
Implementation of a Web-based Digital Repository Information System at the Office of Sumbersekar Village

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Received: 21 January 2022 – Revised: 13 April 2022 - Accepted: 15 April 2022

Abstract. This research-based community service program is entitled *Implementation of a Web-based Digital Repository Information System at the Office of Sumbersekar Village*. This activity is motivated by the need to conduct collaborative learning programs with the village for the implementation of research results. Activities oriented towards product implementation as a more comprehensive effort for the downstream process of research results in the service carried out by private universities that can be utilized by the community. Downstreaming the results of this research is also the basis for managing collaborative learning activities for the Independent Learning (as suggested by the term MBKM) between Ma Chung University and the village. The issue of the village's desire to switch from a manual system to a computerized system is our focus. In the transition process from manual to computerized system, many information systems are needed, one of which is data digitization. Digitizing the repository allows centralized data so that the village staffs will find them easier to search when needed. Centralized storage media can support verification, namely the process of checking, confirming, and ensuring archives, ensuring the legality and integrity of related files and their relationship to the village. The repository information system implemented at the village office is expected to minimize archiving errors, facilitate data retrieval, avoid lost or damaged documents, and can anticipate data theft. This repository information system also facilitates the process of monitoring, controlling, as well as backing up data. Therefore, this community service has successfully implemented a repository information system for internal village documents.

Keywords: implementation, web-based digital repository information system, community service

Citation Format: Susilowati, M., Kurniawan, Y., & Wilujeng, L.L. (2022). Implementation of a Web-based Digital Repository Information System at the Office of Sumbersekar Village. *Journal of Community Practice and Social Welfare*, 2(1), 11-23.

INTRODUCTION

A study on the repository was conducted at a university. It is concluded that scholars in universities in Kenya are aware of the necessity for preservation of scholarly content and they use various strategies at personal level to enhance long-term access to this content. However, they prefer preserving the content on personal devices rather than public devices such as digital servers and repositories. Distrust and lack of awareness seem to be the key factors impeding use of institutional digital repositories for preservation of scholarly content. In line with best practices of digital preservation, the study recommends that institutions of higher learning in Kenya need to broaden their repository activities to include preservation strategy, tools, and techniques in their daily management activities. This will involve integrating careful observance of accepted preservation practices throughout the lifecycle of digital information especially that which is created within the universities (Moseti, 2016).

Based on this research, we see how important the repository is to support the administrative management of an institution. The digital repository is a source of information obtained from the digital archive of every activity carried out by an institution (Vrana, 2017). The village office is no exception. Where a village office should be continued and improve its services. Therefore, this repository will support the village service information system well. We know that this village service information system is an application that is used to assist the village government in providing optimal services to the community through the availability of integrated data with an information system that is created and developed specifically in accordance with services in the village government (Infodesaku.co.id, 2018).

Therefore, the research-based community service program and prototype this time took the title *Implementation of a web-based Repository Information System at the Sumbersekar Village Office*. This service activity is motivated by the need to conduct collaborative learning programs with village partners for the implementation of research results. The result of the previous research entitled *Rancang Bangun Sistem Informasi Repositori Digital Dokumen Internal Berbasis Web* has been published in (Alfredo & Susilowati, 2021). The results of this research are also a continuation of previous findings regarding E-government Master Plan as stated in a scientific publication entitled *Master Plan of Local E-government for Village Office Information System Referring to Ministerial Regulations on Work Procedures* (Susilowati, 2021).

This service activity is oriented towards product implementation as a more comprehensive effort for the downstream process of research results to the community carried out by private universities that can also be utilized by the community. Downstreaming the results of this research is also the basis for managing collaborative learning activities for the Learning Independent Campus Program on an ongoing basis between Ma Chung University and Sumbersekar Village. The issue of Sumbersekar Village's desire to switch from a manual system to a computerized system is our focus. With a system that can support Village business processes, it is hoped that village governance can run more optimally. In the process of transition from manual to computerized system, many information systems are needed, one of which is data digitization. Data digitization is a change from manual data (hardcopy) to digital data (softcopy). This is done because Hardcopy Documents can be damaged, lost, or take up space and are more difficult to duplicate. As a result, we need to digitize the repository that allows centralized data to make it easier to search when needed.

Digital repository itself is defined as a source of information obtained from digital archives of existing activities within an institution. Repositories are needed to facilitate access to documents or files both in the upload process and in the download process. Centralized storage media can also support the verification process, namely the process of checking, confirming, and ensuring an archive to ensure the legality and integrity of related files and their relationship to Sumbersekar Village.

The repository information system that was implemented at the Sumbersekar Village office is expected to minimize archiving errors, facilitate data retrieval, avoid lost or damaged documents, and can anticipate data theft. This repository information system also facilitates the process of monitoring, controlling, and backing up data. Therefore, this service activity will implement a repository information system for internal documents of Sumbersekar Village.

PROBLEMS

All the existing important documents at the office of Sumbersekar Village are still stored manually. As a result, the process of archiving, documenting, and surely recalling all those documents become burdensome. The staff have to work harder in finding all the documents when needed, opening all files one by one, or there is always a possibility that the documents are lost and cannot be found anymore. Thus, the most appropriate solution

for those problems is to implement a user-friendly computerized system called a web-based repository information system.

METHOD OF IMPLEMENTATION

In carrying out this community service activity, the team employed several strategies to complete the entire series of activities on time and on target. The following is the implementation method that the team conducted to achieve the goals and objectives of this community service.

1. Coordinating with partners at the beginning of the implementation of this service activity to inform activities and identify human resources as the target of training for the implementation of this repository information system.
2. Developing a schedule with partners specifically with human resources who would take part in the training so as not to interfere with the operational activities of the village office.
3. Preparing a questionnaire according to the criteria for measuring application user satisfaction. The questionnaires were conducted twice, i.e. before and after the training.
4. Preparing the hardware for the application of website server in accordance with the standard server specifications approved by partners.
5. Developing an application operation tutorial module so that it can be a guide during the use of this repository information system. The modules were arranged according to the application features as follows:
 - a. Repository Mastering Settings (File Format, Access Rights, Data Source, Publication, File Classification, Village, District, Religion, Occupation, User and Employee Details)
 - b. Settings FAQ
 - c. User Settings (Staff, Admin, Visitor, Village Head and Content Moderator)
 - d. Repository Transaction Input (Upload, Verification, Preview, Download, Delete)
 - e. View Reports
 - f. Repository Newsletter Update
6. Training on the use of applications with partners were held 3 times within 5 days consecutively with the following agenda:

- a. Day One: Training for Users with Admin privileges.
 - b. Day Two: Training for Users with Advanced Admin privileges.
 - c. Day Three: Training for Users with access rights as Village Heads, Staff and Content Moderators.
 - d. Day Four: Training for Users with Advanced Staff and Content Moderator access rights.
 - e. Day Five: Training for Users with Access rights as Visitor, Staff and Content Moderator.
7. Assistance in using the application for 1 week starting from input of master data, transaction processing repository to reporting and simulating the process of searching the required documents.
 8. Making videos of preparation activities, training to mentoring for editing for publication material in the mass media.
 9. Publication on mass media through Ma Chung University website, study program social media and East Java regional mass media.
 10. Managing survey results to draw conclusions about the success rate of service activities. The results of the questionnaire survey that had been distributed before the training started shows that only 15% knew about repositories or archiving.

RESULTS AND DISCUSSION

This part serves as the reports of the results and discussion. What matters are: how the trainings were carried out, the outputs and outcomes as benefits of the community service conducted by the team, the positive economic and social impacts for the target partners, its contribution to other sectors, and an expected follow up.



Figure 1. The application operation tutorial module

The application operation tutorial module used as guidelines for the trainings is shown in Fig. 1. The following is a brief overview of the web-based Repository Information System Application. Repository application is online at: <http://prodisi-mengabdi.machung.ac.id/index.php>. The Homepage is the first page that will appear after the user logs in to this Repository Application as shown in Fig. 2.

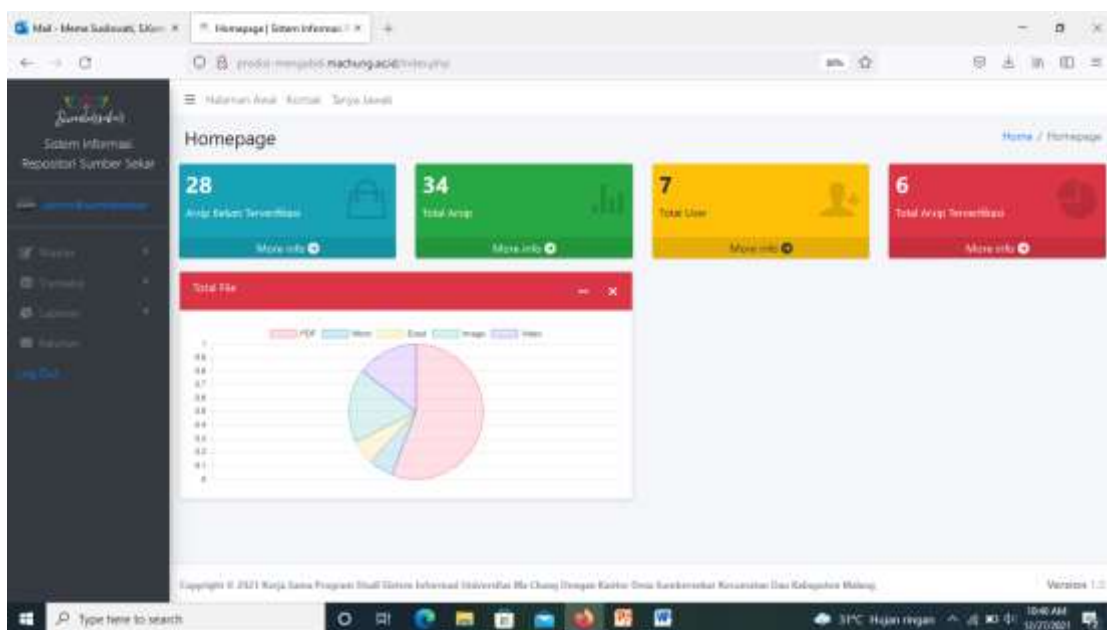


Figure 2. An overview of the web-based Repository Information System Application.

This IS Repository Application has a Master menu. There are 9 submenus with one display of the Master Document Classification page by Function as shown in Fig. 3.

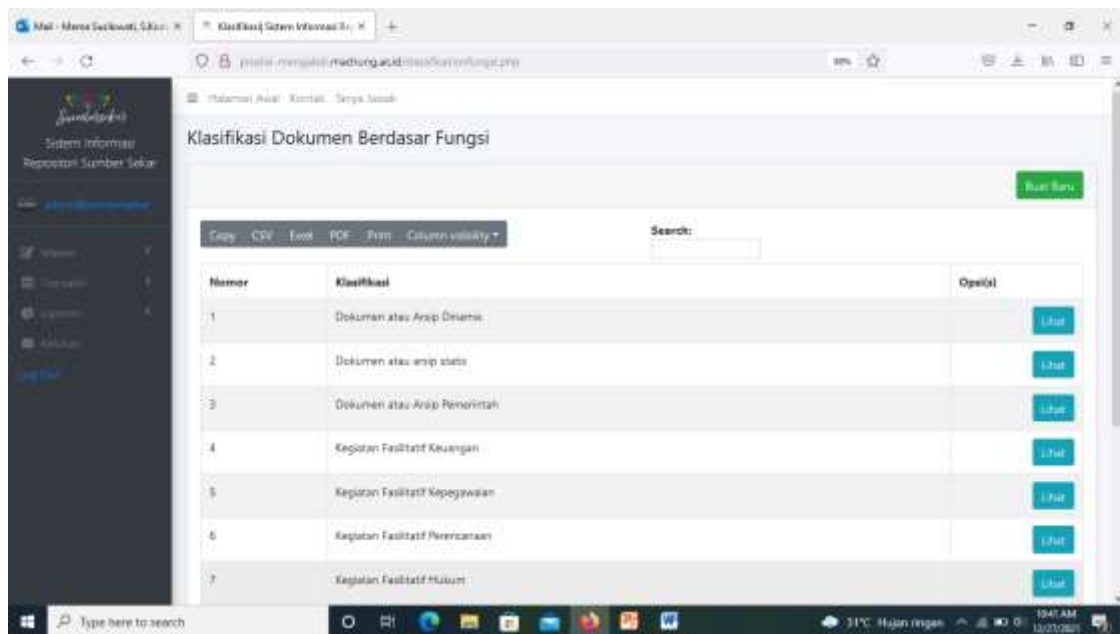


Figure 3. Master Document Classification page by Function.

In the Master menu there is also a submenu related to Master Classification of documents based on their usefulness. Display of the Master Classification Based on Usability page is as Fig. 4.

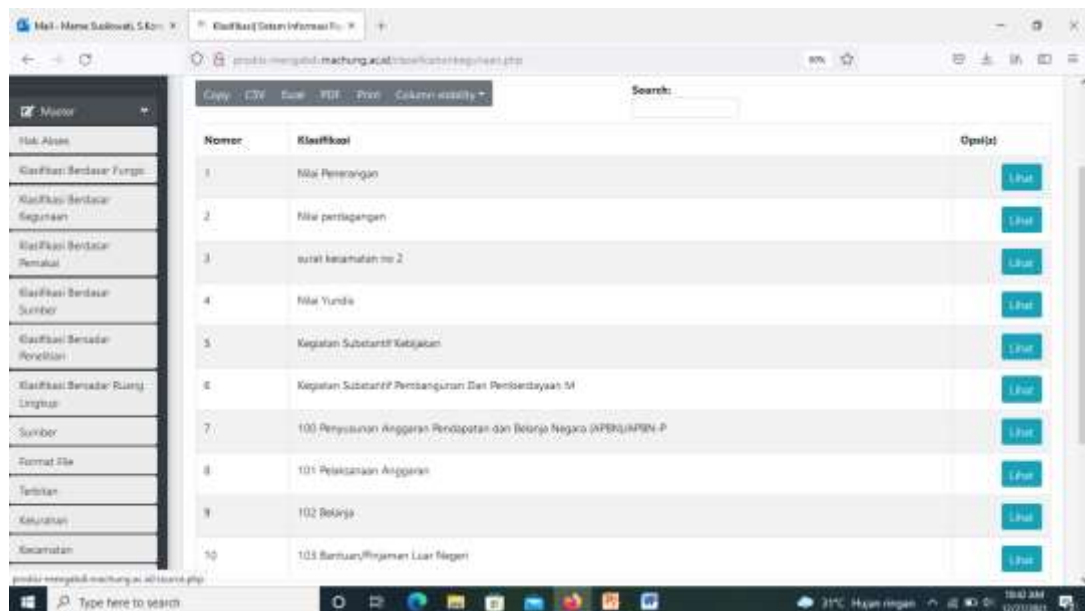


Figure 4. Display of the Master Classification Based on Usability page.

This Repository Information System also has a Transaction menu in which there are 2 submenu options, to upload documents of type Pdf, Word, Excel, and Photos and to upload video type documents. The transaction page display for uploading archives and videos is shown in Fig. 5.

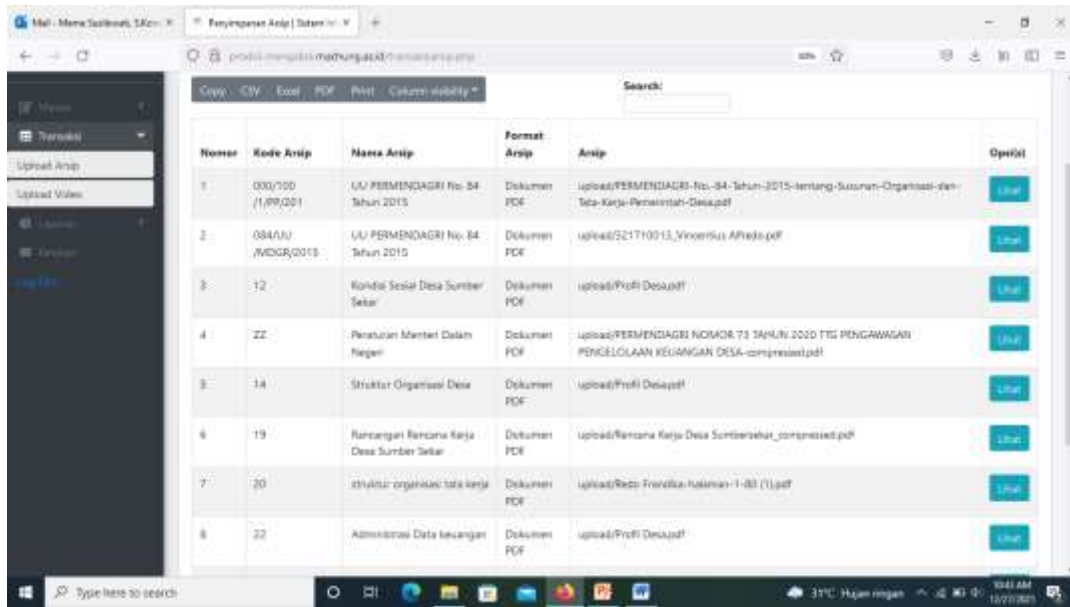


Figure 5. The transaction page display for uploading archives and videos.

In the Transaction menu, uploading videos can be displayed as Fig. 6.

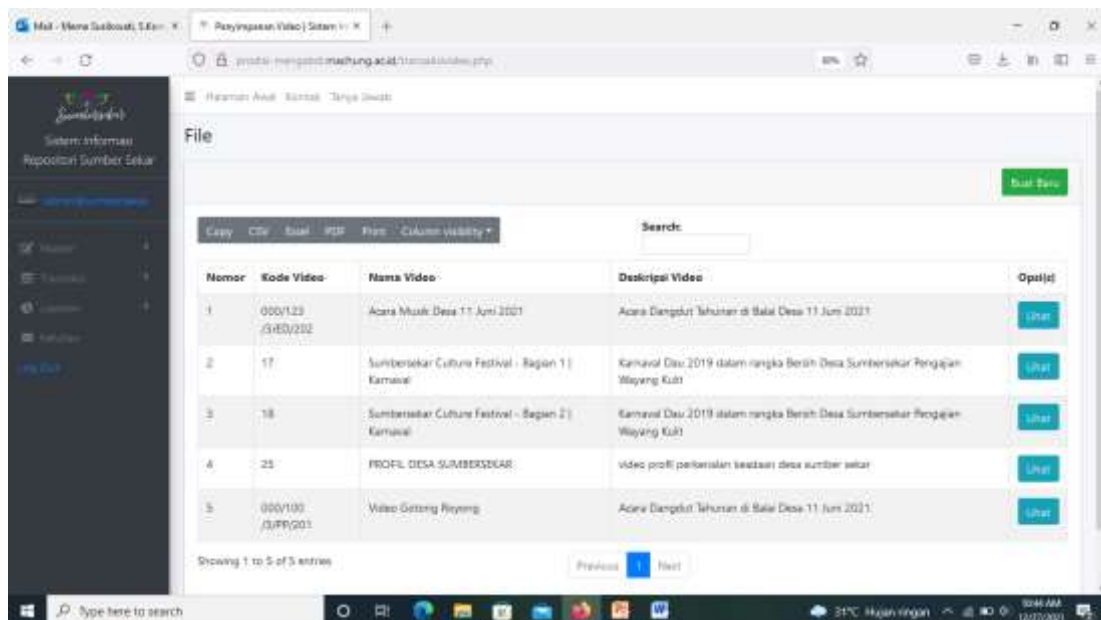


Figure 6. Transaction menu for uploading videos.

This IS Repository application also has a Report menu. There are 9 Report submenus with one of the Transaction Report page views shown in Fig. 7.

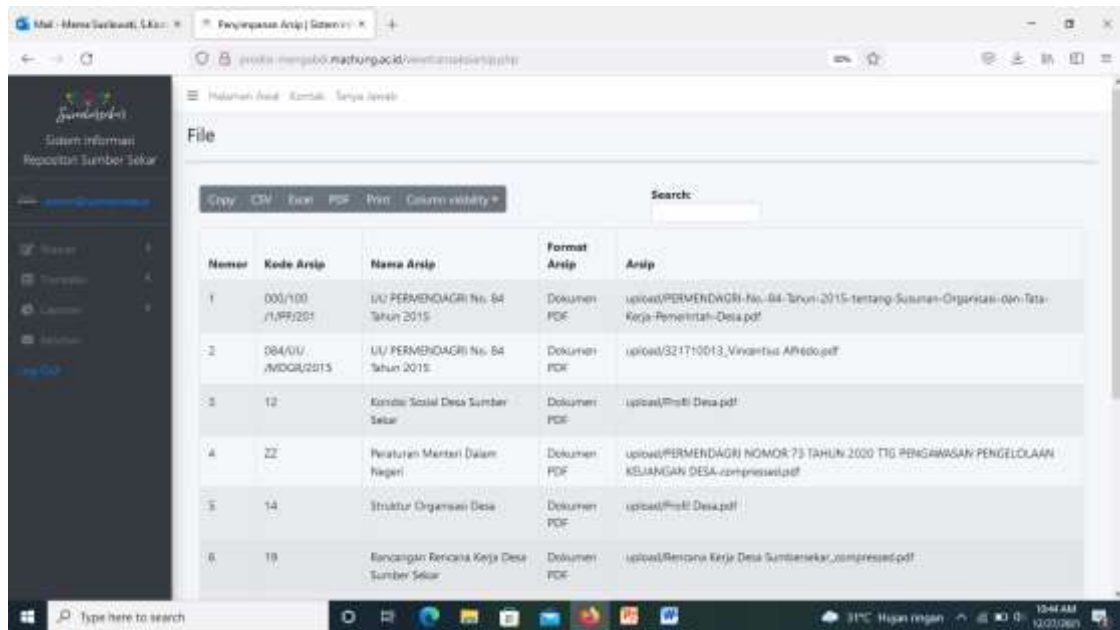


Figure 7. Display of 9 report submenus with one of the transaction report page views.

Figure 8 is the picture taken while conducting the training. The activities were guiding, discussing, and providing solutions for their difficulties.



Figure 8. Guiding the Staff of Sumbersekar Village for the Application of Web-Based Repository Information System.

As always, every service activity must have an output as a measure of the level of success of this activity. The outputs that have been achieved in this activity are:

1. Video Service Activities with a size of 717 MB with MP4 Video format that has been published on the social media pages of the Information Systems Study Program.
 - a. Video Testimonials and Teaser of this community service Based on Research Results in Sumbersekar Village (Sistem Informasi, 2021a).
 - b. Video on the Implementation of a Web-Based Digital Repository Information System at the Sumbersekar Village Office (Sistem Informasi, 2021b).
 - c. Video Tutorial on Web-Based Digital Repository Information System at Sumbersekar Village Office (Sistem Informasi, 2021c).
2. Articles of mass media are registered at
 - a. Kumparan.com: PT Tugu Media Communicationsdo
 - i. <https://tugumalang.id/sumbersekar-menuju-desa-digital-bersama-universitas-ma-chung/> as shown in Fig. 9.
 - ii. <https://kumparan.com/tugumalang/universitas-ma-chung-malang-support-desa-sumbersekar-menuju-desa-digital-1xAinuI1vOE>
 - b. TribunJatim.com: Kompas Gramedia
<https://jatim.tribunnews.com/2021/12/24/sumbersekar-menuju-desa-digital-bersama-universitas-ma-chung-malang>

The implementation of a web-based repository information system at the Sumbersekar Village Office has very good benefits for the parties involved. This service activity has provided benefits to the community, namely: (a). doing community service based on research results that has been published with the title "Design of a Web-Based Internal Document Digital Repository Information System" in (Alfredo and Susilowati, 2021), (b) supporting the achievement of Key Performance Indicator Number 7 from Directorate General of Higher Education, Research and Technology, (c) increasing the number of community services which are expected to increase the involvement of universities in social and economic activities, and (d) obtaining policy recommendations from the study program level to the national level in implementing community service through independent learning in private universities and accelerating the application and utilization of research results and community service in private universities.



Figure 9. Mass Media Article of the Community Service Implementation

Additionally, the positive economic and social impacts of carrying out this activity is that Sumbersekar Village has a centralized digital archive. All people can access the archive in accordance with the limitations of their access rights. This certainly has a positive impact because residents can use it for all documentation purposes, for example for submitting proposals for grants for MSME funding, schools, etc. With complete and easily accessible documentation, residents will get and use it faster.

As for its contribution for the other sectors, this community service activity also has outcomes such as: (a) a follow-up that can be done for making Recommendation Documents for improving MBKM in private universities with the initiation of MBKM collaboration between Ma Chung University and Sumbersekar Village, (b) it can also have a Recommendation Document on the implementation of research results that are beneficial to the community in the form of a tutorial module on the operation of the Sumbersekar village digital repository information system application which is useful for adding the IPR for universities and villages.

In carrying out the service activities for implementing a web-based Repository Information System at the Sumbersekar Village Office, there are also several obstacles and follow-ups. The obstacles/obstacles experienced during the implementation of the web-based Repository Information System at the Sumbersekar Village Office are: (a) training

schedule that must be carried out immediately amidst the busy work of village officials towards the end of 2021, (b) video documentation from vendors who are apparently not quick enough to do active initiation, (c) management of the field implementation team, which is mostly students, so special assistance is needed in order to produce the output that meets expectations.

As a follow-up to the implementation of the web-based Repository Information System at the Sumbersekar Village Office, several agendas have been approved by both parties. Assistance will continue to operate the application with interns who will help input archive data as well as monitor each user so that they can operate the application optimally. There is continuous scheduling for student involvement in Village Office operational activities, especially those related to device activities using Information Systems from districts, ministries, and internal Village applications. There is also a need for special IT training for Village officials so that they can present reports well, quickly, and accurately.

CONCLUSION

With the completion of this activity, it can be concluded that this web-based digital repository information system can assist archiving at the Sumbersekar village office. There is also a significant increase in knowledge and skills so that the village officials can improve their capacity and mastery in using IT equipment for daily operational activities. As for the sake of the progress of service and research activities going forward, we suggest several things that can be done at the Sumbersekar Village office, namely, sustainability of servers both independently and continuous optimization of this repository information system as well as integration of this repository information system in relation to the general service section.

ACKNOWLEDGEMENT

This article was prepared as evidence that this research-based community service activity has been completed. In addition, this activity also aims to enable lecturers and students of Information Systems Study Program of Universitas Ma Chung to directly apply the research results and to inspire further innovation in service activities and further research. This service activity would not run well without contributions from various parties. Therefore, we would like to express our deepest gratitude to the Ministry of Education and Culture, Research, Technology and Higher Education for the trust that has been given to us.



We are also very grateful to Universitas Ma Chung where we take shelter and work. Hopefully this scientific article can be useful and become a good reference for readers. We realize that this article is far from being perfect, therefore, we apologize for any shortcomings. We would surely welcome constructive criticism and suggestions.

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