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Utilization of Content Management System for Web Design Fastly and Creatively at Komenwa "Mahasurya" Jawa Timur

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ABSTRACT

Each member of the command of the student regiment in the Komenwa "Mahasurya" Jawa Timur is expected to have basic abilities related to physical, mental, and intellectual. Nowadays, Komenwa personnel also need to adapt to the digital era that has penetrated almost all aspects of our lives. One of the skills needed is the skill to create web applications, which will later be able to support Komenwa in developing web independently to spread the vision and mission, organizational public relations functions, and coordination of all Komenwa personnel spread across various regions of East Java. Through this community service activity, we propose a CMS (Content Management System) technology transfer for fast and creative web design at the Komenwa "Mahasurya" Jawa Timur. This CMS is a "shortcut" that is practically used for the general public to be able to create websites quickly and creatively. The training activity was held on August 18, 2021, with 20 participants from Komenwa, located in the laboratory of the Informatics Department, Faculty of Computer Science, UPN "Veteran" Jawa Timur. The participants not only understood the presentation from the presenters but also directly practiced on the computer in the laboratory which had been adapted to meet the needs of this activity. The participants were very enthusiastic about participating in this activity because it was a new thing for them, which gave them added value to their understanding and skills. Through this program, it is hoped that the members of Komenwa "Mahasurya" Jawa Timur will have the ability to design their own web according to their own creativity. So that later Komenwa "Mahasurya" Jawa Timur will have the independence to present themselves in the world wide web or online portals.

Keywords: Digital Era, content management system, web design

Introduction

Komenwa (Student Regiment Command) "Mahasurya" East Java has the task of coordinating all menwa units in various universities in the province of East Java. Many activities must be carried out to increase the capability and capacity of the personnel to have reliable competence. Various basic abilities related to physical, mental, and intellectual development are developed to achieve the expected competencies. Physical ability through physical training and activities that refer to basic military capabilities are the characteristics of members of Komenwa, which is of course very important to face even the worst situations (for example if there is a serious security disturbance that threatens the integrity of the Unitary State of the Republic of Indonesia). Mental ability is also important as a counterweight to physical strength so that they can deal with any situation calmly but can take appropriate action. Intellectual abilities certainly complement physical and mental strength, so that they can analyze situations and provide the right solution in every problem.

Currently, the staff and members of Komenwa "Mahasurya" Jawa Timur need to improve their ability to face the increasing massive digital era. The field of Information Technology, in many ways, is no longer an exclusive area that can only be done by people who are specialized in this field. The phenomenon of social media has made almost everyone involved in it.

Komenwa "Mahasurya" East Java as one of the agents of national change, of course, is expected not only to be a user of this digitalization era phenomenon. They must also be actively involved in developing it so that they can bring many changes in the future. The current situation is that Komenwa "Mahasurya" does not yet have a website that actively disseminates the vision and mission, activities, and various important information, of course connecting this institution to the public or outside parties. Even though at this time the existence of an institution's web is very important, not only to be known by the public, but the website is also a bridge for information and communication with various parties. This situation occurs because indeed the staff and members of Komenwa cannot still develop web systems. So capacity building in this field is important and needs attention.

Based on the situation analysis that has been carried out, the problem with Komenwa "Mahasurya" is that the ability of the staff and members at Komenwa "Mahasurya" in the field of Web development is still minimal. So institutionally, Komenwa has not been able to be actively involved in the world of information portals. The ability to create a web ideally owned by the staff and members. The more people who have this ability, of course, the better, so it doesn't depend on certain admins. Website development is not merely a technical matter, but also requires creativity, which of course requires the involvement of many parties in it.

This community service activity proposes the use of a Content Management System (CMS) to design websites quickly and creatively at the "Mahasurya" Komenwa "Mahasurya" East Java. This CMS technology is a "shortcut" that is practically used by the general public to be able to create websites quickly and creatively. By utilizing CMS technology, which is specifically designed to help the Web design process easily and quickly, the staff and members of the East Java "Mahasurya" Komenwa are expected to have the ability to design their web according to their creativity. So that later Komenwa will have the independence to present themselves in the world of web or online portals.

Material and Methods
Basic theory

A content Management System (CMS) is a system that is used to manage and facilitate the process of creating, updating, and publishing content together, which is called collaborative content management (Aini, et al, 2018; Ida, 2019; Utami et al., 2018). Content refers to information in the form of text, graphics, images, or other formats that need to be managed to facilitate the process of creation, updating, distribution, search, analysis, and increasing flexibility to be transformed into other forms (Cabot, 2018; Mayangsari & Khabibah, 2018; Rizkianingsih & Fauzi, 2018).

CMS terminology includes application software, databases, archives, workflows, and other tools that can be managed as part of a company's or global information network mechanism (Nugraha & Triyono, 2020). The use of CMS is to make it easier for users to build a website (website) and also make it easier to edit content or templates without having to learn so in several web programming languages that take a long time, such as HTML, CSS, PHP, MySQL, and others (Kusumaningrum & Heru Supriyono, 2018).

CMS WordPress

WordPress is an open-source application that is very popularly used as a blog engine (Risdanto, 2014). WordPress is built using the PHP programming language and MySQL base. Both PHP and MySQL are open-source software. Apart from being a blog, WordPress is also used as a

CMS because of its ability to be modified and adapted to the needs of its users (Putra & Wardani, 2020).

WordPress CMS has several advantages related to ease of management and a place to be creative in building a web, among others:

1. Ease of getting the software. WordPress only needs to be downloaded directly from the repository, it's free, even for commercial web though. WordPress makes it easy and time-saving to create and edit site content, matching a phrase well-known among WordPress users.
2. WordPress is open source, meaning that users can view and obtain the lines of code that make up the WordPress software freely, so advanced users who have programming skills can freely modify, and even develop their WordPress program according to their needs. There are also a variety of free templates and plugins that can be used to enhance the appearance of the site.
3. The WordPress template or display design is easy to modify according to the user's wishes. If the user knows HTML and CSS code, then the user can be creative in making their template. Users who do not know HTML and CSS, they can still choose from thousands of templates available on the internet, both free and paid templates.
4. Many plugins are always updated. A plugin is an additional program that can be integrated with WordPress to provide additional functions that are not yet available in a standard installation. For example, contact form plugins, page editors, anti-spam, visitor counters, photo album sliders, and others.

Activity partner

The partner of this activity is the Komenwa "Mahasurya" Jawa Timur which is located at Jl. Hayam Wuruk No. 24, Sawunggaling, Wonokromo, Surabaya. Figure 1 shows the location of Komenwa on the map and the distance from the campus of UPN "Veteran" Jawa Timur.
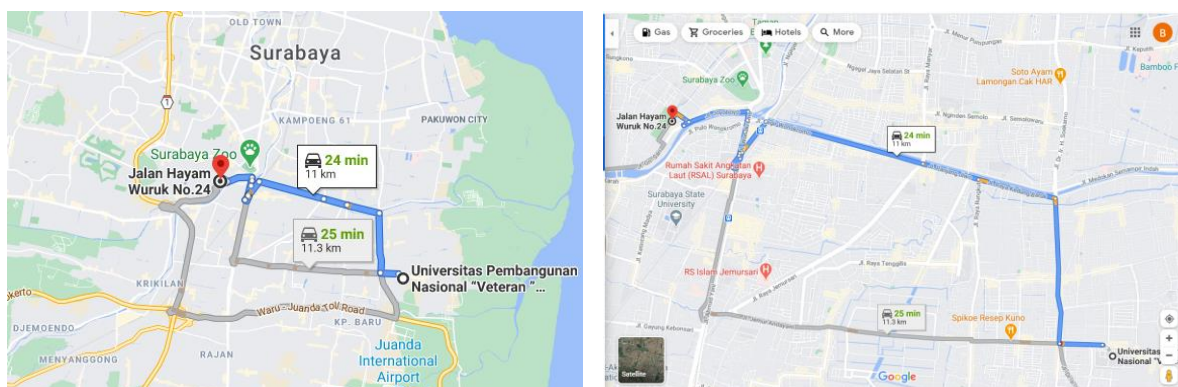

Figure 1. Partner location and partner location distance from the campus of UPN "Veteran" Jawa Timur

Application system (Software) applied

The technology used in this activity is a Content Management System (CMS) which can be used to design and create a web application quickly and creatively. So, for most lay people, this technology will help them to create a web for their individual and organizational needs. CMS is a software that stores all the data like text, photos, music, documents, and others. All such data can be available on the website. It helps in editing, publishing, and modifying website content. The CMS technology used in this activity is WordPress.

WordPress was originally released on May 27, 2003, by Matt Mullenweg and Mike Little. WordPress was announced as open source in October 2009. WordPress is an open-source Content Management System (CMS), which allows users to build dynamic websites and blogs. WordPress

is the most popular blogging system on the web and allows updating, customizing and managing websites from the backend CMS and its components.

The features provided in the WordPress CMS include user management, media management, system themes, plugins, search engine optimization (SEO), multi-language, and page content management. The user management features enable the management of user information such as changing user roles to the contributor, author, editor, or administrator, creating or deleting users, and changing passwords and user information. The main role of the user manager is authentication. Figure 2 shows the user management features of the WordPress CMS.
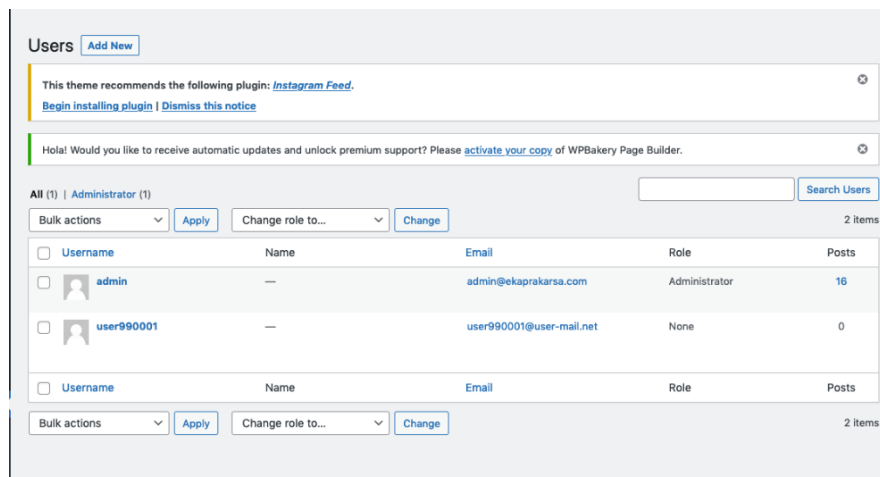

Figure 2. WordPress CMS user management features

A media management feature is a tool for managing media files and folders, where users can easily upload, organize and manage media files on websites. Figure 3 shows the media management features.
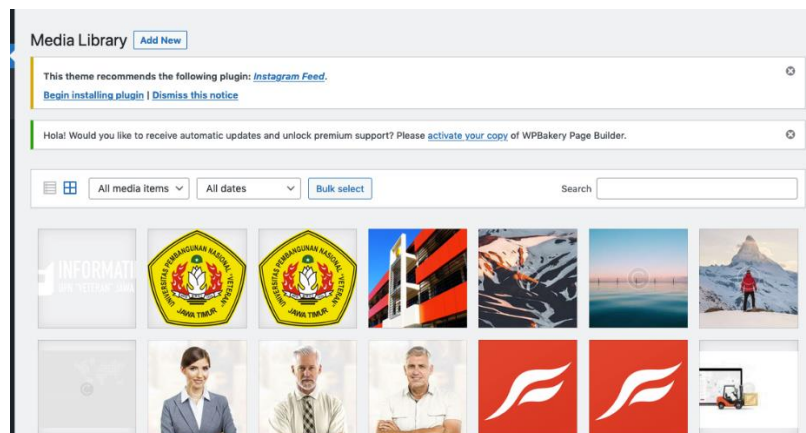

Figure 3. WordPress CMS media management features

The system theme feature allows changing the look and functionality of the site. These features include images, stylesheets, template files, and custom pages. The system theme features are shown in Figure 4.
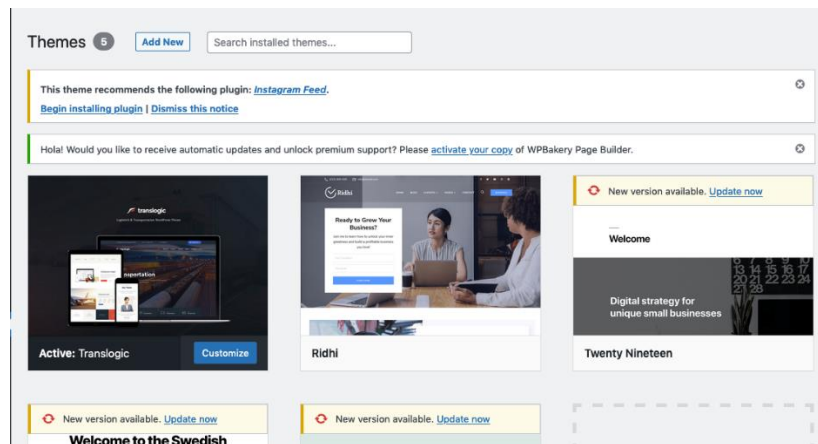
Figure 4. Features of WordPress CMS system theme

The plugin feature allows users to install plugins, activate them or remove installed plugins. Several plugins are available which provide specific functions and features according to user requirements. Figure 5 shows the plugin features in a WordPress CMS.

Search Engine Optimization (SEO) Features It provides several search engine optimization (SEO) tools that make on-site SEO simple. CMS WordPress also allows the provision of multi-language features. The multi-language feature allows translating the entire web content into the language preferred by the user.
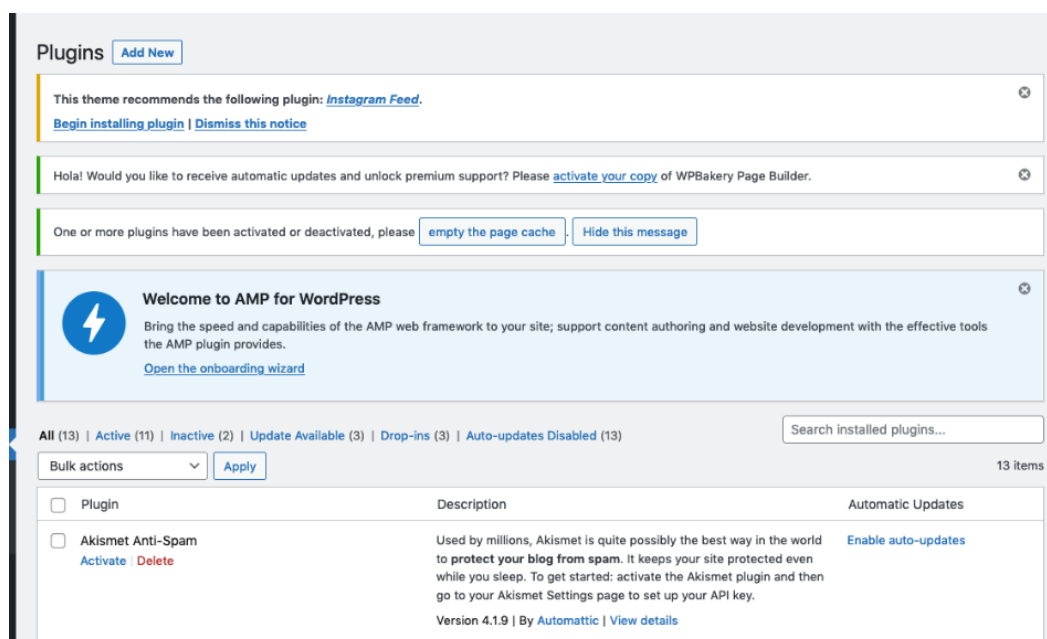

Figure 5. WordPress CMS plugin features

The page content management feature (pages) allows users to add pages on the web, modify existing pages, and classify pages according to the desired category. The page content management features are shown in Figure 6.
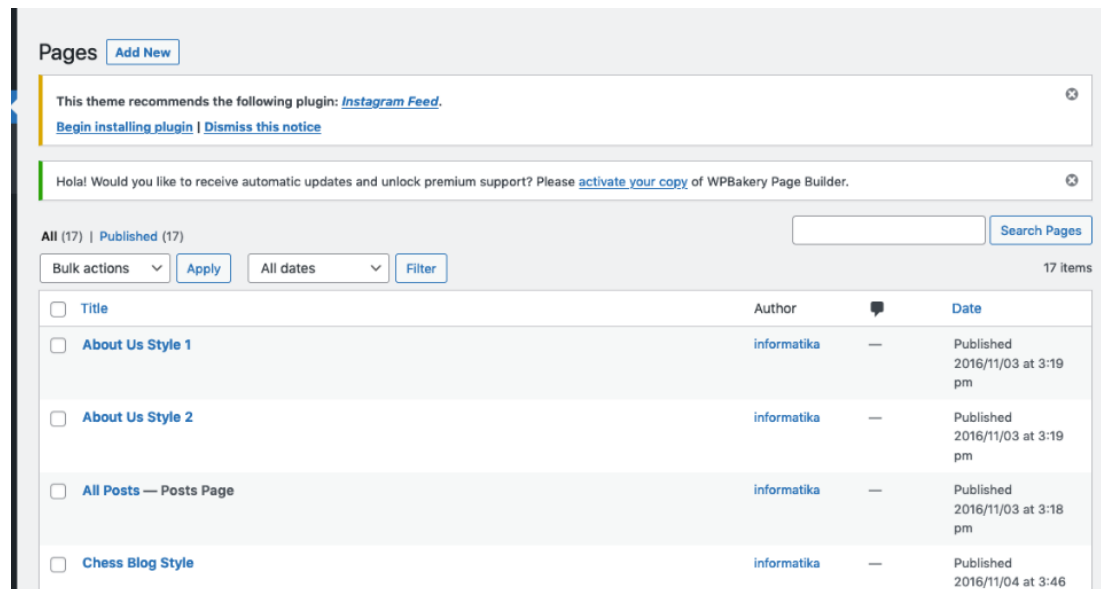
Figure 6. WordPress CMS content management features

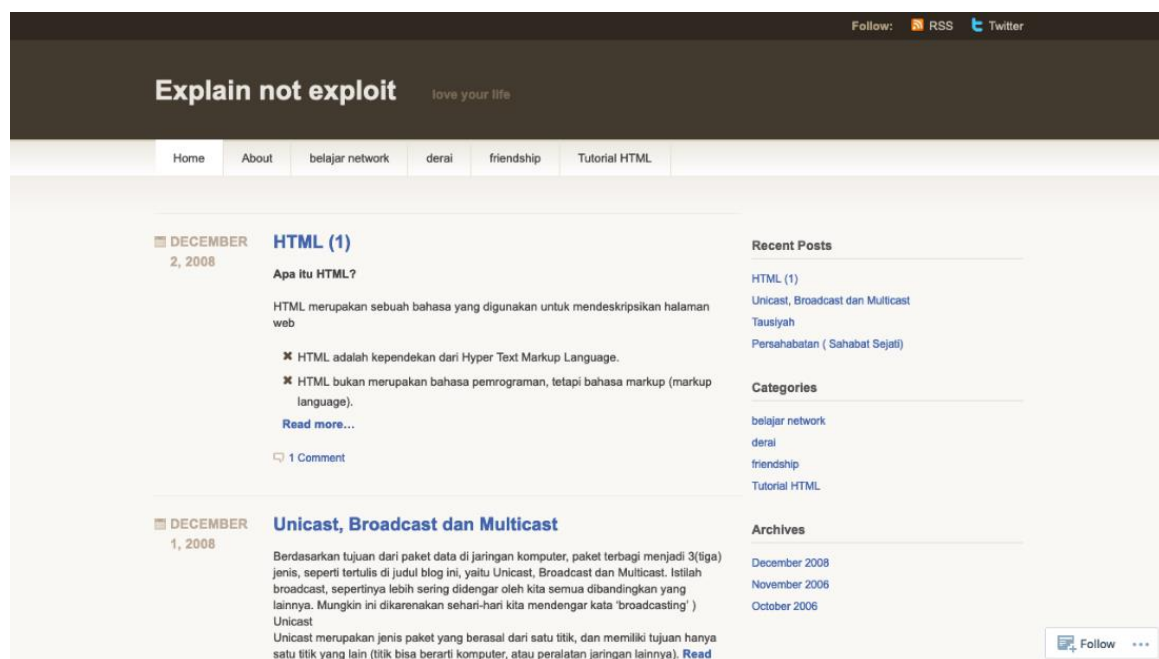Figure 7 shows the appearance of the main web page built using CMS WordPress.

Figure 7. Web Main page with CMS WordPress

Figure 8 shows the page content displayed by category. The example in the image is the "HTML Tutorial" category.
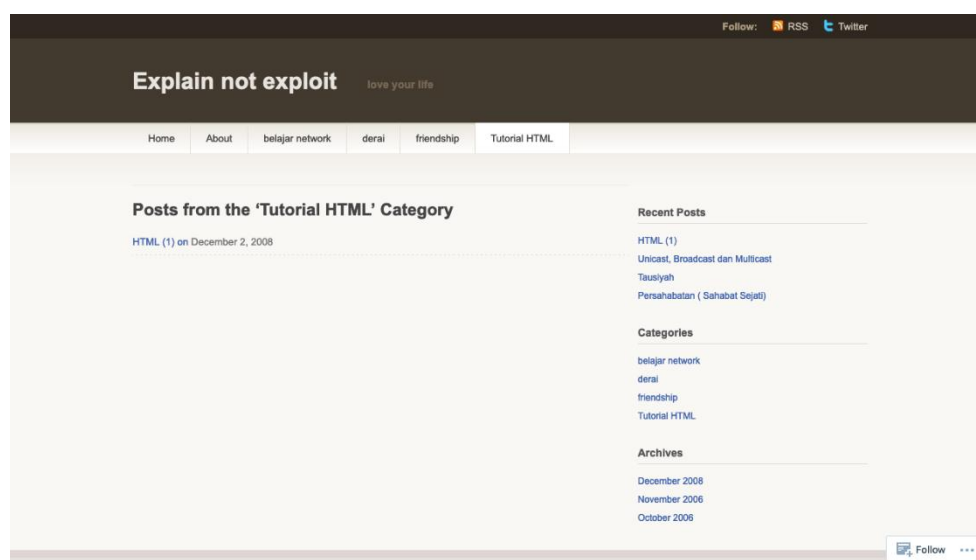
Figure 8. Content pages of categories on CMS WordPress

Activity procedure

Based on the problems formulated previously and to realize the proposed solution, the steps of the activities carried out include:

a. System Requirements Analysis

The analysis was carried out to identify technical needs in the field to ensure what technical materials would be transferred to the staff and members of Komenwa "Mahasurya" Jawa Timur.

b. Analysis of participants' initial abilities

This is necessary to determine whether the material presented is basic, intermediate, or advanced.

c. Preparation of training materials

The training materials include training modules and exposure during the learning process. The training module is made related to the technical steps in using a CMS for web design. The modules will be adjusted to the level of ability of the trainees later.

d. CMS Software Setup

The CMS software used is based on WordPress technology which is installed on a computer in the laboratory used for training activities.

e. Training Preparation

Various technical training needs need to be prepared, such as checking computer readiness, making banners, module readiness, and so on.

f. Web Design Training

The training was held with trainers, assistants, and trainees (staff & members of Komenwa).

g. Evaluation of Training Results

After the training is carried out, the results will be evaluated to measure the level of success and as material for the improvement of further activities.

Results and Discussion
Activity approach

The activity approach used to solve partner problems is the transfer of knowledge and skills to create web applications quickly and creatively through intensive training activities (step-by-step tutorials in mastering web development technology, direct practice of web creation, and assistance during the practice process).

Activity implementation

The training activity was carried out on August 18, 2021, in the laboratory of the Department of Informatics, Faculty of Computer Science, UPN "Veteran" East Java. The initial plan was that the training would be held at the Komenwa Office. However, because this training requires a minimum number of participants with computer infrastructure that has been adapted to the needs of CMS technology, it was finally decided that the activity will be carried out in the Department of Informatics laboratory which has more adequate infrastructure. Figure 9 shows the atmosphere of the training activities that have been carried out.

Figure 9. The atmosphere of training activities

This training activity was attended by 20 participants from members of the Komenwa "Mahaputra" East Java. Due to the pandemic, training activities are carried out using strict health protocols. It is ensured that all participants are not sick, keep their distance, wear masks, and when interacting with each other do not create a crowd.

Sustainable program

Training activities and assistance in making web applications have been carried out. The participants were very enthusiastic about participating in this activity. Of course, through this activity, the participants will not necessarily have the ability to create web applications. After the training activities, the participants need to use the understanding and skills that have been given in this activity to practice in the field. The more often they use these skills, they will have a better experience, especially in dealing with various problems in web development which are often unique and dynamic in the field of need.

To improve skills better, of course, this activity does not stop at this training. Long-term mentoring activities need to be planned so that the transfer of skills that have been carried out is not in vain, it is necessary to continue the planned program so that their abilities will increase in the future.

Conclusion

Based on the activities that have been carried out, several conclusions were obtained, including:

1. The technology transfer process that utilizes CMS (Content Management System) technology to create web quickly and creatively has been carried out in the form of training for participants (from Komenwa "Mahaputra" Jawa Timur) to provide basic understanding and skills.
2. Full mastery of knowledge and skills related to CMS technology cannot be obtained directly during training. This training serves as a basic understanding and foundation for initial abilities. Furthermore, a further mentoring process is needed to ensure that the trainees use their basic skills in the practice of web creation, either for the benefit of individuals/individuals or Komenwa organizations. This mentoring process is important to ensure that they have the capabilities expected.

The Komenwa "Mahaputra" East Java, especially the participants who are members, are very enthusiastic about this activity. They hope that this activity will continue in the future with further materials to support their ability to build websites whose scope is indeed very broad and complex. Especially in today's digital era, web creation is a basic skill that needs to be possessed even if you are not an IT expert. CMS technology helps anyone to have basic skills in the IT field, especially in developing web applications quickly and creatively.

Acknowledgment

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