

Implementation of the TOGAF ADM Framework in the Website-Based Kampoeng Djowo Sekatul Cultural Tourism Management Information System with Javanese Calendar Feature Integration

Yuliana Permata Himawati^{1*}, Indra Gamayanto^{2*}

* Sistem Informasi, Universitas Dian Nuswantoro

112202206771@mhs.dinus.ac.id¹, indra.gamayanto@dsn.dinus.ac.id²

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ABSTRACT

Kampoeng Djowo Sekatul is a cultural tourism destination that promotes Javanese traditions and local wisdom through various cultural activities and performances. However, tourism information management, including event schedules, activities, facilities, and documentation, is still performed manually and is not yet integrated into a structured information system, leading to inefficient data management and limited information access for tourists. This study aims to design and develop an enterprise architecture for a web-based cultural tourism information system using the TOGAF Architecture Development Method (ADM) integrated with a Javanese calendar-based scheduling feature. The system is intended for use by administrators, managers, and tourists to support integrated tourism information management. A qualitative descriptive approach is applied through interviews, observations, questionnaires, literature studies, and document analysis to identify system requirements. The TOGAF ADM phases implemented include the Preliminary Phase, Architecture Vision, Business Architecture, Information System Architecture, and Technology Architecture, producing architectural artifacts for each domain. The outputs of this study are an enterprise architecture blueprint and a web-based user interface design covering business, data, application, and technology architectures. In addition, a scheduling model is developed by integrating Javanese cultural time elements such as Gregorian date, pasaran, wuku, and Javanese year into the system to support cultural event management. The proposed architecture was validated based on user requirements and is expected to improve tourism information efficiency, enhance accessibility through a web-based interface, and support the preservation of Javanese cultural heritage through digital integration.



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I. INTRODUCTION

Cultural tourism in Indonesia plays a strategic role in supporting national economic development. Data from the Central Bureau of Statistics indicate that there are more than 1,700 tourist villages in Indonesia, most of which still face limitations in providing digital information access [4]. This condition highlights a gap between the growing potential of cultural tourism and the lack of effective information management. In addition, cultural preservation is an essential

aspect of tourism development to maintain sustainability and local identity [5].

Kampoeng Djowo Sekatul is one of the cultural tourism destinations that has significant potential in preserving and promoting Javanese culture through various traditional activities, such as performing arts, customary ceremonies, and local values. However, the management of tourism information, particularly related to cultural event schedules, facilities, and services, is still conducted manually through social media and direct communication. This condition results in unstructured information, limited accessibility, and

poor documentation, which affects both tourists, who struggle to obtain accurate information, and managers, who must repeatedly provide the same information.

In the cultural context, the Javanese calendar plays an important role in determining the schedule of various traditional events, such as cultural parades, rituals, and ceremonial activities based on the pasaran and weton system. However, information related to these cultural events has not been integrated into a digital system, resulting in fragmented and decentralized information dissemination. This condition makes it difficult for tourists to plan their visits according to cultural event schedules. Therefore, an information system that integrates the Javanese calendar into tourism information management is needed [1].

Similar problems are also found in several tourist villages in Indonesia that still rely on social media without integrated information systems, resulting in inconsistent and unsustainable information dissemination. Meanwhile, the implementation of digital information management has been proven to increase tourist visits, as seen in Penglipuran Tourism Village in Bali, which attracted more than one million visitors in 2024 [2]. Furthermore, the development of digital technology and the concept of e-tourism indicate that technology integration in the tourism sector can improve information accessibility, tourist satisfaction, and interaction with local culture [3].

Previous studies have generally focused on developing web-based tourism information systems or implementing e-tourism concepts; however, they have not specifically integrated cultural calendars into the system architecture. This indicates a research gap in incorporating local cultural aspects into tourism information system design.

To address these issues, a systematic approach is required to design an information system architecture that aligns business needs with information technology. The TOGAF (The Open Group Architecture Framework) with the Architecture Development Method (ADM) is selected because it provides structured phases to analyze the current conditions, identify organizational needs, and design an architecture blueprint covering business, data, application, and technology domains [6].

This study aims to design an enterprise architecture for a web-based cultural tourism information system at Kampoeng Djowo Sekatul with Javanese calendar integration as a supporting feature. The proposed system considers multiple users, such as managers and tourists, with main services including cultural event scheduling, facility information management, and centralized information delivery. The resulting architecture blueprint is expected to serve as a reference for developing an integrated information system that enhances data management effectiveness, improves information delivery quality, and supports the preservation of local culture through digitalization.

II. METHOD

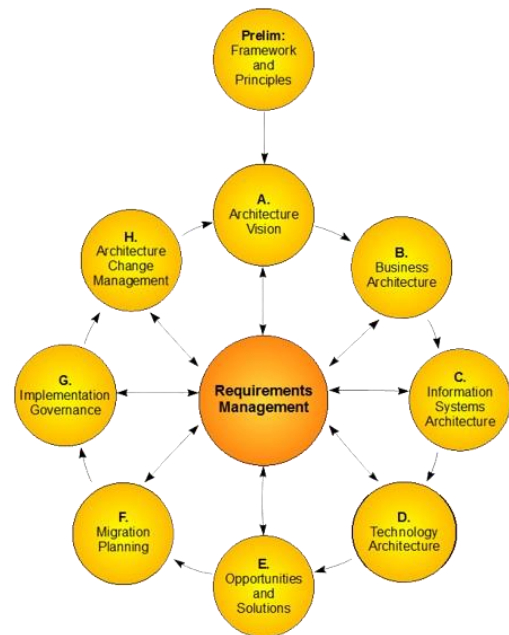


Figure 1 Research Framework Based on TOGAF ADM

This study adopts a qualitative descriptive approach to analyze the current condition and design an enterprise architecture for a cultural tourism information system. Data collection was conducted through interviews, observations, questionnaires, literature studies, and document analysis. Interviews were carried out with the management of Kampoeng Djowo Sekatul to identify business processes and system requirements. Observations were conducted to examine the existing information management practices, while questionnaires were distributed to tourists to capture user needs and expectations regarding tourism information services. Supporting data were also obtained from literature and relevant documents.

The research framework is based on the TOGAF Architecture Development Method (ADM), as illustrated in Figure 1. TOGAF is a framework used to design enterprise architecture by aligning business processes with information technology in a structured and systematic manner. The ADM approach provides a comprehensive cycle for developing architecture through several interconnected phases.

The architecture development process begins with the Preliminary Phase, which defines the architecture principles and determines the scope of the system. The Architecture Vision phase identifies stakeholder needs and formulates the overall vision of the cultural tourism information system. The Business Architecture phase analyzes existing business processes, particularly in managing cultural tourism activities and scheduling events based on the Javanese calendar.

The Information System Architecture phase focuses on designing data and application structures to support integrated and structured information management. The Technology Architecture phase determines the required

infrastructure to support system implementation effectively. Throughout the process, Requirements Management ensures that all identified requirements are consistently addressed and aligned with stakeholder needs.

The outcome of this method is an enterprise architecture blueprint that integrates business, data, application, and technology domains, including the integration of the Javanese calendar as a supporting feature for managing cultural event schedules.

III. RESULT AND DISCUSSION

To validate the necessity of the proposed information system, a survey was conducted involving 106 respondents regarding their experience with the current operations of Kampoeng Djowo Sekatul. The results strongly indicate that the existing manual processes are insufficient to meet modern digital demands.

The proposed system design allows for the future development of advanced features for Kampoeng Djowo Sekatul without losing its cultural image.
106 jawaban

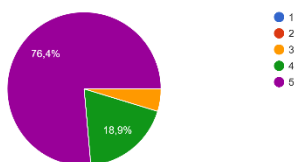


Figure 2 System Scalability and Cultural Sustainability

The results indicate that 76.4% of respondents strongly agree and 18.9% agree that the proposed system design supports future feature expansion without compromising cultural identity. This finding reinforces that the proposed enterprise architecture is not only scalable and flexible, but also capable of maintaining cultural sustainability, which is a critical requirement in cultural tourism information systems.

Visitors still have difficulty obtaining complete information about Kampoeng Djowo Sekatul in one place.
106 jawaban

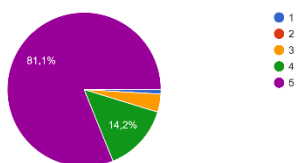


Figure 3 Need for Integrated Tourism Information System

The results indicate that 81.1% of respondents strongly agree and 14.2% agree that visitors still face challenges in accessing comprehensive information on a single platform. This finding highlights a significant need for an integrated information system to enhance data management, information dissemination, and service delivery.

Kampoeng Djowo Sekatul has an image of Javanese cultural nuances that will develop through the implementation of information systems.
106 jawaban

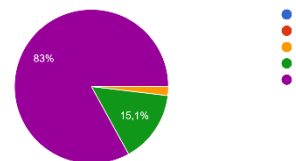


Figure 4 Cultural Image Strengthening through Information Systems

The results indicate that 83% of respondents strongly agree and 15.1% agree that the implementation of an information system can enhance the cultural image of Kampoeng Djowo Sekatul. This finding suggests that digital transformation is perceived as a strategic tool for strengthening cultural identity and increasing the value of cultural tourism.

Delays in information can affect interest in visiting Kampoeng Djowo Sekatul.
106 jawaban

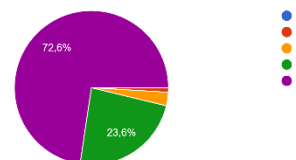


Figure 5 Impact of Information Delays on Visitor Interest

The results indicate that 72.6% of respondents strongly agree and 23.6% agree that delays in information dissemination negatively affect visitor interest. This finding highlights the importance of delivering timely and accurate information to maintain visitor engagement and improve service effectiveness.

In the Preliminary Phase, the focus is on preparing the enterprise architecture design by defining architectural principles for each domain using the principle catalog presented in Table 1. In addition, this phase involves identifying key elements, stakeholders, and system requirements related to the cultural tourism information system at Kampoeng Djowo Sekatul. This identification is conducted using the 5W+1H approach, as detailed in Table 2, to ensure that the architecture design aligns with organizational needs and addresses existing problems in information management.

TABLE 1
PRINCIPAL CATALOG

No	Principle Name	Statement / Objective	Strategic Rationale (Value)
1	Business Alignment	The architecture must directly support the cultural preservation vision of Kampoeng Djowo Sekatul.	Ensures all IT investments contribute to the sustainability of local cultural heritage.

2	User-Centric Design	Applications must be designed with high usability for both staff and tourists.	Minimizes the learning curve and increases system adoption for non-technical users.
3	Data Integration & Consistency	Data, including Javanese calendar cycles, must be integrated across all system modules.	Eliminates data redundancy and ensures 'single source of truth' for event scheduling.
4	Data Security & Privacy	Digital cultural archives must be managed effectively and protected from unauthorized access.	Protects sensitive organizational data and ensures the integrity of digital heritage.
5	Interoperability	The system must be structured to support seamless connectivity between different modules.	Accelerates information exchange and reduces technical silos within the organization.
6	Scalability & Adaptability	The architecture must be flexible enough to accommodate future growth and new features.	Ensures the system remains relevant as tourism demands and technology evolve.
7	Role-Based Access Control (RBAC)	System access must be authorized in a structured and controlled manner.	Strengthens system security by ensuring users only access data relevant to their roles.

TABLE 2
IDENTIFICATION OBJECT

No	Dimension	Identification Object	Scope & Description
1	What	Architecture Scope	A comprehensive Enterprise Architecture (EA) Blueprint for a web-based cultural tourism system, featuring a specialized Javanese Calendar Integration Engine.
2	Who	Primary Stakeholders	Management of Kampoeng Djowo Sekatul, system administrators, domestic/international tourists, and the IT Research & Design Team.

3	Where	Research Environment	Kampoeng Djowo Sekatul, Kendal Regency, Central Java. Focuses on the Digital Transformation of rural cultural tourism.
4	When	Implementation Timeline	August – November 2025, covering the full cycle of the TOGAF ADM Preliminary through Technology Architecture phases.
5	Why	Business Driver	The absence of a Structured Information Repository, leading to manual process inefficiencies and a lack of standardized cultural documentation.

B. Requirement Management

This phase aims to analyze and manage the requirements for designing the cultural tourism information system architecture at Kampoeng Djowo Sekatul. The process involves identifying current business processes, user activities, and existing organizational issues. The identified requirements are then documented, classified, and analyzed to ensure that the proposed architecture aligns with business needs and supports the preservation of local cultural values.

The analysis is supported by the issue identification presented in Table 3, which serves as the basis for defining system requirements and guiding the architecture design process. Furthermore, the requirements are mapped into each TOGAF ADM phase to ensure consistency between stakeholder needs and architectural solutions. These requirements are continuously monitored and refined throughout the architecture development process to maintain alignment with organizational objectives and system implementation goals.

TABLE 3
IDENTIFIED ISSUE AND ARCHITECTURAL SOLUTIONS

No	Identified Problem	Proposed Architectural Solution	Impact & Strategic Value
1	Fragmented information dissemination (Social Media only) without permanent records.	Development of a Centralized Knowledge Base integrated with a structured web portal.	Transition from ephemeral social media posts to a persistent and searchable digital archive.
2	Javanese calendar-based ceremonies are	Algorithmic Javanese Calendar	Provides predictive scheduling,

	difficult to predict for external visitors.	Integration Module (Mapping Gregorian to Weton/Pasaran).	allowing tourists to plan visits based on specific traditional cycles.
3	Decentralized facility management leading to data redundancy and errors.	Centralized Resource Architecture within the Administrative Dashboard.	Improves Data Integrity and operational efficiency in managing tourism assets and facilities.
4	Absence of a structured database for historical and cultural documentation.	Integrated Relational Database Management System (RDBMS) for cultural agendas.	Supports Cultural Preservation by digitizing local wisdom into a structured, long-term data repository.
5	Information bottleneck: Access is dependent on manual staff responses.	Self-Service Web-Based Information Portal with 24/7 availability.	Enhances Visitor Autonomy and reduces the administrative workload of the management staff.

1) Phase A : Architecture Vision

The Architecture Vision phase aims to align stakeholder perspectives with the architecture design to define the scope, objectives, and direction of the cultural tourism information system development at Kampong Djowo Sekatul. This phase identifies key stakeholders, their needs, and the expected value of the proposed system.

Kampong Djowo Sekatul is a cultural tourism destination located in Kendal Regency, Central Java, which focuses on preserving Javanese traditions through traditional joglo architecture, cultural performances, and customary activities integrated with educational and recreational services. The organization is managed through structured functional divisions, including operations, services, promotion, and finance, to ensure the sustainability of tourism activities. The vision of the organization is to preserve Javanese culture authentically and sustainably, supported by a mission to provide tourism experiences rooted in local traditions. Based on this, the architecture vision is formulated to support integrated information management, improve service quality, and enhance accessibility for tourists. This phase produces a high-level architecture vision that serves as the foundation for subsequent architecture development.

2) Phase B : Business Architecture

This phase aims to analyze the existing business processes in the cultural tourism operations of Kampong Djowo Sekatul in order to identify current issues, inefficiencies, and gaps in information management. The analysis focuses on activities performed by key stakeholders, including visitors, administrators, and managers.

Based on the findings, a proposed business architecture is developed to improve process efficiency, information flow,

and service delivery. The proposed design addresses key issues such as unstructured information dissemination, manual service processes, and limited coordination among stakeholders.

The resulting business architecture is represented through several artifacts, including the overall business architecture model (Figure 6), as well as detailed business process models for visitors (Figure 7), administrators (Figure 8), and managers (Figure 9). These artifacts illustrate improved workflows that support integrated services and enhance operational effectiveness.

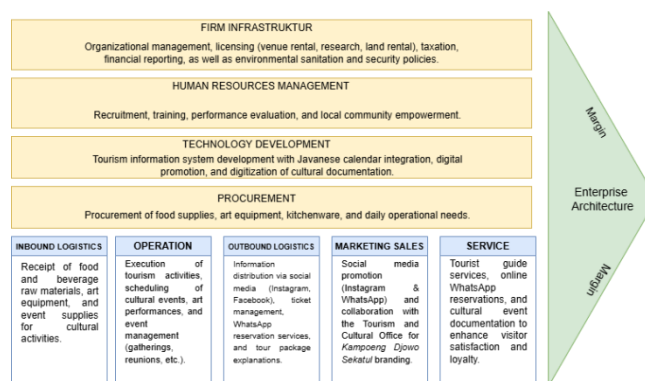


Figure 6 Value Chain

The value chain analysis in this study is based on Michael Porter’s concept, which categorizes organizational activities into primary and support activities to identify value creation. The primary activities include resource management, cultural service operations, digital information dissemination, marketing, and customer service, while the supporting activities consist of organizational infrastructure, human resource management, technology development, and procurement [15].

This analysis is used to identify key business processes and highlight inefficiencies in current operations, particularly in the management and dissemination of cultural tourism information. The results of the value chain analysis serve as a foundation for designing the business architecture within the TOGAF ADM framework, ensuring that the proposed system addresses existing gaps and enhances service quality through integrated information management.

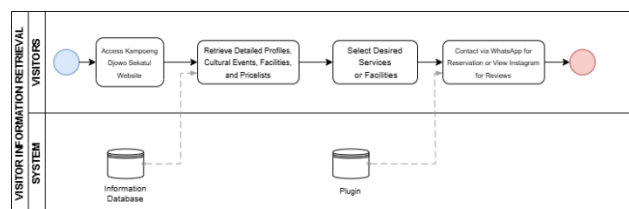


Figure 7 Proposed Business Process for Visitors

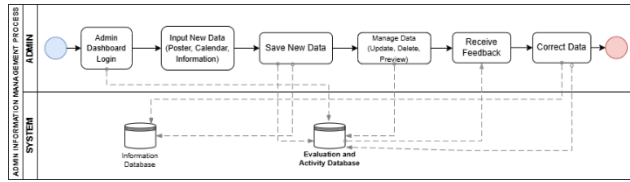


Figure 8 Proposed Business Process for Administration

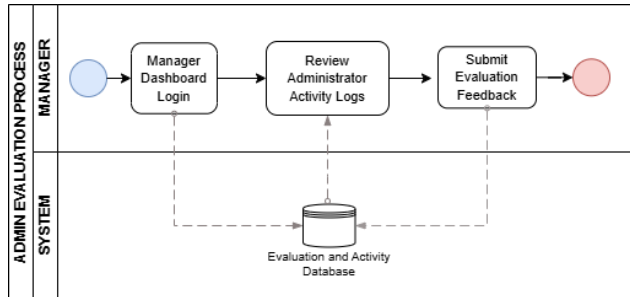


Figure 9 Proposed Business Process for Management

3) Phase C : Information System Architecture

defines the design of the information system architecture for Kampong Djowo Sekatul by translating business needs into a structured application system. The proposed system is web-based and consists of five main components: Cultural Tourism Information Portal, Social Media-Based Reservation System (Instagram and WhatsApp integration), Integrated Javanese Calendar Module, Centralized Administrative Dashboard, and Management Monitoring Dashboard, as shown in Table 4.

The reservation feature is simplified by integrating direct communication through Instagram and WhatsApp icons, allowing users to contact the admin or booking contact instantly via social media platforms without a separate ticketing system. This approach enhances accessibility and improves user engagement. The Integrated Javanese Calendar Module supports cultural event scheduling based on Weton and Pasaran calculations, while the administrative dashboard manages data with role-based access control (RBAC) for security.

The system is designed with scalability and interoperability in mind, enabling future integration with mobile applications and other digital platforms. This architecture supports efficient information dissemination, simplified reservation flow through social media, and improved management decision-making through the monitoring dashboard.

TABLE 4
PROPOSED APPLICATION SYSTEM

No	Application Name	Function & Technical Capabilities	Target User	Scalability & Integration
1	Cultural Tourism Information Portal	Provides centralized access to institutional profiles,	Public / Tourists	High interoperability for future mobile app expansion.

		multimedia documentation, and dynamic tourism packages via a responsive web interface.		
2	Online Reservation & Ticketing System	Facilitates real-time booking for events and packages with automated confirmation and digital receipt generation.	Public / Tourists	Supports integration with third-party payment gateways.
3	Integrated Javanese Calendar Module	An algorithmic engine that automates event scheduling by mapping Gregorian dates to Weton and Pasaran cycles.	System Engine / Public	Modular design allowing integration into other cultural platforms.
4	Centralized Administrative Dashboard	CRUD (Create, Read, Update, Delete) management for event data, facility records, and Javanese calendar configurations.	Administrative Staff	Role-based access control (RBAC) for data security.
5	Management Monitoring Dashboard	Provides data visualization, operational reporting, and system performance analytics for decision support.	Top Management	Supports data-driven strategic planning through analytics.

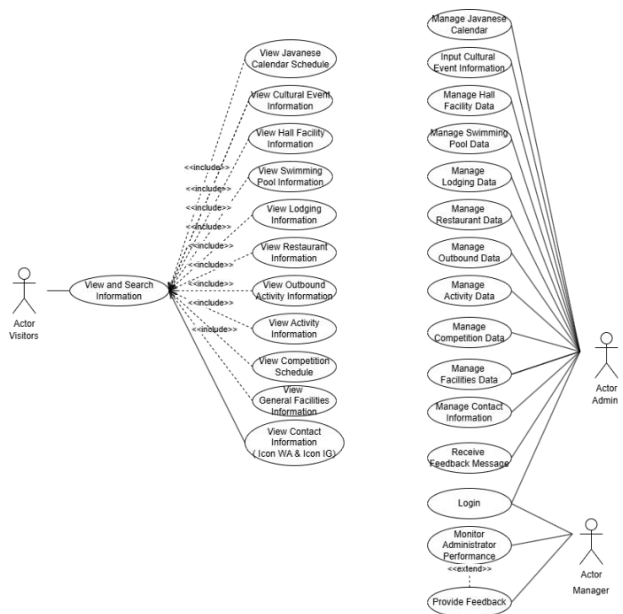


Figure 10 Use Case Diagram of the Cultural Tourism Information System at Kampoeng Djowo Sekatul

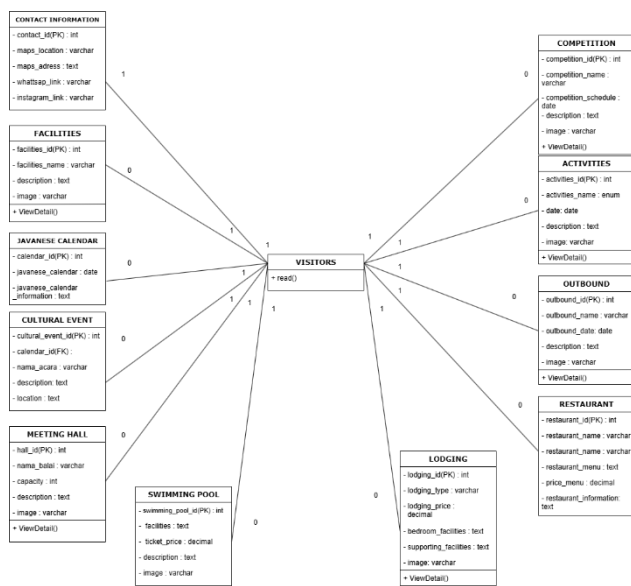


Figure 11 Visitor Class Diagram

The system's functional requirements through three primary actors: Visitors, Admin, and Manager. Visitors can access tourism information and the Javanese calendar feature without a login requirement, while the Admin holds full authority over managing all operational data within the system. The Manager serves a strategic role, monitoring administrator performance and providing feedback to ensure the quality of information services at Kampoeng Djowo Sekatul is maintained.

Technically, this diagram highlights the integration of local wisdom by synchronizing event schedules with the traditional Javanese calendar, connected through «include»

relationships. The structure is designed for a scalable web-based system, strictly separating user access rights to guarantee data security while ensuring that cultural information is delivered to tourists efficiently and accurately.

Visitors are categorized as general users who do not have data management privileges and can only perform read-only operations within the system. They interact with various system features, such as cultural events, competitions, activities, local UMKM products, restaurants, and facilities, to access and explore available information. This functionality enables visitors to obtain structured and comprehensive tourism information through a single integrated platform.

In contrast, administrators are granted full access rights to manage system data. The admin module is equipped with an authentication mechanism, including administrator ID, username, and password, to ensure secure system access. Administrators are responsible for performing data management operations, such as creating, updating, deleting, and displaying information related to cultural activities, facilities, and services. Additionally, the system provides login and logout functionalities to maintain session control and enhance system security. This role-based access structure supports efficient information management, ensures data integrity, and enables better coordination between system users, thereby improving the overall quality of cultural tourism services.

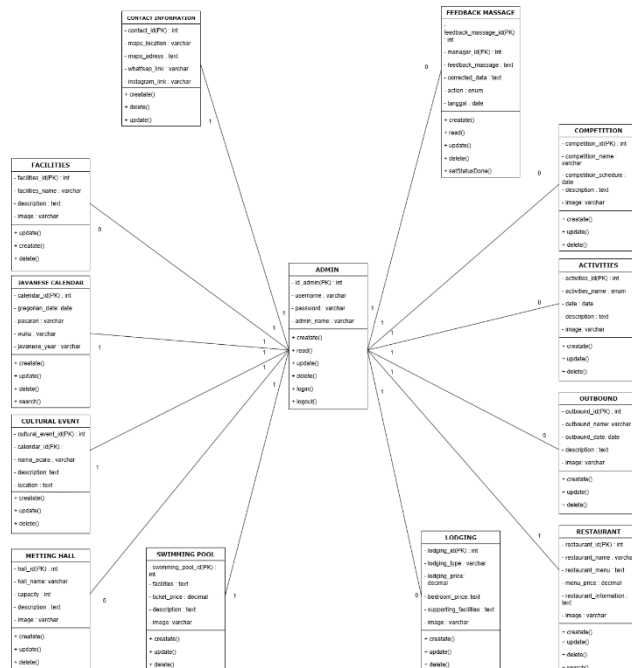


Figure 12 Administrative Class Diagram

The administrator is responsible for managing all data within the system, including competitions, cultural activities, UMKM products, restaurants, facilities, calendar data, cultural events, and user-generated inputs, to ensure that the

information remains accurate, consistent, and up to date. The administrator module is equipped with authentication attributes, including administrator ID, username, and password, to ensure secure system access. Administrators are authorized to perform data management operations such as creating, updating, deleting, and displaying information across all system modules. In addition, the system provides login and logout functionalities to maintain session control and enhance system security. This centralized data management capability supports efficient information handling, improves data accuracy, and ensures that cultural tourism information is consistently delivered to users.

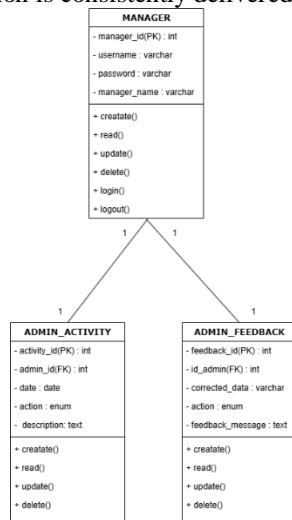


Figure 13 Management Class Diagram

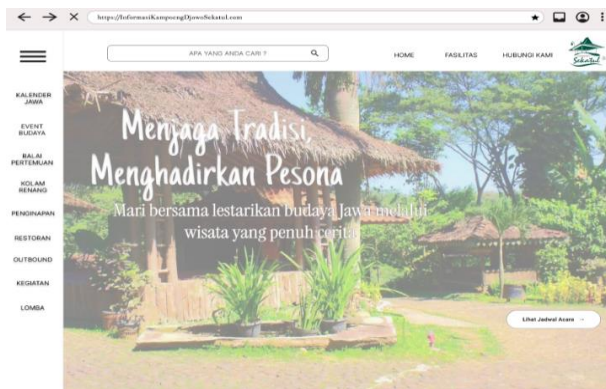


Figure 14 Design of the Cultural Tourism Information System Homepage Interface

The relationship between the Administrator entity and the Activity and Feedback entities is established through the administrator ID as a foreign key. This relationship enables the system to record administrative actions and manage user feedback in a structured and traceable manner. By linking these entities, the system supports data consistency, accountability, and effective monitoring of system activities, which are essential for maintaining the quality and reliability of cultural tourism information.

The website was developed using a user-centered design approach, featuring an easy-to-navigate structure that adapts

to different screen sizes. The main page features a hero section with visuals that highlight cultural identity, along with a search feature and an organized navigation menu, including facilities, cultural events, Javanese calendar, and other services, making it easier for users to access information.

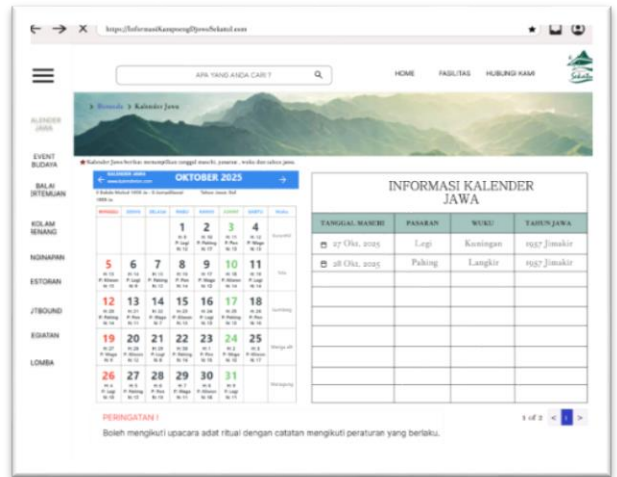


Figure 15 Design of the Visitor Javanese Calendar Interface

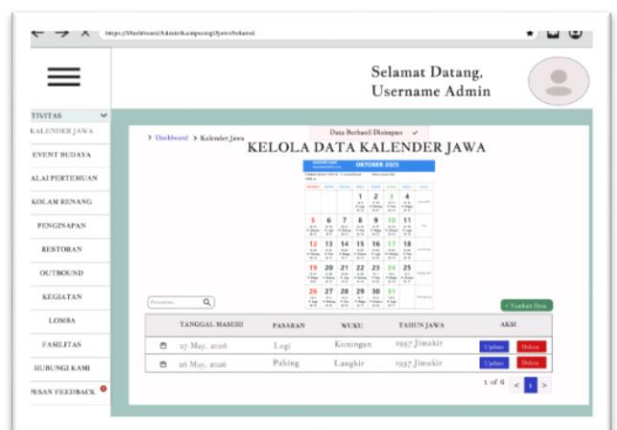


Figure 16 Design of the Javanese Calendar Data Management Interface

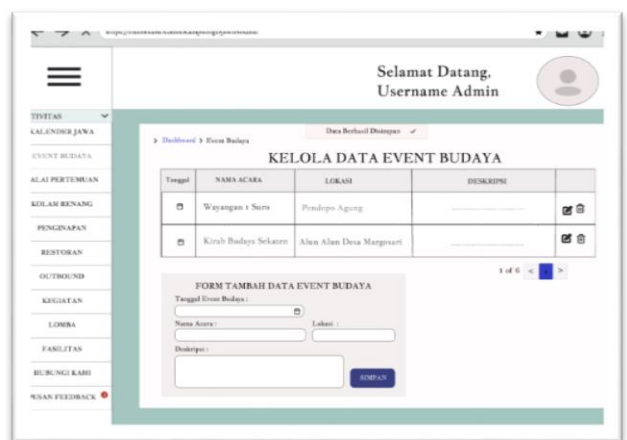


Figure 17 Design of the Cultural Event Data Management Interface

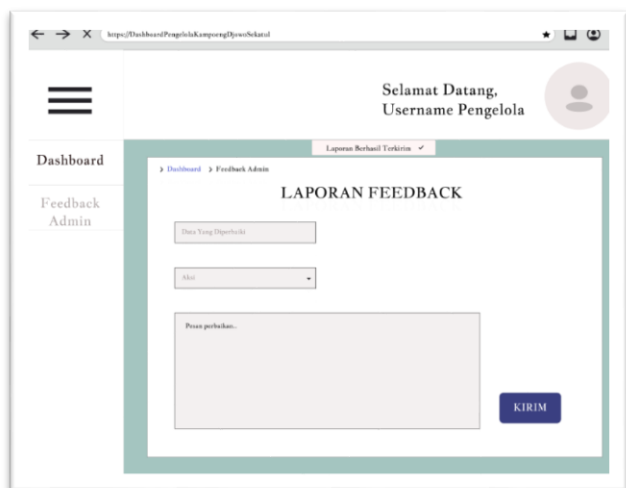


Figure 18 Design of the Administrative Feedback Message Interface

4) Phase D: Technology Architecture

Phase D (Technology Architecture) defines the technological infrastructure required to support the implementation of the cultural tourism information system in Kampoeng Djowo Sekatul. This phase specifies the technology environment used to deploy the web-based system, including application server configuration, database management system (DBMS), network infrastructure, and system security architecture.

The proposed architecture is implemented using a web-based platform with a client-server architecture to support multi-user access, including administrators, managers, and tourists. The system utilizes a relational database management system (RDBMS) to manage structured tourism data, including events, facilities, and Javanese calendar components such as Gregorian date, pasaran, wuku, and Javanese year. Communication between client and server is secured using the HTTPS protocol to ensure data confidentiality and integrity.

The architecture is designed to support scalability, interoperability, and system availability. Scalability is achieved through modular system design and the use of scalable hosting services, while interoperability is ensured through API-based communication between system modules, including the Javanese calendar scheduling module. In addition, security mechanisms are implemented through authentication and authorization to regulate user access and protect system data.

Overall, this technology architecture ensures that the system operates efficiently, securely, and reliably in supporting the digital transformation of cultural tourism information services in Kampoeng Djowo Sekatul.

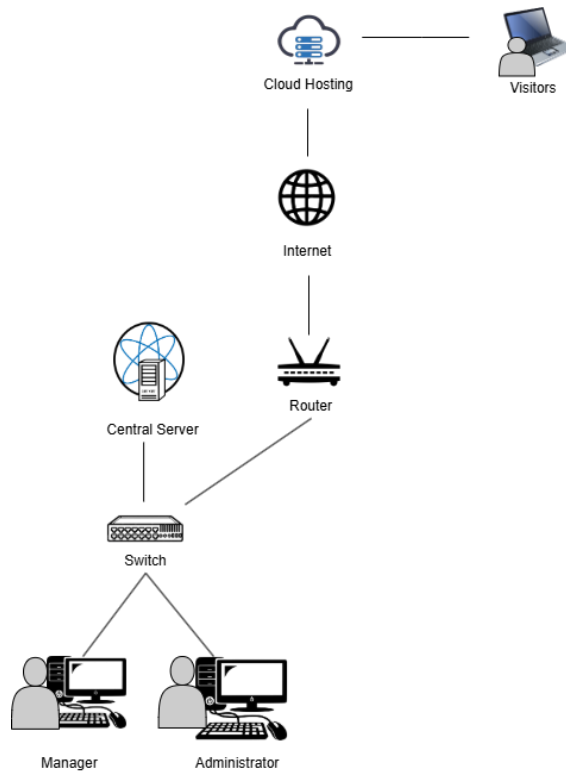


Figure 19 Proposed Technology Network Architecture

5) Phase E: Opportunities and Solution

Phase E (Opportunities and Solutions) evaluates the proposed enterprise architecture to identify development opportunities and determine appropriate implementation strategies for the cultural tourism information system in Kampoeng Djowo Sekatul. This phase translates the architectural design into actionable system development plans, focusing on the realization of a web-based information system supported by integrated enterprise architecture.

A gap analysis is conducted by comparing the current (as-is) condition, where tourism information management is still manual and fragmented, with the proposed (to-be) architecture that integrates business, data, application, and technology layers. The analysis identifies gaps in information management, system integration, and technology utilization, particularly in scheduling and data accessibility.

Based on the gap analysis results, several prioritized implementation solutions are defined, including the development of a web-based information system, the implementation of a centralized database, the design of a user interface for tourists and administrators, and the integration of a Javanese calendar-based scheduling module. The proposed solutions are designed to ensure system scalability, interoperability, and efficient information delivery in supporting digital cultural tourism management.

TABLE 5
GAP ANALYSIS

Future	Integrated Cultural Tourism Information Portal of Kampoeng Djowo Sekatul
Existing	
Information dissemination relies on Instagram Stories, Instagram Feeds, and WhatsApp communication	ADD (Development of a new integrated system required)

TABLE 6
BUSINESS ARCHITECTURE GAP ANALYSIS

Existing	Future	Description
Tourism information is still manual (word of mouth, Instagram, WhatsApp)	Cultural Tourism Information Portal	Replace (RP)
Social media (Instagram, WhatsApp)	Integration of WhatsApp and Instagram links on the website	Retain (RT)
Event schedules only from Instagram	Digital Javanese Calendar Integration	Replace (RP)
Event data recorded manually	Integrated event management system	Replace (RP)
No management evaluation system	Monitoring dashboard and feedback system	Add (ADD)
Physical data storage archives	Central server (database & activity logs)	Replace (RP)
No data backup	Cloud hosting	Add (ADD)
No public online access	Cultural tourism information portal	Add (ADD)

TABLE 7
BUSINESS ARCHITECTURE GAP ANALYSIS

Existing	Future	Description
Standard computer	Cloud-based infrastructure	Replace (RP)
Microsoft Word 2013	Web-based document system	Replace (RP)
Microsoft Excel 2013	Web-based data management system	Replace (RP)
Web browser	Web browser (retained for system access)	Retain (RT)
No network switch	Network switch implementation	Add (ADD)
No router	Router implementation	Add (ADD)
No cloud hosting	Cloud hosting infrastructure	Add (ADD)
No server	Centralized server system	Add (ADD)
New infrastructure components	Integrated cloud-based architecture (server, network, hosting)	Add (ADD)

6) Phase F : Migration Planning

defines the structured transition process from the current system condition (as-is), which is still manual, to the proposed target architecture (to-be) of the web-based cultural tourism information system in Kampoeng Djowo Sekatul. This phase establishes the implementation roadmap, development priorities, and migration strategy to ensure that system transformation is carried out in a gradual, controlled, and non-disruptive manner.

The migration plan prioritizes the implementation of key system components, including the development of a web-based application interface, deployment of a centralized database system, integration of the Javanese calendar scheduling module (Gregorian date, pasaran, wuku, and Javanese year), and implementation of role-based user access for administrators, managers, and tourists. The migration is structured in stages, starting from system installation, system testing, human resource assessment, system implementation, and system evaluation.

Risk management is also considered in this phase, including potential data migration errors, system downtime, and user adaptation challenges. Therefore, a phased deployment strategy is applied to ensure system stability and operational continuity. This approach ensures that the cultural tourism information system can be implemented effectively, efficiently, and sustainably in supporting digital transformation in Kampoeng Djowo Sekatul.

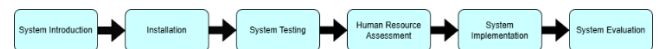


Figure 20 Information System Development Roadmap

7) Phase G : Implementation Planning

focuses on developing a structured implementation plan for the information system architecture designed in the previous phases to ensure its proper alignment with organizational needs. In this study, the implementation is carried out using an incremental approach to ensure a smooth transition from a manual system to a web-based system without disrupting cultural tourism management operations. The developed system is web-based, allowing administrators and managers to manage tourism data, cultural events, and supporting information more effectively and efficiently.

Implementation governance in this phase includes defining stakeholder roles and responsibilities, where the administrator acts as the primary data manager and the management of Kampoeng Djowo Sekatul serves as the business process owner. A change management mechanism is also applied to ensure that every implementation step aligns with the TOGAF ADM architectural blueprint. Additionally, inter-domain integration is considered, particularly the integration of the Javanese calendar as a cultural data component used in scheduling and managing cultural tourism events.

Beyond governance aspects, this phase also addresses technical considerations such as scalability, interoperability, and data security to support future system development. Implementation evaluation is conducted through functional testing and validation to ensure consistency between the system prototype and the designed architecture. Thus, Phase G not only serves as a technical implementation stage but also bridges the TOGAF ADM architectural design with a structured, sustainable, and well-aligned information system implementation for cultural tourism management.

TABLE 8
INFORMATION TECHNOLOGY GOVERNANCE POLICIES

No	Policy Area	Strategic Objective	Operational Standard
1	Identity & Access Management (IAM)	To ensure the Principle of Least Privilege (PoLP) by aligning access rights with specific user roles.	Implementation of Role-Based Access Control (RBAC) and periodic user access reviews.
2	Authentication Security	To prevent unauthorized access through standardized and robust credential management.	Mandatory password complexity requirements and secure authentication protocols.
3	System Accountability & Logging	To maintain a comprehensive audit trail for transparency, traceability, and forensic readiness.	Automated logging of all administrative transactions and critical system activities.
4	Business Continuity & Disaster Recovery (BCDR)	To ensure high system availability and rapid data restoration after disruptions.	Scheduled automated backups and established Recovery Time Objectives (RTO).
5	IT Literacy & Competency	To ensure that all users (staff) are proficient in operating the system according to SOPs.	Periodic training sessions and the provision of an Integrated User Manual.
6	Incident Management	To minimize the impact of technical disruptions through structured resolution workflows.	Formalized reporting procedures and a categorized incident response hierarchy.
7	Data Privacy & Protection	To guarantee the Confidentiality, Integrity, and Availability (CIA) of cultural and user data.	End-to-end data encryption and compliance with digital privacy standards.

TABLE 9
DATA MAINTENANCE PROCEDURE

Requirements (Policy)	Activities
Data backup is performed periodically once every month on the last working day. The backup includes cultural event schedule data, Javanese calendar integration data, and system logs including admin activity and user feedback.	Preparing all relevant system data to be backed up according to the scheduled maintenance period.
Each backup file must be properly labeled with complete metadata, including date, time, and type of data to ensure traceability and data management clarity.	Executing the backup process using system tools or standardized manual procedures defined by the system administrator.
Backup data must be stored in a secure environment such as a dedicated backup server or cloud storage with restricted access limited to authorized administrators only.	Storing backup files in the designated secure directory or cloud storage system according to data management policy.
Backup data must be tested periodically through restore simulation to ensure that data can be recovered properly in case of system failure.	Conducting structured restore testing periodically to verify the integrity and usability of backup data.
All backup and restore activities must be documented in a digital logbook as part of system maintenance records and audit trail documentation.	Recording all backup and restore activities into a digital logbook for monitoring, auditing, and accountability purposes.

8) Phase H : Architecture Change Management

Represents the final stage of the TOGAF ADM cycle, focusing on the development of an architecture change management plan to ensure that the proposed system architecture can be properly maintained, updated, and aligned with organizational needs over time. This phase also provides a comprehensive explanation of the proposed system as the final architectural outcome in the form of a validated blueprint ready for implementation.

In this phase, a blueprint model is produced to represent the designed enterprise architecture, which includes the business architecture, data architecture, application architecture, and technology architecture. Each architectural domain is developed in a structured manner to ensure consistency and alignment with the objectives of the cultural tourism information system. The blueprint serves as a reference for system development and implementation planning.

Furthermore, Architecture Change Management ensures that any future changes in business needs, technology evolution, or organizational policies can be properly accommodated without disrupting system stability. This phase also supports continuous improvement by providing mechanisms for evaluating and updating the architecture when necessary. The overall architectural model is illustrated in Figure 21.

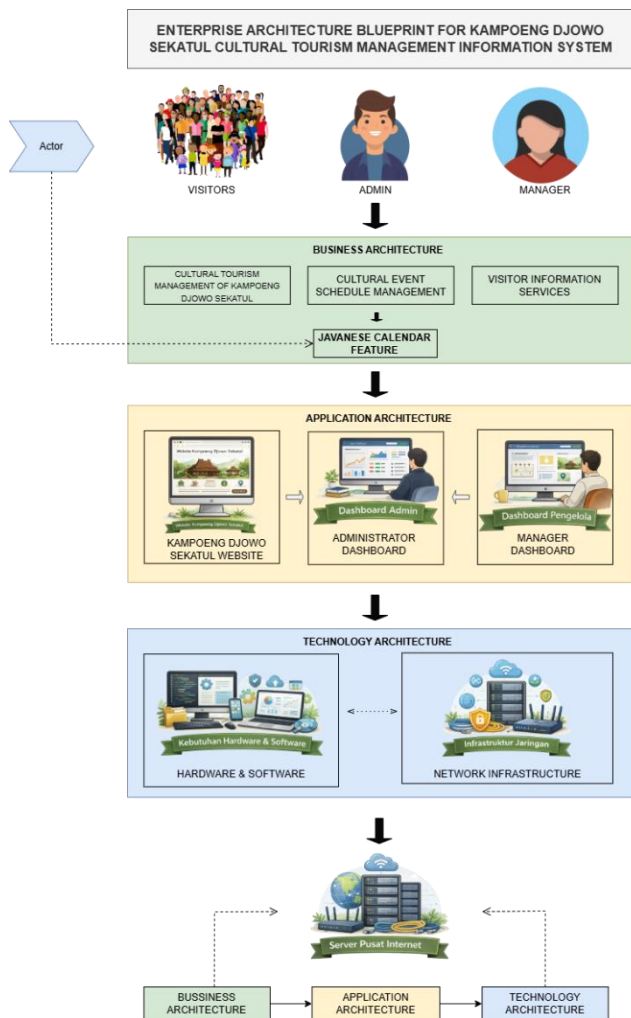


Figure 21 Enterprise Architecture Blueprint of the Cultural Tourism Information System at Kampong Djowo Sekatul

The enterprise blueprint architecture is designed using The Open Group Architecture Framework (TOGAF) ADM to ensure alignment between business processes, application services, and supporting technology.

In the business architecture, the system defines structured processes for managing tourism and cultural information at Kampong Djowo Sekatul, including tourism data management, cultural event scheduling, and information dissemination to visitors. The Javanese Calendar is integrated as a cultural data model to support time-based cultural event management.

The application architecture is implemented as a web-based system consisting of three main components: a public website for visitors, an admin dashboard for system management, and an operator dashboard for tourism content management.

The technology architecture is built on a web-based platform supported by a relational database system and server

infrastructure to ensure data consistency, accessibility, scalability, and system integration across all components.

IV. CONCLUSION

This study successfully designed a cultural tourism information system architecture for Kampong Djowo Sekatul using the Enterprise Architecture approach based on the TOGAF Architecture Development Method (ADM). The proposed architecture integrates four main domains, namely business, data, application, and technology architecture, to support the structured management of cultural tourism information, including activities, events, facilities, and documentation.

The integration of the Javanese calendar consisting of Gregorian date, pasaran, wuku, and Javanese year enables the system to support culturally based scheduling of traditional events in a more structured, consistent, and accessible manner for both administrators and tourists. In addition, the study produces an enterprise architecture blueprint and a web-based user interface design that can serve as a reference for system development and implementation.

The proposed architecture addresses the limitations of the current manual system by improving data organization, increasing information accessibility, and enhancing operational efficiency in tourism management. Furthermore, a validation survey involving 106 respondents indicates that the existing manual system is insufficient to meet current digital information needs, thereby confirming the necessity of developing an integrated information system.

Overall, this study contributes to the application of enterprise architecture in cultural tourism systems and provides a conceptual model that can support the digital transformation of tourism management based on local wisdom. The resulting design is expected to serve as a foundation for future implementation of a web-based cultural tourism information system in Kampong Djowo Sekatul.

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