International Journal of Informatics, Information System and Computer Engineering

BTS Application: Online Thesis Consultation

Bella Hardiyana

School of Information Science Japan Advanced Institute of Science and Technology, Japan
*Corresponding Email: Bella.hardiayana@email.unikom.ac.id

ABSTRACTS

The learning process at universities is hindered by the Covid-19 pandemic, so activities that should be carried out face-to-face must be done online. One of the activities that are hampered is thesis consultation. Thesis consultation should be done directly, face to face, and verified on the attendance card, and it cannot be carried out as usual. The consultation can only be done online by sending files to the supervisor and then reviewing the results of the work. However, by doing it online, it will not be easy to fill out the attendance card that must be signed in person. The signing process becomes online, by sending the digital version of attendance card to the supervisor, then be signed by the supervisor and sent again to the student. The purpose of this research is to design a thesis consultation information system in which everything is centralized and documented in one platform. This research used qualitative descriptive analysis method and system development method using prototype. The results showed that the system design that was built could help become a medium for exchanging files between supervisors and students. The output of this system will be documented. The history of each counsel carried out will be recorded so that the attendance card will be filled automatically.

ARTICLE INFO

Article History:
Received 25 May 2022
Revised 30 May 2022
Accepted 10 June 2022
Available online 26 June 2022

Keywords:
Technology,
Information System,
Computer Science,
Application,
Assignment,
Thesis

1. INTRODUCTION

The corona virus is the cause of the COVID-19 pandemic which is currently spreading in various countries (Skovlund et al., 2021). This virus is an infectious disease virus that has a very fast spread with human fluids as the medium of transmission (Singhal, 2020). This virus target people indiscriminately and tends to be more dangerous if it affects the elderly and people who have a history of previous severe illness (Etard et al., 2020). With the outbreak of COVID-19, many activities have been hindered, if not stopped. COVID-19 has made a country's economy paralyzed, interrupted the distribution of logistics, and hindered the education sector is because the spread of this virus spreads through physical and liquid contact so that it spreads very quickly (Alagu et al., 2021). This certainly has a lot of impact on the sectors of daily life, one of which is the education sector. Offline learning activities must change to online to avoid the spread of the virus so that all students are forced to adapt to the new method. In addition, the university's higher education sector is also constrained, for example in the process of implementing the final project. The final project also has a consultation process which is usually carried out directly by the lecturers and their student group, but it is now constrained by the policy of limiting social activities so that all must be connected through the online system (Kintama et al., 2021). Therefore, to solve these problems, it is necessary to build media to be a liaison between the consultation process between lecturers and students who can monitor the progress of the final project.

In China, the use of online learning platforms was practiced even before the COVID-19 pandemic. However, during the pandemic, the use of online platforms has skyrocketed, but it is not uncommon for people to worry about the security and speed of video conference data transfer. For this reason, video conferencing service providers move quickly to overcome these problems by updating to minimize application bugs (Han et al., 2021). In addition, studies conducted in Japan indicate that many universities are not ready organizationally or operationally when facing a pandemic. Therefore, many universities collaborate with other universities to establish cooperation in the implementation of online classes to support their learning. In addition, many universities are preparing post-pandemic scenarios so that the learning carried out remains relevant to the surrounding community (Izumi et al., 2021). In line with this, online education according to a survey of several students in India stated that this method was a feasible alternative during this pandemic. Although the survey conducted stated that 65.9% felt that learning through physical classrooms was more effective than through online. For this reason, students hope to optimize this online learning by delivering more diverse materials such as case studies, gamification, and interactive classes (Chakraborty et al., 2021). Based on previous research, this study raised the theme of online learning during the pandemic, especially in the final project guidance process that was affected by being online with the Covid-19 pandemic.

The purpose of this research is to design a thesis consultation information system in which everything is centralized and documented in one platform. This

research used qualitative descriptive analysis method and system development method using prototype. The results show that the system design that was built can help become a medium for exchanging files between supervisors and students.

2. METHOD

This research method used descriptive qualitative analysis with object-oriented systems approach method. The concept of object-oriented approach makes developers focus on creating classes which are the blueprints of an object system. This concept can divide the system components into several objects that interact with each other to run the system (Aman, 2021). While in data collection using observation techniques and direct interviews on the object of research. Interviews are used to determine the needs of users who will use this application and observations are made on activities that run before the system (Greer et al., 2020). In the development of this system using the Rapid Application Development (RAD) method. Rapid Application Development (RAD) is a software development process model that moves linearly over and over in development but is limited by a short time because this method is specifically for systems that are not too complex (Pricillia, 2021). Because the stages used will work a lot at one stage of development before the final stage of implementation. The following are the stages of the RAD development method (Rosmalia et al., 2021) (Fig. 1).

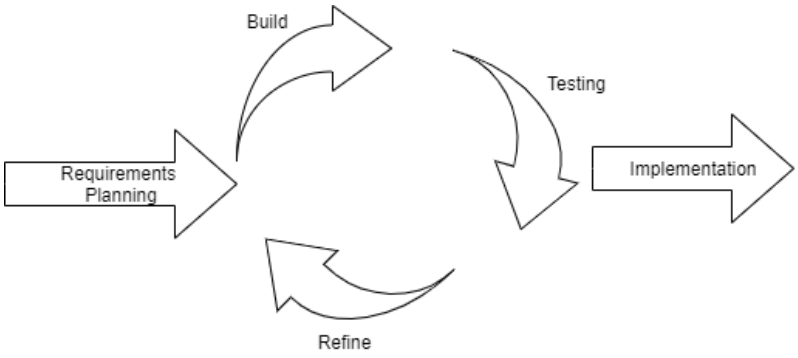

Fig. 1. Rapid Application Development (RAD) Method

3. RESULTS AND DISCUSSION

The development of this thesis consultation information system used the PHP programming language with the CodeIgniter framework and from the database supported by the MySQL DBMS. In the proposed system, this system has 2 main functions that are used by 2 users or users, namely lecturers and students. Each user has a similar function in the system, but both have their own rights and characteristics. Student users can consult with their supervisor, by submitting the files through the menu provided (upload guidance), after that, the student waits for the lecturer to verify his attendance and after that students can see the comments in the menu provided (revision consultation). Students can also see the history of consultation that he did together with his supervisor (consultation history). The following is a design use case diagram of the thesis consultation information system (Fig. 2).

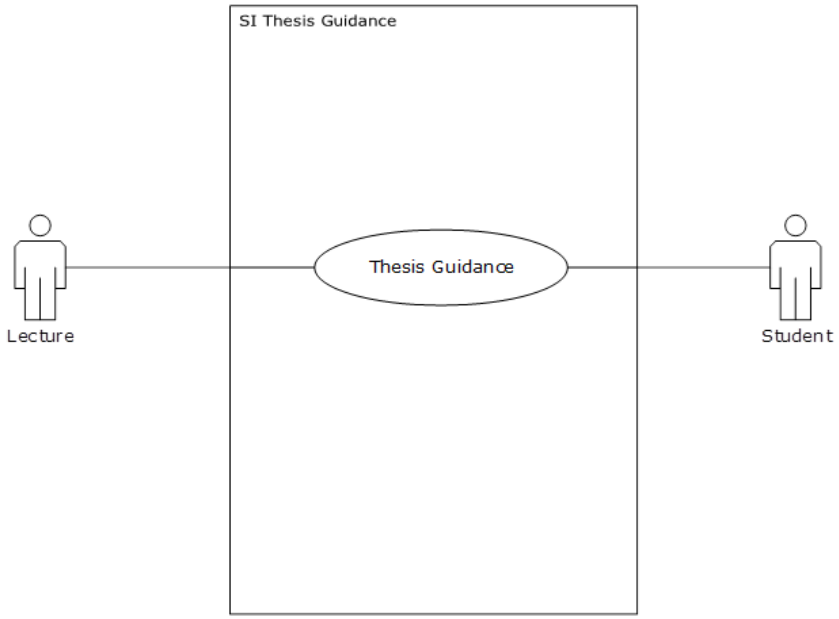

Fig. 2. Use Case Thesis Consultation Diagram

In this information system, students can upload a draft of the file-to-be-consulted in stages, for example by uploading it according to the chapter they consulted. In addition to the facility for uploading thesis drafts, there are also facilities from lecturers to provide comments in which these comments will be recorded on the Attendance Card. Each stage of guidance carried out by the student if it is in accordance with the results of the revision, the lecturer will provide validation through the system which will be recorded on the Attendance Card in the form of initials based on the stages of consultation carried out.

In addition to thesis draft consultation, it is also possible to test programs that have been made by students. Students can test their program by recording their screen then upload it on YouTube and attach the link to the Program Testing Consultation Form on this information system. As with the previous stages in the program testing consultation, lecturers are also given the feature to provide comments on what has been presented by students. The lecturers are also given an approval feature to validates student submission at this stage.

After all the stages of consultation are carried out and validated by the supervisor, students only need to download the attendance card file to be used as evidence for conducting consultation as a condition for the thesis trial. In designing information systems, activity diagrams serve as an overview of the system flow and what the system can do. The following is an illustration of the designed activity diagram (Fig. 3).

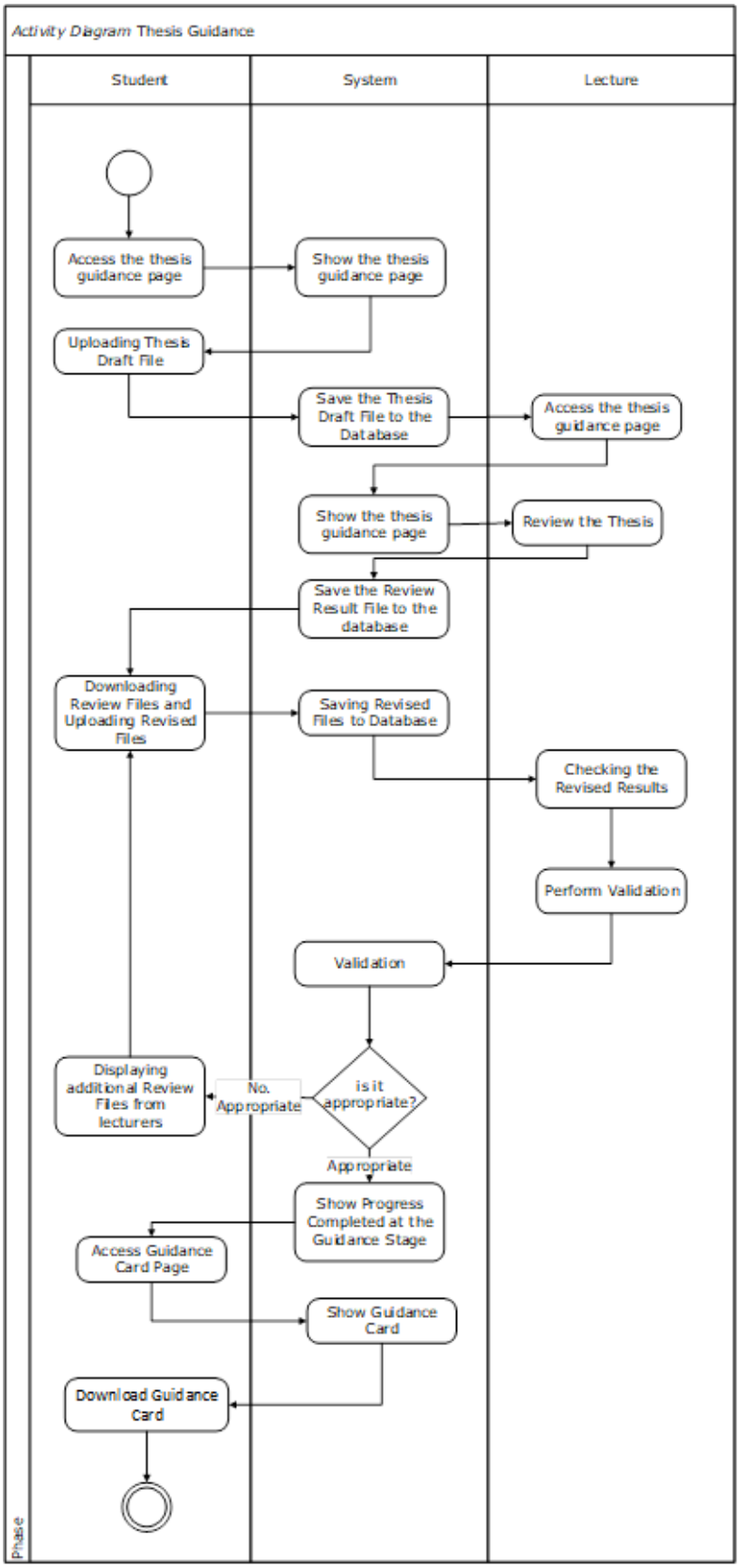

Fig. 3. Thesis Consultation Activity Diagram

The thesis consultation process starts from students accessing the page then uploading the results of their thesis work. The form contains a brief description of the draft uploaded in this tutorial. Then upload the draft thesis file to be reviewed by the lecturer concerned. In this form, students can choose which chapter will be the topic of the consultation so that the lecturer can monitor the progress of the student group under his guidance. Fig. 4 is the interface for the thesis draft upload page.

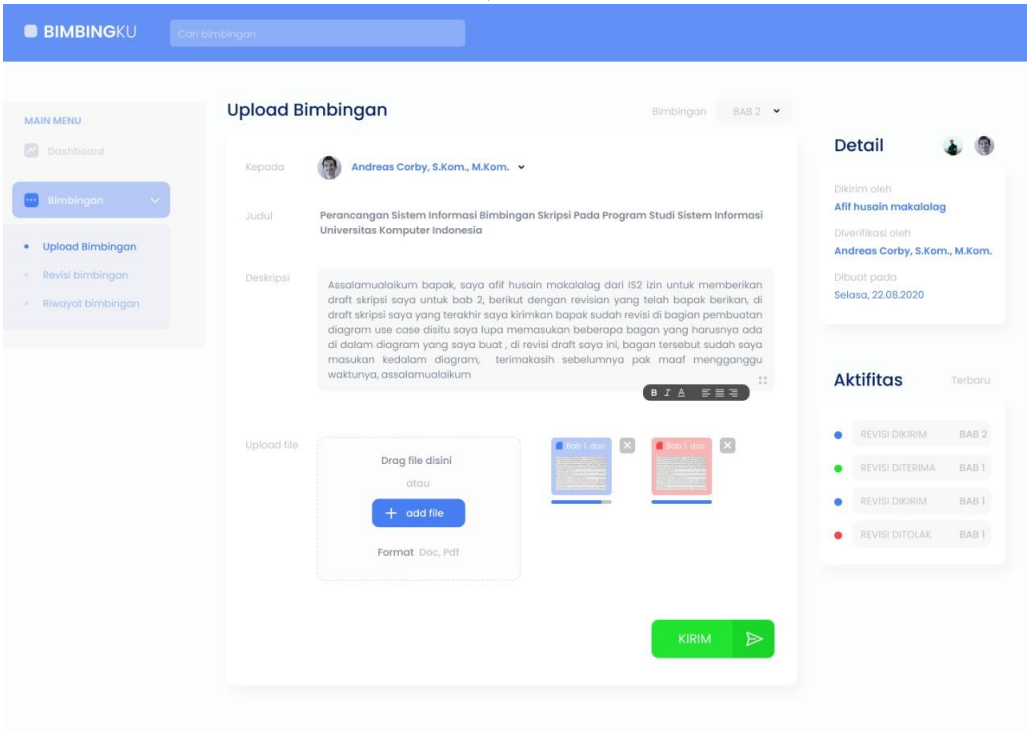

Fig. 4. Upload Thesis Draft by Student

After the guidance draft has been uploaded successfully, it will be entered on the supervisor page. The supervisor will download the previously uploaded file to be able to do a review. After the review is done, the lecturer will make a response to the student in the form of a note of improvement that needs to be done by the student. In this form, lecturers can also upload their review files to be re-sent to students so that students can see in detail the parts that need to be improved. At this verification stage, if you feel that the draft is appropriate, you can change the status of the chapter's guidance to "Accepted". The guidance verification page can be seen in Fig. 5 and 6.

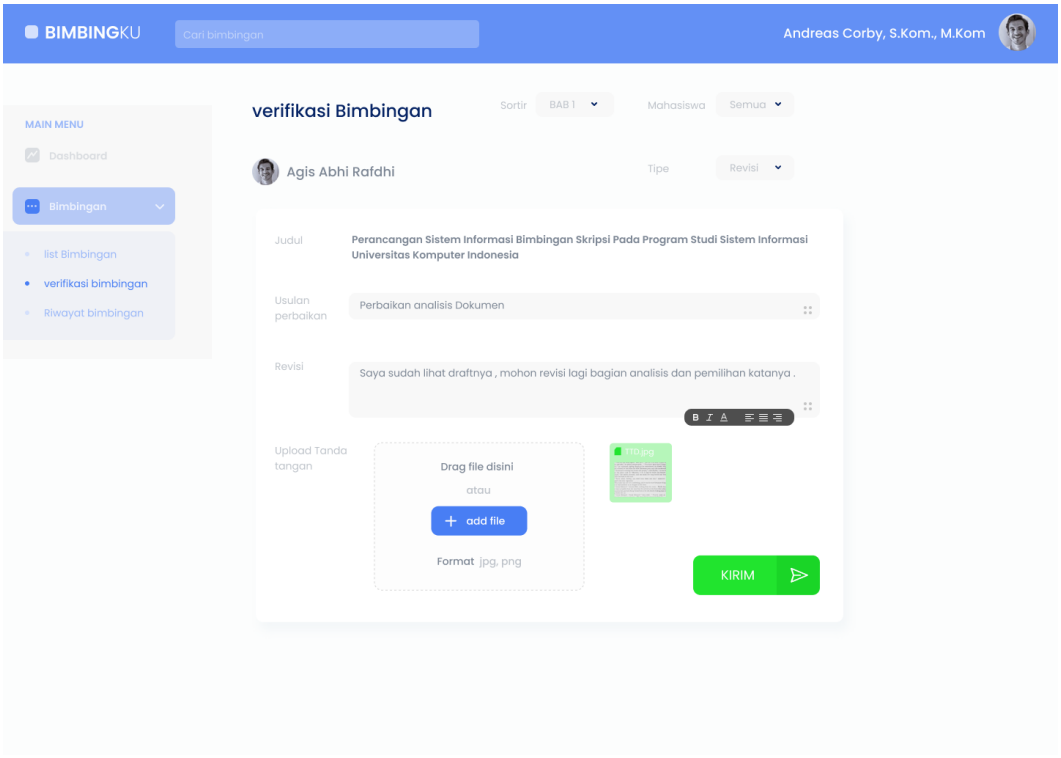

Fig. 5. Review Draft Skripsi by Lecturer

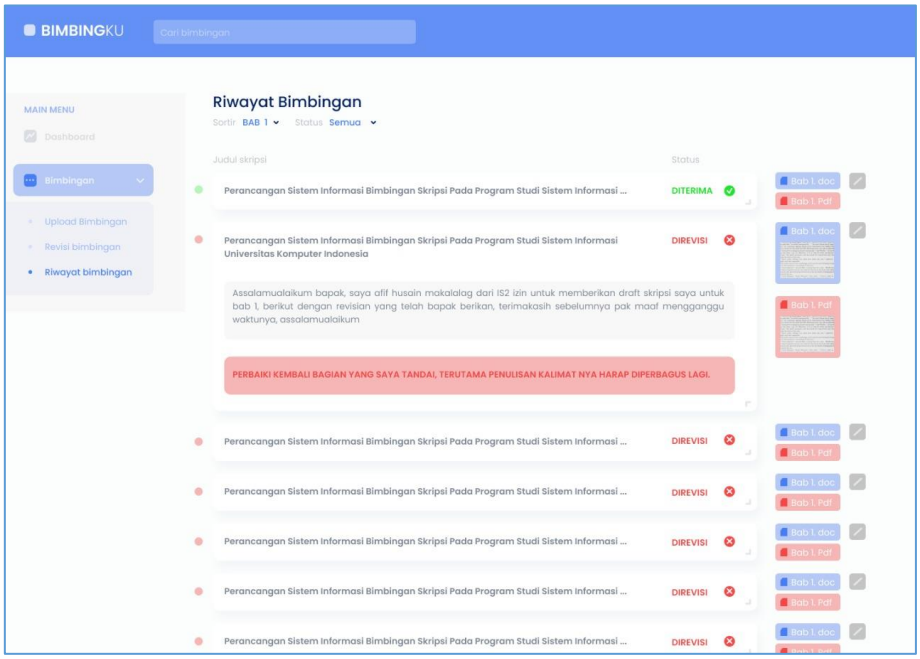

Fig. 6. Consultation History by Student

Lecturers can check the student attendance list through the consultation list menu. The lecturer can also revise files submitted by the students in the Consultation Verification menu can see the consultation history with students in the consultation history menu. In Fig. 7 is the design of the Consultation History interface that can be accessed by Lecturers.

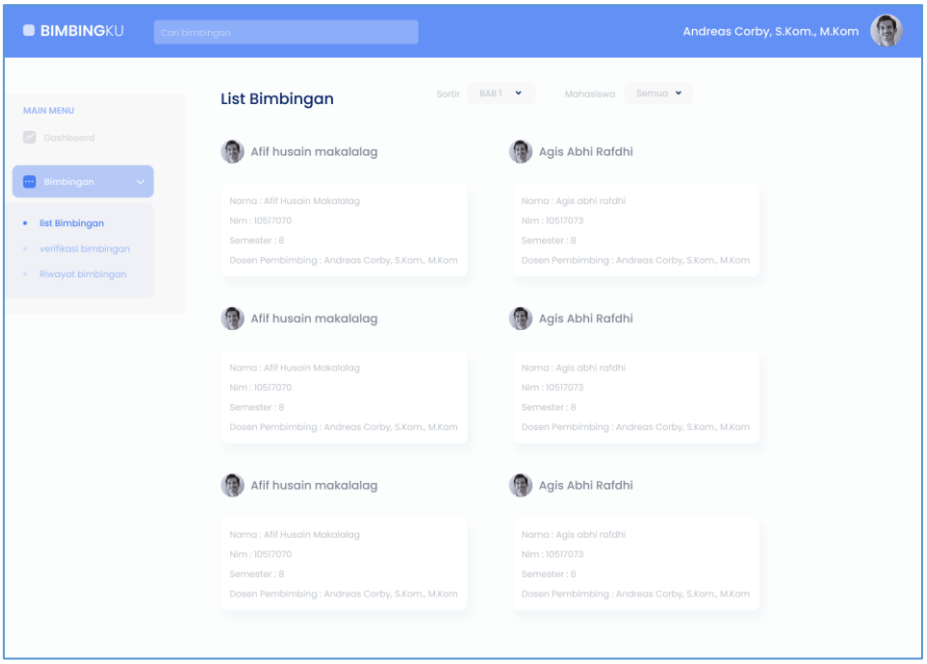

Fig. 7. List of Students in Guidance

4. CONCLUSION

The making of this thesis consultation information system require real data and problems that actually occur in the educational environment, namely the educational environment of the Universitas Komputer Indonesia (UNIKOM). With the COVID-19 pandemic making it difficult for students to conduct thesis guidance directly, an information system was created with the PHP programming language and using the MySQL database. With the creation of this information system, it will make it easier for students to carry out the thesis guidance procession because students do not need to come directly to campus for guidance, but only by opening the platform provided students can do thesis guidance, in the preparation of this information system, of course, the author hopes this system can make it easier for lecturers and students to carry out the educational process in this pandemic situation.

REFERENCES

Skovlund, C. W., Friis, S., Dehlendorff, C., Nilbert, M. C., & Mørch, L. S. (2021). Hidden morbidities: drop in cancer diagnoses during the COVID-19 pandemic in Denmark. *Acta oncologica*, *60*(1), 20-23.

Singhal, T. (2020). A review of coronavirus disease-2019 (COVID-19). *The indian journal of pediatrics*, *87*(4), 281-286.

Etard, J. F., Vanhems, P., Atlani-Duault, L., & Ecochard, R. (2020). Potential lethal outbreak of coronavirus disease (COVID-19) among the elderly in retirement homes and long-term facilities, France, March 2020. *Eurosurveillance*, *25*(15), 2000448.

Alagu Lakshmi, S., Shafreen, R. M. B., Priya, A., & Shunmugiah, K. P. (2021). Ethnomedicines of Indian origin for combating COVID-19 infection by hampering the viral replication: using structure-based drug discovery approach. *Journal of Biomolecular Structure and Dynamics*, *39*(13), 4594-4609.

Kintama, A. Y., Larasati, D. A., & Yuliana, L. (2021). Bimbingan skripsi daring selama pademi Covid-19 pada mahasiswa PGSD UWKS: Hambatan dan solusi. *Trapsila: Jurnal Pendidikan Dasar*, *3*(1), 57-71.

Han, X., Zhou, Q., Shi, W., & Yang, S. (2021). Online Learning in Vocational Education of China during COVID-19: Achievements, Challenges, and Future Developments. *Journal of Educational Technology Development and Exchange (JETDE)*, *13*(2), 4-31.

Izumi, T., Sukhwani, V., Surjan, A. and Shaw, R. (2021), "Managing and responding to pandemics in higher educational institutions: initial learning from COVID-19", International Journal of Disaster Resilience in the Built Environment, Vol. 12 No. 1, pp. 51-66.

Chakraborty, P., Mittal, P., Gupta, M. S., Yadav, S., & Arora, A. (2021). Opinion of students on online education during the COVID-19 pandemic. *Human Behavior and Emerging Technologies*, *3*(3), 357-365.

Aman, M. (2021). Pengembangan Sistem Informasi Wedding Organizer Menggunakan Pendekatan Sistem Berorientasi Objek Pada CV Pesta. *Jurnal Janitra Informatika dan Sistem Informasi*, *1*(1), 47-60.

Greer, B. D., Mitteer, D. R., Briggs, A. M., Fisher, W. W., & Sodawasser, A. J. (2020). Comparisons of standardized and interview-informed synthesized reinforcement contingencies relative to functional analysis. *Journal of applied behavior analysis*, *53*(1), 82-101.

Pricillia, T. (2021). Perbandingan Metode Pengembangan Perangkat Lunak (Waterfall, Prototype, RAD). *Jurnal Bangkit Indonesia*, *10*(1), 6-12.

Rosmalia, L., Jaroji, J., & Teddyyana, A. (2021). Aplikasi Pendataan Dan Monitoring Industri Kecil Dan Menengah (IKM) Menggunakan Metode Rapid Application Development. *ZONAsi: Jurnal Sistem Informasi*, *3*(2), 71-86.