consumers is that consumers do not need to come face to face with the seller so that the transaction process will be more efficient. For sellers, in addition to facilitating E-commerce buying and selling transactions, it is also useful as a promotional medium. The research method used includes interviews, observation, and participants. This system is expected to help marketing and advertising the products sold at Prayoga Sport stores and increase sales and services to consumers, so that Prayoga Sport stores become more famous and have many customers (Dedi, D., et. al., 2017).

### **3. Research Methods**

Previous research has been carried out at Pekanbaru Lancang Kuning University. The study was conducted from March, 2019 to September, 2020. In carrying out this research a framework is needed as a guide in compiling the research. The figure below explains in general the steps taken in carrying out this research.

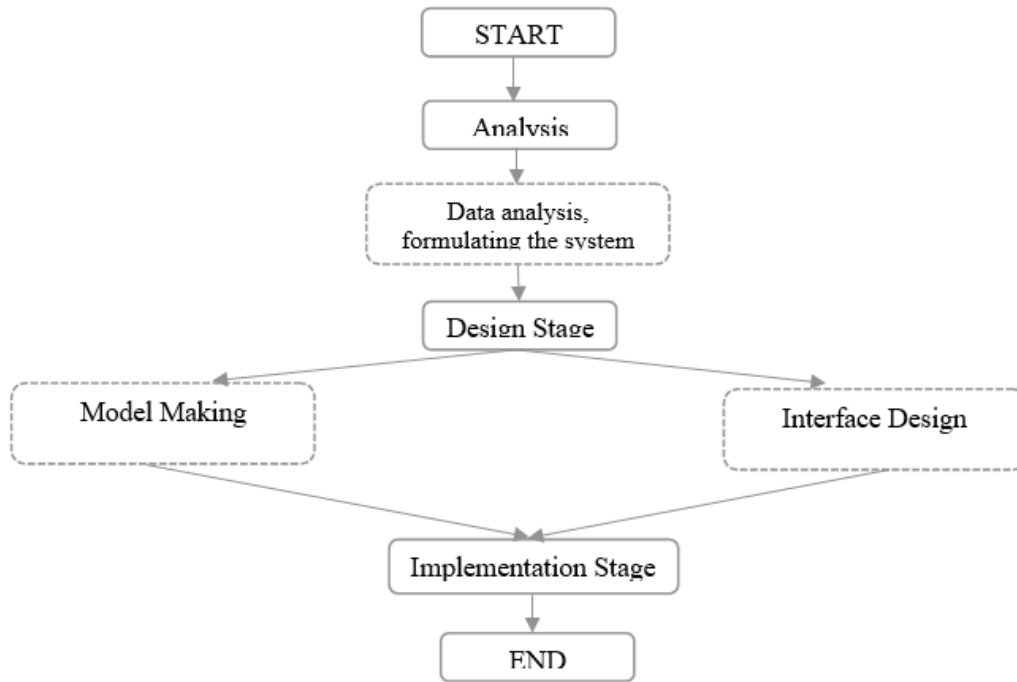


Figure 1. Research frameworks

**4. Results and Discussions**

This analysis process is the decomposition of a whole system into component parts with a view to identifying and evaluating problems, opportunities, obstacles that occur and the expected needs so that improvements can be proposed. The Analysis Phase is an important stage, because errors in this stage will cause errors at the design and implementation stages. System analysis is needed to meet the need for data and procedures for an ongoing system. Overview of the proposed system are Main Admin is the administrator of the Unilak web manager who has access rights to perform system management such as viewing data, deleting, adding, searching and modifying data on UNILAK's main website. Admin Faculty is the administrator of the faculty web manager who has access rights to perform system management such as viewing data, deleting, adding, searching and changing data against the Faculty's main website.

After the analysis and planning phase, we can implement the system according to the planned needs. In this implementation stage the researcher has done the coding and display design according to the plan. So that the processes in the system that are running can be better understood, it can be seen from the use case diagram below:



Figure 2. Use case Diagram

Implementation of this display illustrates what is in the system. Location of the navigation menu that will be displayed.

a. Front page

Main Menu Display is an interface that will appear on every page when opening the University Lancang Kuning website with using CMS CodeIgniter.



Figure 3. Front page

b. Login page

Login interface is the page that first appears when the website is opened which is used to verify the user by entering the correct username and password.

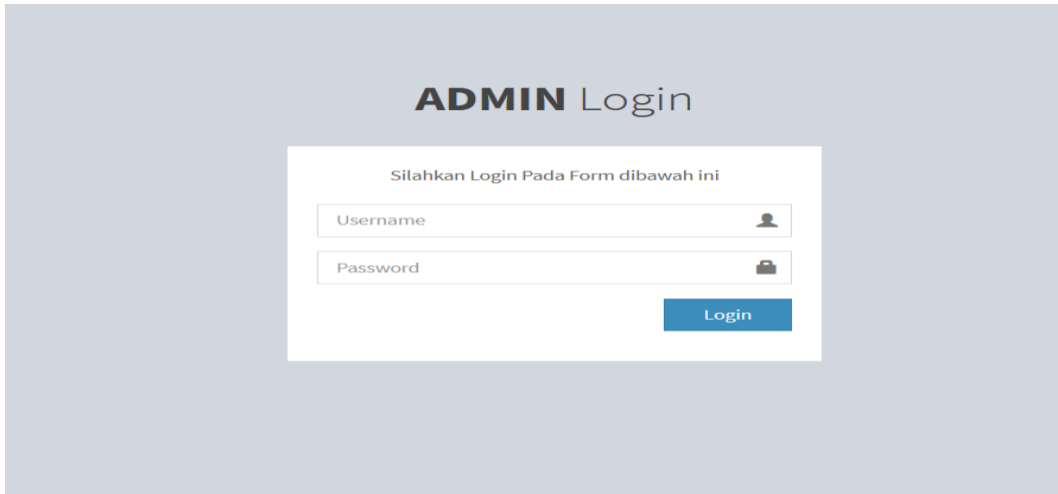


Figure 4. Display Login

c. Admin Page

Admin main menu interface is a display that appears after the admin has logged in, where web browser will display the database query according to the information data desired by the admin.

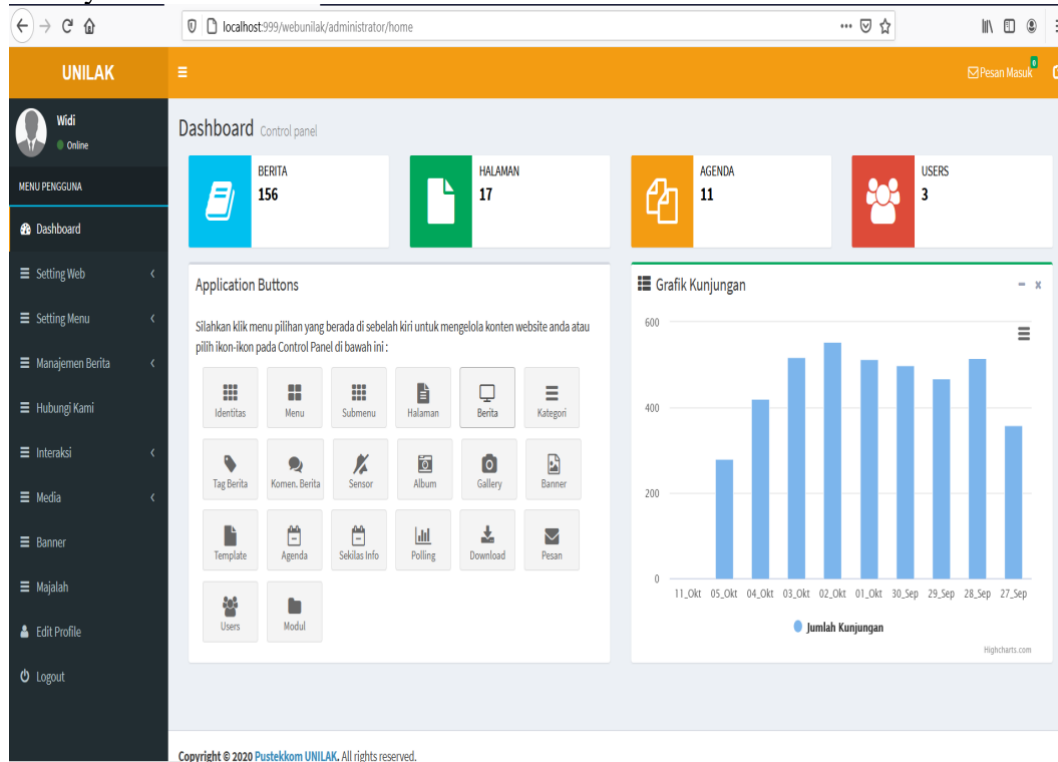


Figure 5. Admin Display

There are many types of CMS that have been provided by the developer and many have used the CMS, but here the author wants his own development because there are several things or some features that are not provided or do not support adding features. the. So that the authors create their own CMS using the Codeigniter Framework. In developing the CMS web, each faculty and its own staff are given the right to change the template without having to disturb the web templates of other faculties. This system is built using only one database but different templates. Access rights in managing the web have also been grouped. With a concept like this it will facilitate the management of the web and also not be monotonous in developing templates according to the faculty or university's wishes

## 5. Conclusion

The conclusion obtained by using this integrated CMS is that the news faculty websites will always be up to date because the main website of UNILAK is always active in filling out news. However, not every news posted by the UNILAK website will appear on the faculty website because the system provides a selection feature whether to display it or not

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