

Promoting Village Tourism through the Development of Information Systems

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ABSTRACT

Village tourism is one of the efforts to empower rural communities. Village tourism involves a village with all the local resources that are owned, managed and served to the tourists. Village tourism in Yogyakarta-Indonesia began to grow after the earthquake in 2006. The number reached 114 villages. Meanwhile, many potential tourists do not know about those villages tourism. Those problems can be bridged with adequate information systems. The information system provides information about all village tourism in Yogyakarta, which shows the potential of tourism, amenities, even the cost. Tourists can choose the villages tourism that they want. Information technology is one important factor to support and promote the potential of village tourism as well as to collaborate with relevant agencies especially the tourism department. The system is also important for the decision maker is mainly related to the management and development of village tourism. This research was conducted using qualitative method. Data was collected through in-depth interviews to the managers of the village tourism, document study and observations to the location of the village. The results of this research may be used to develop information systems that are useful in promoting village tourism.

Keywords: village tourism, information system, promotions

1. INTRODUCTION

Discussions on rural communities has been identical with agricultural issues and farmers. Such a paradigm, however, has changed. The overlay of paddy field has changed into buildings and people from rural areas have migrated to cities for fortune. The remaining rural people are the old and children. Looking at such a condition, in the 1990s there was a shifting paradigm, in which the government launched rural community empowerment instead of rural development (Permanasari, 2011).

In 1992 the Directorate General of Tourism of the Department of Tourism, Post and Telecommunication designed a development model of tourism which was called Integrated Village Tourism (Permanasari, 2011). The purpose of forming village tourism was to respond a criticism about marginalisation of local people due to tourism development. Besides, it was expected that people could maintain local culture and be proud of it, maintain their environment, improve their economy, and reduce urbanisation flow.

The village tourism concept is an effort to empower rural people. It refers to a village with all local resources it has, manages, and presents to tourists. Thus, village tourism is not

developed by creating or conjuring a village to become a tourist area. Instead, it offers the indigenously and pristine nature of the village to the tourists. Therefore, the main target of village tourism is foreign tourists who want to experience living in the beauty of a village and urban citizens who want to step aside from their urban hectic routine.

In 2003 village tourism started to be established nationally. In Yogyakarta Special Province it started to come up after the 2006 earthquake. The earthquake had caused all work capital and settlement to collapse. People lost their livelihood resources. In such a condition, community figures started to think of finding an alternative way to rise from their adversity. The concept of village tourism was the choice they finally made.

There are about 80 tourist villages in Yogyakarta at that time. Within the span of seven years, there were only about 40 villages remaining. Not all of the remaining 40 villages, however, fell under the category of developed tourist villages. Some of them were dying down and struggling to survive. There were several reasons why tourist villages were dying down. Some of them included the forming of tourist villages that were based merely on trend, limited competent human resources to manage a village, limited mastery in technology, limited promotion and marketing facility, and lack of interesting innovation offered to the tourists. Accordingly, numerous number of tourist villages had created a fierce competition to attract tourists and it became one of the reasons why some tourist villages were dying.

Tourist villages that remain existing are usually those which are supported by their residents and well managed, in a sense that the establishment of village tourism is not only the desire of particular figures in the community concerned, but also need holistic and professional management that covers management of activity, finance, natural resources, culture and customs of the village. In addition to that, if observed, technological support for promotion media is in fact significant to attract tourists, moreover if the promotion process is supported by a creative and innovative management.

The existence of village tourism could likely bring impacts on the betterment of village residents' welfare. It also could create new job opportunities and income resources, such as all village residents who provide their rooms for rent, tour guide service, souvenir making and selling, traditional art performers (*jathilan*¹ a folk performance performers, shadow puppeteers, dancers) or the management of the tourist village itself. However, whether welfare betterment of the residents have been achieved and how much it has been achieved is until now open to question.

Further to that, the competition among tourist villages has also been fierce. There are some that can win it and survive, but there are some that collapse, losing in the competition to attract tourists to visit them. Ironically, there are some villages, such as Pentingsari, which have to decline tourist visits due to full occupancy until the next several months. This is ironic as the tourists could actually be shifted to other tourist villages if the communication among tourist village went well. Shifting tourists to other tourist villages has never been done by Pentingsari Village as there is no village tourism standardisation that has been set. Accordingly it is difficult for Pentingsari to choose which villages are equal to it. The main principle used by Pentingsari is that tourists should be provided with satisfactory service to make them come to visit the village again in the future. If it shifted its tourists to other tourist

¹ *Jathilan* is a folk performance that is usually performed by male dancers using fake horses made of woven bamboo. This folk dance involves trance and magic practices that can make the possessed dancers do unusual things, such as eating glasses or terracotta debris and they also can resist heat. It is usually performed in a community square.

villages which do not provide services it has standardised, Pentingsari is afraid that the tourists would be disappointed and would never want to visit it again.

The problems mentioned above can be bridged with sufficient information system such as the one that provides all information about all tourist villages in Yogyakarta completed with information about the potentials, facility, and even the rates of the services provided. This way tourists can choose which village they wish to stay in. It can shorten the possibility of tourists knowing only particular tourist villages. Accordingly, all tourist villages will compete for giving their best services for their consumers that will be presented with the help of technology. Further to that, the government will be able to monitor tourist villages that are active and potential to be developed. Even when the government has to channel its fund or hold any training for tourist village capacity building, it will not miss its target.

Programmes created by the government and private sectors to promote village tourism has actually covered a wide range of sectors such as channelling Corporate Social Responsibility (CSR) and *Program Nasional Pemberdayaan Masyarakat Mandiri* or PNPM Mandiri (The National Programme for Community Empowerment) in tourism. Besides, tertiary education institutions also play a lot of roles, such as thematic social work which especially assist tourist villages (Bintoro, 2011). What happened in the field, however, was envy among tourist villages. There were some inactive tourist villages that were given fund, while those that were active and in need of fund for development could not obtain any fund. It could happen due to absence of information that could be used by the government as its reference to assess the accomplishment and performance of each tourist village. Coordination track of the government to reach the villages through the Tourism Agency was only done through Communication Forum of Tourist Villages, which did not embrace all tourist villages as its members, was unbinding in nature, and inactive. It means that if there were tourist villages which were not active, the Tourism Agency did not have any data about them.

The progress of tourist villages and welfare of their residents could be achieved if the residents, government, and tertiary education institutions could synergise. The village residents do the management, the government does the mentoring and acts as a facilitator, and tertiary education institutions conduct critical study to accelerate the achievement of residents' welfare. Therefore, this research was important to conduct as a manifestation of concern of academic institutions for the betterment of the society.

Based on the background of problems mentioned earlier it can be concluded that information technology is one of important factors to support and promote the potentials of tourist villages to build cooperation with related governmental agencies, particularly the Tourism Agency.

The significance of technology and communication for the development of tourist destinations had also investigated by Erislan (2016). He stated that the uniqueness of resources at the tourist destinations needs to be improved from the aspects of reputation, technology, culture, and communication.

Problems that rose from tourist village management rooted from, among others, poor promotion strategy and absence of clear and accurate information on potentials of tourist villages. Without any valid sources and access of detailed information, even very potential tourist village will be difficult to develop. Detailed information will be very important as prospective tourists need to get thorough information on all tourist villages along with their potentials, facility, and cost, in order that they can decide which village they wish to visit as

their destination. Such a system is also important for decision makers especially in relation to mentoring tourist villages.

Based on the background stated in the earlier section of this article, problems pertaining to tourist village management in Yogyakarta and also previous researches on tourist village management, this research aimed at promoting village tourism through the development of information system.

It is expected that the outcome of this research will be able to help the government and stakeholders of village tourism obtain sources of information on potentials of tourist villages in Yogyakarta so that it can facilitate the management process and help to organize networks and marketing programme to improve the economy of those involved. This is very much in line with the characteristics of village tourism development expected by the government to boost local income.

2. LITERATURE REVIEW

Empowerment

Empowerment means to give official authority or legal power (<https://www.merriam-webster.com/dictionary>). Empowerment of rural community means giving power to community members to be able to improve their environment. The environment means the combination of the use of the existing resources and social capital and activities done by the community members in using the resources. In such an empowerment, however, the community members are not merely given an opportunity to use the resources and development fund, but also do efforts to find a way of creating freedom from the existing structure.

Community empowerment basically has three main elements (Pitana, 2004). First, building capacity or potentials of people. Using an analogy in arts, this first element is like teaching people to "dance". Second, enabling setting, which refers to preparing the "stage" so that people who are already able to dance can show their ability. Third, in addition to the stage, other elements are needed, namely socio-political support, which is a kind of protection. It is important in order that those who just can "dance" are not "preyed", let alone in such a free competition which is capitalistic in nature.

To execute the three elements above, systematic steps are required, from awareness, motivating, encouraging, empowering, opportuniting, power-devoluting, to protecting. Accordingly, it is clear that community empowerment should not be interpreted as the giving of unlimited freedom to the community to do things in their respective area. One of efforts for community empowerment that can be done is through the development of village potentials as a tourist destination to improve the welfare of the residents of the village concerned.

Tourist Village

Tourist village is a rural area which presents the entire pristine view of a village in terms of space structure, architecture, and the pattern of social and cultural life of its residents, which can provide the components of the main needs of tourists such as accommodation, food and beverages, souvenirs, and tourists attractions (Pitana, 1999 in Permanasari, 2011). In other words, a tourist village is an integrated form of interaction, accommodation, and supporting facilities that are presented in the structure of people's life that is united with the existing customs and tradition (Nuryati, 1993 in Permanasari, 2006).

Thus, there are two elements of village tourism. The first element is accommodation, that comprises the houses of the local residents. The second element is attractions, which include the entire daily life of the local residents as well as the physical condition of the village that enable the tourists to interact with the local residents and their environment. For example, tourists can herd cows, milk the cows, get food for livestock, do batik painting, and even communicate with the local residents in the local language spoken in the village.

The development of village tourism is grounded with a paradigm of community-based tourism (CBT) (Permanasari, 2006). The concept of community-based tourism emphasises on increasing local residents' participation. The local residents as the host as well as executor/subject in the development of tourism. They will also gain the benefit of the development. Accordingly, the existence of tourist villages can ensure the sustainability of the environment and culture that are managed and possessed for the interest of the residents per se (Goodwin dan Santilli, 2009). Tourist villages cannot indeed only wait for tourists to visit them. It needs promotion to make people know about the villages, moreover if the villages are expected to become sustainable tourist destinations.

Promotion and Information System

Promotion has been defined as the coordination of all seller initiated efforts to set up channel of information and persuasion in order to sell goods and services or promote an idea (Reeves in Belch and Belch, 2007: 15). Promotion activities are done by organizations to communicate products and services to the target market can be done through promotional mix elements comprising advertising, direct marketing, interactive/internet marketing, sales promotion, publicity/public relations and personal selling (Belch and Belch, 2007:17).

The presence of internet technology has influenced communication process that has been done. It has been accommodated by interactive/internet marketing. Interactive media make two way communication in a real time possible. Unlike communication in traditional marketing, such as advertisement that is one way communication in nature, the new media make it possible for their users to create various functions such as receiving information and graphics, making questions, answering questions, and, of course, purchasing (Belch and Belch, 2007:20).

Information technology has currently become one of important factors in supporting and promoting tourism potentials of an area. With a synergised combination of tourism sectors and information technology, information about tourism potentials of an area can be conveyed to tourists without time and space boundaries. In regards to this issue, e-commerce is one of the manifestations of the use of internet technology, that has been popular and burgeoning, for information exchange. McMaster, *et al.* (2004) showed how in e-commerce the internet can become an effective means of promotion for SMEs in tourism field that has been growing in the southern Asia Pacific region. By providing a website that has content needed by tourists, potentials of tourist objects can be conveyed more accurately and efficiently. Fang (2011) in his journal entitled *Innovation pattern of China tourism e-commerce on the post-crisis era* describes how various use and forms of e-commerce are able to bring positive impacts on tourism sector in China during crisis by providing responsive services for prospective tourists. In line with Fang (2011), Xiaoying (2012) in his journal entitled *Innovation of Tourism Information Services based on Internet Technology* describes how collaboration of information technology and tourism sector can give answers to the need of interaction and give a new experience in regards to obtaining information and knowledge that are relevant from the prospective tourists. In regards to problems that were

explored in this research, it was expected that stakeholders who were involved in village tourism had a basic data system that could gather all data and information about the potentials of tourist villages in Yogyakarta. Other than serving as an information source for prospective tourists, data and information provided can be managed into knowledge for those in need (Handarkho, 2012).

Further to that, to develop a system that can meet the needs of prospective users a method of analysis that refers to their needs is required. One of the approaches that is used is User-Centered Design (UCD) (Preece, 1998). User-Centered Design is a stage of development of a system that refers to users in its development process. How the system will work and create interaction will all be based on the outcome of the analysis of the users who will use the system in the future.

3. RESEARCH METHOD

The objective of this research was to make a basic data system of tourist villages in Yogyakarta Special Province for those managing tourist villages. To achieve the objective of the research systematic steps were made within the 2 year research duration (2015-2016). It started with literature study that was conducted to find literature as reference. In regards to observation, I had conducted several field observations of tourist villages in Yogyakarta, such as in my visits during my social service as a lecturer and also in my visits as the mentor in the locations where my students did their social services. I also conducted some observations through researches that had been conducted previously, collaboration, as well as informal field observations. To know the real condition of village tourism system, however, I will conduct further structured observation to collect updated and accurate information I will need.

Problems were collected from field observation and literature study. Field observation was done to identify problems existing in village tourism system, particularly in Yogyakarta. The literature study found that there were some gaps in researches on village tourism. The objectives and urgency of the research are adjusted to the research object and interests of the stakeholders. The research chose tourist villages in Yogyakarta as its object.

This research was conducted from the perspective of the management board of tourist villages, so that the measures of performance chosen were adjusted to the needs of the management. Factors relevant to the system that was reviewed were those which influenced both directly and indirectly the measures of performance used. From the literature study on basic data system and the real condition of tourist villages in Yogyakarta, it was found that there were eight factors that were relevant to the system that was reviewed for the objectives of this study, namely tourism system, tourism management, information system, information technology, financial system, basic data, internet and marketing. These relevant factors would be taken into consideration in developing basic data. The development of basic data model was done on the basis of models that I had developed previously in my research. In order that the development result could be more doable, some other models were proposed so that alternative models could be chosen to see which one would be the most relevant to the real case.

To be able to decide the most suitable model for the users, a method of analysis that referred to the needs of the users needed to be implemented. The approach used was User Centered Design (UCD) (Preece, 1998). UCD is a stage of development of a system that employs user approach in its development stage. How the system will work and create

interaction will all be based on the outcome of the analysis of the users who will use the system in the future. The stages of UCD approach are divided into four, namely: Identify needs and establish requirements, Design, Build an interactive version, and Evaluate, as showed in Figure 1.

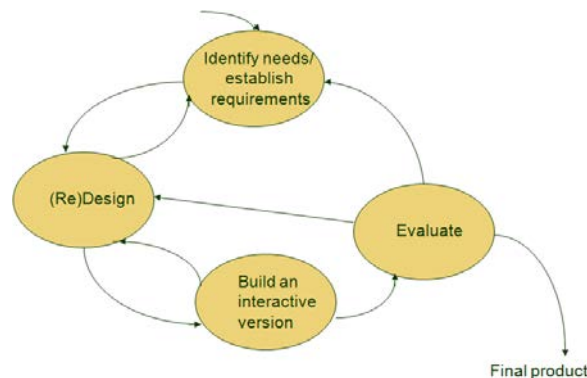


Figure 1. Flow of UCD Method

The elaboration of the stages of UCD method starts from the stage of identifying needs and establishing requirements. This stage intends to understand the users of the system as thoroughly as possible by attempting to define requirements based on the needs of the users. The requirements can be defined as a statement about a product that describes how a product or system should work and behave. By defining the users as the foundation of defining the requirements, it is expected that the product created will be suitable for and liked by the users.

The next stage is creating a design and interactive form of the design based on the requirements that are obtained from the previous stage. One of the manifestations of the design that can be used is prototype. Prototype can be defined as a limited representation of a design that allows the users to interact and explore things to decide an agreement with the design. In principle, prototype itself can be divided into two parts that are mutually continuous and can be described as follows:

- Low-fidelity Prototyping is a prototype that uses different media of the final product. In regards to the system that will be developed, the visualization of the system design can be put in the form of sketches or story board that explains how a system works.
- High-fidelity prototyping is a prototype that uses "materials" which will also be used in the final product. This prototype has a form and performance which appear like a final product of a system, but the product that is generated still refers to the details of performance that is related to the work flow of the system. In terms of function, however, it is not yet as complete as a final product.

In the later stage, prototype that has been built will be tested against the users to know how accurate the analysis resulted in the stage of identifying needs and establishing requirements. The details of the process will be in the next stage of UCD method, which is evaluation.

In the evaluation stage, UCD process is iteration, meaning that repetition of UCD stage is inevitable (*Designers never get it right first time*). In this evaluation process, if there is any unsuitability between the system design and the needs of users, the design can be revised and it causes the stages of UCD method to start all over again. The purpose of this stage is, in fact, opening the possibility of perfecting the design based on the feedback of the

users. One of the success indicators of a programme system that is suitable with the users' needs is in the usability stage.

After a prototype is generated, installation and test are done. In this process adjustment and perfecting will be done if there are still any flaws in the model prototype. After this stage is done, introduction to users will be done through a workshop forum.

4. RESULT AND DISCUSSION

Description of Tourist Villages as Observation Object

The research conducted in the first year intended to create an application of basic data system, while the second year focused more on completing basic data of tourist villages in Yogyakarta. To smooth the process of completing the basic data I cooperated with the Tourism Agency of Yogyakarta Special Province to obtain information and access to finding data of each tourist village. Based on the data provided by the Tourism Agency Yogyakarta, there were 125 active tourist villages and tourists kampongs. The data already included tourist kampongs, which were equal to tourist villages, most of which were located in Yogyakarta City. The phrase "tourist villages" were more intended for villages located in the regency of Bantul, Gunung Kidul, Sleman and Kulon Progo. Meanwhile, the number of tourist kampongs and villages in Yogyakarta in 2016 is as follows:

Table 1. Tourist Villages and Kampongs in Yogyakarta Special Province in 2016

No	Regency/City	Developed	Developing	Growing/Embryo	Number
1.	Bantul	7	13	19	39
2.	Kulon Progo	1	8	3	12
3.	Yogyakarta	1	11	6	18
4.	Gunung Kidul	5	6	7	18
5.	Sleman	10	12	16	38
	Number	24	50	51	125

(Sourcer: Document, the Tourism Agency of Yogyakarta Specia Province, 2016)

The number of tourist villages that I could collect and upload in the Basic Data Information System was 28. This number was only 22.4% of the entire tourist villages and kampongs in Yogyakarta Special Province. The tourist villages and kampongs are:

Table 2. Tourist Villages and Kampongs that are Entered in the Basic Data System

No	Name of Village/Kampong	Regency
1.	Pentingsari, Cangkringan (village)	Sleman
2.	Gabugan (village)	Sleman
3.	Kembangarum (village)	Sleman
4.	Breksi (village)	Sleman
5.	Tanjung (village)	Sleman
6.	Tinalah (village)	Sleman
7.	Pulesari(village)	Sleman
8.	Sidoakur, Jetak (village)	Sleman

9. Pancoh (village)	Sleman
10. Domes Teletubbies (village)	Sleman
11. Gilangharjo (village)	Bantul
12. Kebonagung (village)	Bantul
13. Lopati, Srandakan (village)	Bantul
14. Kaki Langit, Mangunan, Imogiri (village)	Bantul
15. Giriloyo, Wukirsari (village)	Bantul
16. Kreet (village)	Bantul
17. Kalibiru (village)	Kulon Progo
18. Purwosari, Girimulyo (village)	Kulon Progo
19. Banjaroya (village)	Kulon Progo
20. Sidorejo (village)	Kulon Progo
21. Beji, Putat, Patuk (village)	Gunung Kidul
22. Bleberan (village)	Gunung Kidul
23. Jelok (village)	Gunung Kidul
24. Nglanggeran (village)	Gunung Kidul
25. Kadipaten (kampong)	Yogyakarta City
26. Rejowinangun, Umbulharjo (kampong)	Yogyakarta City
27. Pandeyan (kampong)	Yogyakarta City
28. Sekar Niti: Gedongkiwo (kampong)	Yogyakarta City

(Source: data collected by researcher, 2016)

Implementation of Basic Data System of Tourist Village

Based on the result of research conducted in the first year, Basic Data Application of Tourist Villages in Yogyakarta Special Province was made located in lppm.uajy.ac.id/basisdatadesawisata. The application had been validated to start entering data of Gilangharjo and Lopati village (Bantul Regency), Pentingsari village (Sleman Regency), and Kalibiru village (Kulon Progo Regency). Information on the potentials of tourist villages was divided into the following categories:

1. General Profile of Tourist Village
Data falling under this category contains general information of a village which covers name, address, contact number, email address, social media account, general description, and pictures of the village.
2. Geographical Condition and Potentials
This category shows information on natural potentials in the tourist village concerned that can attract prospective tourists. The data that are saved includes names of potentials, description of potentials, and pictures of potentials.
3. Culinary Adventure
This category contains information about culinary potentials in a tourist village that could attract the prospective tourists. The data that are saved include names of foods, culinary description, pictures and kinds of food products such as side dishes, traditional snacks, refreshments, and beverages.
4. Souvenirs
This category contains information on potentials of souvenirs in a tourist village that could attract the prospective tourists. The data that are saved include names of handicrafts and pictures.
5. Performance

This category contains information on potentials of performance for tourist attractions. Some examples of performance included *ketoprak* (traditional theatrical performance), shadow puppet show, *jathilan*, and other performances. The difference of this attraction from other tourist attractions is that tourists can only watch the performance without involving themselves in it. The data that are saved include names of performances and pictures.

6. Activities

This category contains information on activities in which tourists can involve themselves. Some examples of such activities include traditional games, batik painting, mask painting, and outbound. The data that are saved include names of performance, description and pictures.

7. Facility of Tourist Village

This category contains information on facility that a village has which is expected to be able to provide more attraction for tourists, such as homestay, outbond area, parking area and other supporting facilities. The data that are saved include names of facilities, description and pictures.

8. Cost

This category contains information on cost defined by tourist villages for a package tour, such as rate of homestay or cost for joining tourist attraction package. The data that are saved include names of cost, unit price, types of units, description and pictures.

9. Visits

This category contains tourist visits that can be added by each tourist village to show its existence. The data that are recorded include names of tourist groups, places of origin, date of arrival, total number of tourists, and pictures of activities.

10. News

This category contains data of the latest news that can be added by each tourist village to show its existence. The data recorded include titles of news, dates, content of news and pictures of activities.

11. Others

This category contains other information beyond the one falling under the nine categories that are described above. Usually the data presented under thos category are unique and owned only by that particular village. The data recorded include names and description.

The website of Tourist Village Basic Data System was built based on data that had been collected from 28 villages and kampongs, that can be described as follows:

a. Home Page

This page is the main page of the web of tourist village basic data that shows summary of information of all tourist villages that are saved in the system. On this page tourists can browse list of all tourist villages in the web, browse tourist villages based on services and facilities provided, and find the latest news of tourist villages about tourist visits in each village. In addition, they can also find information on culinary adventure, handicraft, and tourist attractions randomly in tourist villages in Yogyakarta (Figure 2-6)

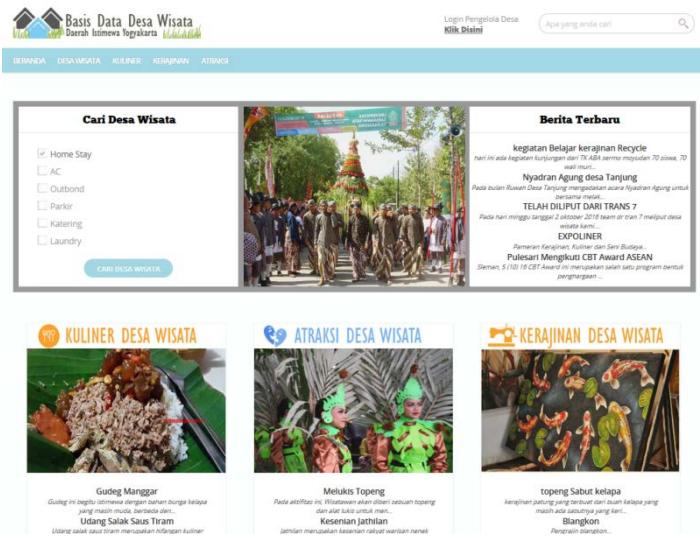


Figure 2. Implementation of General Home Page

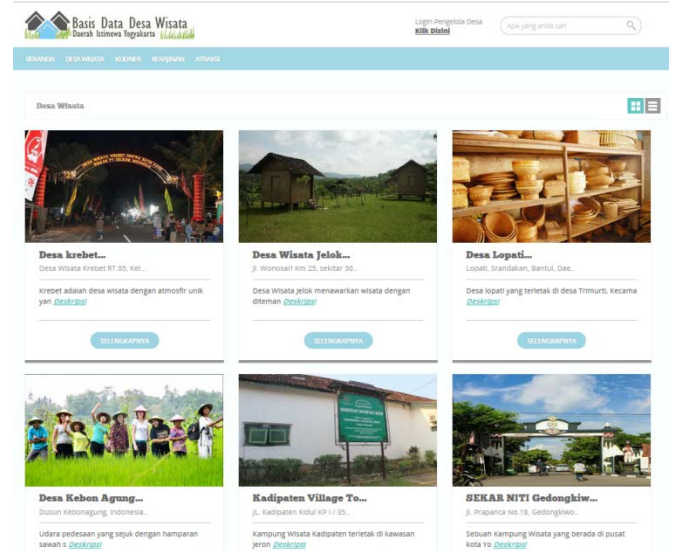


Figure 3. Implementation of Tourist Village Home Page

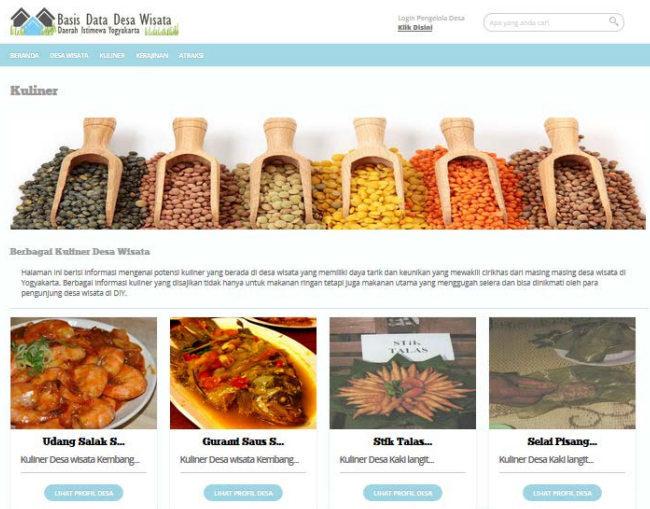


Figure 4. Implementation of Culinary Home Page

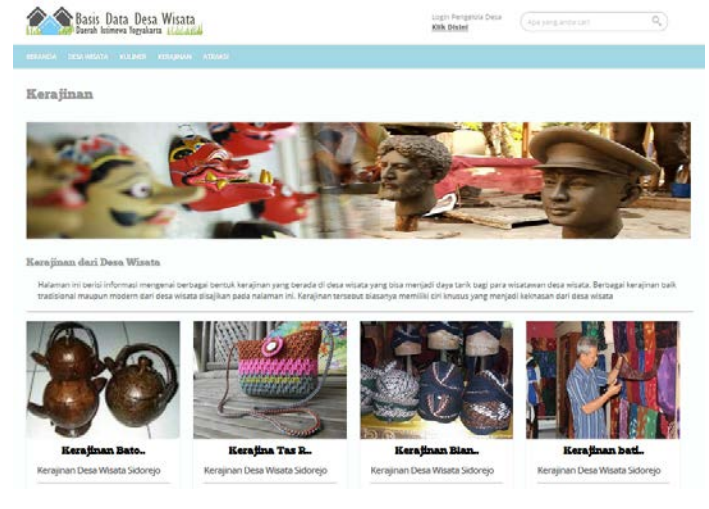


Figure 5. Implementation of Handicraft Home Page

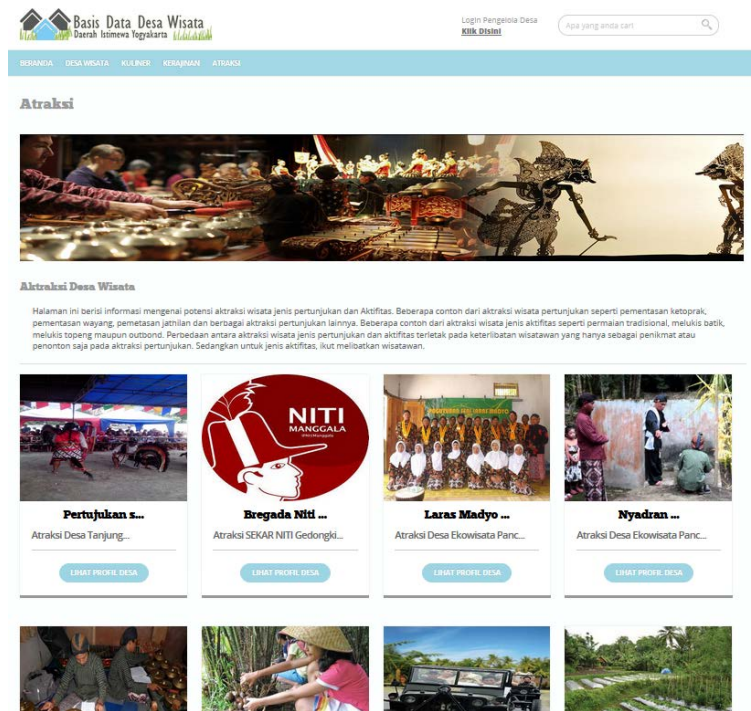


Figure 6. Implementation of Attraction Home Page

b. Detailed Profile Home Page of Tourist Village

This page contains a single profile of a tourist village. In this page visitors can see detailed information and potentials of the village such as culinary adventure, handicraft, tourist attractions, and so on (Figure 7).

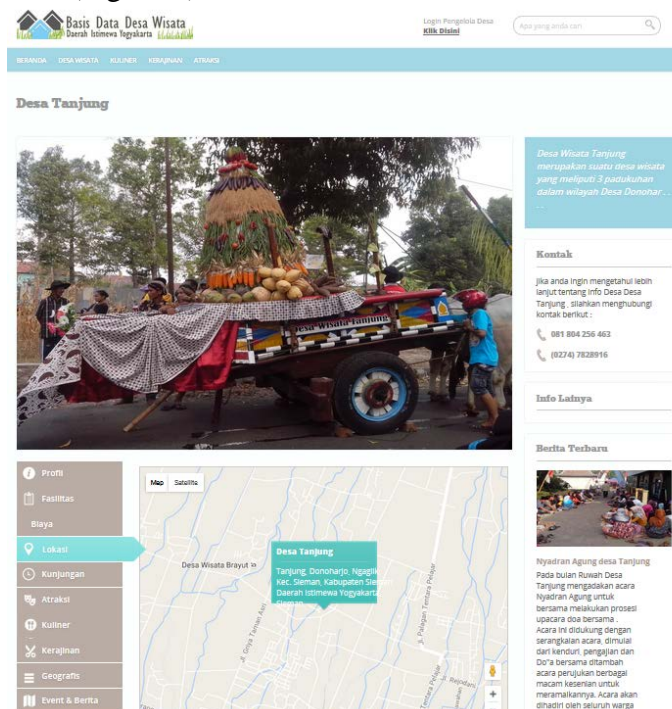


Figure 7. Implementation of Tourist Village Profile Home Page

c. Data Management of Users

This page is used to manage users, including new users, data editing of old users, deleting, showing and finding data of users from SBDW web.

d. Data Management of Profile and Village Potentials

This page is used by the admin to manage data of profile and potentials of a tourist village, covering data on profile, culinary adventure, handicraft, tourist attractions, facility, rates and other information.

e. Data Management of Visits and News

This page is used by the management of a tourist village to manage data of visits and news related to the tourist village they manage.

The process of data entry was based on the data collected during observation, from village/kampong documents, the Tourism Agency's documents, and entry done by each tourist village management during the training on data entry. The training was held in collaboration with the Computer Network Laboratory of the Informatics Engineering Department of Atma Jaya University, assisted by the students from the department.

The collaboration was done by the research team through Communication Forum of Tourist Villages/Kampongs of Yogyakarta to obtain information access from the members of the forum. It was greatly helpful for the research team in the process of entering data in the basic data system, in which the management boards of tourist villages and kampongs who attended the training directly entered the data in accordance with each village or kampong.

The management boards of the tourist villages and kampongs had been asked to bring the data of their villages or kampongs in the form of soft file in a format that had been set by the research team. Not all of villages and kampongs could be represented due to limited capacity of the Computer Network Laboratory. It was expected that the management boards who attended the training would be able to transfer their knowledge and skills they obtained from the training to other management boards of other tourist villages or kampongs. The research team had built a collaboration with the tourist management boards and gave them contact numbers and persons to them as well as built communication with them through the communication forum. This way, if they found any difficulties in getting access to entering data to the web, they could contact the research team.

The presence of tourist villages and kampongs in Yogyakarta had contributed to alternative tourism in the province. Tourist villages and kampongs, which belong to special interest tourism, had gained considerable attention from the Tourism Agency of Yogyakarta. Therefore, the agency has provided special mentoring for the tourist village management boards and tourism awareness groups.

One of the efforts to see the result of the mentoring that had been done by the Tourism Agency of Yogyakarta was the organization of tourist village/kampong competition. Of the criteria used by the Tourism Agency was that the management of tourist village had to be intended for community empowerment so that they would be able to improve their environment. As stated by Pitana (2004), doing community empowerment requires three elements. The first element is capacity or potential building of the community. In the context of this research the capacity building was intended for the management boards, including building their capacity in marketing their villages or kampongs through the basic data system web of tourist village. The existence of the web also fulfils the second effort of empowerment, in which it serves as a means of showing the potentials offered by each

village or kampong. The presence of basic data system web became one of the forms of support from the university to provide sustainable promotion media to market village or kampong tourism in Yogyakarta. The web was mainly intended for tourist villages or kampongs which had not had capability to create online-based promotion media to be able to equally compete with other developed tourist villages or kampongs.

As conveyed by Pitana (1999 in Permanasari, 2011), a rural area which reflects the entire pristine view of a village in terms of space structure, architecture, and the pattern of social and cultural life of its residents, which can provide the components of the main needs of tourists such as accommodation, food and beverages, souvenirs, and tourists attractions. Based on this statement, the efforts done by the research team to accommodate the idea was creating basic data system which contained information needed by prospective tourists.

Information availability was expected to be able to help the management boards of tourist villages or kampongs to provide information as thoroughly as possible. Accordingly tourists would be able to obtain complete information they would need, even when they would want to compare information about each village or kampong in making their decision about tourist destination they would visit. This is in line with what is stated by McMaster, *et al.* (2004), which shows how in e-commerce the internet can become an effective means of promotion for MSEs in tourism that has been developing, which is in this context Yogyakarta Special Province. By providing a website whose content is relevant to the needs of prospective tourists, potentials possessed by tourist objects can be more accurately and efficiently informed.

In the process of developing the basic data system, I used *User Centered Design* (UCD) approach (Preece, 1998), so that the system would work and create interaction, all of which were based on the analysis result of users who would use the system in the future as described in the following architecture application.

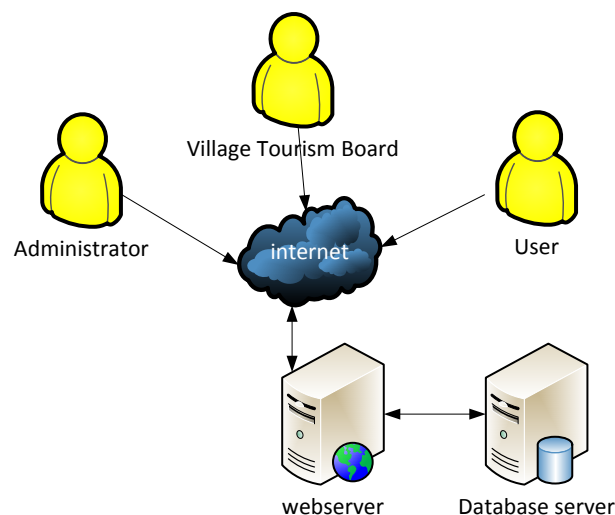


Figure 8. Architecture Application

Based on Figure 8, the admin of tourist village and kampong management can make some changes and updates to provide the latest information as each of them can log in using password and username provided by the research team.

In the future the web would be managed by the Tourism Agency of Yogyakarta Special Province. Accordingly, the server and domain would not use

lppm.uajy.ac.id/basisdatadesawisata, but use the domain of the Tourism Agency instead. It is very important to boost the credibility of the web as an official website of the Tourism Agency. Prospective tourists will surely put more trust in the web managed by an institution which officially holds the duty and authority in tourism.

In addition, with the Tourism Agency of Yogyakarta Special Province managing the website, it also can monitor the development of tourist villages and kampongs in Yogyakarta Special Province as well as remind the tourist village/kampong management if their information is not yet updated. It can be done by building coordination with the Village Communication Forum of Tourist Villages and Kampongs of Yogyakarta Special Province.

5. CONCLUSION

Village tourism is one of efforts of empowering rural communities that brings impacts on the betterment of residents' welfare by creating new job opportunities and sources of income. Currently new tourist villages have been emerging in Yogyakarta but not all of them can run and develop as expected. Village tourism that can develop is the one that is initiated by the village residents and well managed by themselves, particularly in promotion. Without any good management strategy, a tourist village that has great potentials will be difficult to develop.

The problems mentioned above can actually be bridged by the availability of a basic data system that is able to provide all information about tourist villages and their supporting facilities. In addition, the system is also useful for distributing information and it can be used as the foundation of assisting the residents of tourist villages and their management board to make decisions.

From the government's side, the basic data system can be used for monitoring tourist villages through indicators given, both for the interests of administration and development. This research intended to develop a web-based information system to obtain basic data of tourist villages in Yogyakarta.

Based on the research result, below are some recommendations for further consideration:

1. Since only 28 villages of 125 villages which have completed the data, the other villages need assistance in completing the data for their villages. To accelerate the data entry process, mentoring can be provided for residents who manage their villages and kampongs as tourist destinations in Yogyakarta, particularly by using communication forum network. The mentoring process can be done as a follow up of this research.
2. The nature of the website is limited as a display or showroom of various information about tourist villages and kampongs in Yogyakarta. Based on inputs from tourist village or kampong management board during the training, basic data system that has been made can be developed as a basic data system that can be managed like e-commerce that enables order and payment to be done in a single application. So, people can to transaction through the website
3. To reach more people, mobile application need to be developed. With the mushrooming of smartphones that has been getting sophisticated and widely used, the basic data system can be modified to be developed in applications that can be easily accessed through smartphones, both by tourist village or kampong management and prospective tourists.

4. To increase its credibility, instead of being managed by UAJY, the website should be managed by the Tourism Agency of Yogyakarta Special Province.
5. At the moment, the website is still in Indonesian language. To reach international tourists, the website should be made bilingual.

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