

Developing Bilingual Website as Informational Medium for Museum Mpu Purwa

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ABSTRACT

In the era of globalization, museums are required to utilize effective promotional media to increase public engagement and reach wider audiences. Museum Mpu Purwa, one of the historical museums in Malang, plays an important role in preserving and introducing historical collections to the public. However, its promotional media have not been optimally developed, particularly in providing bilingual information for local and international visitors. This project employed Design and Development Research (DDR) and aimed to develop a bilingual website as a promotional medium for Museum Mpu Purwa. The research followed the ADDIE model: Analyze, Design, Develop, Implement, and Evaluate. During this Analyze phase, data were collected through interviews, surveys, and observation. During the Develop phase, data were collected through expert validation and surveys. The need analysis showed that a bilingual website was needed to present museum profiles, collections, activities, and visitor information in Indonesian and English. The website is expected to support museum promotion and improve public access to cultural and historical information.

Keywords: *Bilingual Website, Developing, Informational Medium*

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INTRODUCTION

Museums play an important role in preserving cultural heritage and providing education for the public. Through their collections, museums help visitors learn about history, culture, and civilization (Drobný & Vykoupilová, 2022). The International Council of Museums (ICOM, 2022) also emphasizes the role of museums in providing accessible information to the public. In the digital era, museums can use digital media to provide information that is accessible across different times and places. An official website can serve as a centralized platform for presenting complete, clear, and organized information to visitors (Adhanisa, 2017; Sharma & Tripathi, 2023). Thus, digital media can support museums in extending access to information beyond the physical museum environment.

Museum Mpu Purwa is a local history museum in Malang that preserves archaeological collections related to ancient Javanese kingdoms, including Kanjuruhan, Mataram Kuno, Kediri, Singhasari, and Majapahit (SIDITA, n.d.). Based on an interview with

the museum management, Museum Mpu Purwa does not yet have an official website, and information about the museum is mainly distributed through Instagram. The museum also does not have an official digital platform that functions as a centralized source of complete and organized information. Although English explanations are available for some collections inside the museum, visitors still need accessible information before visiting the museum, particularly international visitors. This condition indicates the need for an official digital platform that can provide centralized museum information in more than one language.

A bilingual website can provide information in two languages and allow users from different language backgrounds to access comparable information (Altayar, 2015). For Museum Mpu Purwa, Indonesian is relevant for local visitors, while English can facilitate access for international visitors. Through a bilingual website, information such as the museum profile, selected collections, visitor information, activities, and other museum-related content can be presented in one organized platform. Such a platform can also support communication between museum management and visitors by providing consistent and reliable information through an official source (Sharma & Tripathi, 2023). Therefore, a bilingual website is considered a relevant digital medium for addressing the information accessibility needs of Museum Mpu Purwa.

Several previous studies have developed bilingual digital media for different purposes and institutions. However, most of these studies focused on tourism destinations, businesses, educational institutions, or supporting media such as guidebooks and collection labels (Aqilah, 2024; Faiz, 2021; Jannah, 2021; Nadira, 2023; Rosya, 2024; Winendra, 2024). These studies demonstrate the potential of bilingual digital media to support information delivery for users from different language backgrounds. Nevertheless, limited studies have focused on developing an official bilingual website specifically as a centralized informational medium for a local government-managed museum. In addition, previous studies have not specifically addressed the integration of bilingual museum information with supporting informational video content within a single official digital platform. This study addresses this gap by developing a bilingual website that combines structured museum information, selected collection information, visitor information, articles, and museum-related informational videos.

Based on this gap, the specific problem addressed in this study is the absence of an official bilingual digital platform that provides centralized and organized information about Museum Mpu Purwa for both local and international visitors. Therefore, this study aims to develop a bilingual website as an informational medium for Museum Mpu Purwa. The development focuses on providing Indonesian and English information about the museum profile, selected collections, visitor information, articles, and informational museum-related videos. By combining bilingual website content and video-based information within one official platform, this study contributes to the development of digital media for local museums and provides a practical medium for improving information accessibility and supporting communication between Museum Mpu Purwa and its visitors.

METHOD

This study employed Design and Development Research (DDR) using the ADDIE model proposed by Branch (2009), which consists of five phases: Analyze, Design, Develop, Implement, and Evaluate. The model guided the systematic development of a bilingual website as an informational medium for Museum Mpu Purwa.

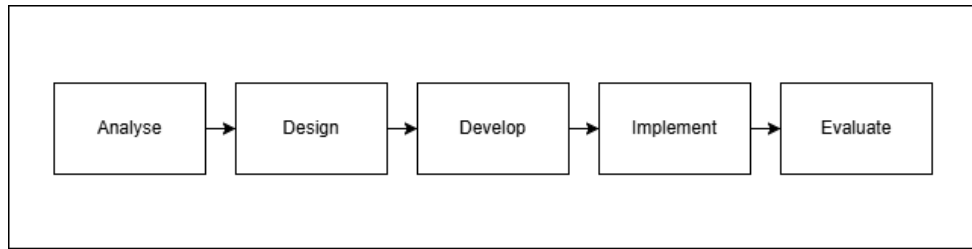


Figure 2.1 : ADDIE Model by Branch (2009)

The participants included one museum management representative, 23 respondents for the needs analysis, 43 respondents for user evaluation, one IT expert, and one language expert. The participants were selected using purposive sampling based on their roles and relevance to each phase of the research. The museum management representative and four museum staff members were selected because they were involved in managing museum information and services. The 23 respondents were selected as potential users to identify their information needs and preferences before website development, whereas the 43 respondents were selected as potential users to evaluate the developed website after implementation and including 4 museum's staff. The IT expert was selected based on expertise in website development and technical aspects, while the language expert was selected based on expertise in English language use and translation.

Data were collected through interviews, social media observation, questionnaires, and expert validation. The instruments consisted of an interview guide, an observation checklist, a needs-analysis questionnaire, expert validation questionnaires, and a user evaluation questionnaire. Interviews with the museum management representative and museum staff members were conducted to identify the museum's information needs, existing information practices, and requirements for the proposed digital platform. An observation checklist was used to examine the museum's existing Instagram content, including the types of information provided, content presentation, and information available to visitors. A needs-analysis questionnaire was distributed to 23 respondents to identify the information they needed before visiting the museum, their preferred sources of information, and their preferences regarding the proposed bilingual website.

During the Develop phase, the developed website was validated by an IT expert, a language expert, and a museum management representative. The IT validation focused on technical and website-related aspects, the language validation focused on the accuracy and appropriateness of the English content, and the museum management validation focused on the accuracy and relevance of the museum information. After the website was revised

based on the validation results, it was implemented and evaluated by 43 users through a questionnaire.

The development process followed the five phases of the ADDIE model. In the Analyze phase, interviews, Instagram observation, and the needs-analysis questionnaire were conducted to identify the museum's existing information practices, information gaps, and users' information needs and preferences. In the Design phase, the website structure, content, visual design, navigation, bilingual content, and video concepts were planned based on the findings from the Analyze phase. The website structure consisted of Home, About Us, Collections, News, Visit, and Contact Us pages. The content and features were planned to provide centralized and organized information for local and international visitors.

In the Develop phase, the bilingual website was created based on the design plan. The website content was developed in Indonesian and English, and supporting informational videos were prepared with English subtitles and Indonesian voice-over. The developed media were then validated by an IT expert, a language expert, and a museum management representative. The validation results were used as the basis for revising the website before implementation.

In the Implement phase, the revised website was published and distributed to users. The 43 respondents accessed and used the developed website as the basis for the subsequent evaluation. In the Evaluate phase, the results of expert validation and user evaluation were reviewed to determine the quality, relevance, and usefulness of the developed media. The evaluation results were also used to identify aspects of the website that required further improvement.

Quantitative data from the needs-analysis questionnaire, expert validation, and user evaluation were analyzed descriptively using frequencies, percentages, total scores, and average scores. Because the instruments used different response scales, the data from each instrument were analyzed according to its respective scale. The needs-analysis questionnaire used a five-point scale, the expert validation questionnaire used a five-point scale, and the user evaluation questionnaire used a four-point scale. The scores were calculated using the following formula:

$$\text{Percentage} = (\text{Obtained Score} / \text{Maximum Score}) \times 100\%$$

For the needs-analysis questionnaire, the maximum score was determined based on the number of items multiplied by the number of respondents and the highest score of 5. For the expert validation questionnaire, the maximum score was determined based on the number of validation items multiplied by the highest score of 5. For the user evaluation questionnaire, the maximum score was determined based on the number of evaluation items multiplied by the number of respondents and the highest score of 4. The resulting percentages were used to describe the respondents' needs, the experts' assessment of the website, and the users' evaluation of the developed media. The results were presented descriptively through scores, percentages, and average values rather than through a single validation category.

Table 2.1: Likert Scale

Score	Interpretation	Score	Interpretation
1	Strongly Disagree	1	Strongly Disagree
2	Disagree	2	Disagree
3	Neutral	3	Agree
4	Agree	4	Strongly Agree
5	Strongly Agree		

Qualitative data from the interviews and Instagram observation were analyzed descriptively. The interview responses were reviewed and grouped according to recurring themes related to the museum's information needs, existing digital information practices, and requirements for the proposed website. Observation data were analyzed by identifying the types of content and information presented on the museum's Instagram account and comparing them with the information needs identified through the interviews and questionnaire. The findings from these sources were then used to determine the content and features developed for the bilingual website.

The research was conducted with permission from the relevant institutions, including Museum Mpu Purwa and Dinas Pendidikan dan Kebudayaan Kota Malang. All participants were informed about their involvement in the study and participated with their consent.

FINDING AND DISCUSSION

FINDING

Analyze

The needs analysis was conducted through interviews with the management and staff of Museum Mpu Purwa, observation of the museum's Instagram account, and a questionnaire distributed to 23 respondents. The interview was conducted to identify the museum's existing information practices and information needs. Instagram observation was conducted to examine the existing digital content and its presentation. The questionnaire was used to identify respondents' digital information behavior, website information needs, preferred website features, and website design preferences.

The interview with the museum management and staff showed that Museum Mpu Purwa did not have an official bilingual website providing complete information for local and international visitors. The museum primarily used Instagram as its digital promotional medium. Based on the interview and observation, the Instagram content consisted mainly of activity documentation, while information updates were not consistently provided.

The questionnaire involved 23 respondents, consisting of 20 Indonesian respondents and 3 international respondents. Eleven respondents (47.8%) had previously visited Museum Mpu Purwa, while 12 respondents (52.2%) had not. Regarding visitor origin,

10 respondents (43.5%) were local visitors, 10 respondents (43.5%) were from outside Malang, and 3 respondents (13.0%) were international visitors.

Regarding digital information behavior, 12 respondents (52.2%) knew about Museum Mpu Purwa through friends or family, 7 respondents (30.4%) through social media, 2 respondents (8.7%) through school or campus, 1 respondent (4.3%) through the Malang City Department of Education and Culture, and 1 respondent (4.3%) through Google. In addition, 22 respondents (95.7%) stated that they usually searched for information online before visiting a place. The most frequently selected digital information source was websites, selected by 13 respondents (56.5%), followed by TikTok with 4 respondents (17.4%) and Instagram with 3 respondents (13.0%).

The questionnaire also identified the respondents' website information needs and preferred features. The responses covered the types of museum information that respondents expected to access through the website and the features they preferred to support information access.

Table 3.1: Website Need and Feature

No	Question	Criteria	Respondents	Percentage
1.	What is the main reason you would visit the museum's website?	Collection information	9	39.1%
		Opening hours & ticket info	7	30.4%
		Location & directions	6	26.2%
		Events & activities	1	4.3%
2.	What information do you expect the museum website to provide?	Opening hours	16	20.5%
		Ticket prices	16	20.5%
		Museum history	17	21.8%
		Visitor rules & facilities	12	15.7%
		Location & access	17	21.8%
3.	Which website features would be most useful for you?	Online ticket booking	13	20.0%
		Collection highlights	13	20.0%
		News & events	8	12.3%
		Virtual tour	12	18.5%
		FAQs for visitors	7	10.8%
		Educational content	11	16.9%
		Others	1	1.5%

Respondents also provided preferences regarding the visual design and presentation of the website. The results included preferences related to language, visual appearance, mobile accessibility, and the relationship between complete information and interest in visiting the museum.

Table 3.1.2: Website Design Preference

No.	Question	Criteria	Respondents	Percentage
1.	Which language would you prefer for the website?	Bahasa Indonesia	4	17.4%
		English	1	4.3%
		Bilingual	18	78.3%
2.	What kind of website design do you prefer?	Simple and informative	7	30.4%
		Modern and interactive	11	47.8%
		Visual with many photos /videos	5	21.7%
3.	How important is it for the website to be mobile-friendly?	5	16	69.6%
		4	1	4.3%
		3	5	21.7%
		2	0	0%
		1	1	4.3%
4.	If the website provides clear and complete information, would you be more interested in visiting the museum?	Yes	22	95.7%
		No	1	4.3%

Overall, the Analyze phase identified the absence of an official bilingual website and documented the museum's existing reliance on Instagram for digital information and promotion. The questionnaire showed that most respondents searched for information online before visiting a place, with websites being the most frequently selected digital information source. The needs analysis also identified preferences for bilingual content, museum and collection information, mobile accessibility, and interactive or visual features. These findings were used as the basis for the Design phase.

Design

Based on the needs analysis, the structure and content of the bilingual website were planned. The Design phase focused on determining the website structure, information categories, content organization, visual presentation, and video concepts based on the information identified during the Analyze phase.

The website was designed as a bilingual informational platform providing content in Indonesian and English. The planned website structure consisted of six main pages: Home, About Us, Collections, News, Visit, and Contact Us.

The Home page contained an introduction to Museum Mpu Purwa, a company profile video, and previews of other website content. The About Us page presented information about the museum's history, vision, mission, and visitor information. The Collections page presented photographs and information about the museum's collections and museum activities and included a museum tour video. The News page contained six news articles, upcoming activities, and links to the museum's Instagram posts. The Visit page provided visitor information, while the Contact Us page provided contact information.

The Design phase also included the concept of two supporting informational videos. The first video was planned as a company profile video presenting the museum's background, history, collections, and activities. The second video was planned as a museum tour video presenting the museum entrance, exhibition areas, collections, facilities, and closing information. Both videos were designed to complement the written content on the website. Both videos used Indonesian voice-over and English subtitles.



Figure 3.2 : Website Design Sitemap

The design decisions were based on the results of the needs analysis. The bilingual format reflected the preference of respondents for bilingual content. The planned photographs, videos, collection information, visitor information, and other website sections were based on the information needs and feature preferences identified in the questionnaire. Overall, the Design phase produced the structure, content organization, visual presentation, bilingual format, and concepts for two supporting informational videos.

The planned website consisted of six main pages and incorporated the information and feature preferences identified during the Analyze phase.

Develop

The Develop phase involved the production of the bilingual website and its supporting informational videos. Unlike the Design phase, which focused on planning and structuring the product, the Develop phase involved the actual preparation, translation, production, integration, and validation of the media.

The website content was initially prepared in Indonesian and subsequently translated into English to provide bilingual access. The translation process was conducted as part of the development of the final website content rather than as part of the initial design planning.

The developed website contained 3,221 Indonesian words and 3,432 English words. The content development process involved preparing the museum information, organizing the content according to the website structure, translating the content into English, and reviewing the resulting bilingual presentation.

The two informational videos were also produced during the Develop phase. The video development involved preparing the script and visual content, recording the required footage, editing the video, preparing the Indonesian voice-over, and adding English subtitles. The videos were subsequently integrated into the bilingual website as supporting informational media.

The developed media were validated by an IT expert, a language expert, and a management representative of Museum Mpu Purwa. The IT expert assessed the technical aspects of the website, the language expert assessed the Indonesian and English language use and translation, and the museum management representative assessed the suitability of the developed content and information for Museum Mpu Purwa.

1. IT Expert Validation

The IT expert validation was conducted to evaluate the technical and functional aspects of the developed bilingual website and its supporting content. The assessment covered content quality, video quality, clear purpose, functionality and user-friendliness, design, navigation, loading performance, mobile readiness, uniqueness of website design, and security.

Table 3.3.1: IT Expert Validation

No.	Aspect	Score	Average
1.	Content quality	8	4.00
2.	Video quality	16	4.00
3.	Clear purpose	4	4.00
4.	Functional and user-friendly	12	4.00
5.	Simple and attractive design	12	4.00

6.	Easy navigation	12	4.00
7.	Fast loading	10	5.00
8.	Mobile ready	12	4.00
9.	Unique website design	8	4.00
10.	Secure	6	3.00
Total/Average		100	4.00

The validation sheet recorded the scores for each assessment aspect, including content, purpose, functionality and user-friendliness, design, navigation, loading performance, mobile readiness, uniqueness, and security. These results indicate that the website was able to present information appropriately, provide functional navigation, and support users in accessing the content provided. The highest score was obtained in the fast-loading aspect, with an average score of 5.00. This result indicates that the website pages, images, and video content were considered to load efficiently during the assessment.

Meanwhile, the security aspect obtained the lowest average score of 3.00. Although the website was equipped with security features, this result indicates that the security aspect still required greater attention compared with the other technical aspects. In particular, the result suggests the need for continued monitoring of the website's SSL certificate and security configuration to maintain safe access for users. Overall, the IT expert validation indicates that the developed website was technically functional and suitable for use as an informational medium for Museum Mpu Purwa, with security being the main aspect that could be further improved.

2. Language Expert Validation

The language expert validation was conducted to evaluate the quality of the Indonesian and English content, translation, website terminology, subtitles, and voice-over used in the developed bilingual website. The assessment was intended to ensure that the information was linguistically accurate, understandable, consistent, and appropriate for the intended audience. The results of the validation are presented in Table 3.3.2.

Table 3.3.2: Language Expert Validation

No.	Aspect	Score	Average
1.	Indonesian Content Quality	28	4.67
2.	English Content Quality	27	4.50
3.	Translation Quality	13	4.33
4.	Website Content	18	4.50
5.	Subtitle Quality	26	4.33
6.	Voice-over Quality	20	4.00
Total/Average		131	4.37

As shown in Table 3.3.2, the developed bilingual media obtained an overall average score of 4.37 out of 5.00. This result indicates that the language and translation

presented in the website and content were considered very good by the language expert. The highest average score was obtained for Indonesian Content Quality, with a score of 4.67. This finding indicates that the Indonesian content was considered clear, grammatically appropriate, well organized, and suitable for the target audience.

The lowest score was obtained for Voice-over Quality, with an average of 4.00. Although this was the lowest result among the assessed aspects, it still indicates a good level of quality. The result suggests that the pronunciation, comprehensibility, speaking pace, and tone of the voice-over were generally appropriate for the informational and educational purpose of the videos. Overall, the language expert validation confirms that the bilingual content was linguistically appropriate and could support the function of the website as accessible informational media for both Indonesian and international audiences.

3. Management Validation

The management validation was conducted by a representative of Museum Mpu Purwa to determine whether the information and content presented in the developed bilingual media were consistent with the museum's actual information, identity, and needs. As the institution represented in the developed media, the museum management was considered an appropriate evaluator for assessing the accuracy, relevance, and suitability of the content. The results are presented in Table 3.3.3.

Table 3.3.3: Management Validation

No.	Aspect	Score	Average
1.	Content Quality	20	5.00
2.	Engagement	10	5.00
3.	Relevance	9	4.50
4.	Website Design	17	4.25
Total/Average		56	4.67

Based on Table 3.3.3, the developed media obtained an overall average score of 4.67 out of 5.00. This result indicates that the website and supporting content were considered highly suitable by the museum representative. The Content Quality and Engagement aspects obtained the highest average score of 5.00. This indicates that the information presented was considered accurate, relevant, and capable of attracting users' attention to Museum Mpu Purwa.

The high overall score from the management validation suggests that the developed bilingual website was not only technically and linguistically acceptable but also consistent with the museum's institutional needs. The result further supports the suitability of the website as an informational medium that can represent Museum Mpu Purwa and provide relevant information to its visitors.

The Develop phase resulted in a bilingual website containing Indonesian and English content and two supporting informational videos. The product was evaluated by an IT expert, a language expert, and a museum management representative before

implementation. The overall average scores were 4.00 out of 5.00 for IT validation, 4.37 out of 5.00 for language validation, and 4.67 out of 5.00 for management validation.

Implement

The Implement phase involved publishing the revised bilingual website and making it accessible to users for field testing. After the development and validation processes were completed, the website was published and prepared for user access.

Field testing was conducted in May 2026 after the developed website was published. The participants accessed the website before completing the evaluation questionnaire. The questionnaire obtained users' evaluations of the developed media based on several aspects, including Content and Information, Language Quality, Technical and Visual Quality, Video Quality, and Visitor Engagement and Satisfaction.

The field-testing results were analyzed separately based on the respondents' language background. Indonesian respondents evaluated the website using the Indonesian version, while international respondents evaluated the English version. A total of three international respondents participated in the evaluation. Therefore, their results are presented separately as an initial evaluation from the participating international respondents and are not intended to represent international visitors generally.

Table 3.4.1: Indonesian Respondent's Evaluation

No.	Aspect	Score	Average
1.	Content and Information	10.75	3.58
2.	Language Quality	10.23	3.41
3.	Technical and Visual Quality	21.17	3.53
4.	Video Quality	13.97	3.49
5.	Visitor Engagement and Satisfaction	6.93	3.47
Total/Average		63.05	3.50

The table presents the responses of Indonesian respondents to each evaluation criterion of the developed website. As presented in Table 3.4.1, the Indonesian respondents obtained an overall average score of 3.50 out of 4.00. This result indicates that the Indonesian version of the website received a positive response from the respondents. The findings suggest that the website was generally able to provide clear information, support users in understanding Museum Mpu Purwa, and present the museum's collections and activities in an accessible manner.

The lowest average score was found in Language Quality, with a score of 3.41. Although this result remained positive, it indicates that the language presentation could still be improved, particularly in terms of wording, readability, and linguistic accuracy. Overall, the results from Indonesian respondents demonstrate that the developed website was well received and was considered suitable as an informational medium for Museum Mpu Purwa.

Table 3.4.2: International Respondent's Evaluation

No.	Aspect	Score	Average
1.	Content and Information	9.60	3.20
2.	Language Quality	10.10	3.37
3.	Technical and Visual Quality	20.76	3.46
4.	Video Quality	13.84	3.46
5.	Visitor Engagement and Satisfaction	6.75	3.38
Total/Average		61.05	3.39

The table presents the responses of international respondents to each evaluation criterion of the developed website. Based on Table 3.4.2, the international respondents obtained an overall average score of 3.39 out of 4.00. The result indicates that the English version of the website received a positive evaluation and was generally considered accessible and useful by the respondents.

Content Information obtained the lowest average score of 3.20. Despite being the lowest among the assessed aspects, the score still reflects a positive response. The relatively lower score may indicate that the English content could still be further improved in terms of completeness and detail. Therefore, future development could focus on expanding the English content, particularly information that may be useful to international visitors before planning a visit.

Overall, the field-testing results from international respondents demonstrate that the English version of the website was positively received. The findings support the development objective of providing bilingual informational media that can broaden access to information about Museum Mpu Purwa beyond Indonesian-speaking audiences. Together with the Indonesian respondents' results, the field testing confirms that the developed website can serve users with different language backgrounds while supporting the museum's role in providing accessible cultural and historical information.

Evaluation

The final evaluation was conducted based on the results obtained during the development and implementation stages. The Indonesian respondents provided a slightly higher overall evaluation than the international respondents. The difference indicates that the Indonesian version was perceived somewhat more positively, while the English version still achieved a positive evaluation. The lower score for Indonesian Language Quality and English Content Information also provides specific directions for further improvement.

The expert validation results showed average scores of 4.00 out of 5.00 from the IT expert, 4.37 out of 5.00 from the language expert, and 4.67 out of 5.00 from the museum management representative. The user evaluation involved 43 respondents and resulted in an average score of 3.50 out of 4.00 from the 31 Indonesian respondents and 3.39 out of 4.00 from the 12 international respondents.

The evaluation results were used to review the developed website and supporting videos. The review focused on improving technical security, voice-over quality, website

design, Indonesian language quality, and the clarity and completeness of the English content. The evaluation did not aim to establish the effectiveness of the website for the entire population of Indonesian or international visitors, but rather to assess the quality and acceptability of the developed product among the participating users.

Overall, the Evaluate phase compiled the expert validation and user evaluation results from 43 field-testing participants, consisting of 31 Indonesian respondents and 12 international respondents. The evaluation identified technical security, voice-over quality, website design, Indonesian language quality, and English content clarity and completeness as areas for further improvement.

DISCUSSION

The findings indicate that the development of a bilingual website addressed an information gap identified during the Analyze phase. The preference for websites as an information source, together with the museum's previous reliance on Instagram, suggests that the issue was not simply the absence of digital content but the absence of a centralized platform for organizing and presenting museum information. Instagram remains useful for distributing updates and promotional content, but a website provides a more structured environment in which institutional information, collection information, visitor information, and other content can be organized and accessed systematically. Therefore, the relevance of the developed website lies in its potential to complement, rather than replace, the museum's existing social media communication.

The developed website addressed this information gap by integrating institutional information, collection descriptions, news, visitor information, photographs, and informational videos in Indonesian and English. This integration is important because visitors may require different types of information at different stages of their museum experience, particularly before visiting. The bilingual format further extends access beyond Indonesian-speaking visitors by providing English information for international audiences. The inclusion of videos also complements text-based information by presenting museum-related content in a more visual format. Thus, the contribution of the developed media is not merely the provision of bilingual content, but the organization of different forms of museum information within a single official platform.

These findings are generally consistent with previous studies demonstrating the use of bilingual digital media to improve information delivery for diverse audiences. I'tishomah (2025), for example, developed a bilingual website for Sumenep Palace Museum, showing that a website can be used to provide museum information in more than one language. Similarly, Aqilah (2024), Nadira (2023), Winendra (2024), and Augustine (2021) demonstrated the application of bilingual websites in tourism, business, and educational contexts. Other studies used supporting media, such as Faiz (2021), who developed a bilingual pocket book using QR codes and infographics, and Jannah (2021), who developed bilingual collection labels for Museum Gubug Wayang. Rosya (2024) also focused specifically on Museum Mpu Purwa through a bilingual guidebook. Compared with these studies, the present study differs in the type and integration of the media developed. Rather

than producing a supporting publication or collection-based medium, this study developed an official bilingual website that functions as a centralized platform and incorporates informational videos. The website also provides content such as news, activities, visitor services, and other information that can be updated over time. This distinction demonstrates the potential of a website to provide a more flexible and expandable medium for institutional museum communication.

The IT expert validation suggests that the developed website was technically acceptable according to the assessed criteria. The average score of 4.00 out of 5.00 indicates a positive technical evaluation across aspects including functionality, design, navigation, loading performance, mobile readiness, uniqueness, and security. However, the neutral assessment of the SSL certificate and security status is particularly important because it identifies an area that should not be overlooked in the development of an official institutional website. While the overall technical assessment was positive, the result suggests that technical quality should be understood as more than visual appearance and functionality. Future maintenance should therefore include monitoring and improving website security to ensure that the platform remains reliable for institutional use.

The language expert evaluation also indicates that the bilingual content was generally appropriate, with an overall average score of 4.37 out of 5.00. The relatively high score for Indonesian Content Quality (4.67) suggests that the source-language content was considered clear, appropriate, and relevant. In comparison, the lower scores in some English-related aspects, including the voice-over quality score of 4.00, indicate that the English component still has room for refinement. This difference may reflect the greater linguistic demands involved in transferring museum-specific historical and cultural information into English while maintaining accuracy, clarity, and natural expression. Terminology related to historical periods, archaeological collections, and local cultural concepts may require careful contextual adaptation rather than direct translation. Therefore, the relatively lower English-related evaluation should not necessarily be interpreted as a major weakness of the bilingual media, but rather as an indication that English content requires continuous review, particularly in terminology, naturalness, and audiovisual delivery.

The development process further demonstrates the usefulness of the ADDIE model for organizing the development of the digital media. The Analyze phase established the information needs and existing communication conditions, while the Design phase translated these findings into the planned website structure, content, visual elements, and video concepts. The Develop phase then transformed the plans into a functional bilingual website and incorporated feedback from expert validation before implementation. The Implement and Evaluate phases provided an opportunity for users to access the revised product and provide an initial evaluation. Thus, the value of ADDIE in this study was not simply its use as a development framework, but its role in connecting identified user needs with design decisions, product development, validation, implementation, and evaluation.

The positive user evaluation indicates that the developed website was accepted by the users involved in the study and was considered useful as an informational medium.

However, this finding should be interpreted as evidence of initial user evaluation, rather than evidence of long-term effectiveness. The study did not measure whether the website subsequently increased physical museum visits, sustained online engagement, website traffic, visitor behavior, or other long-term outcomes. Therefore, the positive evaluation demonstrates that the developed media was well received by the users participating in the evaluation, but it does not establish a causal relationship between website development and increased museum visitation or engagement.

Several limitations should also be considered. First, the study focused on development and initial evaluation and did not measure long-term indicators such as website traffic, visitor behavior, search-engine ranking, online engagement, or changes in physical museum visits. Second, the website provides only Indonesian and English content, which may limit access for audiences who do not understand either language. Finally, the SEO implementation was limited to basic elements such as page titles, keywords, content, and YouTube metadata. These limitations indicate that the developed website should be viewed as an initial digital information platform whose longer-term effectiveness requires continued monitoring and evaluation.

The findings have practical implications for Museum Mpu Purwa. The developed website can function as an official information and promotional platform alongside social media rather than replacing existing communication channels. To maintain its usefulness, museum management should regularly update information about exhibitions, activities, collections, educational programs, visitor services, and news. The English content can also be further reviewed and expanded, particularly for historical and cultural terminology and audiovisual presentation. For future development, additional language options and interactive features such as virtual tours, collection search functions, interactive maps, and visitor feedback forms may be considered. Further research should evaluate website traffic, user behavior, search-engine performance, online engagement, and changes in museum visitation over a longer period to determine whether the website produces sustained communication and promotional effects.

CONCLUSION

This study aimed to develop a bilingual website as an informational medium for Museum Mpu Purwa using Design and Development Research (DDR) and the ADDIE model. The development resulted in an official bilingual digital platform that provides centralized and organized museum information in Indonesian and English. The website includes information about the museum profile, collections, news, visitor information, photographs, and supporting informational videos.

The developed media addressed the information needs identified during the Analyze phase and received positive evaluations from the experts and users involved in the study. The findings indicate that the bilingual website is a relevant digital medium for providing accessible museum information and supporting communication and promotion for Museum Mpu Purwa.

The main contribution of this study is the development of a bilingual and centralized digital platform specifically for a local government-managed museum. By integrating structured museum information with supporting video content in Indonesian and English, the developed website extends the function of museum digital media beyond social media-based information distribution and provides a more organized platform that can be updated and expanded over time.

For further application, Museum Mpu Purwa should regularly update its website content and continue improving the content. Future development may include additional language options and interactive features such as virtual tours and interactive maps. In addition, future researchers are encouraged to improve the website by adding more advanced features, such as artificial intelligence (AI) chatbots, augmented reality (AR), or personalized recommendation systems. These features may improve user interaction, make museum information more accessible, and provide visitors with a more engaging experience. Further research should also examine website traffic, user behavior, online engagement, and changes in museum visitation over a longer period to provide stronger evidence of its long-term effectiveness.

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