Journal of Artificial Intelligence and Engineering Applications

Website: https://ioinformatic.org/

June 2026. Vol. 5. No. 3; e-ISSN: 2808-4519

Implementation of the RAD Method in the Development of a Web-Based Jiwa Baru Village Profile Information System

Firda Fatrika[1]*, Fajriyah[2], Iwan Setiawan[3]

[1,2,3]*Universitas Prabumulih*

firdafatrika@gmail.com[1*], rhieyah.mti12@gmail.com[2] , iwanhen2@gmail.com[3]

Abstract

The use of information technology in various aspects of life including government is increasingly important, one of which can feel the positive impact of the application of technology is the village government. In Jiwa Baru Village, the delivery of information is still delivered through speakers or bulletin boards. The limitations in delivering this information often make it difficult for people to get accurate and up-to-date information. The purpose of this study is to design a web-based Jiwa Baru Village Profile Information System which aims to deliver information to the public effectively and efficiently. The method used in this study uses the RAD (Rapid Application Development) method. The results of the evaluation show that all functions of this system run well and in accordance with user needs, with this system it can make it easier for people to find information about the village.

Keywords: *Information System; Village Profile; Web; RAD; Jiwa Baru Village*

1. Introduction

Communication is crucial for describing something, serving as a medium for presenting it to the public. However, information management at the village level is often limited and inefficient. This hinders the process of delivering information to the public [1]. Every village in Indonesia must have the capacity to organize governance, foster, and empower communities. Adequate information technology can provide benefits, particularly in terms of cost, time, and energy efficiency. Information technology provides quality information to the public [2]. Along with the development of information technology, the use of web-based information systems at the village level is a solution to increase transparency, efficiency, and accuracy in data and information management. Despite the enormous potential of this technology, many villages still have not optimally utilized web-based information systems. Jiwa Baru Village, a village located in Lubai District, Muara Enim Regency, South Sumatra Province, still delivers information through loudspeakers or bulletin boards. These limitations in information delivery often make it difficult for the community to obtain accurate and up-to-date information. One highly relevant solution is to design a web-based village profile information system. Web-based technology offers conveniences such as broader access, accessibility anytime and anywhere, and ease of data management in a structured and integrated manner. This system can cover a wide range of topics, including village information, village activity reports, and other information. Based on this, this study aims to design a web-based village profile information system that can help simplify information management, increase transparency, and expedite the delivery of information to the village community. Based on the above discussion, the author is interested in conducting a study entitled "Implementation of the RAD Method in the Development of a Web-Based Jiwa Baru Village Profile Information System."

2. Theoretical Basis

2.1. Understanding the RAD Method

The RAD (Rapid Application Development) method is a method for developing an information system in a relatively short time [3]. The RAD (Rapid Application Development) method is an incremental software development process model, especially for short project timelines [4].

2.2. Understanding the Web

The web is a system that facilitates information searches by displaying text, images, and other information on the internet [5]. The web is a collection of internet pages that include specific information tailored to each individual's needs [6].

2.3. Definition of Implementation

Implementation is the act or execution of a detailed plan [7]. Implementation is the process of carrying out or implementing a strategy or action to achieve a goal [8].

2.4. Understanding the Web

The web is a system that facilitates information searches by displaying text, images, and other information on the internet [5]. The web is a collection of internet pages that include specific information tailored to each individual's needs [6].

2.5. Understanding PHP (Hypertext Preprocessor)

PHP stands for Hypertext Preprocessor, a programming language widely used for handling, creating, and developing websites and is typically used in conjunction with HTML [9]. PHP is a server-side programming language that allows websites to interact with databases and generate dynamic content [10].

2.6. Understanding MySQL (My Structured Language)

MySQL is a DBMS (Database Management System) that uses SQL (Structured Query Language) commands and is widely used today in developing web-based applications [11]. MySQL is a database server that can accommodate very large amounts of data and can be accessed by multiple users [12].

2.7. Understanding Xampp

XAMPP is free software that supports multiple operating systems and is a compilation of several programs. Its function is as a stand-alone server (localhost). It consists of the Apache HTTP Server program, the MySQL database, and language interpreters written in the PHP and Perl programming languages [13]. XAMPP is software that functions to run PHP-based websites and utilizes the MySQL data processor on a local computer [14].

3. Research Methods

Conducting research requires a method, a set of steps a researcher must take to solve a problem and achieve a goal. Therefore, the author used a qualitative descriptive method. The descriptive method is a method of research that describes research results. As the name suggests, this type of descriptive research aims to provide descriptions, explanations, and validation of the phenomenon being studied [15]. A qualitative approach to research involves flexible and context-oriented data collection through techniques such as in-depth interviews, participant observation, and narrative analysis [16]. Therefore, based on the explanation above, this study uses a descriptive research method with a qualitative approach, namely a comprehensive, broad, and in-depth description and data information regarding the phenomenon being studied.

3.1. Data source

In this study, the author used two data sources: primary data and secondary data. The explanations are as follows:

1. Primary Data
   Primary data is data obtained directly from primary sources (original sources without intermediaries), either from individuals or groups, and is obtained through interviews or questionnaires completed by respondents.
2. Secondary Data
   Secondary data supports the primary data requirements and is obtained through literature review as a reference for writing the research, such as books, e-books, journals, previous research, and articles.

3.2. Method of Collecting Data

The data collection methods used in this study were observation, interviews, and literature review. The following methods were used in this study:

1. Observation
   This method involves direct observation of an activity to obtain the necessary information through direct observation at the location. During this data collection process, the researcher conducted direct observations at the Jiwa Baru Village Office, thus obtaining data that reflects the actual situation.
2. Interview
   An interview is an activity conducted to obtain information directly by speaking to respondents. In this interview, the researcher conducted a direct question-and-answer session with the Jiwa Baru Village Secretary.
3. Literature Review
   Literature review is a data collection technique that involves collecting various relevant library materials (references) and studying those related to the problem being discussed.

4. Design of Proposed System Procedures

The system procedure design proposed by this author is based on the analysis conducted. Based on this analysis, a system design can be proposed that is expected to provide a solution to the existing problem. This design is supported by the use of UML as a model for the system to be built.

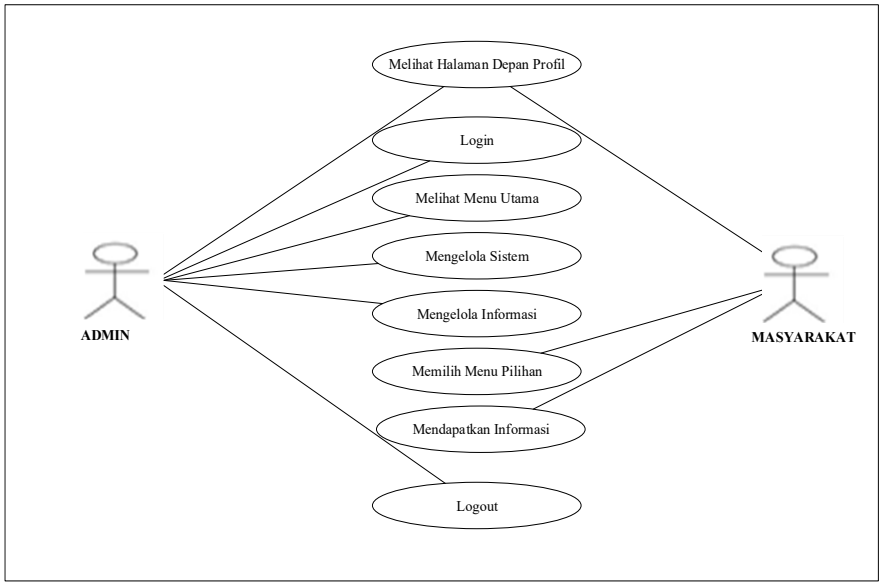

Fig. 1 : Use Case Diagram

The Use Case Diagram process above describes the actor's activities in the Village information system, which include logging in, managing the system, managing information, viewing the home, viewing the profile, and obtaining information.

5. System and Testing Implementation

5.1. Interface Implementation

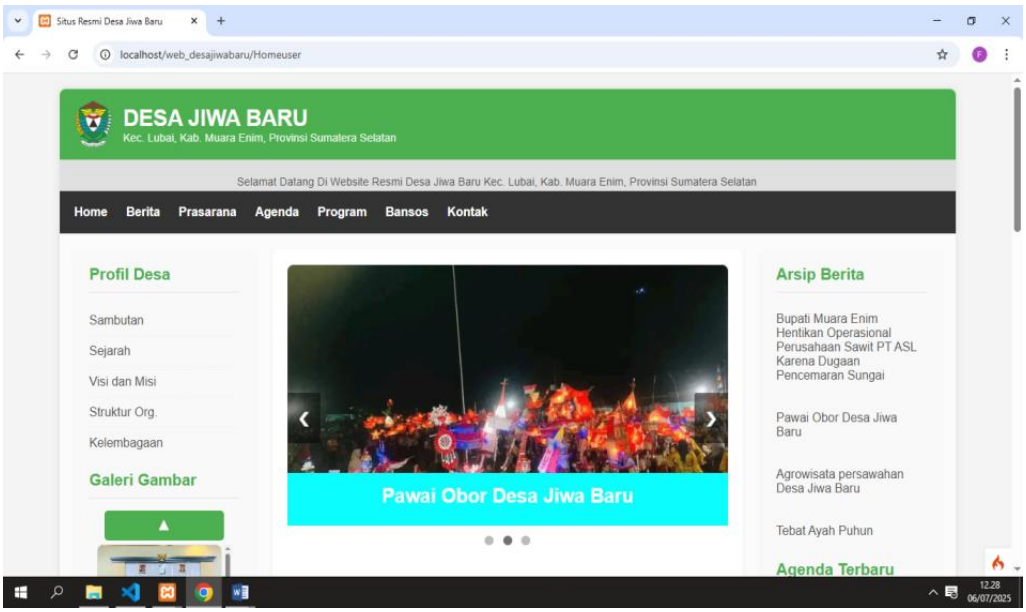

Fig. 2 : Web Page View

The image below shows the main display of the Jiwa Baru Village profile information system website, which displays the home, news, infrastructure, agenda, development, social assistance, contacts, village profile, gallery.

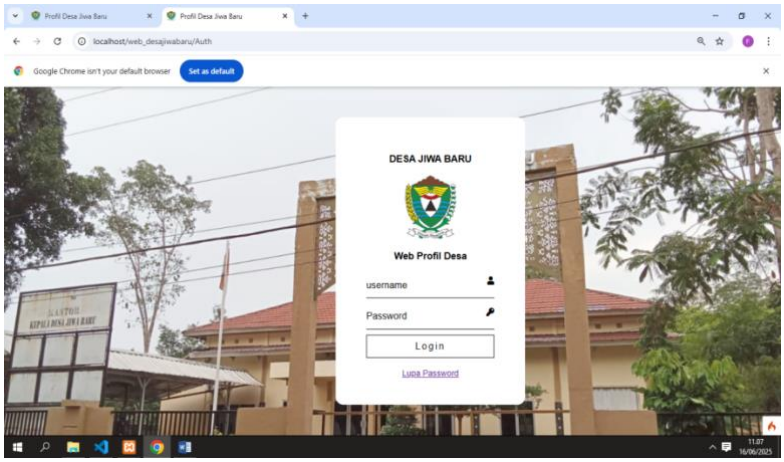

Fig. 3 : Login Menu Page View

The image below shows the admin login display on the Jiwa Baru Village website to process data. The following is an image of the login page.

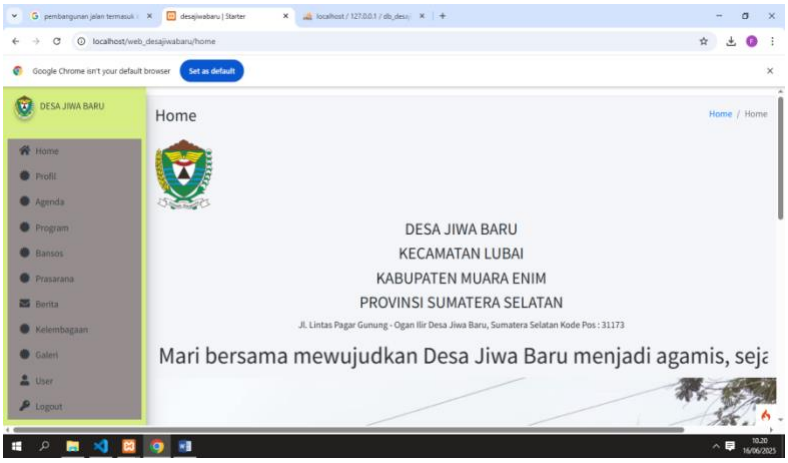

Fig. 4 : User Main Menu Display

The image below shows the display that will appear after the user logs in. This display contains a menu, namely the home menu, profile menu, agenda menu, development menu, social assistance menu, infrastructure menu, news menu, institutional menu, gallery menu.

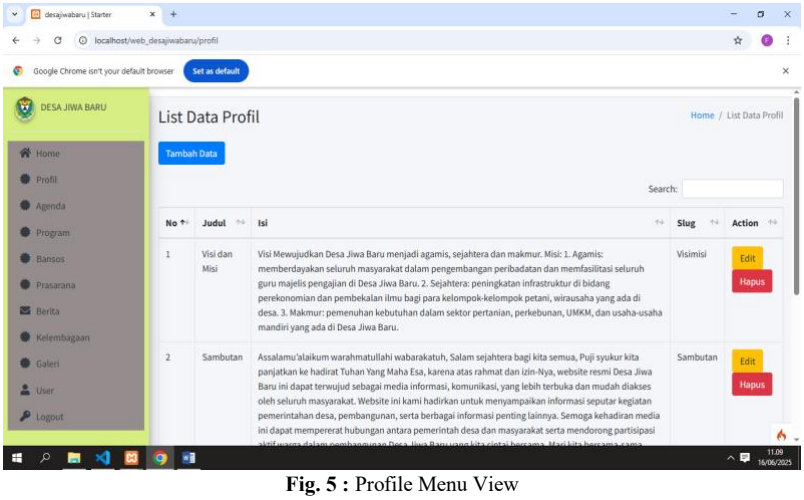

Fig. 5 : Profile Menu View

The image below shows the profile data management form used by the admin to manage information by adding data, editing and deleting data to be managed.

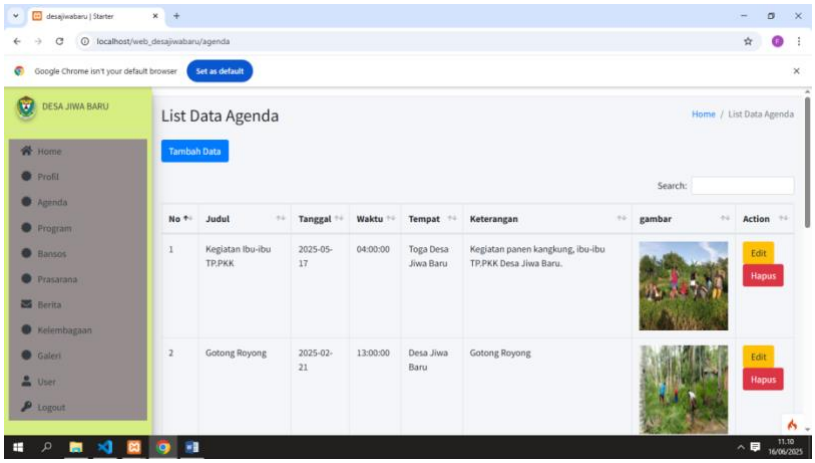

Fig. 6 : Agenda Menu Display

The image below shows the agenda data management form used by the admin to manage information by adding data, editing and deleting data to be managed.

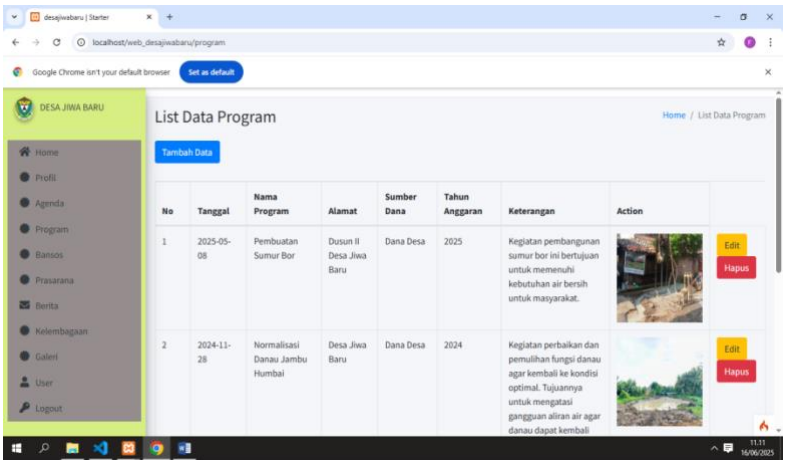

Fig. 7 : Program Menu Display

The image below shows the program data management form used by the admin to manage information by adding data, editing and deleting data to be managed.

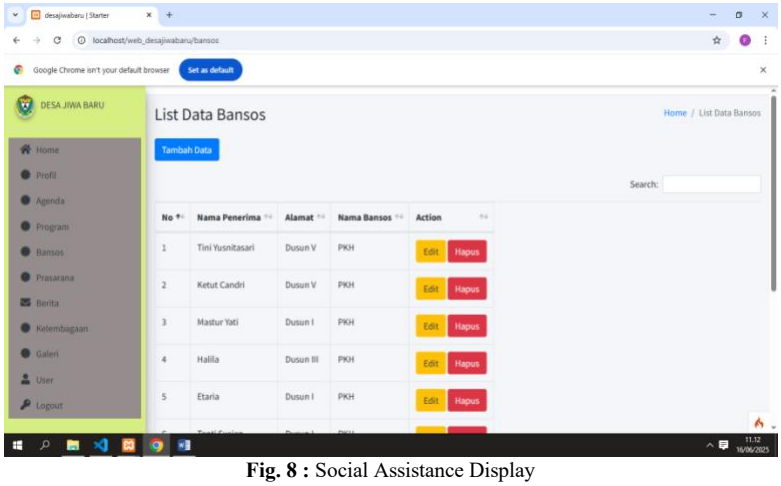

Fig. 8 : Social Assistance Display

The image below shows the social assistance data management form used by the admin to manage information by adding data, editing and deleting data to be managed.

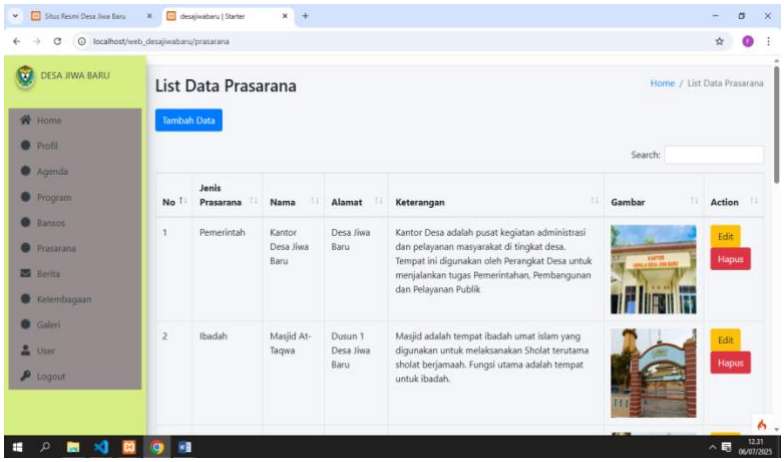

Fig. 9 : Infrastructure Menu Display

The image below shows the infrastructure data management form used by the admin to manage information by adding data, editing and deleting data to be managed.

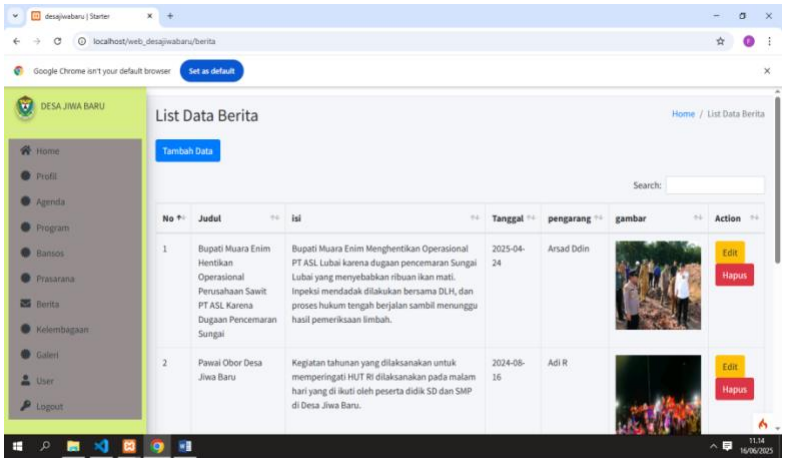

Fig. 10 : News Menu View

The image below shows the news data management form used by the admin to manage information by adding data, editing and deleting data to be managed.

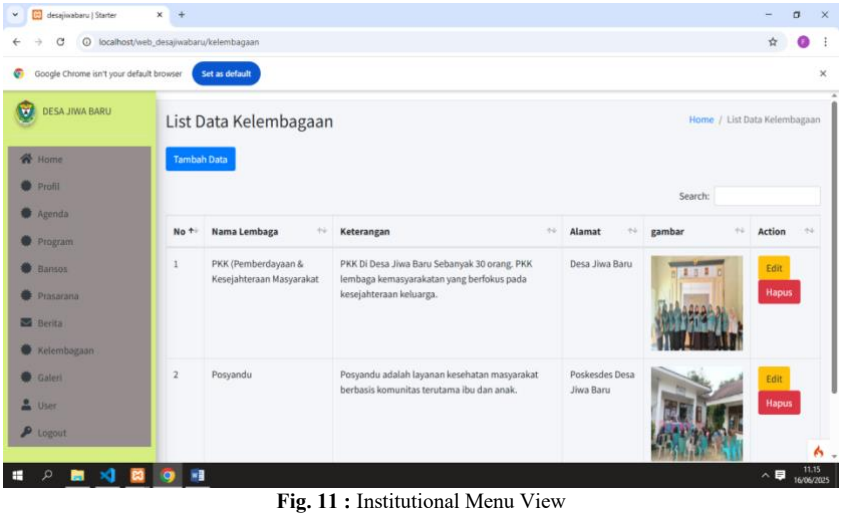

Fig. 11 : Institutional Menu View

The image below shows the institutional data management form used by the admin to manage information by adding data, editing and deleting data to be managed.

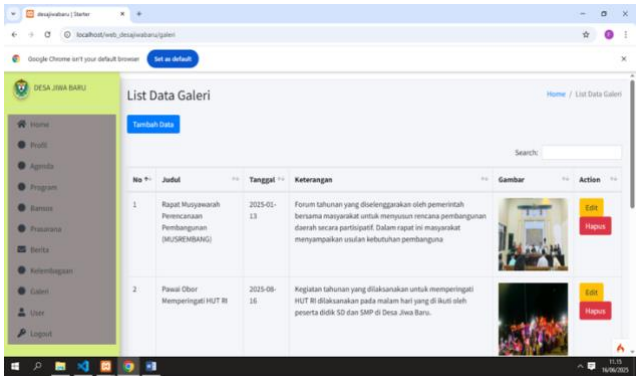

Fig. 12 : Gallery Menu View

The image below shows the social assistance data management form used by the admin to manage information by adding data, editing and deleting data to be managed**.**

5.2. Test Results

From the data above, it can be concluded that the results of system testing using a black box are that all systems run and function according to design and expectations.

6. Conclusion

Based on the research conducted, the following conclusions can be drawn:

1. In Jiwa Baru Village, information is still delivered through loudspeakers or bulletin boards. This limitation in information delivery often makes it difficult for the public to obtain accurate and up-to-date information. One highly relevant solution is to design a Web-Based Village Profile Information System.
2. This system was designed using the RAD (Rapid Application Development) method, the PHP (Hypertext Processor) programming language, and the UML (Unified Modeling Language) tool.
3. The design of this information system aims to increase the efficiency of delivering village information to the public and support public information transparency in the digital age.
4. The information system can facilitate the public in finding information about the village.

References

[1] I. Harsono *et al.*, "OPTIMALISASI WEBSITE DESA SEBAGAI MEDIA PENYEBARAN INFORMASI DESA BANJAR KECAMATAN TALIWANG KABUPATEN SUMBAWA BARAT," in *Prosiding Seminar Nasional Gelar Wicara*, 2023, pp. 910–916.

[2] A. Apriani, L. D. P. Arzani, N. G. A. E. Martiningsih, and I. K. Sumantra, "Rancang Bangun Sistem Informasi Desa Tegal Maja Berbasis Website," *J. Millenial Informatics*, vol. 2, no. 1, pp. 7–12, 2024.

[3] L. Santoso and J. Amanullah, "Pengembangan Sistem Informasi Akademik Berbasis Website Menggunakan Metode Rapid Application Development (Rad)," *Elkom J. Elektron. dan Komput.*, vol. 15, no. 2, pp. 250–259, 2022.

[4] D. Murdiani and M. Sobirin, "Perbandingan metodologi waterfall Dan rad (Rapid application development) dalam pengembangan sistem informasi," *J. Inform. Teknol. dan Sains*, vol. 4, no. 4, pp. 302–306, 2022.

[5] H. Wulandari and S. Rosida, "Perancangan Sistem Informasi Berbasis Web Penjualan Cake dan Bakery Napoleon," *Senashtek 2024*, vol. 2, no. 1, pp. 573–579, 2024.

[6] S. Andreani, A. Ariansyah, and A. Barnianto, "Rancang Bangun Aplikasi Monitoring Dokumen Tagihan Pada PT. Subur Sedaya Maju Berbasis Web," *J. Minfo Polgan*, vol. 13, no. 2, pp. 1362–1367, 2024.

[7] M. A. Fatah, M. F. Fahiduzzaka, M. I. Shena, M. R. Ramadhan, M. B. Sakti, and N. Malikah, "Implementasi Interaksi Kolektif Dalam Pembelajaran Bahasa Arab Di MTs Darul Huda Mayak Tonatan Ponorogo," *Dewantara J. Pendidik. Sos. Hum.*, vol. 3, no. 3, pp. 332–343, 2024.

[8] V. S. Bella and D. Widodo, "Implementasi aplikasi Identitas Kependudukan Digital (IKD) dalam menunjang pelayanan publik masyarakat di Kecamatan Tambaksari," *Saraq Opat J. Adm. Publik*, vol. 6, no. 1, pp. 14–31, 2024.

[9] F. H. Aminuddin and A. Arjansyah, "PERANCANGAN SISTEM INFORMASI PENGARSIPAN SURAT BERBASIS WEB DI SMK N 1 MUARO JAMBI (STUDI KASUS PENGOLAHAN DATA ARSIP): Filing Application; Incoming Mail; Outgoing Mail; Web; MySQL; PHP," *J. Akad.*, vol. 14, no. 2, pp. 56–60, 2022.

[10] F. Sinlae, I. Maulana, F. Setiyansyah, and M. Ihsan, "Pengenalan Pemrograman Web: Pembuatan Aplikasi Web Sederhana Dengan PHP dan MYSQL," *J. Siber Multi Disiplin*, vol. 2, no. 2, pp. 68–82, 2024.

[11] Y. D. Arimbi, D. Kartinah, and A. N. W. Della, "Rancangan sistem informasi kost putri malika berbasis website menggunakan framework laravel dan mysql," *J. Ilm. Multidisiplin*, vol. 1, no. 03, pp. 93–103, 2022.

[12] H. A. Nur'aini and D. Agushinta, "KIMCHI: Aplikasi Pembelajaran Bahasa Korea Berbasis Android dengan Fitur Latihan Menulis HANGUL," *J. Ilm. Komputasi*, vol. 21, no. 1, pp. 11–22, 2022.

[13] E. Setyawati, R. Y. Widiastuti, D. F. Rachma, and A. Wibowo, "Pemberdayaan Masyarakat melalui Pelatihan Pengelolaan Website Edu Wisata Kampung Wisata Nopia untuk Meningkatkan Kualitas Pengelolaan," *J. Abdi Masy. Indones.*, vol. 4, no. 5, pp. 1427–1434, 2024.

[14] I. N. Fadhilah *et al.*, *Problematika Teori dan Praktik Komunikasi*. Mahakarya Citra Utama Group, 2023.

[15] A. G. Ramadhan, P. Pahrizal, A. Wijaya, and R. Toyib, "Aplikasi Penjualan Fokus Komputer Menggunakan Bahasa Pemrograman PHP dan Metode Apriori," *J. MEDIA INFOTAMA*, vol. 20, no. 2, pp. 488–492, 2024.

[16] J. Abdussamad, I. Sopingi, S. HI, M. Sy, B. Setiawan, and N. Sibua, "Metode penelitian kuantitatif, kualitatif, dan mixed methode: buku referensi." PT. Media Penerbit Indonesia, 2024.