



Assistance in Information Governance and Administrative Services for The Sukasari Village Government through A Laravel Framework-Based Website

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Abstrak

Transformasi pelayanan pemerintahan desa tidak hanya memerlukan perangkat teknologi, tetapi juga pendampingan yang membantu aparatur desa menata informasi dan proses administrasi secara sistematis. Kegiatan pengabdian ini bertujuan mendampingi Pemerintah Desa Sukasari dalam memperkuat tata kelola informasi publik dan pelayanan administrasi melalui website berbasis framework Laravel. Metode pengabdian dilaksanakan melalui empat tahap, yaitu identifikasi kebutuhan dan penelaahan alur layanan, perancangan serta pengembangan aplikasi, pendampingan penerapan dan pengelolaan website, serta evaluasi fungsional dengan teknik black-box. Website yang dihasilkan mengintegrasikan informasi profil desa, data kependudukan, ringkasan APBDes, potensi desa, peta, kontak, dan jam pelayanan dengan empat layanan administrasi, yaitu Surat Keterangan Tidak Mampu, Surat Keterangan Domisili, Surat Keterangan Pindah, dan Surat Keterangan Masuk. Masyarakat dapat mengirim data serta dokumen KTP dan Kartu Keluarga, memperoleh kode pengajuan, dan memantau status menggunakan kode tersebut bersama NIK. Pada sisi administrator tersedia dashboard statistik, pencarian dan penyaringan data, pemeriksaan dokumen, pembaruan status, penerbitan surat PDF, ekspor CSV, laporan PDF, pengelolaan informasi desa, serta penggantian kata sandi. Evaluasi pada lingkungan pengembangan menunjukkan bahwa fungsi utama berjalan sesuai skenario yang ditetapkan. Kegiatan pendampingan ini menghasilkan media pelayanan yang lebih tertata, mudah ditelusuri, dan dapat mendukung keterbukaan informasi Pemerintah Desa Sukasari.

Kata kunci: *Administrasi Desa, Laravel, Pelayanan Publik, Pendampingan, Website Desa*

Abstract

Transforming village government services requires not only technological infrastructure but also structured assistance that enables village officials to organize public information and administrative processes systematically. This community service activity aimed to assist the Sukasari Village Government in strengthening public information governance and administrative services through a website developed with the Laravel framework. The activity comprised four stages: needs identification and service-workflow review, application design and



development, assistance with website implementation and management, and functional evaluation using black-box testing. The resulting website integrates village profile information, population data, Village Revenue and Expenditure Budget (APBDes) summaries, local potential, maps, contact details, and service hours with four administrative services: the Certificate of Indigency (SKTM), Certificate of Domicile, Certificate of Relocation, and Certificate of Arrival. Residents can submit personal data and national identity card (KTP) and family card (KK) documents, obtain an application code, and monitor their application status using the code and national identification number (NIK). The administrator panel provides statistical dashboards, search and filtering functions, document review, status updates, PDF letter generation, CSV exports, PDF reports, village information management, and password changes. Evaluation in the development environment indicated that the core functions operated according to the specified scenarios. The assistance activity produced a more organized and traceable service platform that can support public information disclosure in Sukasari Village.

Keywords: *Village Administration, Community Assistance, Laravel, Public Services, Village Website*

Introduction

The use of information technology in local government has expanded alongside the public's growing demand for services that are fast, transparent, and accessible from different locations. At the village level, a website can function both as an information channel and as a platform for administrative services. Its presence is also consistent with the principle of public information disclosure, which recognizes public access to information held by public bodies as an essential element of good governance (Republic of Indonesia, 2008).

Digitizing village services should not be understood merely as transferring paper forms onto a screen. A more substantive transformation involves organizing workflows, maintaining consistent data storage, controlling access, and providing applicants with up-to-date information on service progress. Previous studies have shown that web-based village administration applications can accelerate data retrieval, facilitate report preparation, and reduce dependence on manual records (Khaerunnisa et al., 2021; Sujadi et al., 2022; Yasdomi et al., 2023).

The needs identified for the Sukasari Village Website encompass two principal issues. First, information concerning the village's identity, population, Village Revenue and Expenditure Budget (APBDes), local potential, location, and contact details needs to be presented through a single, easily accessible source. Second, the letter application process requires a mechanism that allows residents to submit data and supporting documents without repeatedly visiting the village office, while also enabling officers to review and follow up on applications efficiently.

The developed system integrates public information services with four administrative letter services: the Certificate of Indigency (SKTM), Certificate of Domicile, Certificate of Relocation, and Certificate of Arrival. Each application contains the applicant's identity, purpose, service-specific information, and copies of the national identity card (KTP) and family card (KK). Once the application has been stored, the system generates an application code that can be used to monitor its progress.

System users are divided into residents and administrators. Residents access the public pages without registering an account, whereas administrators must authenticate before managing data. This separation keeps the service straightforward for residents while ensuring that data management, document handling, and letter issuance remain within a protected access environment.

Based on these needs, this community service activity aimed to assist the Sukasari Village Government in organizing public information and administrative services through an integrated website. The assistance focused on structuring service workflows, developing application functions, organizing data, securing access, and introducing administrators to the management procedures. The resulting output is a website that connects resident applications, status monitoring, management by village officials, letter issuance, and report preparation.



Figure 1. Home-page interface of the Sukasari Village Website as an information and service portal.

Implementation Method

1. Implementation Approach

The community service activity employed a technical and implementation-oriented assistance approach. This approach positioned the website as a solution developed around the operational needs of the Sukasari Village Government rather than as a stand-alone technological product. Assistance was provided by mapping the existing information and service processes, translating those needs into a system design, and preparing mechanisms for use and management by village administrators.

The scope of assistance covered two user groups. Residents were designated as public-service users who could obtain information, submit letter applications, and monitor application progress without creating an account. Village administrators acted as managers responsible for reviewing data and documents, updating statuses, issuing letters, preparing reports, and maintaining public information. This division of roles formed the basis for designing the routes, controllers, models, database structure, form validation, and Blade views.

2. Needs Identification and Data Sources

Needs identification was conducted through a review of documents and system components related to village administrative services. The materials examined included the requirements for each type of letter, applicant data, supporting documents, status-change stages, reporting needs, program structure, database design, and application interface. The workflows for residents and administrators were reviewed to ensure that each function had clearly defined inputs, processes, outputs, and responsible parties.

The public information prepared during the assistance activity included regional identity, the village profile and vision, the village head's welcome message, population statistics, administrative areas, APBDes summaries, village potential, address, map, contact details, and service hours. Some values in the development stage still served as demonstration data. Village officials therefore need to verify and update the information against official documents before the website is published as an authoritative information source for the Sukasari Village Government.

3. Stages of Community Service Implementation

Table 1. Stages of the community service activity

Stage	Main Activities
Preparation and needs identification	Reviewing village information needs, service types, applicant data, required documents, status workflows, reports, and user roles.
Website design and development	Designing service workflows, page structures, database schemas, validation rules, and implementing the functions using Laravel.
Implementation and management assistance	Preparing mechanisms for using the public pages and administrator panel, including applications, document review, status updates, letter issuance, reporting, and village information updates.
Evaluation and follow-up	Evaluating core functions using black-box testing and identifying requirements for security, backups, data validation, administrator training, and further development.

4. Supporting Tools and Technologies

Table 2. Tools and technologies supporting the community service activity

Component	Technology	Role in the System
Framework	Laravel 12	Manages routes, controllers, models, authentication, validation, and application workflows.
Server-side language	PHP 8.2 or later	Executes business logic and communicates with the database.
Database	SQLite	Stores administrator accounts, application data, and village settings.
Interface	Blade, HTML, CSS, JavaScript	Builds responsive public pages and an administrator panel.

Component	Technology	Role in the System
Digital documents	DomPDF	Generates letters and reports in PDF format.
Asset management	Vite	Manages the development and compilation of application assets.
Testing environment	Laravel local server	Runs functional tests before deployment to a production server.

Results And Discussion

1. System Overview

The primary output of the community service activity was a web application consisting of public pages and an administrator panel. The public pages provide residents with access to village information, service selection, application submission, and status checking. The administrator panel enables village officials to manage applications, issue letters, prepare reports, update village information, and maintain the security of administrator accounts.

The application adopts Laravel's Model-View-Controller (MVC) architecture. Routes direct requests to controllers; controllers execute business rules and validation; models manage interactions with the database; and Blade renders the user interface. This separation of responsibilities results in a more organized program structure and facilitates maintenance when additional functions are developed.

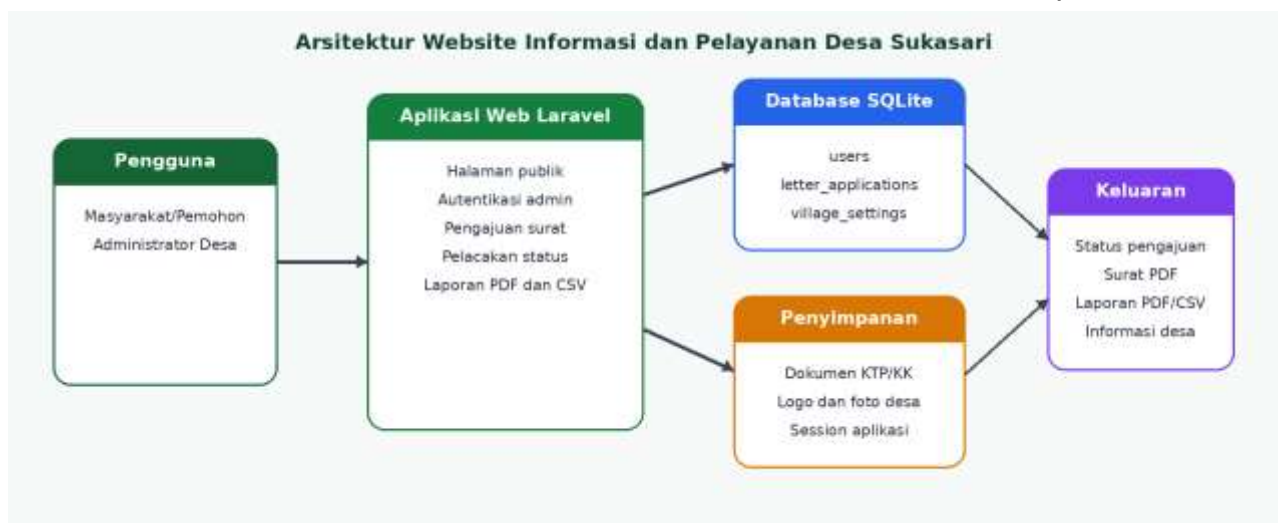


Figure 2. General application architecture and the relationships among users, the system, database, storage, and outputs.

2. Actors and Functional Requirements

Table 3. Functional requirements based on user roles

Actor	Function	Description
Residents	Access village information	View the profile, population data, APBDes, local potential, location, contact information, and service hours.
Residents	Select a service type	Select SKTM, domicile, relocation, or arrival services according to their needs.

Actor	Function	Description
Residents	Submit an application	Complete the form and upload KTP and family card documents.
Residents	Check application status	Enter the application code and NIK to view the application's progress.
Residents	Download a letter	Download the document after the application has been approved.
Administrator	View the dashboard	Monitor status statistics, service types, recent data, and the completeness of village information.
Administrator	Manage applications	Search, filter, review documents, update statuses, and add notes.
Administrator	Issue letters	Generate PDF letters after applications have been approved.
Administrator	Prepare reports	Export CSV files and generate PDF reports based on selected periods and filters.
Administrator	Manage village information	Update identity, profile, population data, APBDes, local potential, location, and contact information.
Administrator	Manage account security	Change the password and log out of the system securely.
System	Maintain data consistency	Perform validation, database transactions, deletion of related files, and route protection.

3. Public Page Implementation

The public pages were designed as the official information and service portal of Sukasari Village. The home page presents the village identity, a service introduction, application and status-check buttons, and a summary of key data. The navigation menu connects users to the profile, services, population data, APBDes, village potential, map, and contact sections.

Four service types are presented as cards so that residents can distinguish them easily. The application form uses a common set of general data for all services and then displays additional fields according to the selected letter type. The domicile service requires the date from which the applicant has resided at the address, while the relocation and arrival services include the place of origin, destination address, relocation or arrival date, reason, and number of family members.

Server-side validation is applied to ensure data completeness and conformity. The NIK and family card numbers must each consist of 16 digits; the date of birth cannot be later than the current date; and KTP and KK documents are limited to JPG, JPEG, PNG, or PDF files with a maximum size of 2 MB. After successful storage, the system generates an application code containing the service identifier, date, and random characters.

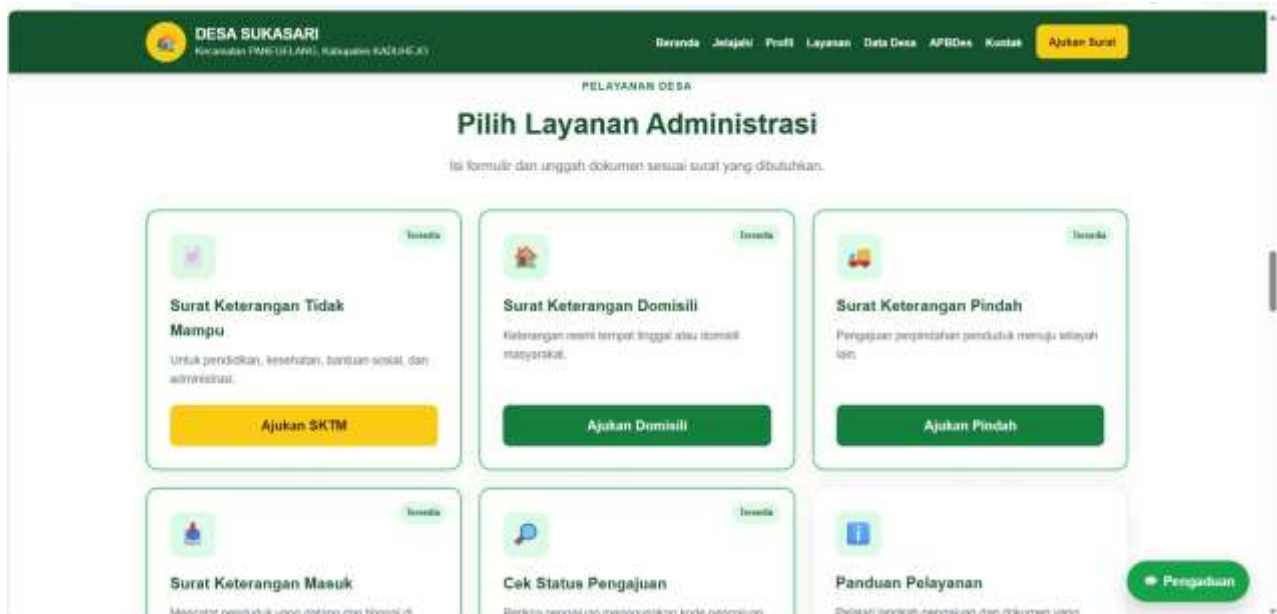


Figure 3. Administrative services available to residents.



Figure 4. Letter application stages from service selection to document issuance.

4. Status Tracking and Letter Issuance

Status checking does not require residents to have an account. Applicants enter the application code and NIK, after which the system matches both values against the database. Using two identifiers makes access convenient for applicants while preventing application information from being displayed solely on the basis of a code that may be known to another party.

The service process is divided into four statuses: pending, in process, approved, and rejected. Once an application has been approved, the system generates a temporary download link that is digitally signed by the application. The letter is produced as a PDF and includes the village government's identity, letter number, applicant details, issue date, and village logo when available.

5. Administrator Dashboard Implementation

The administrator dashboard presents the total number of applications and their distribution by status. Data are also grouped by SKTM, domicile, relocation, and arrival services. This summarized presentation helps officers identify applications that have not yet been handled without manually reviewing the entire list.

In addition to statistics, the dashboard displays the five most recent applications and an indicator of village-data completeness. The indicator is calculated from ten

essential elements, including the office address, village head's name, population data, contact details, map, and APBDes information. This feature serves as a reminder that public content should not merely be available but should also be completed gradually.

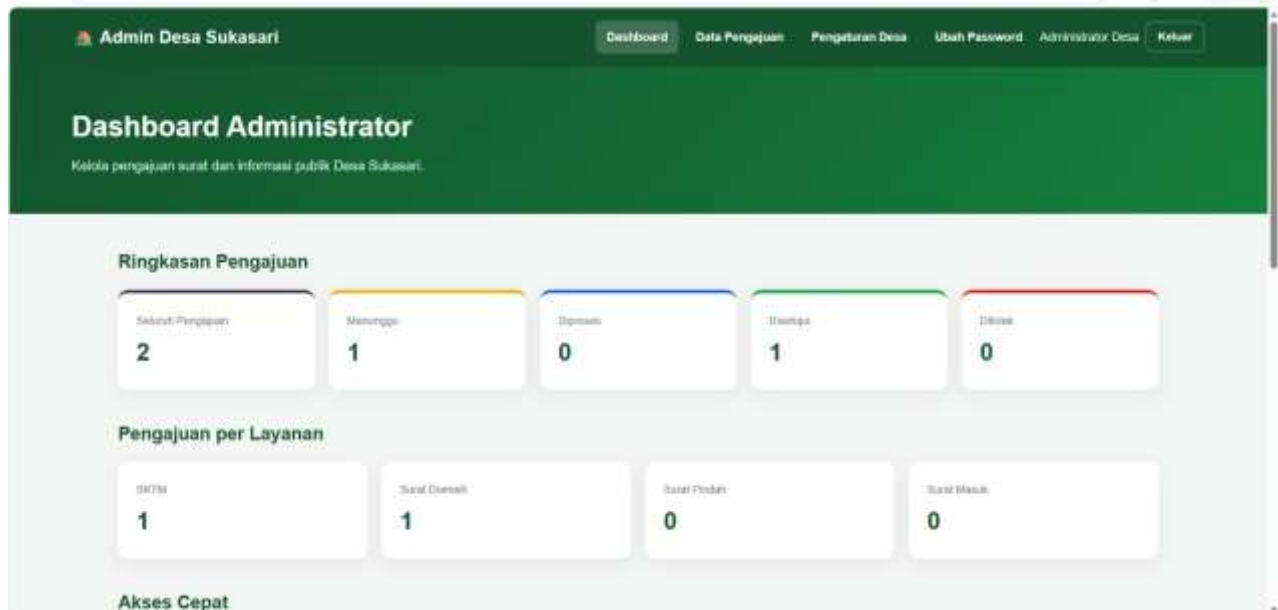


Figure 5. Administrator dashboard displaying service statistics and recent applications.

6. Application Data Management

The Application Data page serves as the central control point for requests. Administrators can search by code, name, NIK, family card number, telephone number, or purpose, and then filter the results by service type and status. Pagination is used to keep the list readable as the volume of data increases.

On the detail page, officers can review the applicant's identity, service-specific data, and KTP and KK files. The status can be changed together with an administrative note, while the PDF letter can only be issued after the application has been approved. When an application is deleted, the system also removes its related document files, preventing unreferenced files from remaining in storage.

Recapitulation requirements are supported through CSV exports and PDF reports. The CSV export contains detailed data that can be processed further in spreadsheet software. PDF reports can be generated for a selected date range, service type, and status, and include a summary of the number of applications during the chosen period.

The screenshot displays a web application interface with a green header bar containing the text "Kelola SKTM, Domisil, Pindah, dan Masuk". Below the header, there are three main sections:

- Pencarian dan Filter**: This section includes a search bar labeled "Pencarian" with the placeholder text "Cari berdasarkan data pemohon, layanan, dan status". Below the search bar are three dropdown menus: "Pencarian" (with options: Kode, nama, HK, KR, telepon, atau keperluan), "Jenis Layanan" (with option: Semua Layanan), and "Status" (with option: Semua Status). To the right of these dropdowns are two buttons: "Terapkan Filter" (green) and "Reset" (grey).
- Cetak Laporan PDF**: This section includes a date range selector with "Tanggal Awal" (01/07/2026) and "Tanggal Akhir" (21/07/2026). It also has dropdown menus for "Jenis Layanan" (Semua Layanan) and "Status" (Semua Status), and a "Cetak Laporan PDF" button (purple).
- Daftar Pengajuan**: This section shows a summary "Total 2 pengajuan ditemukan" and a "Unduh Rekap CSV" button (blue).

Figure 6. Search, filtering, CSV export, and PDF report generation facilities.

7. Village Information Management

The Village Settings menu allows administrators to update information displayed on the public pages and used in official documents. The manageable data include regional identity, village head details, letter codes, profile, vision, welcome message, population data, area size, contacts, map, APBDes, village potential, and disclaimer text.

The application supports the upload of the village logo and village head's photograph, with restrictions on file type and size. When an image is replaced or deleted, the previous file is also removed from storage. This mechanism maintains consistency between database records and stored files.

The settings page displays a warning that statistical and APBDes data may still be sample data. This warning distinguishes demonstration data from information that has been formally approved. Before publication, administrators must verify all information against valid village documents.

The screenshot shows the "Pengaturan Desa" (Village Settings) page. At the top, a green header bar contains the text "Pengaturan Desa" and a subtitle "Kelola identitas, profil, penduduk, APBDes, potensi, peta, dan kontak website". Below the header, there is a yellow warning box with the text: "Data statistik dan APBDes masih dapat berupa data contoh. Periksa dengan dokumen resmi desa sebelum dipublikasikan." Below the warning box, there is a form titled "Identitas Pemerintah Desa" with the subtitle "Pengisian pada website, kop surat, laporan, dan tanda tangan". The form includes a "Logo Desa" section with a "Choose File" button and a "No file chosen" message. Below this, there are fields for "Provinsi" and "Kabupaten".

Figure 7. Form for managing the village identity and public information.

8. Data Structure and Security

The principal database consists of the users, letter_applications, and village_settings tables. The users table stores administrator accounts; letter_applications stores applicant identities, service types, service-specific data, document locations, statuses, notes, and submission times; and village_settings stores profile information and public village data. Session, cache, and queue tables support Laravel's internal mechanisms.

Access to the administrator panel is secured through authentication middleware. After a successful login, the application regenerates the session, while logout invalidates the session and refreshes the CSRF token. Each form includes a CSRF token, inputs are validated on the server, and passwords are stored as hashes. Password changes also require verification of the current password.

KTP and KK documents are stored on a local disk that is not directly exposed through public links. Files can only be downloaded through a controller by an authenticated administrator. Application storage uses a database transaction; if the process fails, any files that have already been uploaded are deleted to prevent inconsistencies between database records and file storage.

9. Functional Evaluation

Table 4. Black-box evaluation results for the core functions.

Function	Test Scenario	Expected Output	Result
Administrator authentication	Valid email and password	The administrator is redirected to the dashboard	Passed
Administrator authentication	Invalid credentials	Access is denied and an error message is displayed	Passed
Letter application	Data and documents satisfy the requirements	The data are stored and an application code is generated	Passed
NIK validation	The number of digits is not 16	The form is rejected and a validation message is displayed	Passed
Document upload	The file type or size does not meet the requirements	The file is rejected and an error message is displayed	Passed
Status checking	The application code and NIK match	The application status information is displayed	Passed
Status checking	The application code or NIK does not match	The application data are not displayed	Passed
Data filtering	A service type or status is selected	The list displays data that match the selected criteria	Passed
Status update	The status and note satisfy validation requirements	The changes are stored in the database	Passed
Document download	The administrator is authenticated	The KTP or KK document can be downloaded	Passed
Letter issuance	The application has been approved	A PDF letter can be generated	Passed

Function	Test Scenario	Expected Output	Result
PDF report	The period and filters are valid	A PDF report is generated according to the selected criteria	Passed
CSV export	Application data are available	The CSV recapitulation can be downloaded	Passed
Village settings	The data and images satisfy the requirements	The village information is updated	Passed
Password change	The current password is correct and the new password is valid	The administrator password is updated	Passed

Functional evaluation was conducted using black-box testing to verify that each core function produced outputs consistent with user requirements. The test scenarios covered authentication, data validation, document upload, letter application submission, status checking, data filtering, status updates, document download, letter generation, report export, village information updates, and password changes.

Evaluation in the development environment showed that valid inputs produced the expected outputs, while data that did not meet the requirements were rejected with validation messages. In the context of community service, the website helps centralize application data, clarify service stages, and assist village officials in preparing administrative recapitulations. Deployment to a production server will still require further assistance, particularly in relation to security configuration, backups, network stability, simultaneous use, and adjustments to the working procedures of the Sukasari Village Government.

Conclusion

The information-governance and administrative-service assistance activity for the Sukasari Village Government produced a Laravel-based website that integrates public information with letter application services. The system was developed using Laravel 12, PHP, Blade, SQLite, and DomPDF, and implements separate access for residents and administrators according to their respective responsibilities.

Through the website, residents can access village information, select services, submit applications and supporting documents, check status using an application code and NIK, and download letters after approval. Administrators can monitor statistics, search and filter data, review files, update statuses, issue letters, prepare PDF and CSV reports, manage village information, and update account passwords.

The assistance established a foundation for service governance that is more organized, documented, and traceable. Its sustainable use depends on the accuracy of public data, administrators' discipline in updating information, secure server configuration, regular backups, and the readiness of service procedures. With consistent management, the website can serve both as a working tool for village officials and as a service platform that is more accessible to residents.

Recommendations

Follow-up activities may focus on integrating WhatsApp or email notifications, recording administrator activity histories, assigning access rights according to duties, implementing automatic backups, establishing permanent letter numbering, adding

electronic signatures, and providing period-based service analytics. New functions should be introduced gradually and adjusted to the administrators' capacity so that the application remains easy to use.

Program sustainability also requires periodic assistance for administrators, preparation of data-management guidelines, policies for protecting civil-registration documents, and public outreach. These measures are necessary to ensure that the website becomes an integral part of the Sukasari Village Government's service governance rather than remaining only an information medium during the initial implementation stage.

References

- Damyati, F., Nuryani, E., Hasanah, H., Ruhiawati, I. Y., & Oktavani, N. (2024). Community service applications for village office using Laravel framework. *Jurnal Sistem Informasi dan Informatika (Simika)*, 7(1), 104–112. <https://doi.org/10.47080/simika.v7i1.3249>
- International Organization for Standardization. (2011). ISO/IEC 25010:2011 systems and software engineering—Systems and software Quality Requirements and Evaluation (SQuaRE)—System and software quality models. ISO.
- Laravel. (n.d.). Laravel 12.x documentation. Retrieved July 21, 2026, from <https://laravel.com/docs/12.x>
- Pressman, R. S., & Maxim, B. R. (2020). *Software engineering: A practitioner's approach* (9th ed.). McGraw-Hill.
- Republic of Indonesia. (2008). Law of the Republic of Indonesia Number 14 of 2008 on Public Information Disclosure. State Gazette of the Republic of Indonesia, 2008, No. 61.
- Sommerville, I. (2016). *Software engineering* (10th ed.). Pearson.
- Sujadi, H., Nurdiana, N., Mardiana, A., & Kusumadewi, I. (2022). Perancangan aplikasi pelayanan administrasi pada Desa Balida yang terintegrasi E-KTP berbasis web [Design of a web-based administrative service application for Balida Village integrated with e-KTP]. *Infotech Journal*, 8(2), 22–28. <https://doi.org/10.31949/infotech.v8i2.2384>
- Yasdomi, K., Sabri, K., Utami, U., Dona, & Khoiri, A. (2023). Sistem informasi administrasi Desa Sejati Kecamatan Rambah Hilir menggunakan framework Laravel [Administrative information system for Sejati Village, Rambah Hilir District, using the Laravel framework]. *G-Tech: Jurnal Teknologi Terapan*, 7(3), 1245–1255. <https://doi.org/10.33379/gtech.v7i3.2876>
- Khaerunnisa, N., Maryanto, E., & Chasanah, N. (2021). Sistem informasi pelayanan administrasi kependudukan berbasis web menggunakan metode waterfall di Desa Sidakangen Purbalingga [A web-based population administration service information system using the waterfall method in Sidakangen Village, Purbalingga]. *Jurnal Ilmu Komputer dan Informatika*, 1(2), 99–108.