

Web-Based Design and Development of an Arts and Culture Service System at the Jakarta Arts Center Taman Ismail Marzuki Management Unit Using the Agile Method

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Abstract.

In the current era, most government public services have adopted computerized and digital systems, known as *e-Governance*, referring to electronic technology use in various service sectors. However, after the Jakarta Provincial Government's physical revitalization in 2022 at the *Jakarta Arts Center Taman Ismail Marzuki (PKJ-TIM)*, the service system remained conventional. This caused slow service delivery, inadequate record-keeping, poor documentation, and limited public accessibility. To address these issues, this study aims to facilitate service access for the public and artists by transforming the *PKJ-TIM* Management Unit's service system from conventional to web-based digital services. The development used the *Agile* methodology, enabling iterative, adaptive system development tailored to user needs. The system manages venue bookings for performance halls, supporting art and cultural activities. Key features include real-time information updates, an integrated payment gateway for secure online transactions, user feedback mechanisms, and automated digital documentation to improve transparency and access to historical data. Performance testing showed improved efficiency, faster booking processes, and higher user satisfaction. This research contributes to digital transformation literature in the arts and culture sector by presenting an *Agile* methodology case study in a public cultural institution. It highlights user-centered design's importance and demonstrates how digital platforms can bridge service delivery gaps, promote inclusivity, and support Jakarta's creative economy growth.

Keywords: Service System; Arts Sector; Cultural Sector; Jakarta Arts Center; Web-Based; Agile Method

INTRODUCTION

The revitalization of services and infrastructure at the *Pusat Kesenian Jakarta Taman Ismail Marzuki* is crucial in adapting to the increasing demand for fast, accessible, and accountable public services, especially within the realm of arts and culture (Ariesta et al., 2021; Mahendra & Yanto, 2018). The move towards a digitalized public service system is essential for modernizing the way the venue is used and for ensuring that public services are more effective and efficient (Anza & Fathmawati,

2019; Hadinata & Nasir, 2017). This transition, which involves moving from manual processes to digital electronic services, will address the limitations of face-to-face services and offer a more streamlined and accessible experience for artists and the general public (Nistrina & Sahidah, 2022; Romadhon & Maryam, 2023). As mentioned by Tasyah et al. (2021), digital public services help overcome the challenges of direct, manual services, leading to improvements in both efficiency and effectiveness. The *Unit Pengelola Pusat Kesenian Jakarta Taman Ismail Marzuki* plays a vital role in providing these services, ensuring fair and professional access to the venue for all artists and cultural events. The transition to digital services, which includes the use of a web-based platform for theater bookings, will significantly improve the efficiency and accessibility of services.

The current manual system at PKJ-TIM has led to numerous inefficiencies. For instance, artists and event organizers frequently report long waiting times for venue bookings, miscommunication regarding availability, and a lack of transparency in the approval process. A survey conducted by the PKJ-TIM management in 2023 revealed that 68% of users expressed dissatisfaction with the existing system, citing delays and bureaucratic hurdles as major pain points. Furthermore, the absence of a centralized platform for payments and real-time updates exacerbates these issues, discouraging potential users from engaging with the center's facilities.

This research proposes a web-based platform to address various service challenges in PKJ-TIM, with key features such as real-time information updates that allow users to check venue availability and receive instant notifications regarding booking status (Nurhadi, 2023; Priharsari & Indah, 2021). The platform is also equipped with a secure integrated payment system to facilitate transactions of venue usage fees, a user feedback mechanism that allows the submission of reviews and suggestions for continuous service improvement, and automated digital documentation to ensure transparency and easy access to historical data (Ahmadi & Juliansa, 2019; Eprilianto et al., 2021).

The need for this digital transition is reinforced by previous research. Ahmadi and Juliansa (2019) show that web-based administration systems in public services can reduce processing time by up to 40% and increase user satisfaction by 35%. Nurrahman et al. (2021) highlight how digital platforms in Garut Regency improve the accessibility of public services, especially in rural areas with similar infrastructure challenges. Rowena et al. (2020) found that the adoption of digital services in Jakarta public offices significantly reduces user complaints and improves efficiency. Meanwhile, Tasyah et al. (2021) emphasized the role of e-government in overcoming the limitations of manual services during the COVID-19 pandemic, while demonstrating its adaptability and resilience.

The urgency of the digital transition in Jakarta is increasingly evident given the rapid urbanization and the city's status as the center of Indonesian culture, which demands a modern service system at PKJ-TIM. This step aligns with the Jakarta Provincial Government's vision towards the development of a smart city that prioritizes technology-based solutions for public services. The rapid growth of the arts community in Jakarta has also triggered an increasing demand for an accessible and efficient venue booking system. Delays in this transition risk marginalizing artists and cultural organizations, thus hindering the development of the city's creative economy.

The contribution of this research to the study of digital transformation in the arts and culture sector can be seen from the presentation of a case study on the application of the Agile methodology in a public cultural institution, which can serve as a reference for similar organizations in Indonesia. The research also highlights the importance of user-centric design in the development of digital services for the arts community, an area that remains niche but crucial in e-government research. In addition, this study shows how digital platforms can bridge service gaps, encourage inclusivity, and spur innovation in Jakarta's cultural landscape.

This study aims to create a web-based application that facilitates arts and cultural services at the *Pusat Kesenian Jakarta Taman Ismail Marzuki*, specifically for the *Gedung Teater Jakarta*. The goal is to shift from traditional, face-to-face services to a fully online system for event proposals, theater bookings, technical meetings, and approvals. The web application will streamline the entire process from initial registration to final approval, allowing for easier access and management without the need for in-person interactions. This system will provide a more transparent and accountable service, ensuring that all users—especially artists and cultural organizations—can access the venue's services efficiently. It is expected that the implementation of this digital service system will not only improve user experience but also support the Jakarta Provincial Government in monitoring activities and ensuring a seamless, inclusive service for the arts community. The platform aims to empower both artists and the public, enhancing creativity, innovation, and the overall arts and cultural environment in Jakarta.

MATERIALS AND METHOD

This research was conducted at the *Unit Pengelola Pusat Kesenian Jakarta Taman Ismail Marzuki*, commonly known as *Taman Ismail Marzuki*, located at Jalan Cikini Raya No. 73, Menteng, Central Jakarta, DKI Jakarta Province. The site was chosen because the researcher served as the Head of the Facilities and Infrastructure Collection Unit, which is responsible for ensuring that all facilities and infrastructure support the cultural and artistic activities in the area.

Following major revitalization efforts at *Pusat Kesenian Jakarta Taman Ismail Marzuki* from 2019 to 2022, the venue resumed arts and cultural activities. However, the revitalization and the COVID-19 pandemic had temporarily halted operations, limiting activity to construction during that period. The unit then focused on revitalizing services to meet the growing demand for cultural and artistic events with fast, efficient, and accessible public services.

The *Unit Pengelola Pusat Kesenian Jakarta Taman Ismail Marzuki* operates under the Cultural Office of DKI Jakarta, managing arts and cultural activities within the complex. According to Governor's Decree No. 415 of 2023, the unit was designated as a Regional Public Service Agency (BLUD) to enhance service quality and accessibility, aligning with good governance principles and supporting artistic expression through professional infrastructure.

This research aimed to develop a web-based service application for theater venue bookings using the Agile methodology. Agile's flexible, iterative approach allowed continuous user feedback, enabling rapid updates and improvements that aligned the application with community needs.

The development process began with planning, defining system scope and requirements, followed by problem analysis to identify user needs. The design phase addressed layout, navigation, and system processes, including database structure and testing plans. After design approval, the programming phase built the system, followed by thorough testing before deployment.

The Agile Scrum methodology was applied, focusing on sprint cycles with regular progress reviews and adjustments. This ensured responsiveness to the diverse artistic community's needs. Challenges such as coordinating distributed teams and managing communication were addressed through active user engagement throughout development.

Key steps included gathering user complaints to define the product backlog, sprint planning to organize tasks, formulation of solutions for the sprint backlog, and testing before launch. The scrum master managed issue resolution, while the technical team handled coding and design to align with user expectations.

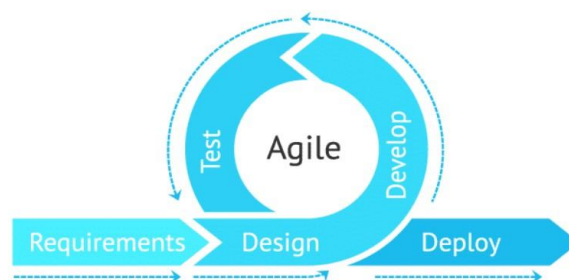


Figure 1. Stages of Agile Method Workflow

Source: Dedy Miswar, (2021)

RESULTS AND DISCUSSION

The test of the use of service applications in the field of arts and culture at the Jakarta Arts Center Taman Ismail Marzuki aims to find out all functions in the application system are expected to work well and optimally to provide services to the art community and artists. The testing was carried out in three stages of testing, namely technical testing, performance testing, and testing the response of users of the arts and culture service application at the Jakarta Arts Center Taman Ismail Marzuki.

In the testing of the system, the application of services in the field of arts and culture is hosted in <http://herza.id>. The following are the server specifications used for testing service applications in the field of arts and culture at the Jakarta Arts Center Management Unit Taman Ismail Marzuki.

Windows 10 Enterprise Server

SQL Server 2022 Database

1/1 100 %

Disk Usage

40,02/150 GB

Bandwidth

1 GB

Planning Results

The results of the design of the performance venue use service system application at the Jakarta Arts Center Taman Ismail Marzuki adjusted the need for performance venue use services by prospective building users, and mitigated the knowledge of prospective users in understanding the technology that is developing among artists and customized designs.

1. Service Application Display

The implementation process of designing the display that will be created on the web-based service system application dashboard for the use of performance venues at the Jakarta Arts Center Taman Ismail Marzuki is made as easy as possible designed so that prospective users understand and understand the procedures for using the service application made

The service application dashboard display is when the first time a potential user accesses the service application web. Prospective users can register the use of the performance venue when they are registered on the application service, therefore prospective users are required to register in the register menu. The use of access to the service application is intended to regulate and discipline prospective users of the performance venue use service.

The manager of the performance hall of the Jakarta Arts Center Taman Ismail Marzuki will verify prospective users who register for access to the service application online, the building management operator will confirm that the prospective user will actually use the performance venue. Other prospective users will not be able to register the use of the place of destination when the date has been registered by another party, to avoid cancellation of the implementation date, the building manager ensures the correctness of the use to the prospective user.

2. Users of the Service Application

The results of the design of service application users are divided into three, namely prospective service users, performance venue service managers and event curators. Especially for prospective service users, the initial step is to register for the service application to get access to the service application. The framework of thought in Figure 4.2 is the first step to register for the service application.

Prospective users to register access to the service application are required to enter their Identity Card and phone number, the function of entering the data is that the manager will make a confirmation contact to the prospective user who registers.

3. Core Business Application Services

The application for the use of performance halls at the Jakarta Arts Center Taman Ismail Marzuki which is the main partner in organizing art performance activities is the Jakarta Arts Council. The curatorial process of art activities is the main thing to do considering that the Jakarta Arts Center Taman Ismail Marzuki is a place for art activities that are in accordance with the rules that have been set, therefore access as a curator to the application is very important.

4. Application Database

The results of designing the database on the service application on the application table with the connectivity of each one-to-one, one to many and many to many tables can be seen in gamabar 4.3. The connection between one table and another so that they are related to each other, users play an important role in the activity of filling in the application data for the use of the performance space at the Jakarta Theater Performance Building, because in this table the prospective user first registers the completeness of the data, which will then be verified of the application data by the management operator, in order to avoid the use of space at the Jakarta Arts Center Taman Ismail Marzuki.

Prospective users cannot apply online if they have not been registered as prospective users in the Jakarta Arts Center service system. The registration and data

verification process is a very important first step to ensure that every application for the use of the performance venue at the Jakarta Arts Center Taman Ismail Marzuki is done correctly and according to procedures.

The building manager has the right to screen the registered user id. In this case, the manager can accept the registration of potential users if the data submitted meets the set criteria. On the other hand, the manager also has the right to refuse registration if the information provided does not match the identity of the registrant. This aims to maintain the integrity and security of the system and ensure that only valid users can use the available facilities. The service database connection uses the Dbeaver 24 application to check the connectivity of the service system and at the same time monitor the storage capacity used to facilitate the availability of storage capacity.

The connectivity between tables, especially in the user id, serves to maintain security and convenience during data entry to the building manager, This application allows managers to monitor directly through website-based service applications, both from external and internal parties. In this way, the organizers can respond immediately if any issues arise and ensure that each event takes place according to the set standards, thus, the registration process is not just a formality, but an important step in creating a safe and comfortable environment for all users. We hope that prospective users can understand and follow this procedure for the smooth running of all activities that will be carried out at the Jakarta Arts Center Taman Ismail Marzuki.

5. Service Application Testing

Application testing is done directly by the service application user by accessing directly to test the application. The test uses the user to enter data, both personal data and institutional data.

Process Testing Results

Technical testing was carried out to determine the attributes of service applications in the field of arts and culture. The method used to determine the capacity of an application created using the File Manager of the hosting place.

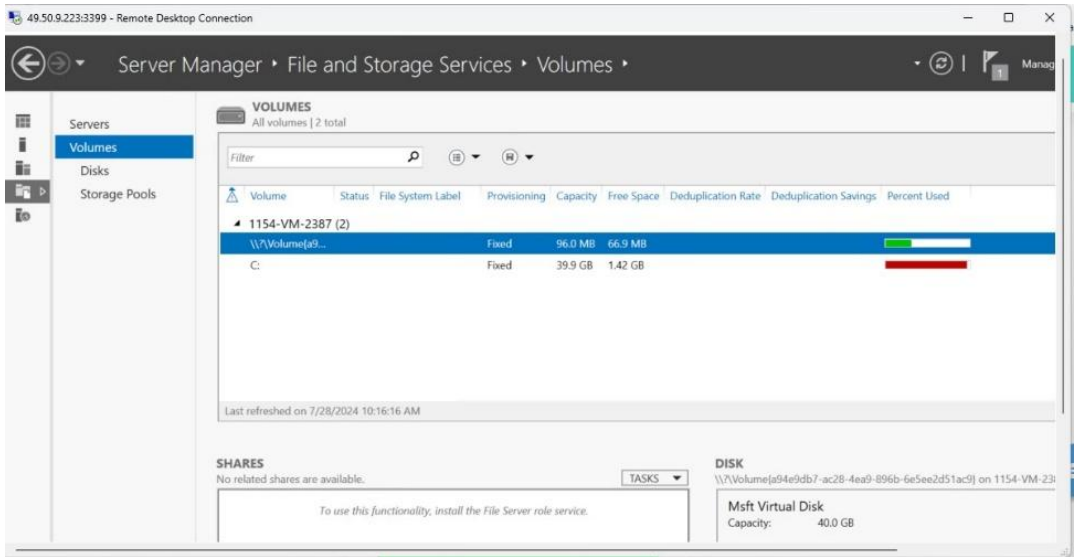


Figure 2. Server Manager Website Services

Source: Processed research data (2024)

The total size of the application file is 4.48 MB (4,698,112 bytes), while the total database size is 224.0 KiB (229376 bytes) in the absence of records in the table that can be viewed using SQL Server.

System Performance Testing

The purpose of testing the performance of a system is to find out whether the system has worked well and optimally or not, to find out the performance of the Service System for Arts and Culture at the Jakarta Arts Center Taman Ismail Marzuki. This test compares the performance of three major browsers, namely Google Chrome, Mozilla Firefox, and Microsoft Edge by referring to page load time, interactive time, memory usage, and CPU usage. The test was done using the online media Web TestPage.org to measure page load time, interactive time, memory usage, and CPU usage, while the web address that was tested was https:// localhost: 5173.

Table 1. Performance Test Results with Web Browser Applications			
Performance Metrics	Google Chrome	Mozilla Firefox	Microsoft Edge
Page Load Time (ms)	3500	2700	4000
Interactive Time (ms)	4049	3919	5353
Memory Usage (MB)	791	570	575
CPU usage (%)	18.9	7.3	8.2

Source: Processed research data (2024)

The test results data in table 1 of the performance test results with the Web Browser Application present a comparison of the performance of the three main web

browsers, namely Google Chrome, Mozilla Firefox, and Microsoft Edge. These tests are conducted based on four key performance metrics: page load time, interactive time, memory usage, and CPU usage. Page Load Time (ms) indicates the speed at which the browser loads a web page. Mozilla Firefox has the best performance at 2700 ms, followed by Google Chrome with 3500 ms, while Microsoft Edge has the longest page load time at 4000 ms. Interactive Time (ms) measures how long it takes for users to start interacting with a page after it loads. Mozilla Firefox came back faster at 3919 ms, compared to Google Chrome's 4049 ms, while Microsoft Edge had the slowest interactive time at 5353 ms.

Memory Usage (MB) indicates the amount of RAM consumed by each browser. Google Chrome uses 791 MB, the highest compared to Mozilla Firefox's 570 MB and Microsoft's Edge's 575 MB. This shows that Google Chrome takes up more memory than its competitors. CPU usage (%) reflects how much CPU processing is being used by the browser while running. Google Chrome has the highest CPU consumption at 18.9%, while Microsoft Edge uses 8.2%, and Mozilla Firefox has the lowest CPU consumption at 7.3%. The results of the tests imply that Mozilla Firefox performs best in terms of page loading speed and interactive time with lower resource consumption than other browsers. Google Chrome, although quite fast in interactive response, has the highest memory and CPU usage. Microsoft Edge has slower load times and interactive times than the other two browsers, but it uses more memory than Google Chrome.

Page Load Time Analysis

a. Mozilla Firefox

Mozilla Firefox loads pages with the fastest time, which is 2700 ms. This shows that Firefox can load pages faster than Chrome and Edge, providing a more responsive experience for users.

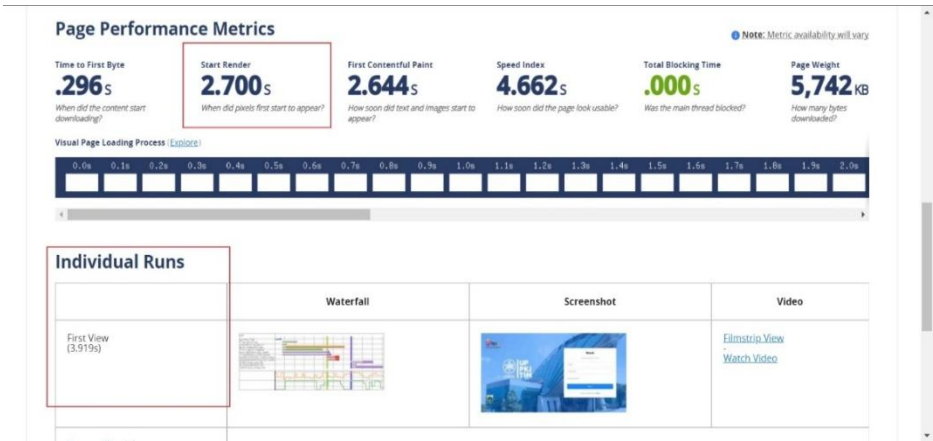


Figure 3. Mozilla Firefox Browser System Test Results
Source: Processed research data (2024)

Google Chrome

Google Chrome Takes 3500 ms to load pages. While not as fast as *Firefox*, *Chrome* still offers competitive performance.

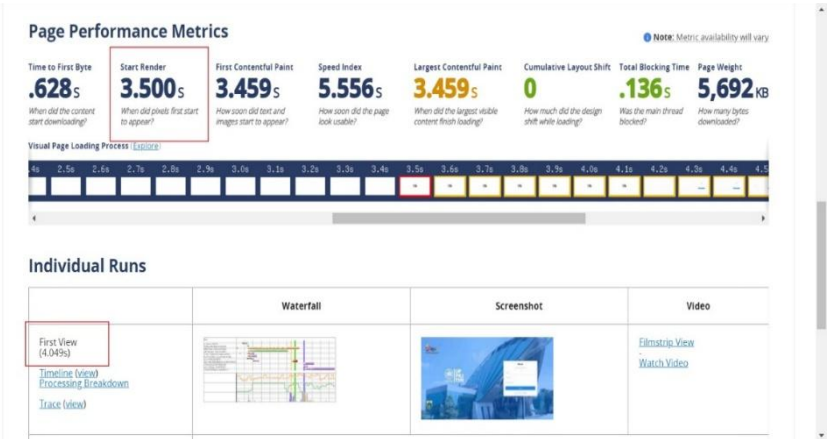


Figure 4. Google Chrome Browser System Test Results
Source: Processed research data (2024)

Microsoft Edge

Microsoft Edge has the longest page load time, which is 4000 ms. Edge users may experience delays in page loading, which can affect their experience.

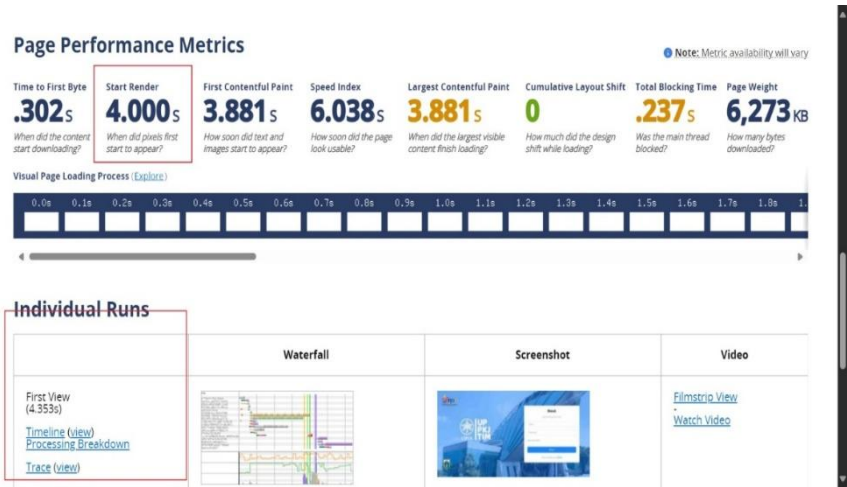


Figure 5. Microsoft Edge Browser System Test Results
Source: Processed research data (2024)

Interactive Time

- a. Mozilla Firefox
Mozilla Firefox has the fastest interactive time among browsers, which is 3919 ms. Firefox users can start interacting with pages faster compared to other browsers.
- b. Google Chrome
Google Chrome takes 4049 ms to become interactive. Although it is slower than Firefox, Chrome still offers good performance in terms of interactivity.

c. Microsoft Edge

Microsoft Edge has the longest interactive time, which is 5353 ms. Edge users may need to wait longer before they can interact with the page, which can reduce user satisfaction.

Memory Usage

a. Google Chrome

Google Chrome uses the highest memory of 791 MB. High memory usage can affect system performance, especially on devices with limited resources.

b. Mozilla Firefox

Mozilla Firefox uses the lowest memory of 570 MB. Firefox is more efficient in memory usage compared to Chrome and Edge.

c. Microsoft Edge

Microsoft Edge uses 575 MB of memory. Although slightly higher than Firefox, Edge's memory usage is still lower than Chrome's.

CPU usage

- a. Mozilla Firefox has the lowest CPU usage, at 7.3%. This suggests that Firefox is more efficient in CPU usage, which can help reduce system load.
- b. Microsoft Edge has a CPU usage of 8.2%, slightly higher than Firefox but still low compared to Chrome.
- c. Google Chrome has the highest CPU usage, which is 18.9%. High CPU usage can affect system performance and may cause delays in other processes.

Measurement Analysis Results

- a. Mozilla Firefox shows the best performance in terms of page load time and interactive time, as well as memory and CPU usage efficiency. Firefox is the best choice for a fast and responsive user experience with efficient use of resources.
- b. Google Chrome has competitive page load times and interactive times but requires more memory and CPU. While the interactive performance is good, high resource usage may be a consideration for users with limited devices.
- c. Microsoft Edge shows the slowest page load times and interactive times, but relatively efficient memory and CPU usage. Edge users may need to wait longer to load and interact with the page, even if the impact on system resources is not as great.

Black Box Testing

To find out whether the Arts and Culture Service Application at the Jakarta Arts

Center Taman Ismail Marzuki still has errors, test the black box with the boundary value analysis technique on the service user dashboard page. The black box testing with the boundary value analysis technique focuses on prospective users of performance hall services, namely (community/art actors). Table 4.2 is the result of black box testing using boundary value analysis techniques.

Table 2. Testing on the Curation Menu

Feature	Test Code	Description of Testing	Types of Testing	Testing Techniques
Login	P02.1	Login Successfully with Valid Credentials	System Functionality	Manual Testing
	P02.2	Log in with Unregistered Email	System Functionality	Manual Testing
Feature	Test Code	Description of Testing	Types of Testing	Testing Techniques
	P02.3	Login with the Wrong Password	System Functionality	Manual Testing
	P02.4	Login with Blank Fields	System Functionality	Manual Testing
Dashboard-Home	P03.1	Homepage Views	System Functionality	Manual Testing
	P03.2	Menu Sidebar Navigation	System Functionality	Manual Testing
	P03.3	Event Dropdown Navigation	System Functionality	Manual Testing
	P03.4	Tampilan Summary Calendar	System Functionality	Manual Testing
	P03.5	Filtering Calendar	System Functionality	Manual Testing
Dashboard-Information	P08.1	Information List View	System Functionality	Manual Testing
	P08.2	Displaying Information Details	System Functionality	Manual Testing
	P08.3	Navigasi breadcrumb	System Functionality	Manual Testing
Stage Curation	P07.1	Display of the Stage Curation List	System Functionality	Manual Testing
	P07.2	View Stage Curation Details	System Functionality	Manual Testing
	P07.3	Stage Curation Search	System Functionality	Manual Testing
	P07.4	Stage Curation Status Update	System Functionality	Manual Testing

Feature	Test Code	Description of Testing	Types of Testing	Testing Techniques
	P07.5	'Previous' and 'Next' Page Button Navigation	System Functionality	Manual Testing
	P07.6	Filtering the Number of Row Data	System Functionality	Manual Testing
Feature	Code Testing	Description Testing	Kind Testing	Technique Testing
Stage Curation	P07.7	Display of the Stage Curation List	System Functionality	Manual Testing
	P010.1	FAQ List View	System Functionality	Manual Testing
	P010.2	Fungsional Button Expands & Collapse	System Functionality	Manual Testing
FAQ	P010.3	Curation Guide View from the 'View Curation Guide' Button	System Functionality	Manual Testing
	P010.4	Tutorial Video Display	System Functionality	Manual Testing
	P010.1	FAQ List View	System Functionality	Manual Testing
	P011.1	About Us	System Functionality	Manual Testing
About Us	P011.2	Contact Information Display	System Functionality	Manual Testing

Source: Processed research data (2024)

Application User Testing

The framework of thought in Table 3 can be seen Most of the respondents are male, which is as much as 63% while the remaining 37% of respondents are female. Furthermore, judging from their work, the majority of respondents are art actors/artists and the rest are art society and students of the Jakarta Institute of the Arts.

Table 3. Analysis of Questionnaire Results

Kategori	Skor Responden	Skor Maksimal	Persentase (%)	Klasifikasi
<i>Usefulness</i>	883	1200	73,58	Layak
<i>Easy of Use</i>	1350	1650	81,82	Sangat Layak
<i>Ease of Learning</i>	488	600	81,33	Sangat Layak
<i>Satisfaction</i>	889	1050	84,67	Sangat Layak
Total	3610	4500	80,22	Layak

Source: Processed research data (2024)

Questionnaire Results

The results of the questionnaire can be concluded that prospective performance hall users appreciate the ease of booking a performance venue at the Jakarta Arts Center Taman Ismail Marzuki received a good response from the art community.

Validity Test Results

Based on table 4.3 Analysis of Questionnaire Results, it can be seen that for the usefulness of the application (Usefulness) as many as 8 statements, there are 7 statement items with valid value and 1 with invalid value. In the application ease of use variable (Ease of Use) as many as 11 statements, all statement items are valid. In the Ease of Learning variable as many as 4 statements, all statement items have valid values. In the variable satisfaction in using the application (Satisfaction) as many as 7 statements, all statement items are valid values. This states that there is 1 statement item on the questionnaire that is not included in the distribution of the questionnaire that will be distributed to the user in the future.

Results of Reality Test

The results of the reality test of the questionnaire data, this test aims to determine the relevance of each statement on the questionnaire. For this test, the value to be looked for is the value which is the internal consistency index of the overall measurement scale. Reliability testing is performed after a statement indicating an invalid result on the validity test is removed. If Cronbach's Alpha is $0.80 < r < 1.00$ then the reliability is very high, if Cronbach's Alpha is $0.60 < r < 0.80$ then the reliability is high, if Cronbach's Alpha is $0.40 < r < 0.60$ then the reliability is medium, if Cronbach's Alpha is $0.20 < r < 0.40$ then the reliability is low, if Cronbach's Alpha is $0.00 < r < 0.20$ then it is not reliable. The following are the results of the reliability test of the questionnaire for the overall usability criteria.

Table 4. Questionnaire Reliability Test Results

Reliabilitas Kuesioner		
Cronbach's Alpha	N of Items	Keterangan
.968	29	Reliabilitas Sangat Tinggi

Source: Processed research data (2024)

The Reliability Test result in table 4 Cronbach's Alpha obtained from 29 valid statements is 0.968 and with this value, the level of reliability of the query statement is very high.

Analysis of Questionnaire Results

The framework of thought in table 4.3 of the calculation of the eligibility category obtained from the respondents' answers to statements related to the Usefulness of the application of the website for services in the field of arts and culture at the Center for Arts and Culture is 73.58% (feasible), the assessment results of the Easy of Use application for services in the field of arts and culture at the Center for Arts and Culture are 81.82% (very feasible), and the results of the assessment of the Satisfaction of the application of the website for services in the field of arts and culture at the Arts and Culture Center were 84.67% (very feasible). If the value of the percentage of the results of the Satisfaction measurement is compared to the percentage of the total amount, then it can be concluded that the satisfaction of users in using the website application for arts and culture services at the Arts and Culture Center is very feasible.

Core Business Testing

The application for the use of performance venues at the Jakarta Arts Center Taman Ismail Marzuki is a digital platform designed to make it easier for performers to access and at the same time register the use of the venue provided by the DKI Jakarta Provincial Government. The main function of the application built is to provide ease of service for the use of places for art for artists in Jakarta. By providing easy access, this application increases efficiency, transparency, and public participation in the government process, as well as assisting the government in providing more responsive and quality services.

The data of the service questionnaire in table 4.4 of the results of the realism test responded to by potential users shows that applications made to meet the needs of the community with a very high category are well responded to by the art community.

Programming Results

In the programming of the web-based service system application for the use of the performance venue at the Jakarta Arts Center Taman Ismail Marzuki, an arrangement of files was formed as shown in figure 4.9.

Name	Date modified	Type	Size
.git	04/02/2025 10:07	File folder	
public	04/02/2025 10:07	File folder	
src	04/02/2025 10:07	File folder	
.env	02/02/2025 14:51	ENV File	1 KB
.eslintignore	02/02/2025 14:51	ESLINTIGNORE File	1 KB
.eslintrc.cjs	02/02/2025 14:51	JavaScript Source ...	1 KB
.gitignore	02/02/2025 14:51	Git Ignore Source ...	1 KB
declarations.d.ts	02/02/2025 14:51	TS File	1 KB
index.html	02/02/2025 14:51	Chrome HTML Do...	3 KB
netlify.toml	02/02/2025 14:51	Toml Source File	1 KB
package.json	02/02/2025 14:51	JSON Source File	4 KB
README.md	02/02/2025 14:51	Markdown Source ...	2 KB
styles.css	02/02/2025 14:51	CSS Source File	2 KB
tsconfig.json	02/02/2025 14:51	JSON Source File	2 KB
tsconfig.node.json	02/02/2025 14:51	JSON Source File	1 KB
vite.config.ts	02/02/2025 14:51	TS File	1 KB
webpack.config.js	02/02/2025 14:51	JavaScript Source ...	1 KB

Figure 6. File Pemrograman

Source: Author's documentation (2024)

Name	Date modified	Type	Size
.git	04/02/2025 10:09	File folder	
src	04/02/2025 10:09	File folder	
.gitattributes	03/02/2025 7:54	Git Attributes Sour...	3 KB
.gitignore	03/02/2025 7:54	Git Ignore Source ...	7 KB
PKJTIM.sln	03/02/2025 7:54	SLN File	4 KB

Figure 7. File Source API

Source: Author's documentation (2024)

CONCLUSIONS

A web-based service application for arts and culture was successfully developed using the Agile method and hosted at <http://herza.id> and <http://49.50.9.223:10030> (<http://pkjtim.com>). The application was tested at the Jakarta Arts Center Taman Ismail Marzuki through three phases: technical testing, performance testing, and user response evaluation. Technical tests showed an application file size of approximately 4.7 MB and a database size of 224 KiB. Performance testing revealed optimal results using Mozilla Firefox, with page load times of 2,700 milliseconds, interactive times of 3,919 milliseconds, memory usage of 570 MB, and CPU usage of 7.3%. User response testing indicated positive feedback, with scores of 73.58% for usefulness, 81.82% for ease of use, 81.33% for ease of learning, and 84.67% for overall satisfaction. These results demonstrate that the web-based application is effective and feasible for serving the arts community and artists at the center. For future research, it is recommended to explore long-term user engagement and the impact of the application on the efficiency and growth of cultural activities, as well as to investigate enhancements based on user feedback for continuous improvement.

REFERENCES

- Ahmadi, A., & Juliansa, H. (2019). "Rancang Bangun Sistem Informasi Digital Layanan Administrasi Publik Desa Berbasis WEB Responsive". *Jurnal Ilmiah Informatika Global*, 10(1). <https://doi.org/10.36982/jiig.v10i1.731>
- Anza, F. A., & Fathmawati, M. (2019). "Manajemen Integrasi Sistem Informasi Perpustakaan Dilingkungan Universitas Indonesia Dalam Menuju Perpustakaan Digital". *Jurnal Vokasi Indonesia*, 7(1), 1-12. <https://doi.org/10.7454/jvi.v7i1.126>
- Ariesta, A., Dewi, Y. N., Sariasih, F. A., & Fibriany, F. W. (2021). "Penerapan Metode Agile dalam Pengembangan Application Programming Interface System pada PT XYZ". *Jurnal CoreIT*, 7(1), 38-42. <https://doi.org/10.24014/coreit.v7i1.12635>
- Atallah, A.N & Mardi (2024). "Penggunaan Metode Agile Scrum Pada Perancangan Sistem Informasi Surat Izin Penelitian di BAKESBANGPOL Lombok Tengah". 3.
- Eprilianto, D. F., Lestari, Y., Megawati, S., & Oktariyanda, T. A. (2021). "Pendampingan Tata Kelola Pemerintahan Berbasis Digital Sebagai Upaya Adaptasi Desa Dalam Penyelenggaraan Pelayanan Publik Di Era New Normal". *Community Development Journal: Jurnal Pengabdian Masyarakat*, 2(3), 767–776. <https://doi.org/10.31004/cdj.v2i3.2587>
- Hadinata, N., & Nasir, M. (2017). "Implementasi Metode Scrum Dalam Rancang Bangun Sistem Informasi Penjualan (Study Kasus: Penjualan Sperpart Kendaraan)". *Jurnal Ilmiah Betrik*, 8(01), 22–27. <https://doi.org/10.36050/betrik.v8i01.62>
- Mahendra, I., & Eby Yanto, D. T. (2018). "Sistem Informasi Pengajuan Kredit Berbasis Web Menggunakan Agile Development Methods Pada Bank Bri Unit Kolonel Sugiono". *Jurnal Teknologi Dan Open Source*, 1(2), 13–24. <https://doi.org/10.36378/jtos.v1i2.20>
- Nistrina, K., & Sahidah, L. (2022). "Unified Modelling Language (Uml) Untuk Perancangan Sistem Informasi Penerimaan Siswa Baru Di Smk Marga Insan Kamil". *Jurnal Sistem Informasi, J-SIKA*, 4(1), 17.
- Nurhadi. (2023). "Bahasa Pemrograman Program Desktop untuk Databases". August, 95.
- Nurrahman, A., Dimas, M., Ma'sum, M. F., & Ino, M. F. (2021). "Pemanfaatan Website Sebagai Bentuk Digitalisasi Pelayanan Publik Di Kabupaten Garut". *Jurnal Teknologi Dan Komunikasi Pemerintahan*, 3(1), 78–95. <https://doi.org/10.33701/jtkp.v3i1.2126>
- Priharsari, D., & Indah, R. (2021). "Coding untuk menganalisis data pada penelitian kualitatif di bidang kesehatan". *Jurnal Kedokteran Syiah Kuala*, 21(2), 130–135. <https://doi.org/10.24815/jks.v21i2.20368>

- Raharjo, B. (2022). "Deep Learning dengan python" Dr. Budi Raharjo, S.Kom., M.Kom., MM. i–111.
- Riyan Dirgantara, M., Syahputri, S., & Hasibuan, A. Nurbaiti N, (2023). "Pengenalan Database Management System (DBMS)". *Jurnal Ilmiah Multidisiplin*, 1(6), 300–301. <https://doi.org/10.5281/zenodo.8123019>
- Rocky Tanaamah, A., Fritz Wijaya, A., Ayu Maylinda, S., Kristen Satya Wacana, U., & Korespondensi, P. (2021). "Tata Kelola Teknologi Informasi Pada Sektor Publik: Penyelarasan Teknologi Informasi Dengan Visi Kepemimpinan (Studi Kasus: Kota Salatiga Dan Kabupaten Bengkulu)". *Information Technology Governance in the Public Sector: Information Technology Alignment Wi*. *Jtiik*, 8(6), 1319–1330. <https://doi.org/10.25126/jtiik.202185379>
- Romadhon, A. L., & Maryam, M. (2023). "Rancang Bangun Sistem Informasi Layanan Administrasi Desa Berbasis Web Di Desa Dukuh". *JUPI (Jurnal Ilmiah Penelitian Dan Pembelajaran Informatika)*, 8(2), 514–524. <https://doi.org/10.29100/jupi.v8i2.3553>
- Rowena, J., Wilujeng, F. R., & Rembulan, G. D. (2020). "Pengaruh Kualitas Layanan dalam Menciptakan Kepuasan Publik di Kantor Pelayanan Publik, Jakarta Utara". *JIEMS (Journal of Industrial Engineering and Management Systems)*, 13(1), 27–34. <https://doi.org/10.30813/jiems.v13i1.2083>
- Santoso, M. F. (2022). "Implementasi Konsep dan Teknik UI/UX Dalam Rancang Bangun Layout Web dengan Figma". *Jurnal Infotech*, 4(2), 156–163. <http://ejournal.bsi.ac.id/ejurnal/index.php/infotech156>
- Shankarmani, R., Pawar, R., S. Mantha, S., & Babu, V. (2012). "Agile Methodology Adoption: Benefits and Constraints". *International Journal of Computer Applications*, 58(15), 31–37. <https://doi.org/10.5120/9361-3698>
- Soufitri, F. (2023). "Konsep Sistem Informasi". *Jurnal Administrasi Pendidikan*, 3, 1–14. <https://ejournal.upi.edu/index.php/JAPSPs/article/viewFile/6095/4116>
- Suhari, S., Faqih, A., & Basysyar, F. M. (2022). "Sistem Informasi Kepegawaian Menggunakan Metode Agile Development di CV. Angkasa Raya". *Jurnal Teknologi Dan Informasi*, 12(1), 30–45. <https://doi.org/10.34010/jati.v12i1.6622>
- Tasyah, A., Lestari, P. A., Syofira, A., Rahmayani, C. A., Cahyani, R. D., & Tresiana, N. (2021). "Inovasi Pelayanan Publik Berbasis Digital (E-Government) di Era Pandemi Covid-19". *Jurnal Ilmu Administrasi: Media Pengembangan Ilmu Dan Praktek Administrasi*, 18(2), 212–224. <https://doi.org/10.31113/jia.v18i2.808>
- Ummah, M. S. (2019). "Belajar Pemrograman Web Dasar". In *Sustainability (Switzerland)* (Vol. 11, Issue 1).

Unit Pengelola Pusat Kesenian Jakarta Taman Ismail Marzuki Dinas Kebudayaan Provinsi DKI Jakarta (2022). "Laporan Penyelenggaraan Kegiatan Event Kesenian di Pusat Kesenian Jakarta Taman Ismail Marzuki (2022)".

Zalukhu, A., Swingly, P., & Darma, D. (2023). "Perangkat Lunak Aplikasi Pembelajaran Flowchart". *Jurnal Teknologi, Informasi Dan Industri*, 4(1), 61–70. <https://ejurnal.istp.ac.id/index.php/jtii/article/view/351>



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