STRENGTHENING DIGITAL SAFETY THROUGH THE INTRODUCTION OF AN ANTI-HOAX WEBSITE-BASED SYSTEM TO SMA YUPPENTEK 1, TANGERANG CITY, IN ANTICIPATION OF THE CLEAN ELECTION MOVEMENT IN 2024

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ABSTRACT

This community development activity is conducted to introduce website-based and Android-based application systems applied at SMA Yuppentek 1 Tangerang. The development of information technology and telecommunications has been widely used by society. Problems raised when faced with the misuse of utilization are detrimental to society. Age teenager Schools are one of Indonesia's most significant digital media users. The solution completes these problems and requires preventive action to improve skills and partners' understanding regarding digital literacy and its scope based on websites and Android. This activity focuses on the social humanities and information systems through literacy socialization and develops websites and Android-based applications to support the implementation of digital literacy understanding. The implementation method is carried out in preparation, performance, and reporting. The focus of completing the solution is in the second stage or the implementation stage, which includes 1) Education about digital literacy, which is expected to increase understanding of the scope of digital literacy, 2) Education about applications related to digital literacy in the form of introducing various existing related applications, to increase knowledge and utilization of existing applications. 3) Making digital literacy applications based on websites and Android, including digital safety. The teacher will use this application as a manager to be more able to control information. 4) Create a digital literacy module - digital safety. This activity resulted in a 100% achievement output as measured by questions, answers, and questionnaires. This activity is a form of transformation of tertiary institutions, which, in general, is a form of knowledge and technology transfer to the community.

Keywords: Android, Application, Digital Literacy Teacher, Website

1. INTRODUCTION

A key partner in this community empowerment-based scheme is SMA Yuppentek I Kota Tangerang, one of Tangerang's technologically oriented schools. This school is located at Jl. Perintis Kemerdekaan I No.1, Kota Tangerang. The need for a skilled workforce in line with the industrial development in Tangerang initially drove its establishment. The school operates under the auspices of the Yayasan Usaha Peningkatan Pendidikan Teknologi (Foundation for the Advancement of Technological Education). This foundation oversees several educational units, including Madrasah Ibtidaiyah, Junior High School (SMP), Senior High School (SMA), and Vocational High School (SMK). SMA Yuppentek 1 was founded on August 18, 1983. According to data from the Ministry of Education and Culture (Kemdikbud), SMA Yuppentek falls into the accredited category A with a score of 93. The school has approximately 58 teachers, with 428 male and 621 female students. Twenty-nine study groups are occupying 36 classrooms. (Kemendikbud, 2023)

Figure 1. Front View of the Building of SMA Yuppentek 1 Tangerang

eISSN 2622-5611
DOI: 10.33068/iccd.v5i1.593

The school's vision and mission align with the government's commitment to preparing society for the era of Industry 4.0 and Society 5.0. In line with this commitment, the school is expected to play a role in preparing the community for information and communication technology advancements. The most prevalent phenomenon in people's lives is using social media through websites and Android-based technologies. Virtually all segments of society have embraced these technologies, including students, such as those studying at SMA Yuppentek 1. As a senior high school, the school caters to teenagers between the ages of 16 to 18. The breakdown of age groups is as follows: 14 students are younger than 16, 960 students are between 16 and 18, and 75 students are older than 18. These students are distributed across different grade levels: 376 in grade 10, 318 in grade 11, and 355 in grade 12. (Yuppentek Online, 2023)

Adolescence, in general, is a period of identity exploration. Unfortunately, the increase in technology usage is also accompanied by the rise in its misuse. This is where the role of the school as an educational institution becomes crucial. Schools serve not only to impart knowledge in terms of the intellectual aspect but also other aspects, such as behavior and motor skills, which form the foundational abilities for students to engage in society actively. (Awak, 2023)

Figure 2. Initial Discussion with Teachers at SMA Yuppentek 1 Tangerang

Hence, providing a simplified understanding of these phenomena to the community is essential for easy comprehension. This is evident through digital crimes and fraud, such as those related to online loans, online buying and selling, or through social media. Victims of these crimes and fraud come from diverse age groups, not just adults but also teenagers and children. This is because the user base of technology is highly diverse. Even among the community, young children engage with digital media, whether passively by watching short videos on YouTube or TikTok or actively by making purchases, uploading videos, or live streaming. (Daulay, 2023) Unfortunately, a lack of understanding regarding ethics and security in the digital media space has placed users in vulnerable positions, often needing more awareness. For example, sudden fund transfers and demands by online lending platforms (Pinjol), the misuse of uploaded videos, or the presence of hate speech. On one hand, schools serve as one of the platforms for instilling understanding within the community. Through teachers, schools are expected to serve as role models for society. Senior high schools, which are predominantly attended by teenagers, also represent a substantial user base in the digital media realm.

In our current digital age, where information flows incessantly through the vast landscape of the internet, the significance of digital safety and media literacy has grown exponentially. With the 2024 Clean Election Movement on the horizon, ensuring the sanctity of our electoral process and fortifying it against the onslaught of misinformation, fake news, and hoaxes is imperative. To address this pressing concern, the proposal to introduce an anti-hoax website-based system to SMA Yuppentek 1 in Tangerang City not only emerges as a necessity but as a proactive step in preparing the next generation of citizens for their role in a rapidly changing digital society.

This essay explores the rationale behind and the potential impact of bolstering digital safety through implementing such a system within the educational context of SMA Yuppentek 1. In an era where information is both the most potent weapon and the most vulnerable point of attack, empowering the youth with the tools to navigate the digital realm responsibly is a paramount concern. This discussion encompasses the evolving information landscape, the crucial role of media literacy, and the implications of this initiative for the impending 2024 elections. It underscores the need to equip students with the skills and knowledge to discern fact from fiction, engage critically with digital content, and participate in the democratic process as informed, vigilant, and conscientious citizens.

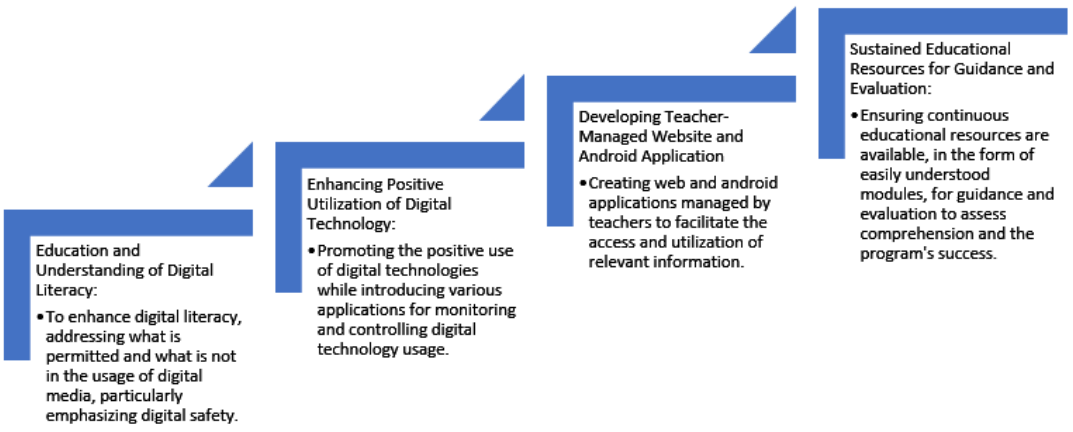
2. METHOD

Based on the analysis of the partner institution's situation, the identified issues have been expanded from two primary areas of focus, which are digital literacy (social humanities) and website and android-based applications (information systems), into four specific problem statements:

1. *Education and Understanding of Digital Literacy*: This involves creating awareness about what is permissible and impermissible in digital media, including a comprehensive understanding of digital safety. One of the prevalent issues in society, especially among adolescents, is the lack of awareness regarding safe and positive digital media usage.
2. *Enhancing Positive Utilization of Digital Technology*: In response to various adverse impacts of digital media, developers have designed applications for monitoring and controlling digital technology usage. Regrettably, these applications are unfamiliar to the general public, including teenagers. Therefore, the project seeks to introduce and familiarize participants with these applications to broaden their perspectives and understanding.
3. *Developing Teacher-Managed Websites and Android Applications*: In light of the limited understanding and utilization of such applications, there is a need to create websites and Android applications managed by teachers. This development is expected to facilitate teachers and students in accessing relevant and timely information.
4. *Sustained Educational Resources for Guidance and Evaluation*: To ensure comprehension and the success of the program, there is a requirement for continuous educational resources that serve as user-friendly guides and assessment tools. These resources, mainly designed for high school students, should be easily readable modules. These resources play a dual role: they signify the continuity of the initiative and the measurement of its intended outcomes.

The PKM team, comprising both faculty members and students, has set its goals to enhance participants' understanding of digital literacy, including digital safety, promote the positive utilization of existing digital technologies, create teacher-managed web and android applications, and leverage instructional modules to facilitate comprehension and the continuity of activities. The involvement of students in supporting the team's efforts aligns with the objectives and benefits of the Merdeka Belajar Kampus Merdeka (MBKM) program. It fosters knowledge exploration and network expansion within the community. By engaging students, the team enhances the impact of their activities and contributes to the broader goals of education and knowledge dissemination in a dynamic and interconnected digital landscape.

The implementation of this PKM (Community Service Program) is structured in three phases, tailored to address the identified issues in partnership with the institution. These issues have been categorized into two primary domains: digital literacy (social humanities) and website and android-based applications (information systems), resulting in four priority problem statements:



The methods used for training include lectures, question-and-answer sessions, and discussions. Evaluation methods consist of quizzes and practical exercises related to websites and Android-based applications.

The PKM is divided into three stages:

1. Preparation Phase: In this phase, discussions with the partner institution, including program strategies, technical implementation, administration, and additional information regarding the participants' situation, take place. The university team will obtain the necessary permissions and proposals. In this phase, the roles of each party are clearly defined, with the partner providing information about their issues, granting permissions, and assisting in communication with students. The university team discusses strategies and solutions, submits permission proposals, and prepares for the program's execution.
2. Implementation Phase: This stage involves running the program as agreed upon with active involvement from the partner institution and the university team. The partner institution participates by actively engaging in the activities, attending education sessions on digital literacy, and evaluating the program through quizzes and questionnaires. The university team prepares materials and equipment, develops websites and Android applications, and creates digital literacy and safety modules. This phase aims to achieve a 100% increase in understanding among participants.
3. Evaluation and Reporting Phase: This final stage involves evaluating the program's sustainability and ensuring it aligns with the agreed-upon schedule. The partner institution plays a role in granting permission for program sustainability monitoring. In this phase, the PKM team assesses the program's adherence to its objectives, particularly regarding the continuity of the program and its impacts on the participants.

3. RESULTS AND DISCUSSION

The observed phenomena and issues highlight the necessity for education and guidance to enhance the vigilance and the quality of students' understanding of digital literacy at the partner institution. The proposed solutions are based on previous research specifically related to the focus of this program. Notably, previous studies, such as Sila's research, underscore the significance of digital literacy in safeguarding the community from cybercrimes. It has been found that a lack of understanding of digital systems often results in individuals falling victim to various cybercrimes. Therefore, the solutions offered in this program aim to address these critical issues by equipping students with the essential knowledge and skills required for navigating the digital landscape safely and responsibly. (Sila, et.al., 2023) The choice of conducting the program at a school involving teachers and students is also informed by research, such as that undertaken by Puspitosari. This research underscores the significant changes in communication patterns between teachers and students due to the emergence of communication media like social media. Communication that used to be one-directional has evolved into multi-directional and highly flexible interactions. This understanding of evolving communication dynamics is crucial in designing effective interventions that cater to the changing needs and challenges educators and students face in the digital age. (Puspitosari, 2021)

In this context, the issues related to digital literacy education and the effective utilization of technology are addressed through a collaborative effort between teachers and students. Creating a dedicated application is deemed necessary to enhance understanding and tackle these challenges. Research, as highlighted by Arita, emphasizes the need for building a chatbot to present hoax news on the LINE platform using the Rule-Based method. The objective is to simplify the user experience by assisting them in distinguishing between genuine information and hoaxes. This is achieved by displaying news based on the input keywords, facilitating a more informed and discerning digital media consumption among users. The development of such applications is integral to empowering individuals to navigate the digital landscape more effectively. (Arita, 2019)**.**

This line of thinking aligns with the findings from Utama's research, indicating that using machine learning for hoax identification can achieve accuracy rates ranging from 75% to 96%. These results underscore the potential of advanced technologies to play a pivotal role in distinguishing between authentic information and hoaxes, thereby enhancing digital safety and literacy among users. Integrating machine learning and other advanced tools in digital literacy initiatives can significantly contribute to addressing the challenges of misinformation and ensuring a more informed and vigilant digital society. (Utama, 2018)**.**

The solutions offered in this program are described as follows:

1. Digital Literacy Education: This educational component takes the form of socialization. It is based on the understanding that digital literacy is the ability to use digital media, communication tools, or networks to find, evaluate, use, create information, and utilize it in a healthy, wise, intelligent, meticulous, precise, and legally compliant manner. It includes understanding what is allowed and what is not in digital media.

Figure 4. Digital Literacy Socialization in SMA Yuppentek 1

2. Education on Digital Literacy-Related Applications: This education aims to enhance the positive utilization of digital technology. The variety of digital media the community uses is diverse, and people must be cautious. Therefore, knowing preventive measures is crucial. Digital safety is given greater emphasis in this solution, considering the situational analysis indicating that the issues faced by the partner are mainly related to digital security. These issues include online loan fraud due to misused data, unsafe passwords or PINs, and clicking on unfamiliar information, leading to unauthorized access and other related concerns.
3. Creation of Website and Android-Based Digital Literacy Applications: The development of digital safety applications is essential for widespread community use. Technology is needed to counter and facilitate the circulation of information, making it easier for users, especially teenagers, to access relevant information. Teachers will manage these applications, and they are web and Android-based. These applications are introduced to the partner through workshops, primarily targeting teachers as administrators.
4. Development of Digital Literacy Modules, Especially Related to Digital Safety: To ensure comprehension and the success of the program, there is a need for continuous educational resources in the form of easy-to-understand guides and evaluation materials accessible to users, especially high school students. This solution is crucial in determining the achievement targets of community empowerment efforts.

The quantitative indicators for the achievement of the solution outcomes are as follows:

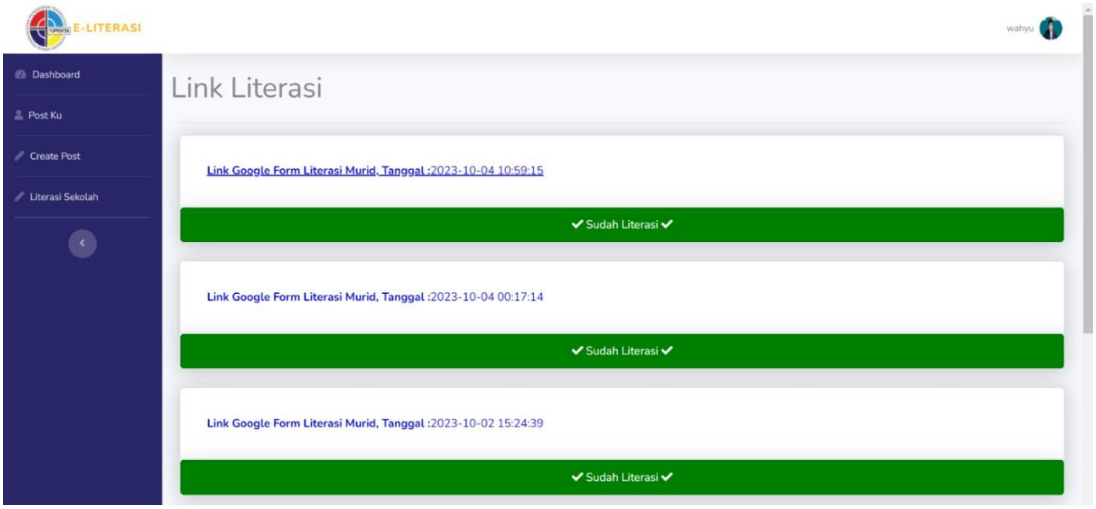
1. Digital Literacy Education: Creating digital literacy modules and teaching the definition and scope of digital literacy in general, emphasizing the importance of digital literacy in daily life, and explaining the benefits of digital literacy for the community, including its benefits for teachers and students as users, and schools as stakeholders. The achievement of this outcome is measured by conducting questions and answers and questionnaires prepared in advance. The success score or achievement target is 100% of the total participants present and participating in the activity.

Diagram 1. The Results of form responses

2. Education on Digital Literacy-Related Applications: This target is completed by introducing what is known as applications, explaining web-based and Android-based applications, and listing applications related to digital literacy and their scope. Teaching and practicing how to access these applications, how to upload data, how to cross-check data, how to download data, and how to share data. Completing this outcome represents the performance of social humanities and information systems studies. The achievement of this outcome is measured by conducting questions and answers and questionnaires prepared in advance. The success score or achievement target is 100% of the total participants present and participating in the activity.
3. Creation of Website and Android-Based Digital Literacy Applications: The applications have been prepared and created by the team with the assistance of student teams. These applications, ready for deployment, have undergone testing. These applications will be managed by teachers as technology implementers. The completion of this target is achieved through workshops and running the created applications, teaching and practicing how to access these applications, how to upload data, how to cross-check data, how to download data, and how to share data. The achievement of this outcome is measured by conducting questions and answers and questionnaires prepared in advance. The success score or achievement target is 100% of the total participants present and participating in the activity.
4. Creation of Digital Literacy Modules: These modules have been prepared and created by the team. The modules are designed to support the utilization of the developed applications. The modules serve as technical guides for operating the technology. To complete this outcome, the modules are introduced, demonstrating how to read and encouraging participants to complete the evaluations within the modules. The achievement of this outcome is measured by conducting questions and answers and questionnaires prepared in advance. The success score or achievement target is 100% of the total participants present and participating in the activity. The results of measuring the achievement targets are crucial for the reporting phase.

The following is an overview of science and technology (IPTEKS) that will be implemented with the target partners. The focus areas of the research problem consist of two fields: social humanities and information systems. The application of digital literacy is based on applications using digital technology to enhance digital literacy and skills. Digital literacy is the ability of individuals and communities to use digital technology wisely and effectively, which has become increasingly important in the current digital era, such as internet usage, software, social media, and technology-related applications.

The implementation of web and Android-based digital literacy is created to facilitate information filtering so that teachers and the digital literacy community at SMA Yuppentek 1, Tangerang, become proficient in digital literacy.



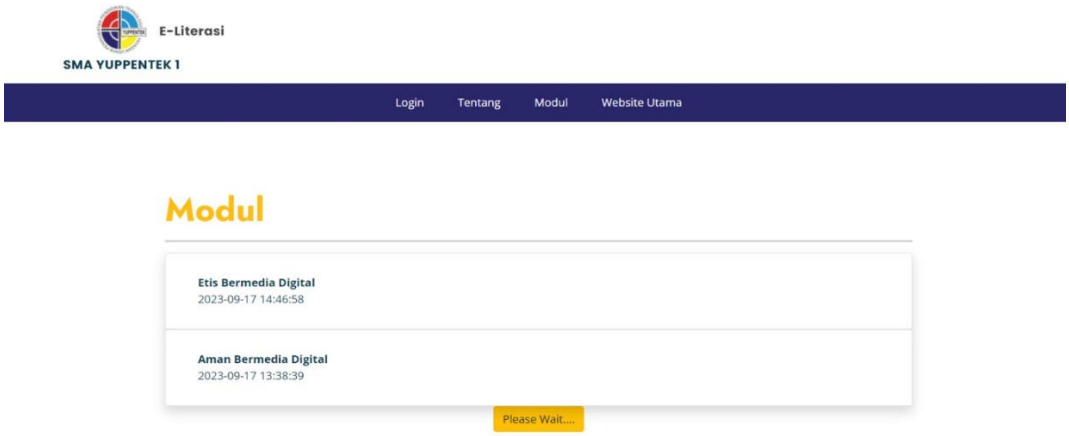


Figure 5. Website Application Interface.

The strengthening of literacy includes (1) Digital Ethics related to Cyberbullying, Hoaxes, and Viral News; (2) Digital Safety related to Online Scams, Password Security, and Hoaxes; (3) Digital Skills related to Application Usage and Digital Economy, (4) Digital Culture related to Social Media and Contemporary Values. From these literacies, the outputs produced are (1) a Web and Android-Based Digital Literacy System. The process includes (a) Analyzing the necessary data requirements, (b) Designing UI/UX in the Web and Android Application System, and (c) Developing the Back-End and Front-End areas. After the application system is completed, the (d) system is tested. If the testing has been conducted without any issues, the Digital Literacy System is ready for implementation and will undergo (e) periodic maintenance to ensure the system runs smoothly. (2) To ensure the system continues to operate smoothly, digital literacy modules are created.

4. CONCLUSION

This PKM (Community Service Program) has provided significant scientific and technological benefits to the partner school, including improved digital literacy. The program has helped both teachers and students enhance their understanding of digital literacy, whether through web or Android platforms. They have gained the necessary skills to access, evaluate, and effectively use information in the digital realm. Moreover, the program has bolstered their grasp of digital security, offering a better understanding of its risks and effective strategies for avoiding cyberattacks and safeguarding online privacy. Another area of enhanced understanding is the utilization of Machine Learning. Machine learning is a rapidly evolving field, and knowledge of its concepts and applications offers advantages to both teachers and students. In the context of this program, machine learning can be employed to analyze data related to digital literacy and provide personalized and relevant recommendations to users. The program has also fostered an understanding of Rule-Based Systems. Rule-based systems find applications in various fields, including digital literacy and security. Teachers and students have learned about the design and implementation of rule-based systems, which can aid in improving their understanding and practices in the wise use of digital technology.

5. REFERENCES

Kemdikbud. Profile Sekolah [Internet]. Available from: https://sekolah.data.kemdikbud.go.id/index.php/chome/profil/5CA1E053-B8BF-4E5D-8CE6- 0359866E0A3A

SMA Yuppentek 1. Sejarah Sekolah [Internet]. Available from: https://smayuppentek1.sch.id/sejarah-sekolah/

Awak U. Fungsi Sekolah Terhadap Peserta Didik [Internet]. [cited 2023 April 6]. Available from: https://www.matrapendidikan.com/2014/09/fungsi-sekolah-terhadap-peserta-didik.html

Daulay N, Sembiring AALB, Fitri AL, Sembiring AM, Fahmi MI (2023). Implikasi Bimbingan Kelompok tentang Dampak Aplikasi Tiktok terhadap Kepercayaan Diri Remaja. El-Mujtama J Pengabdi Masy [Internet], vol. 3, no. 2, pp. 555–565. Available from: https://journal.laaroiba.ac.id/index.php/elmujtama/article/view/2785

Sila GE, Taufik CM (2023). Literasi Digital Untuk Melindungi Masyarakat dari kejahatan Siber, KOMVERSAL: Jurnal Komunikasi Universal, vol. 5, no. 1, pp. 112–23. Available from: https://jurnal.plb.ac.id/index.php/komversal/article/view/1225

Sari RP, Lokananta AC (2021). Peran Media Komunikasi Digital Pada Pola Komunikasi Guru dan Murid, Avant Garde. AVANT GARDE J Ilmu Komunikasi, vol. 9, no. 1, pp. 100–109. Available from: https://journal.budiluhur.ac.id/index.php/avantgarde/article/view/1326

Arita A, Finandhita A (2019). Pembangunan Chatbot Untuk Menampilkan Berita Hoax Pada Platform Line Menggunakan Metode Rule Based. Universitas Komputer Indonesia. [Internet] Available from: https://elibrary.unikom.ac.id/id/eprint/1114/13/UNIKOM_Azyyati Arita_jurnal dalam bahasa indonesia.pdf

Utama PKL (2018). Identifikasi Hoax Pada Media Sosial Dengan Pendekatan Machine Learning. Widya Duta J Ilm Ilmu Agama dan Ilmu Sos Budaya, vol. 13, no. 1, pp. 69–76. Available from: https://ejournal.ihdn.ac.id/index.php/VidyaDuta/article/view/436/0

Putri CE, Hamzah RE (2022). Analisis Fenomena Penipuan Identitas Diri (CatFishing) Pada Literasi Digital Pengguna Media Sosial. Komunikata57, vol. 3, no. 2, pp. 67–78. Available from: https://ejournal-ibik57.ac.id/index.php/komunikata57/article/view/52

Leona AP (2021). Ancaman Privasi Data Pribadi dan Literasi Digital Sebagai Solusi Perempuan dan Literasi Digital: Antara Problem, Hambatan, dan Arah Pemberdayaan. Rahayu, editor. UGM PRESS, p. 354.