

Developing Bilingual Web-Based Information Center for Kampung Kemas Gresik

Immanuela Corry Sri Hardani ^{1,*}, Ririn Pratiwi Suharto ², Novitasari ³
D4 English for Tourism Industry Program, Business Administration Department,
State Polytechnic Malang ^{1,2,3}

*Email 2242830002@student.polinema.ac.id; ririnpratiwi@polinema.ac.id; novitasari@polinema.ac.id

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ABSTRACT

Kampung Kemas is a cultural heritage village located in Gresik, East Java, Indonesia, renowned for its historical atmosphere and distinctive architectural heritage that reflects multicultural influences of Dutch, Chinese, and Javanese traditions. Despite its tourism potential, Kampung Kemas has limited digital promotion and online accessibility, making it less visible to potential visitors. This study aimed to develop a bilingual website as a centralized information center and promotional medium for Kampung Kemas using Design and Development Research (DDR) adopted from Richey and Klein (2005) along with the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation). Data were collected through field observations, interviews with local stakeholders (Pokdarwis and Head Chief), and questionnaires from 114 respondents. The website was successfully deployed using a custom domain (<https://www.kampung-kemas.web.id/>) in both Indonesian and English. Evaluations by language, IT/website, and content experts demonstrated high validity scores (96%, 92%, and 100% respectively), and field-testing results showed an overall success rate of 87.32% for local users and 91.71% for international users. The findings confirm that the web-based information center effectively enhances digital destination branding and information accessibility.

Keywords: Website Bilingual Website Heritage Village Kampung Kemas

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INTRODUCTION

Tourism in East Java continues to experience robust growth, serving as an essential driver for economic expansion and regional heritage preservation. Within this province, Gresik Regency stands out as a critical historic hub, formerly known as Bandar Gresse, which historically served as an international trading port characterized by a vibrant multicultural society comprising European, Chinese, Arab, and indigenous Javanese communities (Nuruddin, 2023). Among the structural remnants of this era, Kampung Kemasan Gresik represents a profoundly unique architectural legacy dating back to 1853. The village initially gained prominence as a settlement of elite goldsmiths, spearheaded by a Chinese craftsman named Bak Liong, whose exceptional artistry drew widespread patronages and permanently shaped the identity of the enclave (Dispar, 2026). The physical landscape of Kampung Kemasan showcases a highly aesthetic combination of Dutch colonial structures, Peranakan Chinese decorative elements, and Javanese roof profiles (Siregar et al., 2022).

However, preliminary field investigations and stakeholder interviews revealed that this immense cultural potential remains severely under-promoted. Traditional word-of-mouth recommendations remain the predominant marketing mechanism, leading to low digital visibility and limited tourism engagement. Modern digital tourism research highlights that advanced Information and Communication Technology (ICT), particularly dedicated web-based information repositories, constitutes a foundational bridge for destination visibility and sustainable community-based tourism (Komalasari et al., 2020; Made et al., 2024). Furthermore, providing clear, structurally coherent bilingual content diminishes linguistic barriers and substantially widens accessibility for international travelers while solidifying local tourism branding (Insani, 2025; Rohani et al., 2024). To resolve these visibility issues, this study establishes a centralized web-based informational hub, creating a structured digital framework that presents historical records, geographic navigation, and visitor utilities in both Indonesian and English.

METHOD

This study deployed a systematic Design and Development Research (DDR) approach as outlined by Richey and Klein (2005). To operationalize this methodology, the project adhered rigidly to the five-phased ADDIE operational framework comprised of Analysis, Design, Development, Implementation, and Evaluation (Peterson, 2003; Branch, 2010). The research setting was entirely centered on Kampung Kemasan, Gresik, utilizing a mixed-methods design that blended quantitative evaluation matrices with rich descriptive qualitative data to guarantee well-rounded operational insights (Creswell, 2007).

During the Analysis phase, in-depth structural interviews were performed on-site with key institutional administrative figures, including Mr. Nino Hartono (Head Chief of Kampung Kemasan) and Mr. Mu'alim (representative mediator from the Pokdarwis tourism association), to isolate precise promotion bottlenecks and institutional operational needs. Initial baseline target user surveys were deployed digitally, accumulating data from 114 distributed responses. The Design phase utilized Figma and Canva software to sketch high-fidelity user interface (UI) prototypes, select color swatches matching the site's identity—such as Brick Red (#AF2806), Gold (#E5C46B), and Sand Cream (#F4EFE5)—and map user workflows. Translation execution was conducted by integrating communicative and semantic techniques to translate the text smoothly into natural English expressions while accurately safeguarding delicate historical metadata (Newmark, 1888; Volkova, 2014).

The Development phase transitioned the static Figma configurations into active software code using standard development infrastructure (HTML, CSS, JavaScript frameworks), culminating in deployment under the custom official Indonesian web domain extension (<https://www.kampung-kemasan.web.id/>). The Implementation phase centered heavily on professional expert validation processes involving language lectures, content owners, and IT specialists using structured Likert scoring arrays. Finally, the Evaluation phase engaged in extensive public user testing, distributing assessment questionnaires to 98 local Indonesian evaluators and 16 international user groups to determine general usability and layout performance.

RESULT AND DISCUSSION

Presentation of Product Development Process

The operationalization of the ADDIE paradigm successfully yielded a functional, dynamic web information system. Below is a detailed record of the specific milestones achieved within each development phase:

- **Analysis:** Diagnostic interviews identified severe constraints due to a lack of dedicated tourism management personnel and minimal youth involvement in structural digital promotion. Baseline surveys verified that while 58% of respondents aged 18–25 showed interest in heritage architecture, they suffered from an absence of uniform online data hubs.
- **Design:** Comprehensive linguistic transformation matrices were formulated. Textual components were adapted to align with natural tourist expectations. For example, the phrase "Mengungkap Sejarah Bersama Kami" was rendered as "Unravel History with Us" rather than a literal phrasing to enhance reader engagement.
- **Development:** Architectural content was mapped out into an active system layout comprising eight main functional pages: Homepage, About Us, Gallery, Events, Map, Spotlight, Activities & Culinary, and Contact Us, comprising 5,813 words of original verified data.
- **Implementation:** Full script deployment was executed alongside Secure Sockets Layer (SSL) certificates to secure cross-device browser protocols.
- **Evaluation:** The user-testing interface loop was deployed globally across target demographics.

Translation System and Linguistic Analysis

To preserve historical precision while maximizing promotional appeal, explicit text-mapping translation rules were applied across the primary content hubs.

Table 1 outlines the translation methodologies implemented for key descriptive parameters.

Table 2. Summary of Quantitative Expert Validation Scores

Source Language (Indonesian)	Target Language (English)	Translation Method Applied
Mengungkap Sejarah bersama kami	Unravel History with Us	Communicative approach; chosen to evoke a sense of active exploration and maintain promotional tone.

"desa para pengrajin emas"	"the village of goldsmiths"	Semantic translation; accurately preserves historical identity while utilizing natural English phrasing.
Fitur unik struktural (jendela tipuan)	The unique structural features (The Illusion Windows)	Semantic adaptation; renders the cultural architectural concept accessible without loss of context.
Cita rasa otentik khas Gresik	Authentic Gresik flavours	Communicative approach; highlights local culinary tourism value naturally.

Quantitative Expert Validation Metrics

To establish formal product validity before full public distribution, the system was subjected to rigorous validation by designated expert panels. The resulting scoring trends are compiled in Table 2.

Expert Validation Category	Total Statements	Actual Score	Max Score	Percentage	Validity Status
Language Expert Panel	8	31	32	96.00%	Very Valid (Implementable)
Content Expert Stakeholder	6	24	24	100.00%	Very Valid (Implementable)
IT / Website Functional Expert	7	26	28	92.85%	Very Valid (Implementable)

Linguistic experts initially suggested incorporating denser visual content into the Event and Accommodation layouts to prevent textual fatigue. IT panels noted occasional rendering overlaps in the interactive map panels when viewed in mobile device profiles. The researcher immediately corrected these issues by integrating floating flex wrappers and updating image asset directories, achieving full sign-off from all validators.



Figure 1 The bilingual website for Kampung Kemasan Gresik

In the figure above shown that the bilingual website had been revised in accordance of the validators input and reviews. After the website success to be deployed in the system, the researcher tend to share a questionnaires for respondents' input for final evaluation purpose of the bilingual website. Thus, the researcher had prepared a questions with 10 likert type and 1 Guttman (essay), in order to measure the respondents opinions and perceptions of the website that was developed.

End-User Public Field Testing and Evaluation

Following the integration of expert modifications, field testing was conducted with a broad user sample (N = 98 local users; N = 16 international users) to analyze usability and interface performance. The local testing loop yielded an aggregate evaluation score of 87.32%, while the international user cohort returned an overall success rating of 91.71%. The higher score from the international group highlights the clear need for well-structured English historical databases, as foreign visitors rely heavily on digital platforms before traveling. This outcome aligns with digital tourism research by Zakariya et al. (2023), confirming that interactive web interfaces substantially elevate user destination awareness and engagement.

Product Uniqueness

Beyond its role as a static promotional medium, the developed platform distinguishes itself through a dynamic, versatile architecture that allows content to be updated by the site administrator at any time, without requiring re-development of the underlying codebase. Textual descriptions, gallery images, event schedules, and spotlight highlights can be revised, added, or removed directly through the system's management interface, enabling the Pokdarwis tourism association and village stakeholders to keep information current as new events, activities, or culinary offerings emerge in Kampung Kemasan. This versatility addresses a key limitation identified during the Analysis phase, namely the absence of a uniform online data hub that could be sustained independently by local tourism actors after the research period concludes.

The platform further differentiates itself through a range of interactive features embedded across its eight functional pages. The Map page incorporates an interactive geographic navigation panel that allows

users to explore the physical layout of Kampung Kemasan, while the Spotlight page highlights distinctive architectural elements, including the Illusion Windows, through immersive visual presentation rather than static description alone. These interactive components extend beyond conventional one-way informational websites, positioning the platform as an engaging digital experience rather than a simple digital brochure. Combined with its dynamic, easily updatable structure, this interactivity reinforces the platform's long-term sustainability and its capacity to adapt to the evolving needs of Kampung Kemasan's tourism ecosystem.

CONCLUSION

This study successfully designed, developed, and deployed an official centralized bilingual web-based information platform for Kampung Kemasan, Gresik. Adhering to the DDR methodology and the ADDIE framework enabled a structured transition from raw qualitative historical records into an interactive, multi-platform digital application. Comprehensive validation by language, content, and technical experts verified the platform's accuracy and usability. Furthermore, extensive field testing confirmed its exceptional operational efficiency, achieving satisfaction rates of 87.32% and 91.71% among local and international users respectively. Ultimately, this platform effectively addresses long-standing promotional challenges, providing an accessible digital hub that preserves and promotes the multicultural heritage of Kampung Kemasan for a global audience.

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