

DESIGN AND BUILD A WEBSITE FOR SCHEDULING AND INFORMATION SERVICES FOR RELIGIOUS COURT CASES IN SUMENEP REGENCY USING BLACKBOX

Alif Rahmad Raziqi, Johan Dharmawan, Arda Gusema

Wiraraja University Madura, Indonesia

Email: alifrahmadraziqi@gmail.com, johan@wiraraja.ac.id, arda@wiraraja.ac.id

Abstract

Keywords:

*Black-box Testing,
Case Information,
Laravel,
Court Session Scheduling,
Information System,*

The process of case management and trial scheduling at the Sumenep Regency Religious Court is currently still carried out conventionally. These conditions often cause delays in the delivery of information to the parties concerned, potential errors in recording administrative data, and difficulties for the public in accessing case information and trial schedules quickly and transparently. This research aims to design and build a website-based information system for scheduling management and case information services to improve the effectiveness, accuracy, and operational efficiency of the court and facilitate access for the wider community. The data collection methods used in this study include direct observation, in-depth interviews with related parties, and literature studies to identify the functional and non-functional needs of the system. The system was developed using the PHP programming language with the use of the Laravel framework to ensure a structured and secure code structure, and uses the MySQL database for reliable data storage management. The main features developed in this system include a case data management module, automatic trial scheduling, a case information search engine, a court schedule notification system for related parties, and a public information service center that is easily accessible online. The system testing stages are carried out through two main methods, namely Black Box Testing to validate the functionality of all system components to run according to the specifications of needs, and User Acceptance Testing (UAT) to measure the level of satisfaction and end-user acceptance of the application. The results of the Black Box Testing test show that all 33 test scenarios were successfully executed with a success rate of 100%. In addition, the User Acceptance Testing (UAT) test involving 30 respondents from various user backgrounds obtained an actual score of 1320 out of a total maximum score of 1500, resulting in a feasibility percentage of 88% which was categorized as "Excellent". Based on the results of the test, it can be concluded that this scheduling information system and case service has succeeded in

meeting the operational needs of the agency, is easy to operate, and can be very well accepted by the public.

This is an open access article under the [CC BY-NC-SA 4.0](#) license



INTRODUCTION

Advances in information technology have a significant impact on society in various aspects of life. The use of information technology makes it easier to complete various types of work more efficiently and flexibly. A website-based information system is a form of application of information technology that functions as a tool in work management. The use of these systems speeds up the data processing process, improves the accuracy of decision-making, and saves time and costs [1].

Based on the results of observations, the case administration process at the Sumenep Regency Religious Court still uses manual procedures with printed documents as the main medium of recording and storage. The system poses problems in the form of a high risk of damage and loss of files, delays in providing information, and low efficiency in searching and preparing trial documents. In addition, administrative staff face an increase in workload because the process of collecting and verifying documents takes a relatively long time. These problems have an impact on the effectiveness of performance and the quality of services to the community.

This research aims to design and build a scheduling website and case information services at the Sumenep Regency Religious Court. This web-based system was developed to improve the quality of public services, especially in the provision of case information and trial schedule management to be more effective and efficient. In addition, the development of this system is expected to support digital transformation and be in line with the Smart City initiative in Sumenep Regency.

The limitations of the problem in this study include: the system is only in the form of a trial scheduling website and case information services, the case data displayed is limited to the case number, party name, trial schedule, and case status, the use of the system is limited to the admin and the public, and the system testing method using Black Box Testing and User Acceptance Testing (UAT).

LITERATURE REVIEW

A. Information Systems

An information system is a unit of procedures and mechanisms that are arranged in a systematic and organized manner, which is designed to carry out the process of collecting, input, processing, storing, and managing data so as to produce relevant, accurate, and timely information. The information produced is then used as a basis in the decision-making process, as well as a supporting means in the control and evaluation of organizational performance [2].

B. Website

A website or often called a web is a collection of digital pages that are interconnected and can be accessed through the internet network. Each page on the website contains various types of information that are presented in the form of digital



data, such as text, images, videos, audio, and other interactive animations. The website functions as a medium for delivering information, communication, and online-based services that can be accessed at any time and from various devices connected to the internet [1].

C. Religious Courts

The court is an official institution that has the authority to carry out judicial functions, namely to examine, adjudicate, and determine decisions on the case submitted. This institution acts as a means of law enforcement to resolve legal problems legally in accordance with applicable regulations. The Religious Court is one of the judicial environments in Indonesia that is tasked with examining and adjudicating certain cases for Muslims [3].

D. Laravel

Laravel is a PHP-based framework designed to make it easier for developers to build web applications more efficiently and in a more structured manner. This framework presents various modern technologies that support the application development process, so developers don't need to create basic features from scratch. Laravel also provides the Blade Templating feature as a display management system that makes it easier for developers to build a neater, more structured, and dynamic website interface [4].

E. Black Box Testing

Black Box is a software testing method that aims to verify the results of application execution based on the input or test data provided, to ensure that the application's functions have run according to the needs and requirements of the system. Black Box testing focuses on aspects of the interface, appearance, and functions available in the application, including the suitability of the process flow to the user's needs. This method does not directly assess or test the program's source code [5].

F. User Acceptance Testing (UAT)

User Acceptance Testing (UAT) is a testing stage that is carried out after the entire system development and testing process has been completed. This stage aims to ensure that the system that has been built is in accordance with the needs, expectations, and goals of the end user before being officially implemented. Through UAT, users are given the opportunity to assess whether the available features and functions have run well and are able to support the activities carried out [6].

G. Previous Research

Research by Dewi et al. [7] developed an Android-based case trial scheduling application at the Sinabang City Syar'iyah Court. The research resulted in an application that helps applicants see trial schedules and case fee information through Android smartphones. The test was carried out using the Black Box Testing method with valid results in all testing scenarios.

Research by Fikri et al. [8] developed a web-based special criminal case data information system at the Aceh High Prosecutor's Office. This system is designed to help case data managers in working faster, easier, and more accurately. The development method used is Waterfall with design using Flowmap and Flowchart.

RESEARCH METHODS

A. Research Design

In this study, structured research stages are needed so that the system development process can run properly and in accordance with user needs. The research design aims to

provide an overview of the research flow starting from problem identification to the preparation of the final report. Each stage is carried out systematically to produce a website system that is able to help the process of scheduling hearings and delivering case information more effectively, quickly, and accurately.

B. Data Collection Techniques

1. Observations

Observation was carried out by making direct observations of the trial scheduling process and case information services running at the Sumenep Regency Religious Court. The researcher observed all activities related to case administration and trial scheduling to gain a deep understanding of the real conditions in the field.

2. Interview

The interview method is carried out to obtain information directly related to the case service process that takes place. Interviews are conducted with parties involved in the system, namely the applicant (the public) and the admin (court officer). The interview process aims to understand the flow of case services starting from registration to submission of trial schedule information.

System Design

1. Use Case Diagram

The Use Case Diagram is used to describe the relationship between the user and the developed system. In this system, there are two main actors, namely the Admin and the Community. The Admin has full access rights to manage case data, trial schedules, news, and users. The public can access case information, trial schedules, and court services.

2. Flowchart

Flowcharts are used to describe the workflow of the system's work process in a structured and systematic manner. Community flowcharts describe flows ranging from login, viewing case information, viewing trial schedules, to logouts. Admin flowcharts describe the flow of case data management, trial schedules, news, and users.

3. Data Flow Diagram(DFD)

DFD is used to describe the flow of data within the system in a structured and systematic manner. DFD Level 0 shows the interaction between the Admin and the Community with the system. DFD Level 1 shows the process of managing case data, trial schedules, and information services. DFD Level 2 shows the details of the process of managing case data and managing trial schedules.

4. Database Design

Database design is carried out to build an organized data storage structure. The tables designed include tables of users, cases, jadwal_sidang, services, and news. Each table has interconnected relationships to support the data management process.

Systems Testing Techniques

1. Black Box Testing

Black Box Testing is carried out to test all features contained in the system. Testing is carried out on login features, case submission, case management, generating trial schedules, managing court schedules, court absences, notifications, courtroom management, news management, user management, and case information services. Each feature is tested using several test scenarios that include valid and invalid input conditions.

2. User Acceptance Testing(UAT)

UAT was carried out to determine the level of user acceptance of the developed system. The respondents involved consisted of 2 admins, 8 officers/clerks, and 20 people/users, so that the total number of respondents was 30 people. Respondents were asked to try the available features and then fill out an assessment questionnaire.

RESULTS AND DISCUSSION

A. Results of System Improvement

The developed system has several main pages as follows:

1. Home Page

The home page is the initial view accessed by the user. This page displays a brief profile of the Religious Court, navigation menu, service information, the latest news, and access to the login page.

2. Login page

The login page is used as a means of user authentication. Users are asked to enter the username and password that has been registered. The system verifies login data before granting access in accordance with the user's rights.

3. Admin Dashboard Page

The admin dashboard page displays a summary of system information such as the number of users, the number of cases, the trial schedule, and the data management menu that can be accessed by the admin.

4. Manage Cases Page

This page is used by admins to manage the case data that comes into the system. Admins can add, modify, delete, and view the case data stored in the database.

5. Manage Session Schedule Page

This page is used to set the trial schedule for each case. Admins can determine the trial date, time of execution, courtroom, and trial agenda.

6. Community Dashboard Page

The community dashboard page displays various menus that can be used to access case information, trial schedules, court services, and other information.

7. Case Information Page

This page is used by the public to view information related to ongoing cases. Users can search for case data based on case numbers.

B. Black Box Testing Results

Black Box Testing is performed by testing 33 test scenarios on all system modules. The test results show that all scenarios are successfully executed with a Pass status. The test success rate is calculated using the equation:

Based on the results of the Black Box Testing test, all features on the website can run according to the needs of the system. These results show that the login functions, case data management, court scheduling, case information search, notifications, and other administrative features have operated well according to the expected results.

C. User Acceptance Testing (UAT) Results

The UAT test was conducted on 30 respondents with 10 statements using a Likert scale of 1-5. The results of the questionnaire were calculated using the following equations:

The calculation results showed a user acceptance rate of 88% which was included in the Excellent category. The system ease aspect received the highest score of 90%, the interface display aspect and response speed received a score of 86.67%, and the aspect of system functionality and user satisfaction received a score of 88.33%.

CONCLUSION

Based on the results of the research that has been conducted, the following conclusions can be drawn:

1. The Sumenep Regency Religious Court's case scheduling and information service website was successfully built using the PHP programming language with the Laravel framework and MySQL database. This system has features of case data management, trial scheduling, case information search, trial schedule notifications, and information services that can be accessed by the public.
2. Based on the results of the test using the Black Box Testing method, all 33 test scenarios were successfully executed with a 100% success rate. These results show that all system features can function according to the needs and design that have been set.
3. Based on the results of the User Acceptance Testing (UAT) test, a user acceptance rate of 88% was obtained, which was included in the Very Good category. This value has exceeded the initial hypothesis of the research by 75%, so the hypothesis proposed is acceptable.

The system developed has been able to meet user needs, is easy to use, and is able to improve the quality of case information services at the Sumenep Religious Court.

BIBLIOGRAPHY

- [1] I. Setiawan and E. Effiyaldi, "Web-Based Case File Management Information System at the Merangin District Attorney's Office," *J. Manaj. Sist. Inf.*, vol. 7, no. 3, pp. 501–512, 2022, doi: 10.33998/jurnalmsi.2022.7.3.186.
- [2] P. S. Hukum, U. Duta, B. Surakarta, and J. Tengah, "Transformation of Judicial Services Through Online Trial Queue Application and Real-Time Trial Queue Application at Pacitan Religious Court," pp. 76–85, 2025.
- [3] D. W. Mustafa, Aprilia, and Winda, "Legal Analysis of the Implementation of Summons in Occult Cases Carried Out by the Sengkang Religious Court," *Leg. J. Law*, vol. 2, no. 1, pp. 34–42, 2023.
- [4] S. E. (2021). Westermann, K., Woud, M. L., Cwik, J. C., Graz, C., Nyhuis, P., Margraf, J., & Blackwell, "No Covariance Structure Analysis of Health-Related Indicators Among Home-Based Elderly Populations Centered on Subjective Health PerceptionTitle," p. 6, 2021.
- [5] M. Mintarsih, "Black Box Testing with Transition Technique in a Web-Based Library Information System Using the Waterfall Method at SMC Foundation," *J. Technology. And Sist. Business Inf.*, vol. 5, no. 1, pp. 33–35, 2023, doi: 10.47233/jteksis.v5i1.727.
- [6] M. F. RIZAL, "Application of the Greedy Algorithm for Optimizing Subject Scheduling in the Web-Based Academic Information System of SMK Negeri 5 Kendal," 2024.
- [7] S. V. Dewi, Z. Zuhuri, F. Firmansyah, and A. S. Aziz, "Application for Scheduling Case Hearings at the Sinabang Syar'Iyah Makamah Based on Android," *Cybersp.*

- J. Educator. Techno. Inf.*, vol. 7, no. 1, p. 35, 2023, doi: 10.22373/cj.v7i1.17595.
- [8] M. Fikri, Imilda, and Syarifuddin, "Data Information System for Special Criminal Cases at the Aceh High Prosecutor's Office," *Comput. J.*, vol. 1, no. 1, pp. 33–41, 2023, doi: 10.58477/cj.v1i1.33.

