

# Web-based Visit List Information System at the Ministry of Religious Affairs of Deli Serdang Regency

Agung Nugroho<sup>1</sup>, Noni Fauzia Rahmadani<sup>2</sup>

<sup>1</sup>Universitas Islam Negeri Sumatera Utara; nagung724@gmail.com

<sup>2</sup>Universitas Islam Negeri Sumatera Utara; nonifauzia5@gmail.com

---

## ABSTRACT

Manual recording of visit lists at the Ministry of Religious Affairs of Deli Serdang Regency faces challenges such as the risk of damage to guest books, archive accumulation, and difficulties in periodic recapitulation, which hinder effective data management and decision-making. To address these issues and support the implementation of the smart government concept, this research aims to develop a modern and efficient web-based visit list information system. Using the Research and Development (R&D) method and the waterfall software development model, the system was built through stages of requirements analysis, design, implementation, testing, and maintenance. The system includes two main interfaces: an admin section for visitor data management, recapitulation creation, Excel data export, and statistical visualization; and a user section for visit form submission and proof of registration. Built with PHP, Bootstrap, and MySQL, the system ensures a user-friendly interface and structured database. The application was tested using black-box testing to evaluate functionality and usability. Visitors successfully registered, with accurate proof of registration generated. Admin features, such as data management, recapitulation, and Excel export, operated effectively, while statistical visualizations provided actionable insights. The system demonstrated high performance, with fast response times and secure data management without loss or corruption. Usability testing revealed positive feedback, with users highlighting the intuitive interface and responsive design across devices. These results confirm the system's ability to improve administrative efficiency, replace manual processes, and enhance transparency and accountability in public service delivery.

**Keywords:** Information System, Visit Management, Web Application, Administrative Efficiency

---

### Corresponding Author:

Agung Nugroho

Universitas Islam Negeri Sumatera Utara; nagung724@gmail.com

---

*This is an open access article under the [CC BY-NC-SA](https://creativecommons.org/licenses/by-nc-sa/4.0/) license.*



## 1. INTRODUCTION

Advances in information technology have brought significant changes in various sectors, including public services. The application of information technology enables automation of procedures and system integration, which contributes to improving the accuracy, speed, and completeness of information required by users (Rahardjo, 2020). One solution that is widely applied is a web-based information system, which simplifies data management, reduces the risk of losing physical archives, and allows real-time data access (Susilo & Wijaya, 2021). The Ministry of Religious Affairs of Deli

Serdang Regency, as a government agency providing religious and administrative services to the community, relies on traditional manual methods for recording visitor data, specifically using physical guest books. This approach presents several challenges, including the potential for physical damage to guest books, difficulties in managing and storing accumulated data, and inefficiencies in generating accurate visit recapitulations for analysis and decision-making. Such problems hinder the agency's ability to deliver efficient and transparent public services. This approach creates a number of problems, such as the risk of damage or loss of archives, accumulation of physical data, and difficulty in recapitulating visit data quickly and accurately (Setiawan, 2022). This condition hampers the efficiency of the reporting process, especially for periodic data needs.

In line with the smart government concept, the use of information technology is expected to improve the quality of public services, including transparency and efficiency of data management (Agefiftin, & Yanuar, 2021). Therefore, a web-based information system is needed that can replace manual methods, facilitate access to information, and support the process of recapitulating visit data efficiently. This research aims to design and implement a web-based visit list information system at the Ministry of Religious Affairs of Deli Serdang Regency to address inefficiencies in recording and managing visitation data. Efficiency here refers to minimizing manual efforts, reducing errors, and simplifying data retrieval and analysis. The system, developed using the R&D method and waterfall model, leverages PHP for back-end functionality and Bootstrap for creating a responsive, user-friendly interface. These tools ensure the system effectively reduces reliance on physical archives while improving administrative processes.

## **2. LITERATURE REVIEW**

### **2.1. Information System**

The system consists of elements that interact with each other and work together within a predetermined framework of rules to achieve planned goals. This system has several main characteristics, including boundaries, external environment, links, inputs, outputs, processes, and goals to be achieved. The system can be viewed as a structured set of procedures to achieve a goal or complete a specific task, which consists of a series of interrelated activities (Kristiawan & Sukadi, 2020). In the context of visit data management, the system includes input elements in the form of visitor data, data management processes, and outputs in the form of visit reports. Information is data that has been processed and given meaning so that it becomes relevant and useful (Darmadi, 2020). Quality information can support better decision making. In the visit list information system, the information generated is in the form of statistics and visit reports that can be accessed in real-time to support data management and leadership decision making.

An information system is an entity consisting of hardware, software, and humans that work in an integrated manner to carry out a series of certain processes to produce the desired product. The main function of information systems is to collect existing data, process it, and convert it into information that can be used to meet certain needs (Suryani, 2021). In this research, an information system is designed to record and manage visit data at the Ministry of Religious Affairs of Deli Serdang Regency, with features such as data recording, report recapitulation, and visualization of visit statistics.

### **2.2. UML (Unified Modelling Language)**

Unified Modeling Language (UML) is a visual modeling language used to design and describe software systems based on object-oriented programming (OO). UML provides a framework to

visualize, document, and construct software systems comprehensively, covering aspects such as business processes, class design in programming, database structures, and other essential components required for software development (Sujarweni & Hidayat, 2021). UML consists of various diagram types that support the depiction of different aspects of a software system. Some commonly used UML diagram types include:

1. Use Case Diagram: Used to represent the interaction between actors and the system, illustrating the main functionalities of the system from the user's perspective.
2. Activity Diagram: Used to model workflows or business processes, illustrating the steps or activities within a system.
3. Class Diagram: Used to model the static structure of the system, such as classes, attributes, methods, and relationships between classes.
4. Sequence Diagram: Used to visualize interactions between objects in a specific sequence of events.
5. Database Design Diagram: Used to illustrate the structure of tables and relationships within a database.

In this research, UML is used to design use case diagrams, activity diagrams, and database table relationships. These diagrams help visualize the workflow and relationships within the web-based visit list information system, ensuring the system is developed according to the required specifications and needs

### 2.3. *Waterfall*

The Waterfall model is a structured software development methodology that follows a linear and sequential approach. It consists of distinct stages: planning, analysis, design, coding, testing, and maintenance (Pressman, 2020). This model emphasizes a systematic progression through each phase, with each stage serving as a foundation for the next. The Waterfall model is characterized by its clear, well-defined steps, and it is best suited for projects with well-understood requirements and minimal changes during the development process. The primary functions and characteristics of the Waterfall model include:

1. Sequential Phases: Each phase is completed before moving to the next, ensuring a clear direction and focus at each stage.
2. Comprehensive Documentation: Extensive documentation is produced at every stage, which facilitates understanding and communication among team members.
3. Clear Requirements: The model is effective when the project requirements are well-defined from the outset, making it suitable for projects with stable and predictable needs.
4. Emphasis on Planning: Detailed planning is done upfront, which helps in estimating resources, time, and budget more accurately.
5. Limited Flexibility: Changes during the development process are difficult to accommodate, making it less suitable for projects that require frequent changes or iterations.

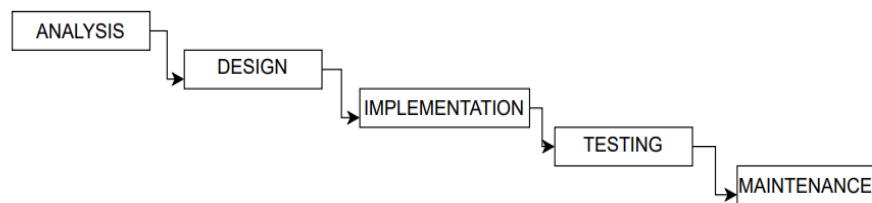
In this research, the Waterfall model was chosen because the requirements for the visit list information system were clearly defined, allowing for a systematic approach and thorough documentation at each stage of development.

### 3. METHODS

#### 3.1. System Development Method

The Waterfall model is one of the first software development approaches introduced and is often applied in large projects, especially in the government sector and large companies. This approach strongly emphasizes the importance of complete documentation and is suitable for projects that require strict quality control (Kuswandi, 2019).

The Systems Development Life Cycle (SDLC) in systems and software engineering refers to the set of processes used to design and change systems, encompassing the various models and methods applied in the development of such software (Mulyono, 2021).



**Figure 1.** Stages of the Waterfall Method

The Waterfall model describes the software development process with an efficient phased approach, which consists of the following stages:

1. Requirements Analysis is carried out by collecting and identifying the required system requirements. The purpose of the needs analysis is to define in detail what is needed by the user, as well as document the specifications that must be met. The results of this analysis are evaluated by users to ensure that the developed system meets their expectations.
2. System Design refers to translating the results of the requirements analysis into a technical design that is ready for implementation. This design guides the coding of the system and will be documented as part of the software configuration.
3. Implementation includes the design that has been prepared will be translated into program code that can be run using a specific programming language.
4. System Testing aims to verify that the developed software functions according to predetermined specifications and all its features run properly without interruption. In addition, testing also ensures that the software meets the needs identified at the analysis stage.
5. Maintenance which aims to ensure that the system continues to operate as desired. This maintenance includes fixing problems or bugs that were not detected at the previous stage.

#### 3.2. UML Implementation

The Unified Modelling Language (UML) is an effective visual modeling tool in object-based system development (Rifki et al., 2023) . UML is used to systematically design and document systems, including the design of business processes, data relationships, and application structures.

In this research, UML is applied through the creation of:

1. Use Case Diagram to visualize the interaction between users and the system.
2. Activity Diagram to describe the workflow in the system.

### 3.3. Use Case Diagram

A use case diagram is a type of representation in UML (Unified Modeling Language) that shows the interaction between the system and actors. This diagram describes how users interact with the system and its functions. A use case diagram is a visual representation of the interaction between a system and its environment, showing how the system is used in a typical interaction between the user and the system itself (Julianti et al., 2023).

This diagram is used to identify the parties involved or users of the system, as well as explain the various interactions that occur with the system (Prakoso et al., 2020). In addition, use cases also function to describe how users connect with the system (Arsyawalfa & Handriyantini, 2020). The use case design for this visit list information system can be seen in Figure 2 below.

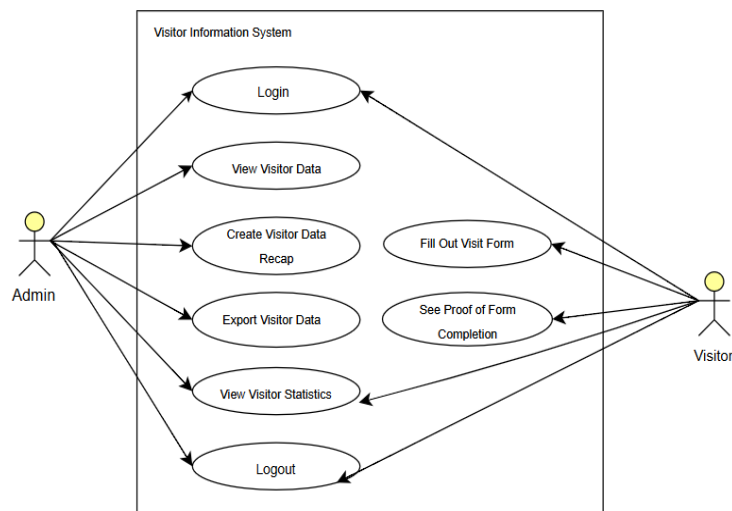


Figure 2. Use Case Diagram

The picture above shows a use case diagram for a web-based visit list information system involving two main actors, namely Admin and Visitors. The following is an explanation of the functions in the diagram:

1. Login: The Admin actor needs to log in to access the system features.
2. View Visitor Data: Admin can view visitor data that has entered the system.
3. Create Visitor Data Recap: Admins have the ability to recap visitor visit data.
4. Export Visitor Data: Admins can export visitor data, for example in spreadsheet or CSV format,
5. View Visitor Statistics: Admins can view visitor statistics, which provide an overview of visitor activity over a period of time.
6. Logout: Admins can log out of the system after finishing using the application.
7. Fill in the Visit Form: Visitors fill in the visit form online through the system.
8. Print the Completed Form: Visitors can print the visit form that they have filled in as proof of visit.

### 3.4. Activity Diagram

Activity diagrams represent the activities that the system performs. Activity Diagrams are an important part of the system analysis and design process, because they help in visually describing how a system operates and interacts with its environment (Kuswandi, H, 2019).

This activity diagram describes the workflow of the system, related to the account registration process, login, and visit data management. The following is a detailed explanation based on the activities in the diagram:

1. Account Registration

- a. The user accesses the account registration page.
- b. User fills in the registration form with username and password.
- c. After clicking the register button, the system receives the registration data and displays the login page.

2. Login Akun

- a. The user accesses the login page.
- b. Fill in the username and password that have been registered.

The system performs the data validation process: If the data is invalid, the user is asked to refill it, If the data is valid, the user is directed to the next page: for guests, they are directed to the guestbook form page, for admin, redirected to the admin dashboard. Registration in Guest Book, after logging in as a guest, the user is directed to the guest book registration form, fill in the visit data according to the form, then click the save button, The system validates the data entered admin management.

- c. In the admin dashboard, there is an option to add a new admin.
- d. In addition, the admin can access features for: view visitor data, recap visitor data, export visitor data, view visitor statistics.

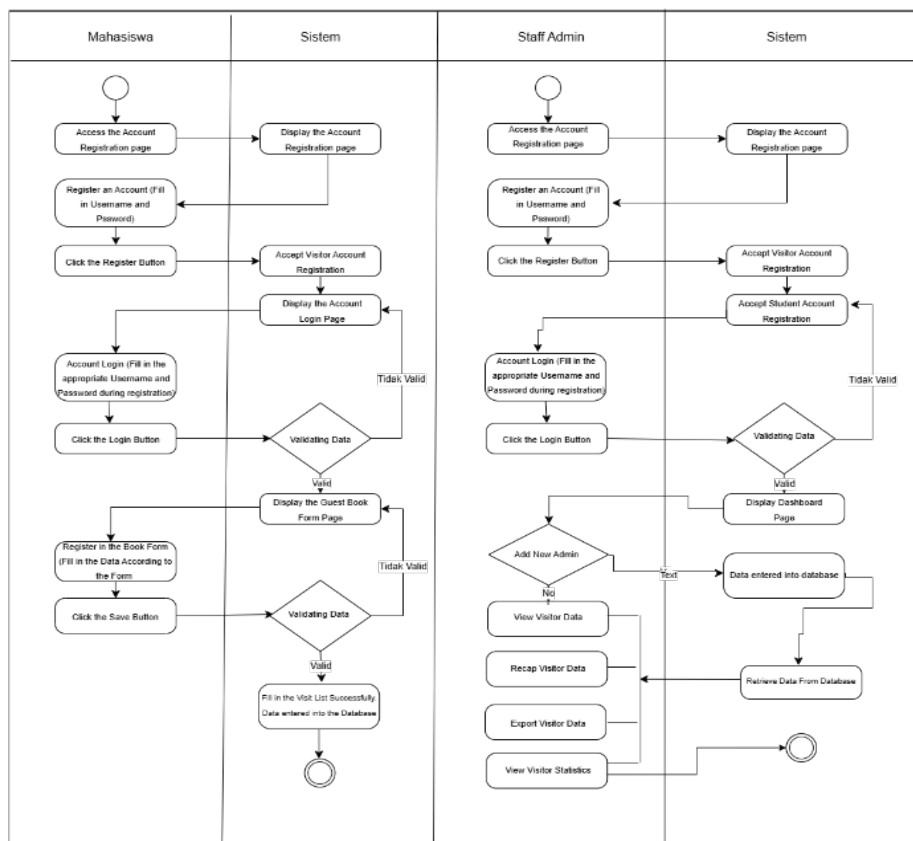


Figure 3. Activity Diagram

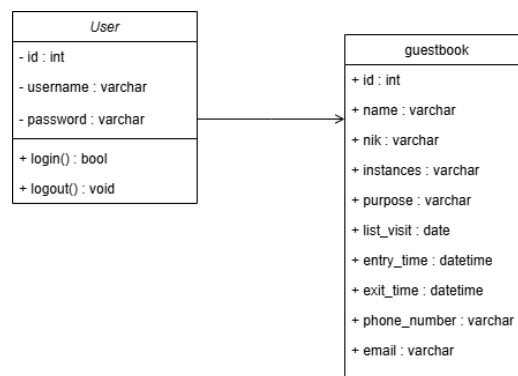
### 3.5. Class Diagram

Class diagram is one type of structural diagram in the Unified Modeling Language (UML) that specifically describes the structure and description of classes, attributes, methods, and relationships between objects (Pebrianto & Mulyono, 2021). Class diagrams are static, meaning that this diagram describes the relationship between objects conceptually, not how the relationship functions during runtime. The main components in the class diagram are described as follows:

**Table 1.** Class Diagram Components

Class	Attributes	Methods
User	<ul style="list-style-type: none"> <li>a. id_user: A unique attribute to identify each user in the system.</li> <li>b. username: The username used for login.</li> <li>c. password: The password of the user for login security.</li> <li>d. role: The user's role in the system (e.g., admin or visitor).</li> </ul>	<ul style="list-style-type: none"> <li>a. login(): A function used to validate the user's identity.</li> <li>b. logout(): Function to exit the system.</li> </ul>
Guestbook	<ul style="list-style-type: none"> <li>a. id_visit: Unique ID for each visit entry.</li> <li>b. tanggal: The date of the proposed visit.</li> <li>c. keperluan: The reason or purpose of the visit.</li> <li>d. waktu: The time of the proposed visit.</li> <li>e. status: The status of the visit (Pending, Approved, Rejected).</li> </ul>	<ul style="list-style-type: none"> <li>a. add_visit(): Function to add new visit data.</li> <li>b. edit_visit(): Function to edit existing visit information.</li> <li>c. delete_visit(): Function to delete visit data.</li> <li>d. process_visit(): Function to process a visit (change status).</li> </ul>

This diagram shows the database structure that includes guest users, admins, and the processes associated with system interactions. Each activity path ends with a round circle indicating the end of the process (Fachri & Surbakti, 2021). The following is the activity diagram design:



**Figure 4.** Class Diagram Sistem

The main functions of this system can be explained based on the following two class components:

1. User
  - a. Users can perform the authentication process through login using username and password.
  - b. Users with the visitor role can add visit data to the book\_guest class.
  - c. Users with admin roles have access rights to manage visit data, including processing visit status. admin, they can manage visit status.
2. Visit (book\_guest)
  - a. Visitors can add visit details, such as date, purpose, and preferred time.
  - b. Admin is in charge of processing visit data by changing the status of the visit to Approved or Rejected according to policy.

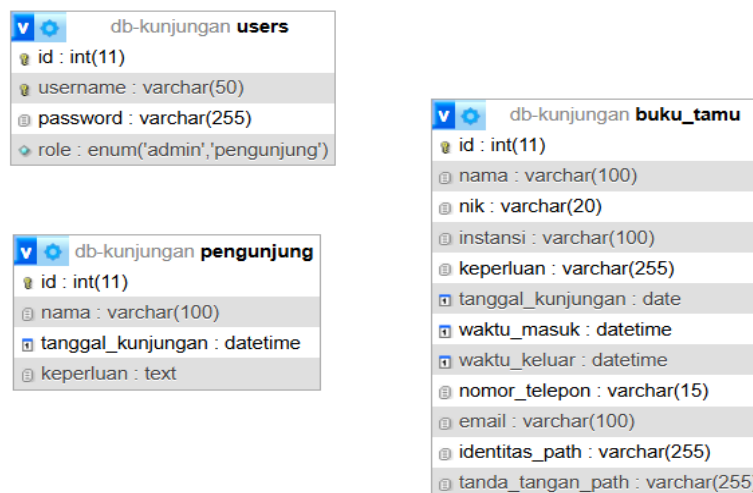


Figure 5. Database Implementation

## 4. RESULTS AND DISCUSSION

### 4.1. Research Results

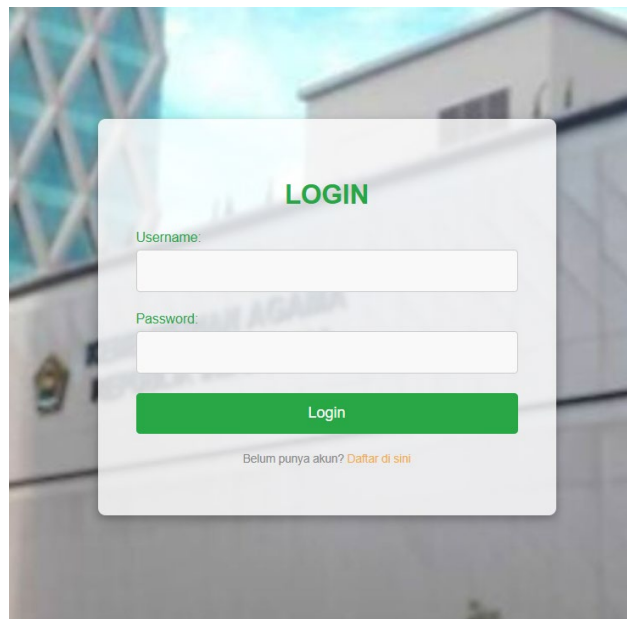
The results and discussion are based on research conducted through several objectives and form the basis of research on designing a web-based visit management information system to record visit data in a structured and efficient manner. This system is designed to overcome the problem of loss or damage to manual archives and facilitate the management of visits. Where the system allows visitors to apply for a visit online, while the admin can process and manage visit data easily. Key features such as add visit, edit visit, and process visit status improve operational efficiency and provide better data security and accessibility.

### 4.2. Discussion

After completing the design of the Use case diagram, activity diagram, Class Diagram and Database Diagram, the next stage is the implementation of the system through the creation of the User Interface. At this stage, the implementation process involves two main activities, namely display design and system prototype development. This process is designed to ensure the system interface is easy to understand, intuitive, and can meet user needs. The following are the results of the user interface design that has been compiled:

### 1. Login Page

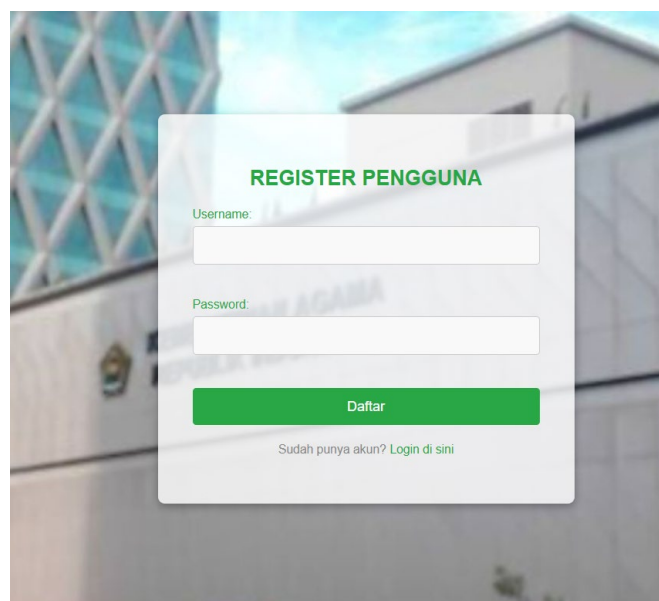
The login page serves as the entrance to the system, where users must enter a username and password to verify their identity. This page is an important component to protect the privacy and integrity of the web-based visit information system. The login page on the Visit List website is shown in Figure 6.



**Figure 6.** Login Page

### 2. Registration Page

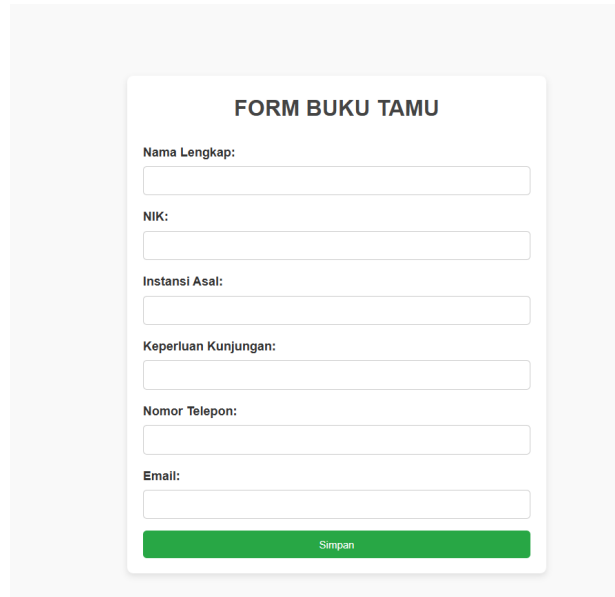
The Registration page serves as a place for new users to register an account in order to access the system. This page ensures that each user has a valid and unique account to access the system according to their role, either as an admin or visitor. The registration page on the Visit List website is shown in Figure 7.



**Figure 7.** Registrastration Page

3. Guest Book List Page

The Guest Book List page on the Deli Serdang Regency Ministry of Religious Affairs website is a feature designed to make it easier for visitors who want to register themselves before visiting the office. This page will record various information related to visitors and the purpose of arrival, in order to increase administrative effectiveness and facilitate the service process. The appearance of the visit form page on the Visit List website is shown in Figure 8.



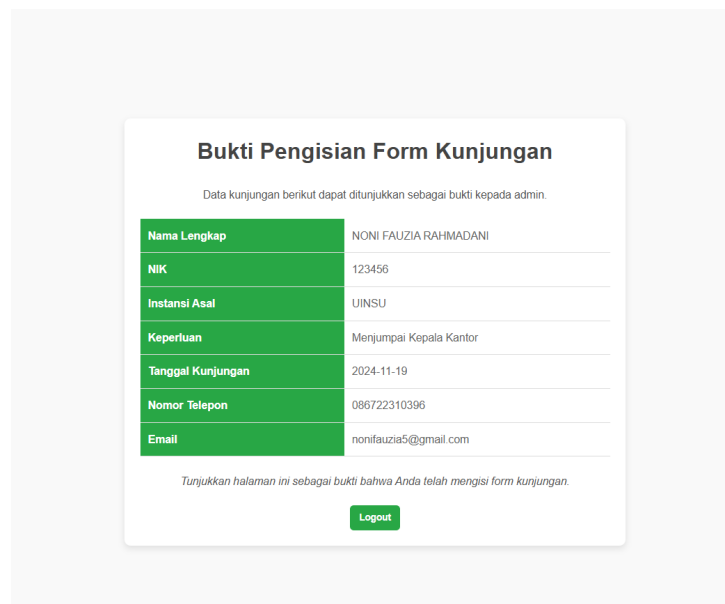
The image shows a registration form titled "FORM BUKU TAMU". It contains several input fields for personal and contact information, followed by a green "Simpan" (Save) button.

Field Label	Input Type
Nama Lengkap:	Text
NIK:	Text
Instansi Asal:	Text
Keperluan Kunjungan:	Text
Nomor Telepon:	Text
Email:	Text
Submit Button	Simpan

Figure 8. Guest Book List Page

4. Proof of Guest Book Registration Page

After visitors successfully fill out the registration form on the Guest Book Registration page, they will be directed to the Proof of Visit Form Filling page. This page serves to provide confirmation that visitors have successfully registered and completed the registration process. The display of the proof of visit data recap page on the Visit List website is shown in Figure 9.



The image shows a confirmation page titled "Bukti Pengisian Form Kunjungan". It displays a recap of the registration data in a table format, with a green "Logout" button at the bottom.

Field Label	Value
Nama Lengkap	NONI FAUZIA RAHMADANI
NIK	123456
Instansi Asal	UINSU
Keperluan	Menjumpai Kepala Kantor
Tanggal Kunjungan	2024-11-19
Nomor Telepon	086722310396
Email	nonifauzia5@gmail.com

Figure 9. Proof of Guest Book Registration Page

5. Admin Dashboard Page Display

The Admin Dashboard page is an interface used by officers or administrators to manage and monitor all activities that occur in the guestbook registration system of the Ministry of Religion of Deli Serdang Regency. This dashboard provides access to various data and reports related to registered visitors and the visit process that occurs in the office. The admin dashboard page on the Visit Register website is shown in Figure 10.

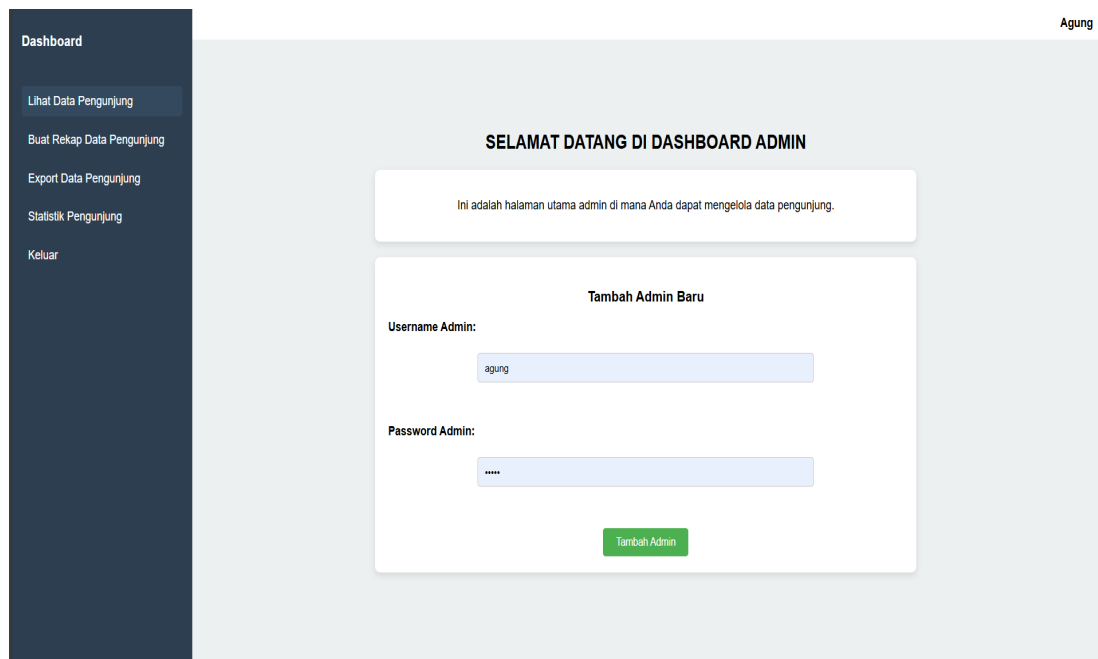


Figure 10. Admin Dashboard Page Display

6. Display of Add Admin

The Add Admin feature on the dashboard of the Ministry of Religious Affairs of Deli Serdang Regency gives the main admin the right to add new users who have access to the visitor administration system. By using this feature, the main admin can give access to other officers to manage visits and visitor data with the appropriate access level. The display of the add new admin page on the Visit List website is shown in Figure 11.

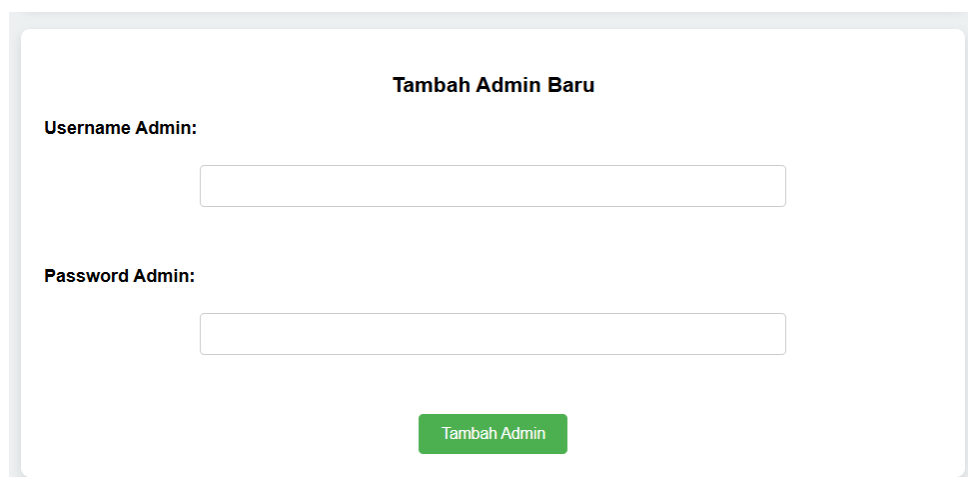


Figure 11. Display of Add Admin

7. View Page View visitor data

The View Visitor Data page on the admin dashboard at the Deli Serdang Ministry of Religious Affairs gives admins access to monitor, manage, and review all visitor data that has been registered to make a visit. With features such as search and filter, visit status management, and the ability to contact visitors or export data, this page simplifies administrative tasks and improves service quality at the Deli Serdang Ministry of Religious Affairs. The view of the view visitor data page on the Visit Register website is shown in Figure 12.

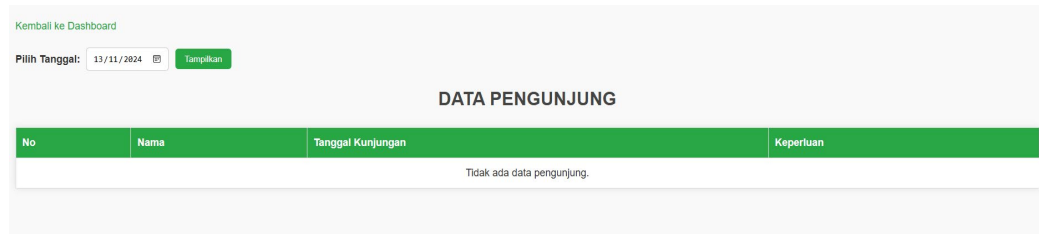


Figure 12. View Page View Visitor Data

8. Display of visitor data recap page



Figure 13. Display of Visitor Data Recap Page

9. Display of visitor data export page

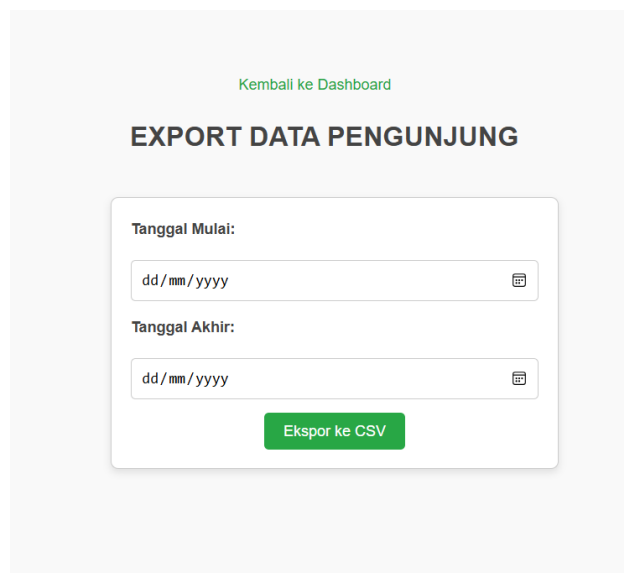


Figure 14. Display of Visitor Data Export Page

The Visitor Data Export page on the admin dashboard at the Ministry of Religion of Deli Serdang Regency provides a feature to download and share visitor data that has been registered in the form of an excel file. The display of the visitor data recap page on the Visit List website is shown in Figure 14.

10. Visitor statistics page display

The Visitor Statistics page provides a detailed visual and statistical overview of the number of visitor visits to the Ministry of Religious Affairs of Deli Serdang Regency in a certain period of time. This page provides statistical data that can be viewed in various time ranges, such as daily, weekly, monthly and yearly. The display of the visitor data statistics page on the Visit List website is shown in Figure 15.



Figure 15. Visitor statistics page display

4.3. System Testing

The application will be tested using the Black Box Testing method, which focuses on assessing the system’s functionality based on input and expected output, without the need for testers to understand the underlying implementation. The purpose of this testing is to verify that the system provides correct outputs in response to specific inputs, as defined by the requirements. This method allows us to evaluate various features and components of the visit list system, such as:

1. Visitor Registration Form: To ensure that the form accepts input correctly and generates the expected confirmation or proof of registration.
2. Admin Login Form: To verify that the login functionality works as intended, ensuring only authorized users can access the admin section.
3. Visit Data Processing: To ensure that the system can handle, store, and process visit data accurately, and generate the appropriate reports or recaps.

Each component will be tested against its expected functionality. If the output aligns with the expected result, the system is considered to function properly. However, if the output deviates from expectations, necessary improvements will be made to correct the issue. The following Testing Table outlines the components tested in the Visit List Website System at the Ministry of Religious Affairs, Deli Serdang Regency, using the Black Box Testing method. This includes tests on forms and data processing features to ensure all aspects of the system work as intended.

The following is a Testing Table for the Visit List Website System at the Ministry of Agams, Deli Serdang Regency using the Black Box Testing Method, which includes testing on various forms in this system:

1. Black Box Testing on the Registration Form

**Table 2.** Black Box Testing on the Registration Form

No	Testing Data	Expected Results	Testing Results	Conclusion
1	Leave all available fields blank	The system refuses to register an account and an alert appears to fill in the fields	A warning message appears	Valid
2	Leave one of the username or password fields blank	The system refuses to register an account and an alert appears to fill in the fields	A warning message appears	Valid
3	Enter the username and password as requested	The system will receive an account registration request	Enter the login page	Valid

2. Black Box Testing on the Login Form

**Table 3.** Black Box Testing on the Login Form

No	Testing Data	Expected Results	Testing Results	Conclusion
1	Leave all available fields blank	The system rejects the Account login and an alert appears to fill in the fields	A warning message appears	Valid
2	Leave one of the username or password fields blank	The system rejects the Account login and an alert appears to fill in the fields	A warning message appears	Valid
3	Entering the wrong username and password	The system refuses to log in the account and an alert appears that the username and password entered are incorrect	A warning message appears	Valid
4	Enter Username and Password according to registration	The system will accept login access and be directed to the visit form menu.	Enter the visit form page	Valid

3. Black Box Testing on Visit form

**Table 4.** Black Box Testing on Visit form

No	Testing Data	Expected Results	Testing Results	Conclusion
1	Leave all available fields blank	The system refuses to register as a visitor and an alert appears to fill in the fields	A warning message appears	Valid
2	Leave one of the fields of the visit form page blank	The system refuses to register as a visitor and an alert appears to fill in the fields	A warning message appears	Valid
3	Enter all requested data	The system will accept the visit form registration request and will be redirected to the proof of registration.	Enter the proof of registration form page	Valid

4. Black Box Testing on the add admin dashboard form

**Table 5.** Black Box Testing on the add admin dashboard form

No	Testing Data	Expected Results	Testing Results	Conclusion
1	Leave all available fields blank	The system rejects the registration of a new admin and an alert appears to fill in the fields	A warning message appears	Valid
2	Leave one of the fields of the visit form page blank	The system rejects the registration of a new admin and an alert appears to fill in the fields	A warning message appears	Valid
3	Enter the username and password that have been registered	The system refuses to register an account and an alert appears that the username and password have already been created.	A warning message appears	Valid
4	Entering Username and Password that have not been registered before	The system will receive an account registration request	Data is successfully added to the database	Valid

5. Black Box Testing on visitor data recap form

**Table 6.** Black Box Testing on visitor data recap form

No	Testing Data	Expected Results	Testing Results	Conclusion
1	Leave all available date fields blank	The system refuses to recap visitor data and an alert appears to fill in the fields	A warning message appears	Valid
2	Leave one of the date fields of the data recap page blank	The system refuses to recap visitor data and an alert appears to fill in the fields	A warning message appears	Valid
3	Fill in the date of visit according to the existing form	The system will generate a recap of visitor data	Data successfully displayed	Valid

6. Black Box Testing on visitor data export form

**Table 2.** Black Box Testing on visitor data export form

No	Testing Data	Expected Results	Testing Results	Conclusion
1	Leave all available date fields blank	The system refuses to export visitor data and an alert appears to fill in the fields	A warning message appears	Valid
2	Clear one of the date fields from the data export page	The system refuses to export visitor data and an alert appears to fill in the fields	A warning message appears	Valid
3	Fill in the date of visit according to the existing form	The system will generate a visitor export to csv	Data successfully displayed	Valid

**4. CONCLUSION**

This research successfully developed a web-based visit registration system for the Office of the Ministry of Religious Affairs of Deli Serdang Regency to address several key challenges, including inefficiencies in manual data management, the risk of damage to guest books, accumulation of physical archives, and difficulties in periodic recapitulation. These issues hindered effective data management,

---

transparency, and decision-making processes. The implementation of this system has significantly improved administrative efficiency by facilitating real-time data recording and offering a more organized, digital approach to visitor management.

The application design followed a structured approach using the Waterfall software development model, ensuring that each stage—from requirements analysis to system maintenance—was meticulously carried out. Technologies such as PHP, Bootstrap, and MySQL were utilized to create a user-friendly interface and a well-structured database. The design included two key interfaces: one for administrators to manage visitor data and recapitulate visits, and another for users to submit visit requests and receive registration confirmation.

The results of the application discussion showed that the system met its goals of enhancing efficiency, accuracy, and transparency in public services. It successfully replaced manual processes, reduced the need for physical archives, and enabled better real-time data management. The system's functionality was thoroughly tested using Black Box Testing, which demonstrated that all features, including visitor registration, data management, and export to Excel, operated according to specifications. User feedback indicated high satisfaction, with the interface being intuitive and responsive across devices.

## REFERENCES

- Aldhiqo Yusron Mubarak, Umi Chotijah. (2021). Sistem Informasi Buku Tamu Menggunakan Qr code Berbasis Web Pada PT Petrokimia Gresik. *Jurnal Ilmiah ILKOMINFO-Jurnal Ilmu Komputer dan Informatika*, (Vol. 4, Issue 2).
- Agefifin, A., & Yanuar, Y. (2021). Perancangan Sistem Informasi Buku Tamu Berbasis Web Di Praktisi Politeknik Bisnis Digital. *Jurnal Teknologi Informasi (JALTI) Politeknik Praktisi Bandung*, 5(2), 1–6.
- Afzalena, S. (2020). IMPLEMENTASI METODE JOB ORDER COSTING PADA SISTEM INFORMASI PRODUKSI BERBASIS WEB.
- Arsyawalfa, M. I., & Handriyanti, E. (2020). Pengembangan Sistem Informasi Pemungutan Pajak Reklame Berbasis Website Menggunakan Metode Scrum Pada Badan Pendapatan Daerah Kabupaten Lombok Barat. *J-Intech*, 8(02), 53–64. <https://doi.org/10.32664/j-intech.v8i02.548>
- Balqis Nuerita Maharani, R., Irwan Padli Nasution, M., & Islam Negeri Sumatera Utara, U. (2021). Sistem Informasi Payroll Pegawai dengan Absensi QR Code. *Jurnal Informatika Dan Teknologi Pendidikan*, 1(1), 23–35. <https://doi.org/10.25008/jitp>
- Riyadi, S., Ratna, I., & Astutik, I. (2022). Design and Build a Web-Based Guestbook Case Study Gresik Regency Education Office. *Journal of Network and Computer Science* | (Vol. 4, Issue 2).
- Dewati, C. R., Anuranda, I., & Putra, W. H. N. (2019). Analisis dan Perancangan Sistem Informasi Pengarsipan Dokumen Dengan Pendekatan Berorientasi Objek (Studi Kasus : Dinas Sekretariat Dewan, Pemerintahan Kota Batu). *Jurnal Pengembangan Teknologi Informasi Dan Ilmu Komputer*, 3(5), 5140–5146.
- Dirgayusari, A. M., Ahmad, N., Mahardika, B. T., Musyriyah, M., Gemasih, H., Asmawati, A., Sofyan, A. A., Djamaluddin, D., Aini, N., Wiyanto, W., Ridwan, M., Yani, Mu., Herianto, H., & Maulana, D. (2022). Basis Data (D. Gustian, Ed.). Media Sains Indonesia.
- Fachri, B., & Wahyu Surbakti, R. (2021). PERANCANGAN SISTEM DAN DESAIN UNDANGAN DIGITAL MENGGUNAKAN METODE WATERFALL BERBASIS WEBSITE (STUDI KASUS: ASCO JAYA). In *Journal of Science and Social Research* (Issue 3). <http://jurnal.goretanpena.com/index.php/JSSR>
- Hermanto, B., Yusman, M., & Nagara. (2019). SISTEM INFORMASI MANAJEMEN KEUANGAN PADA PT. HULU BALANG MANDIRI MENGGUNAKAN FRAMEWORK LARAVEL. *Jurnal Komputasi*, 19.
- Pratiwi, I. W., Ahmad, N., Hadinegoro, A., Hafizh, S., & Sulthanah, R. (2021). Perancangan Sistem Informasi Buku Tamu Berbasis Web Pada Kantor Kementerian Hukum dan Hak Asasi Manusia

- Banda Aceh. *J-INTECH (Journal of Information and Technology)*, 1(1), 6–13. <https://doi.org/10.34256/ijcci1912>
- Kuswandi, H. (2018). Sistem informasi pelayanan terpadu di restoran berbasis android. *Jurnal J-Intech*, 06(1), 1–8.
- Liantoni, F., Yusincha, A., Arief Rachman Hakim, J., Ngasem, K., Sby, K., & Timur, J. (2018). Pemodelan UML Pada Sistem Pengajuan Dana Anggaran Untuk Peningkatan Produktivitas Perusahaan. In *Jurnal Teknologi Informasi & Komunikasi Digital Zone* (Vol. 9, Issue 2).
- Mubarak, A., Metro, J. J., & Selatan, K. T. (2019). RANCANG BANGUN APLIKASI WEB SEKOLAH MENGGUNAKAN UML (UNIFIED MODELING LANGUAGE) DAN BAHASA PEMROGRAMAN PHP (PHP HYPERTEXT PREPROCESSOR) BERORIENTASI OBJEK. In *Jurnal Informatika dan Komputer Ternate* (Vol. 02, Issue 1).
- Mubarak, A. Y., & Chotijah, U. (2021). Sistem Informasi Buku Tamu Menggunakan Qr Code Berbasis Web Pada Pt Petrokimia Gresik. *Jurnal Ilmiah ILKOMINFO - Ilmu Komputer & Informatika*, 4(1), 57–66. <https://doi.org/10.47324/ilkominfo.v4i1.112>
- Abdul Wahid Sekolah Tinggi Manajemen Informatika dan Komputer Sumedang, A. (n.d.). *Analisis Metode Waterfall Untuk Pengembangan Sistem Informasi*. <https://www.researchgate.net/publication/346397070>
- Nurrahman, A., Dimas, M., Falakhuddin Ma'sum, M., Farhan Ino, M., Institut, A. :, & Dalam Negeri, P. (2021). PEMANFAATAN WEBSITE SEBAGAI BENTUK DIGITALISASI PELAYANAN PUBLIK DI KABUPATEN GARUT. *Jurnal Teknologi Dan Komunikasi Pemerintahan*, 3(1), 78–93. <http://ejournal.ipdn.ac.id/JTKP>,
- Rafli, M., Handoko, P., Harahap, A. M., (2024). PERANCANGAN SISTEM INFORMASI PENGELOLAAN KUNJUNGAN KERJA (KUNKER) PADA KANTOR DPRD SUMATERA UTARA MENGGUNAKAN METODE WATERFALL. In *Jurnal Mahasiswa Teknik Informatika* (Vol. 8, Issue 4).
- Rifki, M. I., Muhammad Ezar Raditya, & Abdul Halim Hasugian. (2023). Text Data Security Application Using a Mobile-Based Base64 Algorithm. *Instal: Jurnal Komputer*, 15(02), 224–235. <https://doi.org/10.54209/jurnalkomputer.v15i02.146>
- Sudaryanto, E., Wahjudi, D., & Watiningsih, T. (n.d.). *PENERAPAN SISTEM DATA PENGUNJUNG PERPUSTAKAAN BERBASIS RADIO FREQUENCY IDENTIFICATION (RFID)*.
- Suendri. (2018). Implementasi Diagram UML (Unified Modelling Language) Pada Perancangan Sistem Informasi Remunerasi Dosen Dengan Database Oracle (Studi Kasus: UIN Sumatera Utara Medan). *ALGORITMA: Jurnal Ilmu Komputer Dan Informatika*, 1. <http://www.omg.org>
- Supriadi, D., Susanto, B., Bina Sarana Informatika, U., & Direvisi Disetujui, D. (2022). Perancangan Sistem Informasi Penggajian Karyawan Dengan metode Waterfall. *Journal Computer Science*, 1(1).
- Pebrianto, F., & Mulyono, H. (2021). Sistem Informasi Pelayanan Tamu Bebas Web Pada Badan Kepegawaian dan Pengembangan Sumber Daya Manusia Daerah Kota Jambi. *Manajemen Sistem Informasi*, 6(4), 528–542.