

# The Development of Digital Guide to Increase Interest in Tourist Visit of the Kanoman Palace in Cirebon

Edy Hartono\*

Universitas Swadaya Gunungjati  
Cirebon, Indonesia  
\*diedyhartono@gmail.com

Retno Hidayati

Universitas Diponegoro  
Semarang, Indonesia

Yono Maulana, Aang Curatman

Universitas Swadaya Gunungjati  
Cirebon, Indonesia

**Abstract**—This research was conducted to determine the interest of tourists visiting Cirebon City in Kanoman Palace. The formulation of the problem in this research is how the digital guide influences the interest of tourists visiting Cirebon City in Kanoman Palace. The method that is used is a pre-experimental design with one shoot case study. Respondents in this study were the visitors who came to Keraton Kanoman Cirebon City. The sample size is obtained by using an unknown population formula. The survey results stated that the digital guide was very interesting, the virtual guide page was very helpful for tourist information, and respondents considered the need for tourist sites to have a digital guide. Thus, it is necessary to create a digital guide technology innovation product to increase tourist visits to the Kanoman Palace.

**Keywords:** *digital guide, video, website, virtual reality, visiting decision*

## I. INTRODUCTION

Indonesia is a country that is rich in nature, historical tourism and cultural tourism. According to the World Travel & Tourism Council, the direct contribution of Travel & Tourism to GDP in 2017 was IDR 259,583.0bn (1.9% of GDP). The contribution is expected to increase by 5.2% to Rp 273,159.0 billion in 2018. This reflects the economic activities generated by industries such as hotels, travel agents, airlines and other passenger transportation. Services (not including commuter services), but that also includes, restaurant and entertainment industry activities supported directly by tourists.

Cirebon City with its history from time to time is a series of heirlooms which become tourist attractions that need to be preserved and developed wisely. Heritage or inheritance is one of the strengths of the old assets that can provide better quality of life for the people and maintain the identity of a region.

Kanoman Palace is one of the two buildings of the Sultanate of Cirebon which was established in 1678 AD and has many historical objects. The number of historical heritage objects is an attraction that can be used as a tourist attraction

but cannot be utilized to increase tourist visits to the Kanoman Palace.

There are two basic elements that determine the development of the tourism system [1]. These two elements are the attraction of tourist destinations and services. These two elements are the core of tourism activities that encourage potential tourists to carry out tourism activities. The attractiveness of tourist destinations and the quality of services provided by the tourism industry players will affect the tourism activities they do; this is also directly related to the interest of the tourist return visit.

Based on the Kanoman palace tourism potential described above, it is necessary to make innovative strategies and steps to inform and communicate to the public, especially foreign tourists. One of them is the construction of the Kanoman Palace Digital Guide which will provide preliminary knowledge about the Kanoman Palace, so that the initial knowledge gained through virtual visits will encourage tourists to come to Cirebon, especially the Kanoman Palace.

## II. THEORETICAL FRAMEWORK

Decision to Visit can be considered as an activity of consumers choosing a product or service in making purchasing decisions [2]. Before going on a tour, a visitor first performs a mental process to arrive at a decision, regarding when to travel, how long, where, with how, and so on.

The decision to travel is a "purchase" decision that spends money to get satisfaction [3]. But purchases in the tourism context have some discretion, at least in the following cases:

- The product purchased is an intangible product, in the form of experience. Even though some parts of the product are tangible (such as souvenirs), the preparation is very small for the total purchase value.
- The purchase value is generally large compared to the purchase of other items.

- Purchases are not spontaneous, tourist trips are generally planned well in advance, including financial aspects planning, choice of accommodation, transportation, and so on.
- To enjoy the product purchased, tourists must visit the tourist destination directly, in contrast to other products that can be sent to buyers. Products purchased in tourism cannot be stored to be enjoyed at different times.
- Tourists must visit the tourist destination directly, in contrast to other products that can be sent to buyers. Products purchased in tourism cannot be stored to be enjoyed at different times.
- For some tourists, they are not distant minimized and even consider long trips as part of the tourism product purchased.

#### A. Digital Guide System

According to Charles Lamont Whitham in the journal 'Interactive Multimedia Tour Guide' stated, "A Digital Guide System (DGS) assembles and delivers contextual, narrative content information to an end-user require in guide or self-guided tour of a physical space." DGS consists of a Content Management System application (CMS), a Channel Administration application (CA), a Content Repository (CR) and a Channel Device application (CDA). CMS allows developers to build content information in discrete narrative using a modular story-building methodology. The CMS stores all information relevant to editorial control and content development in the CR. The CA is a browser-based registration and device management application that delivers content information to devices in channels designated for that content information by the CMS. The CDA allows the user to navigate through the content information using the modular story-based organization and collects usage information in a user log for transmit all to the CA. A Digital Guide System (DGS).

CMS allows developers to build content information in a modular narrative arrangement in a discrete narrative methodology. The CMS stores all information relevant to editorial control and content development in CR. CA is a browser-based registration and device management application that provides content information to devices on a channel intended for such content information by CMS. CDA allows users to navigate through content information using modular story-based organizations and gather usage information in user logs to transmit to CA.

#### B. Website Characteristics

Website characteristics are measured using five dimensions namely [4].

- Comfort.
- Design
- Informative
- Security

- Communication Design Website.

An attractive website design can be measured by the following indicators:

- Visually appealing website design.
- The company has a large selection of products.
- The website has a professional appearance.
- Fast and easy in transactions or user friendly.
- Website design is easy to understand.
- Display the product clearly.
- Have a consistent website design.

1) *Virtual reality*: About "Theater of Experiences" [5] which could encompass all the senses in an effective way, thus attracting viewers into on-screen activities. He built a prototype of his vision called Sensorama in 1962, along with five short films to be shown in it while involving various senses (sight, hearing, smell, and touch). In 1968, Ivan Sutherland, with the help of his student Bob Sproull, created what was widely regarded as the forerunner of virtual reality and the Headplay-mounted Augmented Reality system. In the late 1980s the term "virtual reality" was popularized by Jaron Lanier, one of the modern pioneers of the field. Lanier has founded the VPL Research company [6,7].

In a free translation Virtual Reality or Maya Reality is a technology that allows users to interact with a computer-simulated environment (computer-simulated environment), an actual environment that is imitated or really an environment that only exists in imagination. The current virtual reality environment generally presents a visual experience, which is displayed on a computer screen or via a stereoscopic viewer, but some simulations include additional sensory information, such as sound through speakers or headphones.

2) *Video*: Video is a technology for sending electronic signals from a moving picture. The general application of video signals is television, but it can also be used in other applications in the fields of engineering, scientific, production and security. The video format that will be used in the development of this digital guide uses Digital Video encoded in H.264 and H.720p encoding formats.

### III. METHOD

This study uses experimental research methods. Experimental research is research conducted to determine the consequences arising from a treatment given intentionally by researchers [8]. According to Sugiyono, experimental research is a research method used to look for the effect of certain treatments on others under controlled conditions.

Experimental research is research conducted by manipulating the observed individual behaviour that aims to determine the effects of manipulation [9,10]. According to Sukardi, experimental research is a systematic method for building relationships that contain causal-effect relationships.

A. One-Shot Case Study

This type of experimental research in this study is a one-shot case study intended to show the measurement power and scientific value of a research design. Where in this research design there is a group given treatment (treatment) and then the results are observed (treatment is as an independent variable and the results are as the dependent variable). In this experiment the subject is presented with several types of treatment and then the results are measured. In administering this design, the subjects were presented with several treatments, only there was no comparison group and no initial test scores.

B. Stages of Research Project Implementation

The stages carried out in conducting this research with the simplified PMBOK-based project management cycle theory, planning, executing and closing.

1) *Initiation / defining phase:* Researchers carry out initiations, ideas or ideas to make an experimental study called Digital Guide. Then define the idea with the following definition "Digital Guide is a website page that can be accessed from anywhere and anytime that presents information in the form of text, video, audio and photo 360 data, so that it gives a sensation of the experience of someone who seems to be in the intended location" from this stage the project charter is produced.

2) *Planning stage:* The planning stage the researcher carries out the planning and grouping of processes into 3 (three) group processes, namely inputs, tools and techniques as well as outputs. The following outlines the stages carried out by researchers in conducting Digital Guide research project work.

3) *Implementation stage:* The intended implementation phase is conducting field observations, interviews, taking photographs, videos and producing sound recordings as narrative explanations. The production phase of the researcher uses the Winston W. Royce waterfall method or known as the "Linear Sequential Model" method.

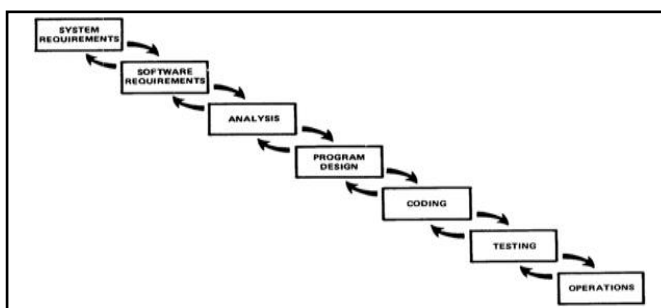


Fig. 1. Waterfall method [11].

a) *Requirement analysis:* All digital guide application needs must be obtained in this phase. This information is obtained through direct interviews with sources from the Kanoman palace, surveys and direct field-wide discussions with the residents and visitors. The information is analyzed to

obtain documentation of user needs to be used at the next stage.

b) *System design:* The design phase is carried out before doing the coding process or called system analysis design. The purpose of this stage is to give an idea of what should be done and how it looks.

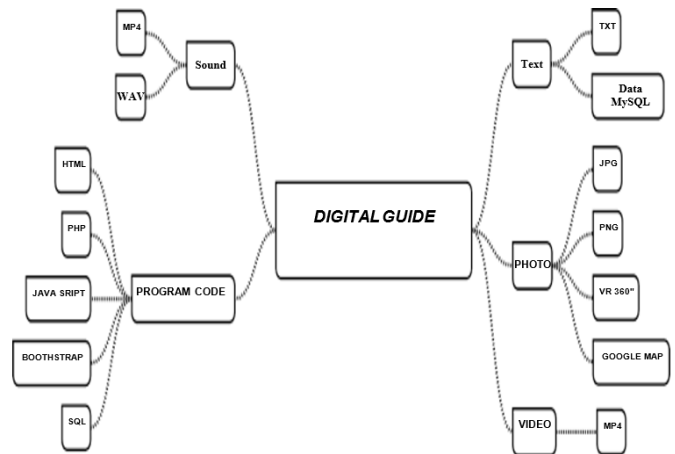


Fig. 2. Web page analysis design.

The digital guide page covers the text component in .txt format and characters that are called from the database. Next is the photo in .jpg format, .png, and 360 "virtual photos and google maps. For videos using the format. MP4. because the page also contains an audio explanation of the location of the tour is required audio with mp3 and .wav format.

Digital guide page programming language uses a combination of several kinds of programming languages including HTML, PHP, JavaScript, Bootstrap and SQL which have their respective roles and interests.

After completing the design analysis of the website page component, the next step is to design and design the website content and website face-to-face design. The following below is an image of a digital guide information page context design.

Digital guide website page is accessed via the link <http://digitour.online> where this website has several pages of information that are accessed through the menus provided, while the digitour. online menu consists of;

- Home, the link that opens the front page
- Platform, contains information from the platform or historical sites in the Kanoman palace
- About, containing information and a brief historical explanation of the Kanoman Palace
- Tour: contains virtual information
- Team, is information about digitour. online development team
- Survey, is a Field form page to fill in a simple survey whose purpose is to find out if the digital digitour. online web is interesting and needs better development or not.

For pages that contain virtual reality with 360 photos, it has six menus that will open the area and facilities in the Cirebon Kanoman Palace including the Gate, Pendopo, Jinem, Lawang Sebalong, Pusaka Building. Below is an explanation table for each virtual reality page.

c) *Implementation*: In this stage the programming process is carried out, making software is broken down into small modules which will then be combined in the next stage. The point of this stage is to make an application and make sure the modules are what they want.

d) *Integration & testing*: At this stage merging between modules that have been made and then tested to determine whether the application is made in accordance with the desired design and there are still errors or no bugs.

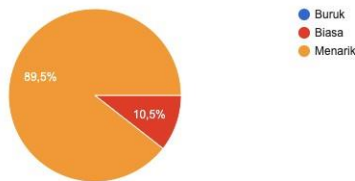
e) *Operation & maintenance*: This is the last stage in the waterfall model of the application that has been completed and is run and maintained. Maintenance includes fixing errors that might still arise.

IV. RESULTS

The results of a survey conducted to respondents (prospective tourists) Keraton Kanoman Cirebon using the online form, the following results are obtained:

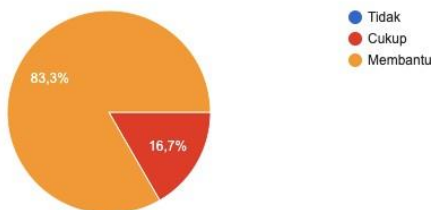
1. Setelah Melihat Halaman Web Digital Guide Tour Apakah Menurut Anda Menarik ?

19 tanggapan



2. Apakah Halaman Virtual Guide Membantu Informasi ?

18 tanggapan



3. Apakah Lokasi Wisata Perlu Memiliki Web Digital Guide

19 tanggapan

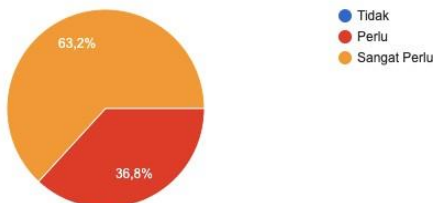


Fig. 3. Survey results.

Based on the results above it can be explained that the existence of a digital guide is very interesting, the virtual guide page too considered to be very helpful for tourist information, as well as the community considers it necessary for tourist sites to have a digital guide.

The porch page, displays the area of the Manguntur Mande building which is one of the Kanoman palace icons.

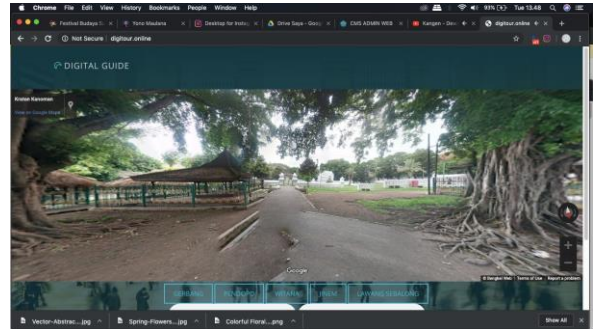


Fig. 4. Manguntur Mande building.

The welcome VR menu displays the Pancaratna building which is indeed its location in front as an entrance.

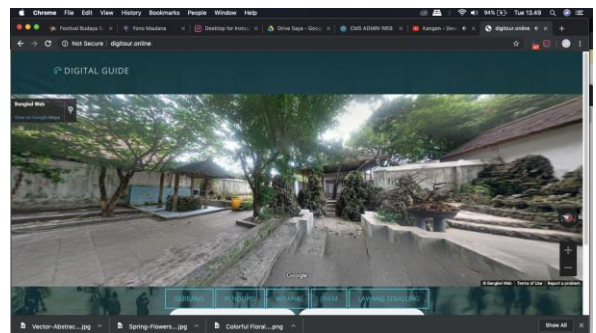


Fig. 5. Pancaratna building.

The VR Witana menu, describing the area of the Witana building which is behind, is where the palace was began in Cirebon

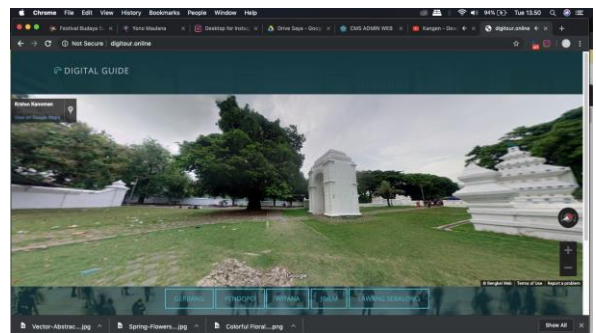


Fig. 6. Witana building.

The Lawang Sebalong VR menu is a large wall building in front of a gate with an architecture with many bowls attached.

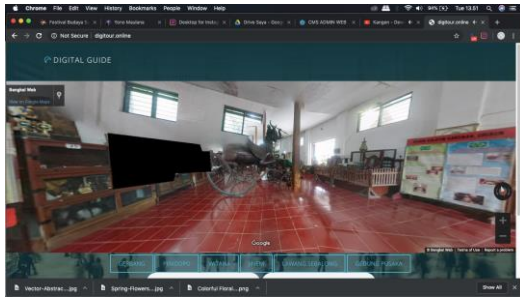


Fig. 7. The Lawang Sebalong.

The VR Museum Heritage Museum is a museum of the Kanoman Palace which shows a collection of heirlooms.

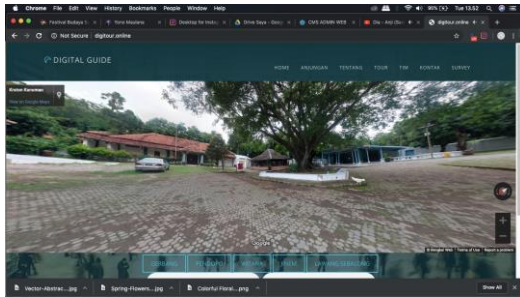


Fig. 8. Heritage Museum.

The VR Jinem menu, is a joglo building that functions for guests waiting in line to meet the Sultan. In front of Jinem there is a Heritage building as a collection of the Palace Heritage.

## V. CONCLUSION

Based on the results of the discussion in this study, it can be concluded that: 1) The public is interested and feels helped by the application of Digital Guide, 2) Digital Guide is made with information elements in it photo 360 ", explanatory text, audio narration and video, 3) Digital Guide provides benefits both for the community and the Kanoman Palace in maintaining the continuation of historical information of the Indonesian Palace For the next stage, it will enter the development stage seriously and can be made more complete Digital Guide Applications and based on Android and IOS platforms.

## REFERENCES

- [1] D.M. Morrison, "Adolescent contraceptive behavior: A review," *Psychological bulletin*, vol. 98, no. 3, pp. 538, 1985.
- [2] P. Kotler and G. Armstrong, *Fundamentos de Marketing*, 6ta. Ed. México DF: McgrawHill, 2003.
- [3] A. Mathieson and G. Wall, *Tourism, economic, physical and social impacts*. Longman, 1982.
- [4] R. Rahadi, *Website Characteristics*, 2013.
- [5] M.L. Heilig, U.S. Patent No. 3,050,870. Washington, DC: U.S. Patent and Trademark Office, 1962.
- [6] L. Lanier, J. *Virtual Reality*, 1985.
- [7] B. Misra, *How IKEA uses social media to emerge a marketing success*, 2014.
- [8] H. Hadi, *Experimental Research Methods*, 1985.
- [9] L. Latipun, A.P. Karindra and N. Hasanati, "Family and Cognitive Integrative Treatment to Prevent Relapse of Adolescent Substance Abuse in Indonesia," *Mediterranean Journal of Clinical Psychology*, vol. 7, no. 2, 2019.
- [10] A. Ary, *Characteristics in Experimental Research*, 1985.
- [11] A. Dan, *Universitas bina nusantara*, 2007-2008.