

## Enhancing Attractiveness of Kampong Heritage Kajoetangan Malang: Developing Bilingual, QR-Code Assisted Website

Siti Rohani<sup>1\*</sup>, Zainab Fikron Nisa'<sup>2</sup>, Dimas Wahyu Wibowo<sup>3</sup>, Fitrotul Maulidiyah<sup>4</sup>, Putri Sekarsari<sup>5</sup>, Nadia Hanayeen<sup>6</sup>

<sup>1,2,5</sup> Department of English for Business and Professional Communication, Politeknik Negeri Malang

<sup>3</sup> Department of Information Technology, Politeknik Negeri Malang

<sup>4</sup> Department of Accounting, Politeknik Negeri Malang

<sup>6</sup> Department of English for Tourism Industry, Politeknik Negeri Malang

\* [siti.rohani@polinema.ac.id](mailto:siti.rohani@polinema.ac.id)

### ABSTRACT

Increasing tourism sector as an effort to improve the economy can be done in several ways, including increasing the accessibility of favored tourist destinations. This increase in accessibility includes access to information in two languages, namely Indonesian and English as well as developing digital information of the tourism site. This article presents the development of a bilingual and QR-Code assisted website of Kampong Heritage Kajoengan (KHK), a tourist attraction located in Malang city with the main aim to improve the attractiveness of the site. The community service was done following a research design of design and development design, comprising stages of analysis, design and development, expert validation, and evaluation. Data were collected through direct observation, questionnaires, and interviews with the respondents of visitors and potential visitors of KHK, community management of KHK, and IT experts. Evaluation on the developed website was carried out, and it could be concluded that the website development for the KHK is quite successful. The website design was considered attractive; the use of two languages could be accessed easily. The website was easy to access and the presentation of information in English and Indonesian was considered quite informative. QR codes worked well and could be scanned and accessed easily. Overall, the website was considered very useful and could attract tourists to visit KHK directly.

**Keywords** — Tourist Attraction, Bilingual, QR-Code Assisted, Website

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## 1. Introduction

Kampoeng Heritage Kajoetangan (KHK) area has been designated as a cultural tourism area (heritage) by the Malang City Government. The origin of the name Kajoetangan, according to the testimony of native Malang residents, namely Oei Hiem Hwie and A. V. B. Irawan, was that along Jalan Kajoetangan, trees were planted on each right and left, with leaves in the shape of expanding palms. Even though the legendary tree can no longer be found, the Kampoeng Kajoetangan Heritage (KHK) currently has ancient reserves or historic buildings and residents' houses which are quite specific of colonial (Dutch) architecture. Along Kayutangan street, it has also been the economic axis of Malang City since the Dutch era until around the 1990s. In Kayutangan village there are still many glories of the past left in the form of shop buildings, Mbah Honggo Kusumo's grave, Tandak cemetery, Krempyeng market, Dutch irrigation, water channels, 1000 stairs, colonial era houses and several other interesting spots. This has its own story and can become a commodity in providing tourism in the middle of Malang City.

KHK has only been established for about a year, so its limited published information made KHK less attractive in the eyes of tourists. Furthermore, there are no free tour guides on standby to guide tourists to explore the many heritage spots in KHK.

In today's world, where information is easily accessible with just a click, a well-designed website plays a crucial role as a lively doorway. The same is also true with the sharing of information regarding heritage spots at KHK; this tourism center needed to be facilitated with a proper website not only to provide correct information but also as a medium of promotion. The existence of the website as a medium of promotion would provide visitors with a virtual tour well before they visit the actual place. More than just a digital brochure, a website should act as a storyteller, creating narratives that ignite curiosity and inspire a desire to explore. Such the use of technology using website was considered appropriate to be the solution for KHK.

The idea of making use of technology to improve the attractiveness of KHK as well as to function as marketing tools has been voiced in

several research. Putra, et. al [1] recommended that for official tourism organizations to evolve, they should function websites as the marketing tools and the most important for delivering positive images of the destination online.

The development of website in KHK should be made bilingual since this heritage tourism object has been the interest of not only domestic but also international visitors. Furthermore, each heritage spot in KHK needed to be described its history as well as the philosophical values they keep. For this, using QR-Codes could be a solution. The QR-Codes should be connected to the website, from which visitors would get adequate and correct information regarding the relics. Finally, the remote and the winding small alleys in KHK need to be visualized well in the website in order that visitors could find heritage spots easily. Such visualization can be created using 360° pictures.

Several studies on the use of advanced technology to support tourism in Indonesia have been done and proven effective. Adi [2], for example, designed a model for integrated provincial web tourism which links the function of tourism web to the marketing and promotion functions. Then, Herumurti, et.al. [3] proved the effectiveness of Augmented Reality tour to provide attractive, informative, and interactive means of advertising of the tourism objects in Indonesia. Similarly, Kadi et. al. [4] developed an augmented reality application to promote tourism in Southwest Sumba. These studies confirmed the importance of designing and developing technology-based instrument to improve attractiveness of tourism objects and to be used as a promotional means.

Implementation of advanced technology for KHK was considered a good solution. The use of bilingual website equipped with QR-codes and simple virtual tour of KHK was expected to be effective to improve the attractiveness of this heritage tourism object.

## 2. Targets and Output

The target audience of the community service included the management of Kampoeng Heritage Kajoetangan (KHK) Malang, domestic and foreign tourists visiting KHK as well as potential visitors of KHK.

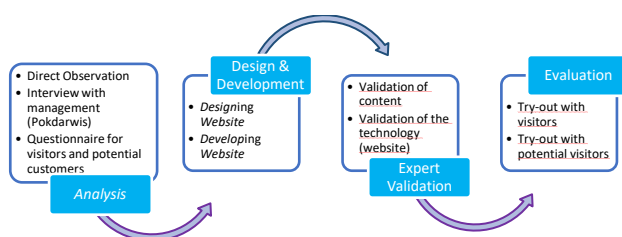


### 3. Method

With the main goal of enhancing the attractiveness of Kampoeng Heritage Kajoetangan (KHK) to both local and foreign tourists, this study was aimed at developing a bilingual and QR-Code assisted website of KHK.

#### 3.1.1. Design of the Study

For this mixed method research, Design and Development Research was chosen. The procedure of the DDR adapted Richey and Klein's model [5], comprising of four stages, namely Analysis, Design and Development, Expert Validation, and Evaluation. Out of the two clusters in DDR, the current research belongs to the product and tool research as the study was to develop a bilingual and QR-Code Assisted Website for KHK. Procedures were completed stage by stage as presented in Figure 1.



Gambar 1. DDR Design Employed

Analysis stage was done with the main aim to portray the current condition and situation at the site (KHK). Data collected included the attractiveness of KHK to visitors and potential visitors as well as problems encountered by the management of KHK named as "Pokdarwis" (Kelompok Sadar Wisata) KHK to enhance the attractiveness of KHK. The management is the local community association for local tourism of KHK. Possible solutions were also discussed, with the emphasis on the development of bilingual and QR Code-assisted website as one of the solutions. Visitors and potential visitors were also interviewed to confirm their needs of bilingual and QR Code-assisted website as the medium to attract their attention.

The next stage was Design and Development in which the website was designed and developed. Following this stage was Expert Validation stage in which IT expert was asked to review the developed website, regarding the

feasibility and effectiveness of the website. The management of KHK (The Pokdarwis) was also expected to be expert to review validity of the content of the website. The final stage was Evaluation in which the website was evaluated its feasibility, attractiveness, and effectiveness of the website from the point of view of visitors and potential visitors.

#### 3.1.2. Data Collection

Data were collected through direct observation, interviews, and distribution of questionnaires. Data for each stage of DDR procedures was collected through different instruments. In the analysis stage in which data were gathered to gain information related to the current condition and situation in the site (KHK) to identify problems and confirm possible solutions, direct observation, questionnaires distribution, and interviews were done. Direct observation was done by the researchers by visiting the site (KHK) and used field notes. Interviews were done with the Pokdarwis or the management team of KHK. Finally, thirty (30) respondents were willingful to fill out questionnaires at the Analysis stage. These respondents were visitors and potential visitors of KHK. Questionnaires were distributed online. These respondents were selected randomly.

At the stage of Expert Validation, questionnaires were distributed to the management team of KHK (The Pokdarwis) as well as two technology experts. Following the filling out of questionnaire, respondents were also invited to have a short interview deepening the responses filled out in the questionnaire.

Finally, at the Evaluation stage, questionnaires were distributed to visitors and potential visitors of KHK. There were 65 local visitors and potential visitors and nine (9) international visitors and potential visitors. Questionnaires were distributed online. Respondents at this stage were randomly selected.

### 4. Results and Discussion

Results of the study is presented following the presentation of DDR procedures, namely Analysis, Design and Development, Expert Validation, and Evaluation.

#### 4.1.1. Analysis Stage

Data collected at the analysis stage were gathered from direct observation, interviews and distributing questionnaires. From the direct observation, it was identified several tourists came visiting KHK, mostly local young tourists from East Java. Their main concern was to enjoy the beauty of heritage culture of KHK, and this was shown from their acts of taking pictures in front of the historic spots such as heritage houses and heritage stuffs put in front of the houses. Their main purpose of visiting KHK was to have a recreation. Very few international tourists were at the location. However, there was no tourist guides who could give good information regarding the heritage houses and other objects. Thus, foreign tourists were only taking pictures of the heritage spots. Furthermore, several visitors seemed to get confused finding certain heritage house or spots since several heritage spots were inside winding alleys. Descriptions of the heritage spots and objects were found too simple, showing only the names with no adequate description nor stories.

Data gathered from direct observation were then confirmed to the management team of KHK, known as the “Pokdarwis of KHK”. The team agreed to the researchers’ findings that currently there was no tourist guide who could help describing the heritage spots at KHK, moreover tourist guides who can speak English.

Findings from questionnaires distributed to visitors of KHK confirmed the need of designing and developing a bilingual and QR-Code assisted website of KHK as an attempt to increase tourists’ attraction to visit KHK. Table 1 presents the findings

Tabel 1. Responses on the Need of the Website

No.	Questions	Average of Responses (Range: 1-6)
1.	When you visit Kampong Heritage Kajoetangan, are you satisfied with the existing descriptions or stories in Kampong Heritage Kajoetangan?	3.53
2	Do you think foreign tourists will be helped with the existence of a	5.4

	Website and QR-code that explains the history of Kampong Heritage Kajoetangan in two languages (English - Indonesian)?	
3	If we provide a Website and QR-code containing house descriptions and other information about Kampong Heritage Kajoetangan, will it help you to understand the historical heritage stiroes at Kampong Heritage Kajoetangan?	5.33
4	In your opinion, if a QR-code are placed in every corner of the historical heritage spots, will you be interested in scanning it to find out the history and contents of the house?	5.96

From the analysis stage, it can be concluded that most respondents have visited KHK, and most of them got the information from electronic media. Unfortunately, they did not get good information regarding the history of each KHK relics. Most respondents did not know about the website of the KHK, and, therefore, the publication of KHK is better done via electronic media. The publication should give adequate information about the KHK relics.

#### 4.1.2. Design and Development Stage

In this stage, it was decided that the website would be developed using a JavaScript. Seven menus are included in the design: *Home, Profile, Gallery, Culinary, Things to Do, Ticket* and *About Us*. The website then displays information about Kampong Heritage Kajoetangan (KHK), the history of each historical heritage, ticket rates, maps, photo 360 degree or virtual tour guide, photo galleries, package tours, and information about the facilities available at KHK.

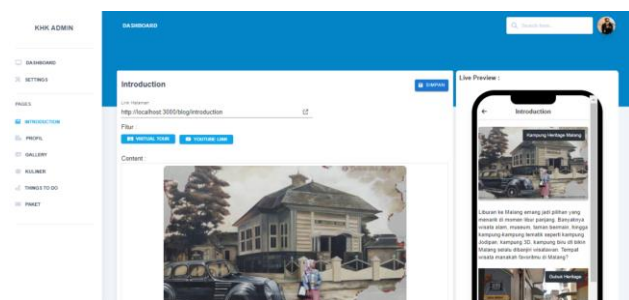
On the first page, a welcome and a map of KHK is presented. Additionally, on the second page, ‘*Profile*’, there is the history and facilities of KHK are shown. The third page, ‘*Galleries*’, presents a list of the spots and heritage relics of KHK, including 30 photos of spots and historical relics. The fourth page is dedicated to ‘*Things to Do*’, and there is information on that page



describing the activity references that visitors can do at KHK, such as enjoying the live music, exploring the antique shop, and others. The fifth page is 'Culinary', covering various cafés and food that sells in KHK. The last page is 'About Us', which includes a suggestion box and email.

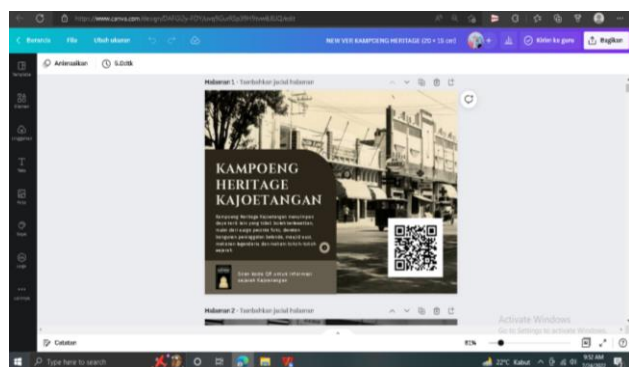
Upon completion of design, the website was then developed, the content of the website was developed, the content was created in both English and Indonesian languages, and QR-codes were developed.

Figure 2 shows the output of how the website was accessed by admin.



Gambar 2. Admin Account to Access the Website

The generating of the QR codes was done using *Canva* to design the QR code board. These QR code boards would be put or attached on the front wall or gate of each heritage relics and spots at KHK. In this way, visitors can scan the QR code and directly connect to the website of KHK. Figure 3 shows the design of the QR-code board of a heritage relic.



Gambar 3. Design of a QR-Code Board

The development of the website was completed and was ready to be validated its content as well as its features. Figure 4 presents the landing page of the website.



Gambar 4. The Homepage of the Website

#### 4.1.3. Expert Validation Stage

At this stage, the draft of the website content and all the website features were validated by 'experts'. Content of the website was validated by the management of KHK or the 'Pokdarwis' while the features of the website were validated by technology expert. Validation was done through the filling up of questionnaire and interviews with the experts.

Results of the experts' validation is as shown in Table 2. As presented in Table 2, the content as well as the website were considered good enough to be released. Minor revisions were made, such as revising the font type and size and the layout of the display.

Tabel 2. Results of Experts' Validation

No.	Questions	Average of Responses (Range: 1-6)
1.	User can access Indonesian language pages easily.	5
2.	User can access English language pages easily.	5
3.	The use of capital letters and punctuation is good and put correctly.	5
4.	The font type, size, and colours used are clear and appropriate.	4
5.	The descriptions in Indonesian are easy to understand.	5
6.	The descriptions in English are easy to understand.	5

7	The contents of the Bilingual Website of Kampoeng Heritage Kajoetangan are correct and valid.	5
8	The description of the Bilingual Website is informative.	5
9	The pictures and illustrations are appropriate and support the content from each historical place in Kampoeng Heritage Kajoetangan.	5
10	Menu layout, colour selection, text, and website layout can attract visitors to explore the website.	5
11	The layout display and Website Design are able to attract visitors to visit KHK.	4
12	The QR Code's display size is clear and easily accessible.	5
13	QR code design is good.	5
14	The QR code help and makes it easier for visitors to find information on each historical heritage site to increase visitors' knowledge about the history of each building relics spot.	5
15	The QR code can display the history of each historical building precisely.	5

#### 4.1.4. Evaluation Stage

At the 'Evaluation' stage, the website was released, and comments from visitors were collected. Evaluation was done by distributing questionnaires to respondents who were visitors and potential visitors of KHK.

There were 74 respondents filling out the questionnaires, 65 domestic and 9 foreign visitors and potential visitors. Table 3 presents the responses to the questionnaires.

Tabel 3. Responses to Questionnaires on Evaluation

No.	Questions	Average of Responses (Range: 1-6)
1.	The switch language button is simply accessible to visitors.	4.3
2	Visitors can easily switch the language (English-Indonesian).	4.7
3	The design of the website is interesting.	4.7
4	Visitors can easily access or open every page.	4.8
5	The font size used on the website is easy to read.	4.9
6	The English used on the website is clear and understandable.	5.3
7	The website is useful for visitors and prospective visitors to get information about Kampoeng Heritage Kajoetangan.	5.2
8	The website can attract visitors to visit Kampoeng Heritage Kajoetangan.	5.1
9	QR codes can be read or scanned easily by smartphone.	4.6
10	The design of the QR code is good.	4.6
11	QR codes can direct visitors to the correct collections.	5.4
12	QR codes can help local and foreign visitors to increase their enthusiasm for reading the Kajoetangan collections	4.7
13	The description of historical relics that can be accessed by QR codes are new medium for visitors to find out the history at Kampoeng Heritage Kajoetangan.	4.7

#### 4.1.5. Discussion

Findings of the current community service reveal the effectiveness of using advanced technology as a medium to provide accurate information and as a means of promotion of tourism objects. Such findings are in line with previous studies, such as those done by Putra, et. al. [1] who developed West Java tourism websites, Adi [2] who designed an integrated provincial web tourism, and Kadi [4] who developed an augmented reality application for tourism in Southwest Sumba.

The development of heritage tourism in Malang city needs to be supported since nowadays heritage tourism has attracted a lot of tourists, both domestic and international. Such an idea has been admitted true as revealed in a study by Kartika [6] when conducting a study on heritage tourism in Cimahi. The development of tourism in Indonesia, including the one in Malang as conducted in the current community service, would contribute greatly to economic development and improving people's welfare [7].

#### 5. Conclusion

This study aims to provide much information about Kampong Heritage Kajoetangan (KHK) through the development of a bilingual website that is equipped with Q-codes and 360° pictorial virtual tour in order to increase its attractiveness to both domestic and international tourists. The website was successfully developed, containing 30 descriptions of historical relics and the history of KHK. Field testing of the website's implementation shows its effectiveness. It would be preferable to provide information about upcoming events to be held at KHK. Moreover, this website is intended to be active and up-to-date whenever there is new information or a change.

#### 6. Acknowledgements

The authors express their gratitude to State Polytechnic of Malang for granting funding to authors to conduct the community service (Pengabdian Masyarakat Kemitraan) with the current article submitted as one of the outputs.

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