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Public Complaints Information System at Jentera Stabat Village Office

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Abstract: The Public Complaints Information System in Jentera Village, Stabat, is a digital platform designed to make it easier for residents to submit complaints or reports regarding village issues. This system aims to improve the quality of public services and expedite the process of handling public complaints. The system was developed using the Waterfall method. Key features include an online complaint form, report status tracking, and automatic notifications to relevant parties. Through the use of this system, it is hoped that greater transparency and accountability will be created in village governance. The development of this system involved the active participation of various stakeholders, including the community, village officials, and the system development team. With the implementation of this information system, it is hoped that the problem-solving process at the village level will become more effective and public services will be more responsive to residents' needs.
Keywords: Public Complaints; Complaint Management System; Public Service Innovation

INTRODUCTION

An information system is a system that can be used to convey information accurately and efficiently. Initially, information systems were manual, but now they have been computerized to run all processes and utilize computers to assist their implementation (Haniva et al., 2023). With the development of information systems, an institution creates a system that benefits its users, particularly the residents of Jentera Village, Stabat.

Public service is a crucial aspect of regional autonomy development, as it directly relates to the welfare of citizens, in accordance with fundamental reforms in governance. The primary goal of public governance is to serve the public. However, in Jentera Village, Stabat, residents still use a manual process to submit complaints within the village. This involves speaking directly to the hamlet head or visiting the Jentera Village office. However, it should be noted that Jentera Village itself has nine hamlets, covering a fairly large area. The distance between each hamlet and the village office is quite long, making it a slow process to convey information to the village administrators.

Digital information systems have several significant advantages (Supiyandi et al., 2022). First, these systems allow villagers to more easily access and submit their complaints regarding various issues, such as infrastructure, public services, or security (Harjono & Kristianus Jago Tute, 2022). This can increase active citizen participation in village development and help village governments be more responsive to the needs and aspirations of their residents. Furthermore, complaint information systems also enable more efficient data management and in-depth analysis of emerging issues (Wau, 2022). Thus, village complaint information systems not only increase government transparency and accountability but also provide a more effective means for community participation in the regional development process.

Public complaint information systems offer greater transparency than WhatsApp. This system is equipped with a tracking feature that allows villagers to track how their complaints or issues are being handled by the village government. Murdiani and Sobirin (2022) conducted this research by discussing the design of a web-based public complaint information system at the Karangrowo Village Hall Office. This system uses the waterfall method and the PHP programming language. This system aims to facilitate data management by agencies and to accommodate and channel public aspirations and complaints through appropriate channels (Murdiani & Sobirin, 2022).

Previous research conducted by Rohman and Brilian (2023) discussed the design of a public complaints information system in Parit Bindu Village. This system employed the waterfall method and the PHP programming

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language. This system aimed to facilitate the community in conveying their aspirations and complaints to village officials (Rohman & Brilian, 2023).

There are differences between the systems created by previous researchers and the system this researcher will develop, including the ability to organize and manage complaints in a more structured manner. In this information system, each complaint can be assigned a ticket number or unique identifier, facilitating tracking and more efficient handling by the village. Furthermore, this system also allows the village to maintain historical records of complaints, which can be used to analyze updates and improve services. It also includes features to control the security and privacy of each person's data.

LITERATURE REVIEW

The Public Complaints Information System at the Village Office is a system designed to assist the public in submitting complaints, aspirations, or information to the village government. This system is a web-based application or other platform that allows the public to report problems, follow the handling process, and receive effective solutions. The goal is to increase transparency, efficiency, and accountability of public services at the village level (Syafiul Hamidani, Endang Etriyanti, 2022). Information Systems Technology is a technology that can assist humans in creating/entering data, managing data, communicating, and distributing data or information.

By utilizing Information Systems technology, all human work can be carried out more easily and quickly. Information Systems have been widely used in various business fields to support organizational management (Firgia et al., 2022). Public complaints are one form of participation in improving public services to realize Good Government. Public complaints aim to correct deficiencies in activities that have been implemented by the government (Zaenudin & Syahidin, 2022).

A complaint is a report containing information or indications of abuse of authority, irregularities, or behavioral violations committed by court officials, originating from the public, members of the judicial system, institutions outside the court, as well as from the mass media and other information sources (Kurniasih & Mulyono, 2022). An information system is a procedure used in an organization that aims to produce information for decision-makers and to control the organization. An information system is a system consisting of components that control an organization to achieve a goal (Nurkholis et al., 2021). A website is a medium for collecting information on web pages, which is part of a domain name, while a Web Service is the final form of a computer application, namely a service that carries out certain tasks or processes (Nugroho et al., 2021). This digital public complaint system is designed from technological developments and accurate and effective data processing processes.

METHOD

This system will display information about the service process and reporting of public complaints in Jentera Stabat Village, the Jentera Stabat Village Government can improve the effectiveness of complaint services with several strategic steps. They can provide training and competency improvement to village officials who are responsible for providing complaint services. This will help officers classify age more accurately and consistently.

The village government can improve the public complaint service system by using more sophisticated and integrated information technology. With a better information system, data on population reports can be collected more accurately and consistently. The village government can increase community involvement in the complaint service process by involving them in every stage of the process.

This step will not only help in obtaining more accurate and consistent data, but will also increase community participation in overall village development. With this system, it is hoped that residents can find out about village officials and villagers more quickly in providing public complaint services in Jentera Stabat Village and use them to improve the economy.

In this case, the researcher used the Waterfall method as a method in designing a public complaint information system at the Jentera Stabat village office. The Waterfall method is a method that provides a sequential or ordered software lifecycle approach(Fisa Wisnu Wijaya & Lomban, 2022). In addition, the waterfall method is a development method in creating an information system that uses a structure and orderly steps so that what will be produced later will be more optimal according to needs.

Designing a database system for a complaint report information system in Jentera Stabat Village requires a systematic and structured approach. First, a data needs analysis is carried out which involves identifying relevant geographic data, demographic data, infrastructure data, and socio-economic data. Furthermore, a conceptual database design is created using a database schema, and table definition(Faittullah Akbar, 2023).

In designing a database system for a complaint report information system in Jentera Stabat Village, it is important to consider factors such as scalability, data security, and integration with other systems. The following is a picture of the relationship between tables.

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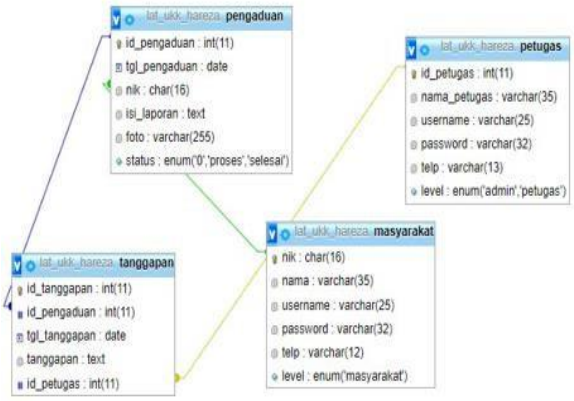

Figure 1. Relationships Between Tables

With a well-structured database system, information about complaint reports in Jentera Stabat Village can be served neatly and easily accessed. This will make it easier for system users to search for and obtain the information they need. In addition, a good database system can also support efficient and accurate data management(Usnaini et al., 2021).

In the process of creating and designing the system used to classify the age of the population, XAMPP software is used. XAMPP is a software that functions as a stand-alone server (localhost) consisting of several Apache HTTP Server programs, MySQL database(Irwanto, 2021). XAMPP is used as a virtual server to store HTML files or initial displays of the system created for later access. The following is a display of the XAMPP software.

Figure 2. XAMPP Software Display

The image above is a display of the XAMPP software that aims to create a MySql database that will be designed. The following is a display of Mysql.

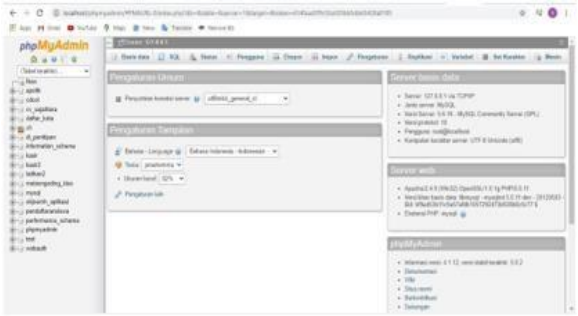

Figure 3. Mysql view

With Mysql, researchers can create a database for the Public Complaint Information System at the Jentera Stabat Village Office. The following is a display of Sublime Text 3 Software.

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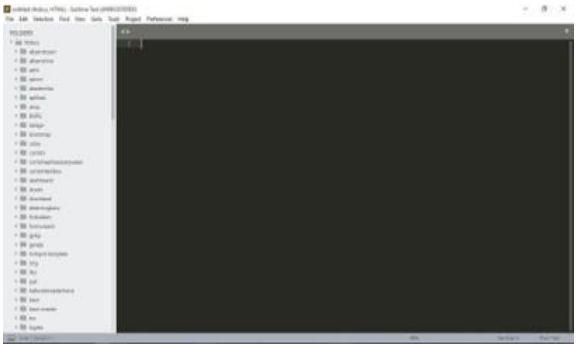

Figure 4. Sublime Text 3 Software Display

Sublime Text is a software program in HTML and PHP languages where this software is used as a web design to build an interface display. From the sublime text 3 software above, researchers designed a display for the system that will interact with the user. The following is a display of the login page.

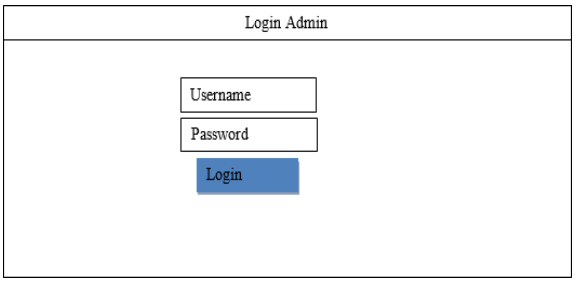

Figure 5. Login Page View

Before residents make complaints and admins make responses, citizen users and admins must first log in. The following is a display of the main citizen page.

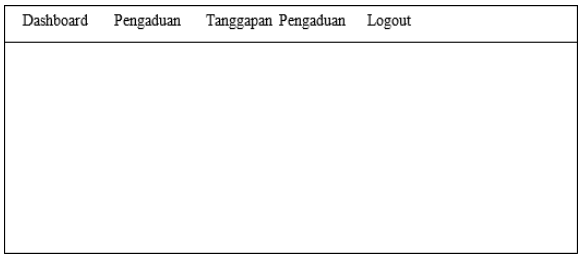

Figure 6. Main Citizen Page View

On the main page of citizens, there is a complaint menu, complaint response and logout. The following is the appearance of the admin's main page.

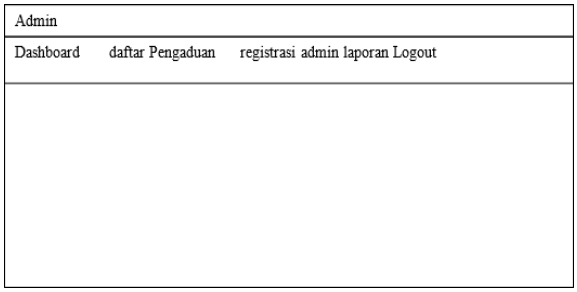

Figure 7. Admin Main Page View

On the admin main page, there is a complaint list menu, admin registration, report, and logout. The process flow of creating a DFD for the public complaint report information system in Paya Bengkuang Village begins with

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inputting reports in the village. Furthermore, the data will be processed and analyzed to determine the relevant data criteria. The analyzed data will be entered into the system and processed to produce integrated data.

The following is the start of the DFD flow process identifying the entities and processes involved in compiling diagrams with relevant symbols describing the data flow between entities and the process of analyzing the relationship between entities and processes in the public complaint report information system in Jentera Stabat Village. The following is a display of the DFD.

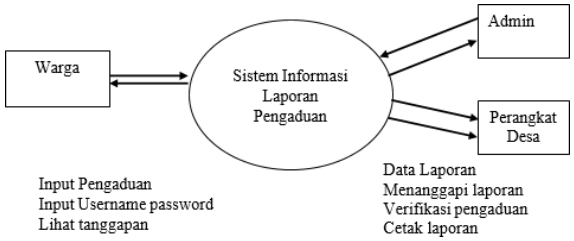

Figure 8. DFD (Data Flow Diagram) display

Flowcharts also help in avoiding errors or lack of information, because each officer can clearly see the steps to be taken and what data to input. Thus, flowcharts help in improving communication and coordination between officers, as well as ensuring more efficient and accurate complaint handling. Below is a flowchart of the public complaint reporting information system in Jentera Stabat Village which has been compiled using the waterfall method.

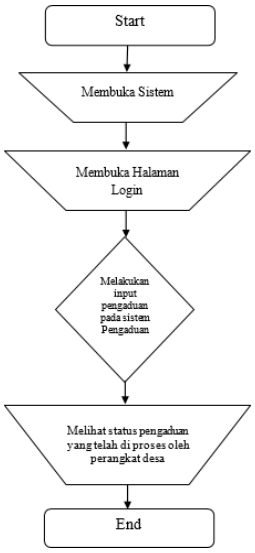

Figure 9. Resident Flowchart View

The admin flowchart flow in this public complaint information system is very important in ensuring that the data collection process runs efficiently and accurately. In this flow, residents are responsible for what they report in the system which will later be checked by the village apparatus.

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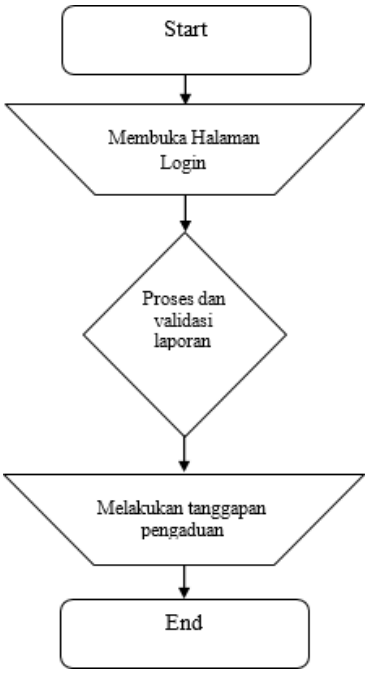

Figure 10. Admin Flowchart View

The admin flowchart flow in the public complaint information system is very important in making it easier for users to follow the steps that must be taken in the data collection process. With a clear flowchart flow, village officials can easily understand how to use the system, from logging into the system to responding to incoming reports. In addition, the clarity of the flowchart flow can also increase the efficiency of admin work, minimize the possibility of errors, and speed up the response to public complaints. With the visualization of the process through a flowchart, the admin can systematically manage and monitor each stage in handling complaints, so that transparency and accountability in the implementation of the public complaint information system can be more guaranteed.

RESULT

Based on the results of the successful testing of the complaint report information system in Jentera Stabat Village, the following are: (1) The system can run smoothly without any errors, (2) The system can input complaints into the system, (3) The system can be used easily by village residents and village officials. Based on the design results, the researcher shows and explains how the results of the system that has been created, for more details, the results of the overall testing of the complaint report information system in Jentera Stabat Village can be seen from the test image below.

The following is a complete system test on the Public Complaints system for Jentera Stabat Village which has been built as well as possible. The image below is a display of the admin and village officials login.

Figure 11. Admin and Village Device Login Display

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The admin login page on the public complaint information system at the Jentera Stabat village office is one of the important features in maintaining data security and confidentiality. This page is designed with a user-friendly display so that it is easy for admins to access and manage public complaint data. On this login page, the admin will be asked to enter the username and password that have been provided by the relevant party. After successfully logging in, the admin will be directed to the main page, which presents various information related to public complaints, such as the number of complaints received, complaint status, and complaint statistics per category.

In addition, the admin login page is also equipped with additional security features such as CAPTCHA or email verification to prevent unauthorized access. This aims to ensure that only authorized admins can access this system. In addition, this login page is also equipped with a password recovery system that allows admins to reset their passwords if they forget or there is a security problem. With a safe and secure admin login page, the public complaint information system at the Jentera Stabat village office can run smoothly, and public complaint data remains secure. The following is a display of the main resident dashboard.

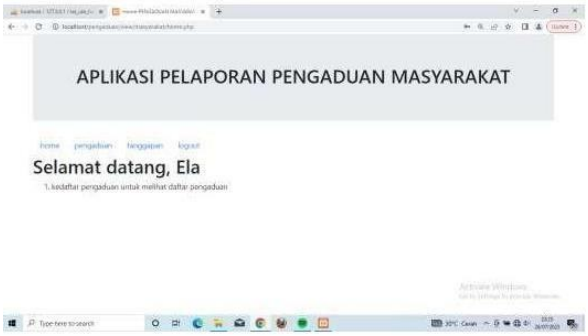

Figure 12. Main Citizen Dashboard View

The Dashboard page on the public complaint information system at the Jentera Stabat village office is the main display that provides visual information about the condition of public complaints. On this dashboard, the admin can see a summary of complaint data such as the number of complaints received, complaints that have been resolved, and complaints that are still in the process of being handled. In addition, the dashboard is also equipped with graphs and diagrams that provide an overview of the trend of public complaints in a certain period. In addition to complaint information, the dashboard also presents other relevant information such as population, population statistics data, and other important information that can help the admin in making the right decisions. With an intuitive and easy-to-understand display, the dashboard on the public complaint information system at the Jentera Stabat village office makes it easy for the admin to monitor and manage public complaints effectively. The following is a display of the public complaint form.

Figure 13. Public Complaint Form Display

In the population data page, administrators can quickly search and view population information individually or in certain groups. Administrators can view data such as name, address, date of birth, gender, marital status, and other information related to population. With this page, administrators can manage population data more efficiently, such as adding new data, editing existing data, or deleting irrelevant data. The following is a display of the report response.

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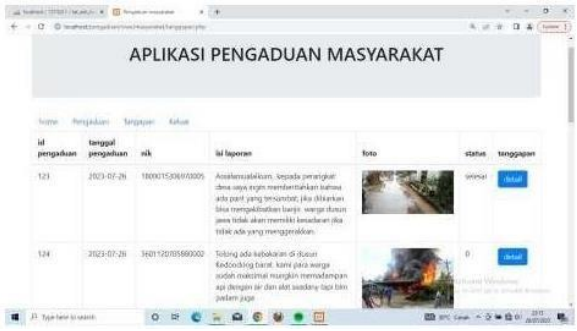

Figure 14. Report Response View

The complaint report response page on the public complaint information system at the Jentera Stabat village office is an important page in the complaint handling process. On this page, the admin can see the details of the complaint report that came in, including the reporter's information, the date of the complaint, and the contents of the report. In addition, the admin can also provide a response or action that has been taken regarding the complaint. This complaint report response page allows the admin to monitor and manage each complaint report efficiently, thus ensuring that each public complaint gets an appropriate and fast response. The following is a display of the admin dashboard.

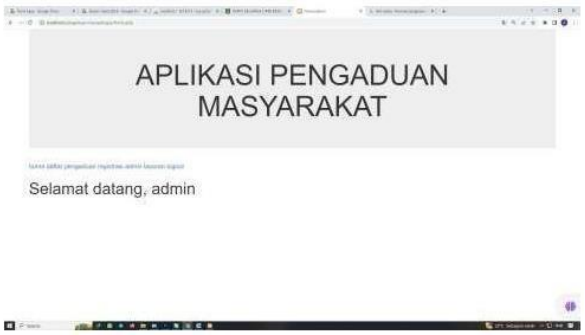

Figure 15. Admin Dashboard View

On the admin dashboard page on the public complaint information system at the Jentera Stabat village office, it is a control center that provides a comprehensive overview of public complaint activities. On this page, the admin can view complaint statistics such as the number of complaints received, complaints that are in the process of being handled, and complaints that have been resolved. In addition, the admin dashboard also displays other important information such as complaint trend graphs, the most frequent complaint categories, and complaints with high priority. This admin dashboard page helps the admin in making the right and effective decisions in handling public complaints, as well as monitoring the performance of the complaint system as a whole. The following is a display of residents' report responses to the admin.

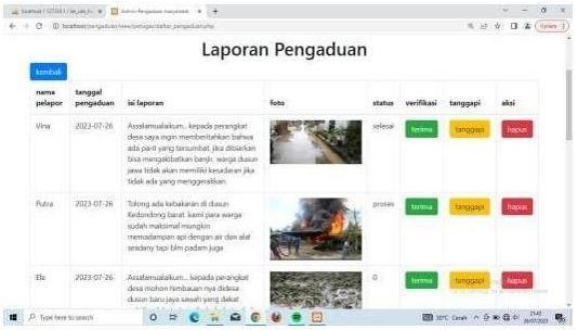

Figure 16. Display of Citizen Report Responses to Admin

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On the citizen report response page on the Admin of the public complaint information system at the Jentera Stabat village office is a page that allows the admin to provide responses and actions to incoming complaint reports. On this page, the admin can see the details of the complaint report including the reporter's information, the date of the complaint, and the contents of the report. The admin can also provide a response or action that has been taken regarding the complaint. This citizen report response page is very important in ensuring that each complaint report is handled properly, efficiently, and transparently, and allows the admin to track and monitor the status of complaint handling systematically.

DISCUSSIONS

The working principle of the public complaint report information system in Jentera Stabat Village is as follows, namely: (1) This complaint report information system can send complaint reports using internet technology, (2) This information system can process reports quickly and does not need to go to the village office, (3) The system allows village officials to access and download citizen complaint reports in a structured form, (4) This system relies on internet technology to be accessed by users and also village officials in the process.

From the results and discussions above, there are advantages of the Complaint information system in Jentera Stabat Village, namely: (1) Increasing the efficiency and effectiveness of complaint handling, (2) Providing transparency and accountability in handling complaints, (3) Facilitating complaint reporting for the community, (4) Allowing more effective monitoring and evaluation of complaint handling (5) Increasing community satisfaction and strengthening relations between the village government and the community.

Apart from the advantages, there are also several disadvantages, including the following: (1) Incomplete or inaccurate data can reduce the accuracy of the information in the report, (2) Limited infrastructure and technology can be an obstacle in managing the report information system, (3) Data security is an important issue in the public complaint report information system, (4) The ability of village administration to manage and utilize data generated by the public complaint report information system is also a key factor.

CONCLUSION

Based on the research results, it can be concluded that: (1) the Public Complaints Information System at the Jentera Stabat Village Office still provides services manually, (2) it improves the efficiency of the village in handling complaints, (3) it improves efficiency and coordination in handling complaints, (4) it reduces errors and duplication of tasks among officers, and (5) it increases community satisfaction, particularly in Jentera Stabat Village, in terms of the rapid response to complaints.

REFERENCES

Faittullah Akbar, M. (2023). Penerapan Metode Waterfall pada Sistem Informasi Penjualan Dan Persediaan Pada Warung Makan Hejo Karawang. *Indonesian Journal Computer Science*, *2*(1), 29–34. https://doi.org/10.31294/ijcs.v2i1.1902

Firgia, L., Muhamad Muslih, & Aditya Pratama. (2022). Implementasi Sistem Informasi Pengaduan Masyarakat Di Daerah Perbatasan Studi Kasus Desa Cipta Karya. *Jurnal Rekayasa Teknologi Nusa Putra*, *8*(2), 101–110. https://doi.org/10.52005/rekayasa.v8i2.267

Fisa Wisnu Wijaya, & Lomban, D. (2022). Sistem Informasi Inventory Barang Menggunakan Metode Waterfall. *Jurnal Informatika, Teknologi Dan Sains*, *4*(3), 247–254. https://doi.org/10.51401/jinteks.v4i3.1963

Haniva, D. T., Ramadhan, J. A., & Suharso, A. (2023). Systematic Literature Review Penggunaan Metodologi Pengembangan Sistem Informasi Waterfall, Agile, dan Hybrid. *Journal of Information Engineering and Educational Technology*, *7*(1), 36–42. https://doi.org/10.26740/jieet.v7n1.p36-42

Harjono, W., & Kristianus Jago Tute. (2022). Perancangan Sistem Informasi Perpustakaan Berbasis Web Menggunakkan Metode Waterfall. *SATESI: Jurnal Sains Teknologi Dan Sistem Informasi*, *2*(1), 47–51. https://doi.org/10.54259/satesi.v2i1.773

Irwanto. (2021). Perancangan Sistem Informasi Sekolah Kejuruan dengan Menggunakan Metode Waterfall (Studi Kasus SMK PGRI 1 Kota Serang-Banten). *Lectura: Jurnal Pendidikan, 12*(1), 399–405.

Kurniasih, K., & Mulyono, H. (2022). Sistem Informasi Pengaduan Masyarakat Berbasis Web Pada Kantor Desa Ladang Peris Kecamatan Bajubang. *Jurnal Manajemen Sistem Informasi*, *7*(4), 678–688. https://doi.org/10.33998/jurnalmsi.2022.7.4.692

Murdiani, D., & Sobirin, M. (2022). Perbandingan Metodologi Waterfall Dan RAD Dalam Pengembangan Sistem Informasi. *JINTEKS (Jurnal Informatika Teknologi Dan Sains)*, *4*(4), 302–306.

Nugroho, F. E., Taufiq, R., & Alfarizi, M. S. (2021). *RANCANG BANGUN SISTEM INFORMASI PELAYANAN PENGADUAN MASYARAKAT BERBASIS WEB PADA DESA SUKADAMAI KABUPATEN TANGERANG*.

Nurkholis, A., Susanto, E. R., & Wijaya, S. (2021). *Penerapan Extreme Programming dalam Pengembangan Sistem Informasi Manajemen Pelayanan Publik*. *5*.

JCEIT: Journal of Computer Engineering and Information Technology
Volume 1, Number 3, July 2025 ISSN 3089-106X
Page: 152-161 (online)

Rohman, A., & Brilian, R. P. (2023). Sistem Informasi Manajemen Tabungan Pada Bank Sampah Raflesia Menggunakan Metode Waterfall. *JBMI (Jurnal Bisnis, Manajemen, Dan …*, *19*(3), 192–204. https://doi.org/10.26487/jbmi.v19i3.25061

Supiyandi, S., Zen, M., Rizal, C., & Eka, M. (2022). Perancangan Sistem Informasi Desa Tomuan Holbung Menggunakan Metode Waterfall. *JURIKOM (Jurnal Riset Komputer)*, *9*(2), 274. https://doi.org/10.30865/jurikom.v9i2.3986

Syafiul Hamidani, Endang Etriyanti. (2022). Sistem Informasi Pengaduan Masyarakat Kota Lubuklinggau Berbasis Website. *Jurnal Ilmiah Binary STMIK Bina Nusantara Jaya Lubuklinggau*, *3*(2), 61–67. https://doi.org/10.52303/jb.v3i2.55

Usnaini, M., Yasin, V., & Sianipar, A. Z. (2021). Perancangan sistem informasi inventarisasi aset berbasis web menggunakan metode waterfall. *Jurnal Manajemen Informatika Jayakarta*, *1*(1).

Wau, K. (2022). Pengembangan Sistem Informasi Persediaan Gudang Berbasis Website Dengan Metode Waterfall. *Jurnal Teknik, Komputer, Agroteknologi Dan Sains*, *1*(1), 10–23. https://doi.org/10.56248/marostek.v1i1.8

Zaenudin, A., & Syahidin, Y. (2022). Rancangan Sistem Informasi Pengaduan Masyarakat Berbasis Web Pada Kantor Kecamatan Dengan Fitur Notifikasi Telegram. *Jutisi : Jurnal Ilmiah Teknik Informatika Dan Sistem Informasi*, *11*(1), 75. https://doi.org/10.35889/jutisi.v11i1.812