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Development of Government Web System in Optimizing Public Administration Services and Information Transparency in Saka State Village

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Abstract

Negara Saka Village in Pesawaran Regency faces challenges in delivering fast, equitable, and accurate public information to the community. The lack of use of digital media leads to a low level of access to information by villagers. This research aims to design and implement a Web Government system as a website-based public information media using the System Development Life Cycle (SDLC) method of the Waterfall model, through the stages of identification of needs, system design, implementation, and testing using the Black Box method. Data were collected through interviews, direct observation, and literature studies. The results of the research produced a village government website that is equipped with main features such as village profiles, organizational structure, population data, and the latest news, and has been tested to work according to its function and is easily accessible through computers and mobile devices. The application of the concept of Web Government in an integrated manner at the village level with a responsive and user-friendly system design, which not only functions as an information medium, but also as a means of community participation in village development. This research proves that the implementation of Web Government is able to significantly improve the quality of public information services and the transparency of village government.

INTRODUCTION

Digital transformation in the global government sector continues to show significant developments in the last two decades. This phenomenon is characterized by the increasingly massive adoption of information and communication technology (ICT) in the implementation of public services. Based on the United Nations *E-Government* 2022 report, more than 80% of countries in the world have implemented various forms of *e-Government* to increase efficiency, transparency, and public participation in the governance process. The World Bank 2023 also noted that the digitization of public services is able to encourage information disclosure and strengthen governance. The development of government web portals is one of the main instruments in realizing inclusive public services. This transformation does not only occur in developed countries, but also begins to penetrate to developing countries, including Indonesia.

Accelerating the adoption of digital technology in government is a must to face the challenges of globalization and improve the quality of services to the community.

At the national level, the Indonesian government has also shown a serious commitment to encouraging the digitalization of public services, especially at the village level. The Ministry of Communication and Information Technology together with the Ministry of Villages, Development of Disadvantaged Regions, and Transmigration launched various strategic programs such as the 100 *Smart Village Movement* and the Smart Village Program. This initiative aims to strengthen the role of villages in providing digital-based information services through the development of village websites as the main means of *e-Government*. Based on data from the Ministry of Villages and Transmigration in 2023, more than 45,000 villages in Indonesia already have active village website domains. In addition, the use of *village websites* can expand access to public information, as well as increase community participation in village development [2]. (Purnamasari, 2017) This effort is an important step in supporting the implementation of Law Number 6 of 2014 concerning Villages, which emphasizes the importance of information disclosure.

If you look at the regional context in Lampung Province, the adoption of digital technology in villages still faces various structural and social challenges. Although some villages have developed *official websites*, the digital divide is still a major problem. The Lampung Provincial Communication and Information Service (2024) noted that of the 2,446 villages in Lampung, only about 30% have an active website with regularly updated content. The results of a local survey conducted by the Pesawaran Village Community Empowerment and Government Agency (2023) show that only about 35% have accessed the village *website*. The main causative factors include low internet infrastructure in rural areas, limited village budgets, and low digital literacy of village officials and the general public. It shows that these barriers widen the gap in information access between urban and rural communities [3]. In addition, the distribution of the internet network in Pesawaran Regency is still uneven, with fluctuating internet speeds and limited supporting devices [4]. By utilizing the village website as the main media of information, the village government is expected to be able to increase transparency, accelerate the flow of communication, and expand the reach of public services.

More specifically, in Negara Saka Village, which is located in Negeri Katon sub-district, Pesawaran Regency with an area of 613.00ha, has 5 hamlets and is inhabited by 970 families with details of 1,534 men and 1,585 women, the level of digital literacy of the community is still relatively low. Another problem that arises is the lack of optimization of the delivery of public information through digital media and information system activities that are still carried out manually so that they are not effective, as a result of which many development programs and village services are unknown to most people. In addition, technical factors such as the limitation *of website* operators and the lack of program system management training are also serious obstacles. This problem has a direct impact on community participation in village deliberations.

The problem of this research focuses on the role of Web Government as a community information system media in improving information delivery in Saka State Village, as well as the extent of the effectiveness of the system in supporting transparency and ease of access to public information. This research also highlights various factors that affect the optimization of the application of Web Government in information services to the community. The purpose of this research is to find out and analyze the role of Web Government in information delivery, evaluate the effectiveness of web-based community information systems in increasing public openness and participation, and identify supporting and inhibiting factors that affect the success of its implementation in Saka State Village.

RESEARCH METHODS

Data Collection Methods

Qualitative methodology is a research procedure that produces descriptive data in the form of written or spoken words from people and behaviors that can be observed through interviews and observations.

1. Direct question-and-answer interviews with the general public and the village secretary of the state of saka who better understand how the condition of the village is at this time.
2. Observation is also carried out by coming to the village office of the state and directly monitoring the existing information system.
3. Literature study by collecting information from various sources, books, books, or research journals.

System Development Methods

Planning, problem analysis, design design (diagrams, *databases*, UI), software product development, feasibility and functional testing, and maintenance are all part of SDLC (*Life Cycle of System Development*). The process of developing the system using a *waterfall* model known as a waterfall model. This model describes software development in a systematic and sequential manner. System identification, system analysis, system development, implementation, design, coding, and testing are the steps performed in the waterfall model. The following are the stages of research stages used in the preparation of the journal as shown below.

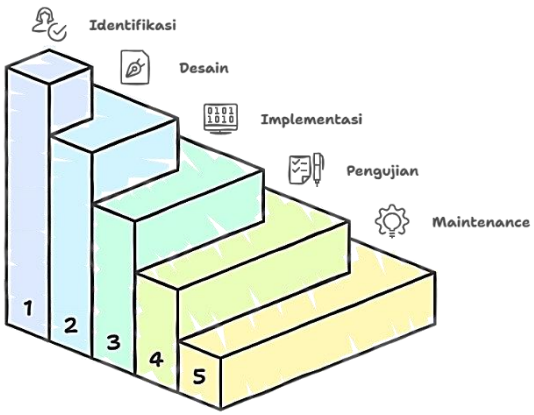

Figure 1. Model *Waterfall*

1. The stage of identifying the needs of the device user and the village community and the technical aspects of the system to be built. In this process, the researcher determines what type of information the people of Saka State Village need. This includes information about important announcements and statistical data.
2. Design Stage The *structure of the website* begins to be designed, including the flow of page navigation, the design of the display interface, and the database model for storing village data. *The website* is designed to be accessed via desktop and mobile devices (responsive web).
3. The Implementation stage or procedure to build the system according to the design that has been made. The researcher uses PHP with a MySQL database. Every major function, including village news pages, official announcements, began to be created and tested internally.
4. The testing stage is carried out through the blackbox testing technique to ensure that each feature works according to its function. The trial also involves people who serve as end users to see how easily *the website* is accessible.
5. The maintenance stage is by advising the Saka State Village government to continue to provide regular information updates and correct errors found during the use of *the website*.

RESULT

In designing a web-based information system, especially for the needs of village information services, a structured and easy-to-understand system analysis approach is needed.

The three main types of visual aids used to describe flows and relationships in this system are Context Diagrams, *Data Flow* Diagrams (DFD) Level 0, and *Flowcharts*. Each diagram has an important role in explaining how the system works, who is involved, and how data flows within it.

Diagram Context

The following is a context diagram of the system that can be seen.

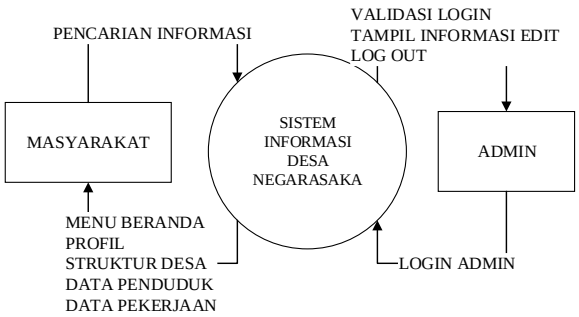

Figure 2. Context Diagram

Explain the relationship between the Saka State Village Information System and the two main actors: the community and the administration. The public, as general users of the system, has access to the various information features available in it. They can search and access menus that include homepages, village profiles, and village organizational structures, as well as view population and employment data. Since all of this data is publicly available, you can access it without logging in. For the time being, admins are responsible for managing the system. To be able to log in to the system, administrators must first go through the admin login process. After successful login, administrators can validate the login, then access the menu to display information, change the data, and then continue the logout process. All of these actions happen within the organization and require authorization.

***Data Flow Diagram* (DFD) Level 0**

In the following cases, two actors have the ability to enter or run a system that has been created.

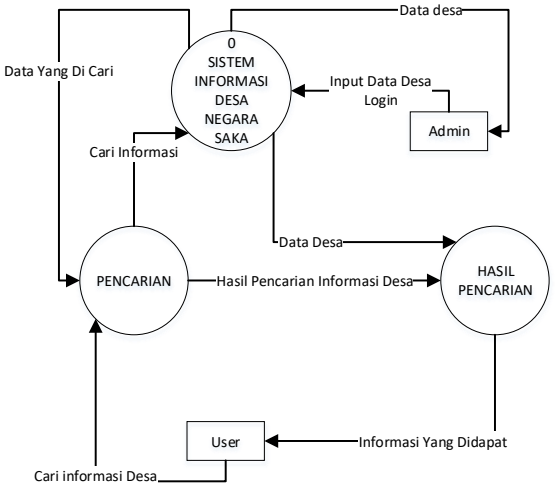

Figure 3. DFD Level 0

The Saka State Village Information System depicted in the DFD Level 0 diagram is a workflow design that describes the interaction between two main actors, namely admins and users, in utilizing web-based information systems for the management and dissemination of

village data. This system is designed to make it easier for admins to carry out the data input and management process, while allowing the public or web visitors to access available information quickly and in a structured manner. The process starts when the admin logs into the system through the authentication page. After successfully logging in, admins are given access to input various types of village information, such as population data, village profiles, organizational structures, and other data related to village government and public services. All data input by the admin will be stored in a database called village data, and managed by a core system called "Saka State Village Information System.

Meanwhile, users or the general public access this system with the aim of finding information related to the village. When a user enters a search query or keyword, the system forwards the request to the Search process. This process is in charge of retrieving data from internal databases based on criteria entered by the user. Once the relevant data is found, the search results are sent to a subsequent process called "Search Results" which then presents the requested information in a form that is easy for the user to understand.

All flows in this system are designed to be interconnected and ensure that the information provided by admins is easily accessible to the public. Admins play the role of the party who guarantees the validity and up-to-date of data, while users only act as connoisseurs of available information. With this mechanism, the system is able to provide transparent, fast, and efficient village information services, as well as become a digital media that encourages public participation in knowing the development of their villages directly through information technology.

System Implementation

The implementation of the Saka State Village Information System aims to change the way village information is managed and delivered from a manual method to a more structured, fast, and transparent digital-based method. In this implementation stage, the system is developed as a web application that can be accessed by two main parties, namely village administrators and the general public.

Admin *Login* View

System *Login* View, this page is an admin login to in the web system as a regulator of information media in Saka State Village. Here's what the login system page modelling looks like.

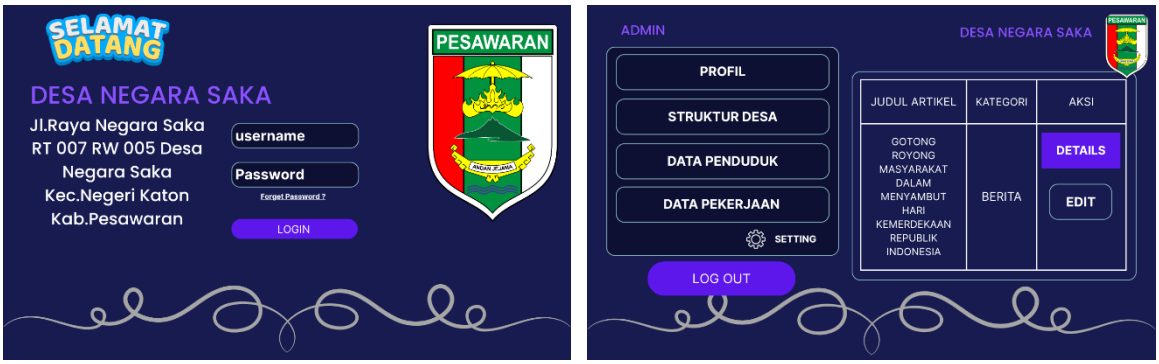

Figure 4. Admin Login View

User Home View

A page containing the village logo, address and news for the community. This home page is the page on the first time entering the depth of *the mobile web* information system as an information media of the Saka State Village. On this home page there is a header containing menus that are used by *users* to carry out activities that help *users* in providing information. Here is the *Home page* interface.

Figure 5. Home Page and Village Profile View

Population Data Display

This page contains population data based on the population range of the population of Saka State Village.

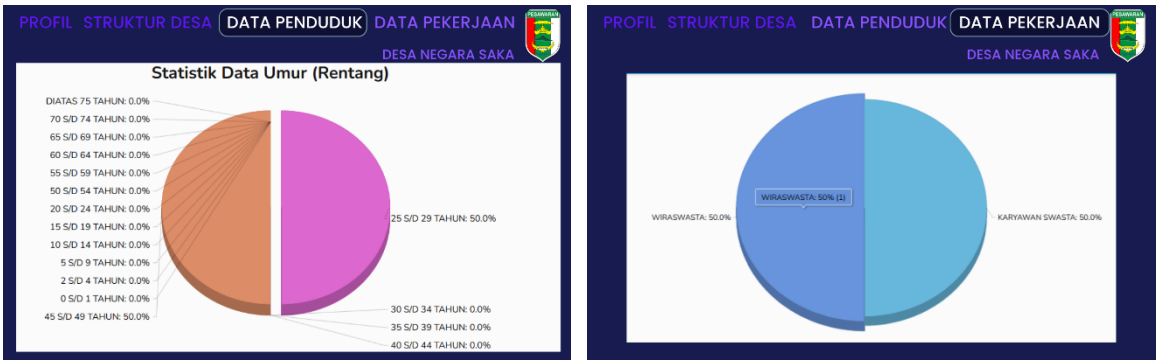

Figure 6. Population Data and Employment Data Display

Analysis of Research Results

The results of the study show that the implementation of Web Government in Saka State Village has succeeded in increasing the effectiveness of public information delivery and village administrative governance. The website is designed to be able to provide structured information services, such as village profiles, population data, activity news, and online public administration services. These features have been proven to make it easier for people to obtain information and access services without having to come directly to the village office. This is in line with the findings of Putra and Wibowo (2021) who stated that the implementation of e-Government at the village level can speed up the public service process and increase transparency. In addition, Rahmawati et al. (2020) also emphasized that web-based digital media is effective in supporting public information disclosure and strengthening communication between the government and the public.

From the results of the test using *the Black Box method*, all system features run according to their function and are well received by users. This strengthens the results of research by Sari and Nugraha (2022) who found that web-based government information systems are able to improve administrative efficiency and accuracy of public service data. In addition, Handayani and Prasetyo (2021) mentioned that responsive and easy-to-use interface design is an important factor in encouraging the adoption of technology by village communities. In this context, the simple and adaptive appearance of the Saka State Village website on mobile devices provides a positive user experience and supports the inclusivity of information access for all levels of society.

Furthermore, the implementation of Web Government also contributes to improving transparent and participatory village governance. The information system built not only functions as a publication medium, but also opens up a space for citizen interaction through the

complaint and community aspiration feature. These findings are in line with Hidayat's (2020) research which shows that village digital platforms can strengthen citizen participation in development supervision. Meanwhile, Susanto and Lestari (2023) emphasized that Web Government plays an important role in realizing *good governance* through the principles of accountability, participation, and efficiency. Thus, the implementation of this system in Saka State Village is a strategic step towards more modern, open, and service-oriented public administration governance.

CONCLUSION

The results of the study show that the implementation of Web Government as a media of information systems and public administration governance in Saka State Village has a positive impact on improving the quality of information services and transparency of village government. The system designed based on the *Waterfall Model Development Life Cycle* (SDLC) *method* is able to integrate various public services, such as population data, village profiles, activity news, and online administrative services that are easily accessible to the public. Testing using *the Black Box* method proves that all features run well according to their function and get a positive response from users. The success of this system not only increases the effectiveness of information delivery, but also encourages community participation in the village development and supervision process. The implementation of Web Government in Saka State Village shows that the digitization of public services at the village level can be a strategic solution in realizing transparent, efficient, and accountable governance. Thus, this study emphasizes the importance of developing web-based information systems as an innovative instrument to strengthen public administration services and accelerate the digital transformation of village government towards *good governance*.

REFERENSI

Alghamdi, I., Goodwin, R., & Rampersad, G. (2022). Adoption of e-Government Services in Developing Countries: A Thematic Analysis. *Government Information Quarterly*, *39*(1), 101613. https://doi.org/10.1016/j.giq.2021.101613

Pratama, R., Hasanah, A., & Nugraha, D. (2024). Optimalisasi Website Desa dalam Meningkatkan Partisipasi Masyarakat: Studi Kasus di Jawa Barat. *Jurnal Ilmu Pemerintahan Indonesia*, *11*(1), 45–57.

Purnamasari, D. (2017). Undang Undang Republik Indonesia Nomor 6 Tahun 2014 Tentang Desa. In *Undang-Undang Desa*. Sinar Grafika. https://doi.org/10.1017/CBO9781107415324.004

Rahayu, S., Sutrisno, A., & Pramudito, A. (2022). Akses Internet dan Kendala Implementasi e-Government di Kabupaten Pesawaran. *Jurnal Informatika Dan Sistem Informasi*, *9*(2), 155–166.

Yuliana, D., Fauzi, A., & Hidayatullah, M. F. (2023). Analisis Infrastruktur Teknologi Informasi di Wilayah Perdesaan Lampung. *Jurnal Teknologi Informasi Dan Komunikasi*, *5*(1), 33–41.