



Design of a Digital Map to Support Coffee Shop Tourism Guided by the Ambeu Preanger Community in Pangalengan District

Lingga Agung*, Wibisono T. G. Putra, Adinda Maharani, Iqbal R. Ramadhan

Telkom University, Bandung, Indonesia

Correspondence: E-mail: linggaagung@telkomuniversity.ac.id

ABSTRACT

One of the advantages of Pangalengan is coffee, which is known as the best coffee commodity in West Java. However, the existence of a coffee shop in the Pangalengan area has not been able to encourage the growing interest of tourists to come to the coffee shop. One of the problems faced is the absence of mapping which is a source of information on the existence of coffee shops in the Pangalengan area. This research used the 4D R&D method consisting of 4 main stages namely Define, Design, Develop, and Disseminate which were carried out at the Ambeu Preanger Coffee Farming Community. The results of the study show that one of the causes of the non- publication of coffee shops in the Pangalengan area is caused by the information media which does not expose coffee shops as a tourism commodity. The existence of a digital map is considered to be able to support the tour of the Ambeu Preanger Community Assisted Coffee Shop in Pangalengan District so it is hoped that with a digital map that specializes in the shops above it will become better known and will certainly generate good profits for the continuity of its business.

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1. INTRODUCTION

The Pangalengan area became one of the areas developed by Kerkhoven in 1890 in the form of a tea plantation, which was then developed in 1896 by Karel Albert Rudolf Bosscha (C. I. Subagja et al., 2018). Pangalengan is currently transformed into an agricultural tourism area or agro-tourism, where tea plantation commodities began, Pangalengan developed into a center for cattle breeding as a producer of milk until it became one of the coffee-producing commodities.

Coffee is one of Indonesia's advantages in the culinary field, where the coffee from Indonesia has advantages compared to other countries in terms of aroma and taste. Coffee became a plant commodity brought by the Dutch colonialists to Indonesia in the 17th century (Ridhoi, 2021). Coffee from Pangalengan is one of the superior products which became one of the belles of the trade of the Dutch Colonial government. History shows that the Priangan region was the first coffee plantation in Indonesia which was established during the Dutch colonial period (Ceha et al., 2019; Winarni et al., 2016).

Through the forced cultivation system the Dutch expanded coffee plantations throughout Indonesia. The European community at that time liked coffee originating from West Java, called Java Preanger coffee, and even gave the term "a cup of Java", because of its high quality with unique taste and aroma. In 1878 coffee in West Java suffered a setback with a leaf rust attack, so after the pest attack dominated coffee plants in West Java it was replaced with tea plants (Ceha et al., 2019).

The revival of Java Preanger Arabica coffee in Pangalengan began in 2001 after an agreement between farmers and Perhutani regarding permission to use forest land as agricultural land which was previously planted with vegetables was replaced with hardwoods such as coffee, cloves, jackfruit and others to maintain forest sustainability through a joint forest management program public. The development of coffee farming is considered to be very helpful in preserving the environment, where the upstream area which was once filled with vegetable farming has made changes to the carrying capacity of the environment (Dwyer, 2018; Iskandar et al., 2018; Kansrini et al., 2021).

Coffee has a variety of variations, and different types of coffee also have different characteristics. This diversity of coffee is also owned by coffee in Indonesia. Different regions, so the taste is different. Indonesian coffee itself can be classified based on the region of origin, for example, Aceh, Sumatra, or West Java coffee. West Java is one of the regions included in the top ten coffee developments in Indonesia, where West Java coffee is known as Java Preanger. Coffee is one of the main agricultural business commodities in the West Java region (Folgado-Fernández et al., 2019; Rahadi et al., 2021).

The geographical location of West Java is very supportive of the development of coffee so it has produced a lot of coffee with its distinctive image, one of which is coffee from Pangalengan. Pangalengan coffee has received the attention of international coffee connoisseurs, since 2016 through the SCAA Expo event in Atlanta. Indirectly, the popularity of Pangalengan coffee makes it a popular export commodity. The government is trying to increase the added value and competitiveness of coffee, by exporting not only to countries in the Asian region but in Australia, America to Europe (Neilson dan Wang, 2019).

The coffee distribution process in Pangalengan has so far collaborated with cooperatives, whose role is to add value to coffee products that cannot be enjoyed directly by farmers. The existence of professional managed cooperatives in coffee production centers is an effort to assist farmers in the industrialization and commercialization of coffee to make coffee a highly competitive economic commodity while increasing the income of coffee farmers and preserving the environment (Karyani, T.

et al., 2018; Wang et al., 2021). On the otherhand, coffee plantations in Bandung Regency are still experiencing several problems, one of which is productivitywhich has not been maximized.

The Ambeu Preanger Community is one of the communities that facilitates coffee farmers in Pangalengan which was founded in 2014. The presence of the Ambeu Preanger Community is based on the need and popularity of Pangalengan coffee, to empower local coffee farmers. The problem is that the role of coffee farmers is not yet optimal, in improving the quality and taste of coffee, the Ambeu Preanger Community plays a role in assisting efforts. However, because so far the focus of Ambeu Preanger Pangalengan and its partners has been on producing high-quality coffee, some things have not been considered even though this has a very important position for its sustainability in the form of mapping coffee tourism areas.

Agro-tourism can add value to agricultural land through tourism services and better marketing of agricultural products. Agrotourism is defined as a form of tourism that utilizes culture and agricultural products as a tourist attraction (Dwiridotjahjono et al., 2017; Lestari et al., 2021). In practice, the development of agro-tourism cannot be separated from the community around the agro-tourism area. Local people play a major role in the success of agro-tourism.

The use of coffee as part of agro-tourism is defined by Jolliffe as coffee tourism which is tourism related to coffee consumption goals, history, traditions, products, and culture from coffee (Chen et al., 2021; Hariyanto, 2016; Smith et al., 2019). The development of the coffee plantation area is one of the tourism potentials realized by the Ambeu Preanger Community. Currently, Ambeu Preanger Pangalengan's partner has production in the form of coffee commodities that have high quality and selling value. Efforts to introduce Pangalengan coffee to the people themselves have been carried out for the past few years with significant results.

Coffee is a product that is influenced by the location of coffee cultivation and human factors. Enjoying the status of coffee as a gastronomic and natural product can attract tourist flows to coffee-producing areas and be promoted based on the conditions of origin into tourism development based on three things, namely coffee as a product, coffee farmers as producers, and coffee cultivation locations (Jafaruddin et al., 2020). In Pangalengan, there are currently many coffee shops, coffee shops, and cafes or restaurants that provide coffee from their soil. Some of them are partners accompanied and/or fostered by Ambeu Preanger Pangalengan.

The existence of several coffee shops, coffee shops, and cafes or restaurants that provide coffee does not have good exposure so there is a mass of information in the presentation of this coffee tour. Seeing the development of the increasing trend of drinking coffee, it should be a place to drink coffee in Pangalengan should be able to increase the number of tourists. This becomes one of the problems where even though the Pangalengan area is a tourist area, it has not been able to attract the attention of tourists to enjoy Pangalengan coffee (Kim et al., 2018; Putri et al., 2019).

Maps are important for the development of tourism. With a map, it will be easy for tourists to visit tourist attractions. Digital maps are an interactive tool as a two-dimensional representation of a conventional three-dimensional space (miniature) of physical elements (natural and man-made) of part or all of the earth's surface on flat plane media with a certain scale (Chen et al., 2021; Masykur, 2014; Matej et al., 2019). Basically the essence of the map is a visual aid. Through these props, the map can convey its position in space, by presenting areas that can easily understand or obtain an image of what is presented through its eyes.

So this research will focus on examining the design of a digital tourist map to support coffee shop tours fostered by the Ambeu Preanger Community in Pangalengan District. For this reason, this article was created as an effort to provide some kind of insight into the Ambeu Preanger Community, where with the existence of a digital map that specializes in the shops above, they will become better known and will certainly generate good profits for the continuity of their business.

2. METHODS

This study uses the method of R & D (Research and Development). The R&D method used aims to produce certain products, and test their effectiveness of these products. The use of the R&D method also aims to seek new basic research knowledge, in addition to developing educational results through validation, or to answer specific questions about practical problems through "applied research", which is used to improve practices. educational practice. This R & D method has been widely used in science, technology, nature, and health.

However, research and development methods can also be used in social sciences, such as psychology, counseling, education, sociology, management, and others. The R&D method used in this study was 4D by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel in 1974. The 4D R&D method consisted of 4 main stages namely Define, Design, Develop and Disseminate. Data collection techniques also utilize in-depth interviews with informants from the Ambeu Preanger Community.

The Define stage is the initial stage of the R&D method where the researcher analyzes the needs for mapping each location of the Ambeu Preanger Pangalengan partners. Any information where coffee products are explored in depth which is then analyzed what development needs to be done to optimize the facilitation of product development and the area of the UMKM partner coffee shop Ambeu Preanger Pangalengan.

Furthermore, in the design stage, researchers compiled several digital map design components based on standards and requirements that were the problem for the MSME partner Ambeu Preanger Pangalengan. The design process focuses on selecting media, content formats, and initial prototype design in the form of a mobile web.

The third stage is Development, the researcher begins to produce a product where this process involves expert appraisal and a product testing process before it is used by MSME partners Ambeu Preanger Pangalengan as a means of product branding. Finally, namely disseminate, where the prototype that has been designed is in the form of a mobile web display, a digital map of MSME partner Ambeu Preanger Pangalengan.

3. RESULTS AND DISCUSSION

3.1. The Urgency of Developing a Mobile Web Digital Map to Support Tourism Coffee Shops Assisted by the Ambeu Preanger Community in Pangalengan District

The tourist area in Pangalengan is one of the advantages in West Java, which can indirectly increase the total income of the people. Often many tourists come to Pangalengan not only looking for natural tourist attractions but also for unique tours such as coffee tourism. Coffee tourism is popular among coffee connoisseurs as an interesting experience, where coffee shops or cafes have sprung up that offer various types of coffee to their customers (Rahardjo et al., 2019).

However, it cannot be denied that coffee shops or cafes in the Pangalengan area are only in demand by certain circles. In addition, the people in Pangalengan are more focused on

nature tourism than coffee tourism. This can happen because one of the reasons is the lack of information media that exposes coffee shops or cafes in the Pangalengan area. Even though there is a Google Map, often the information obtained is not able to support the information needs that tourists want to know. Media information does not inform the advantages of each existing place such as facilities and distances to important places or even to tourist attractions.

The importance of information media is to become one of the tools of mass communication channels to convey information or messages to a wide audience (O'Sullivan & Carr, 2018). The ease of finding tourism information for a country is the dominant factor in determining the number of tourists visiting the region. Changes in tourist behavior can be seen when 70% of search and share has gone through digital devices, so the role of the tourist information media is important to increase tourism exposure so that more tourists visit it (Rahayu, 2022).

3.2. Development of a Mobile Web Digital Map to Support Coffee Shop Tours Assisted by the Ambeu Preanger Community in Pangalengan District

Mobile web development is one of the digital map products. The digital map is considered to be one of the efforts that can support the tourism of the Ambeu Preanger Community Assisted Coffee Shop in Pangalengan District. This makes it hoped that the digital map that specializes in the shops above will become better known and will certainly generate good profits for the continuity of its business.

The Ambeu Preanger Coffee Community has many fostered members with extraordinary potential. Based on the findings, the Ambeu Preanger Community houses many coffee business partners, including Kerta Kopi, Road Dreams, Malabar, GHOZ, Nagoya, Pangalengan Coffee House, Uching Salapan, and others. Unfortunately, there are no media that exposes these places. This makes it one of the references in developing digital maps to support tourism at the Ambeu Preanger Community Assisted Coffee Shop in the form of a mobile web.

The use of the mobile web in developing digital maps to support coffee shop tours assisted by the Ambeu Preanger Community in Pangalengan District is based on the reference that mobile smartphone handheld devices are considered to be an easier interaction tool for tourists. The use of the mobile web is considered to have an advantage where tourists know the location of the coffee shop easily according to the destination.

This study designed a digital map information system for coffee shop tourism objects assisted by the Ambeu Preanger Community in Pangalengan District based on spatial and non-spatial data and displayed visually on a map. The form of developing a digital map to support the Ambeu Preanger Community Assisted Coffee Shop tour in the form of a mobile web is carried out through the following process:

1. UX design based on data that has been processed

In this process, the results of interviews conducted with the Ambeu Preanger Community cover many coffee business partners, including Kerta Kopi, Road Dreams, Malabar, GHOZ, Nagoya, Pangalengan Coffee House, Uching Salapan, and others. What was done after that before the mapping was carried out, the information content was identified by dividing it into several types of information such as (1) the latest news about tourism in the Pangalengan area; (2) Recommendations for tourist objects in the Pangalengan area; (3) Locations and recommendations for coffee shops assisted by the Ambeu Preanger Community; (4) Map

accompanied by information on the Pangalengan area; and (5) Community review regarding tourist reviews in Pangalengan.

2. Visual asset creation

In this process, it becomes one of the processes of designing visual graphic assets that are used for needs on the mobile web. The shape of the visual asset is made in the form of an icon as illustrated in Figure 1 below:



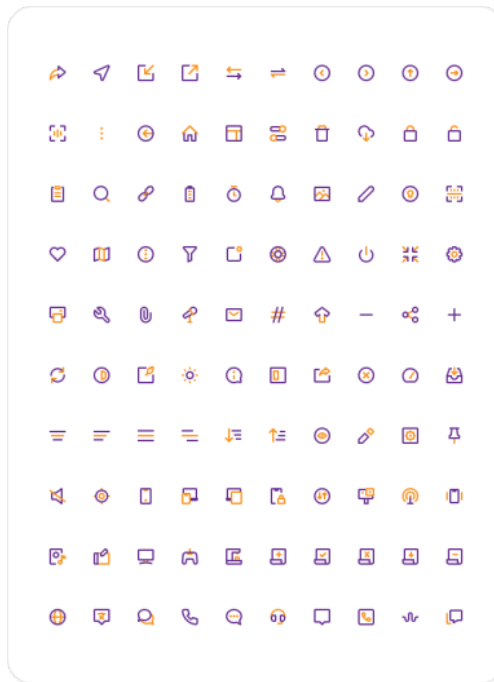


Figure 1
Mobile Web Visual Assets

3. UI Development/wireframing (FIGMA and Adobe XD)

This process is carried out by designing wireframing using Figma/Adobe XD which will be used as a prototype display on the mobile Web, which is presented in Figure 2. Next, enter the Apps Development process (html, css, elementor), in the form of converting visual assets, base code,application outputs.

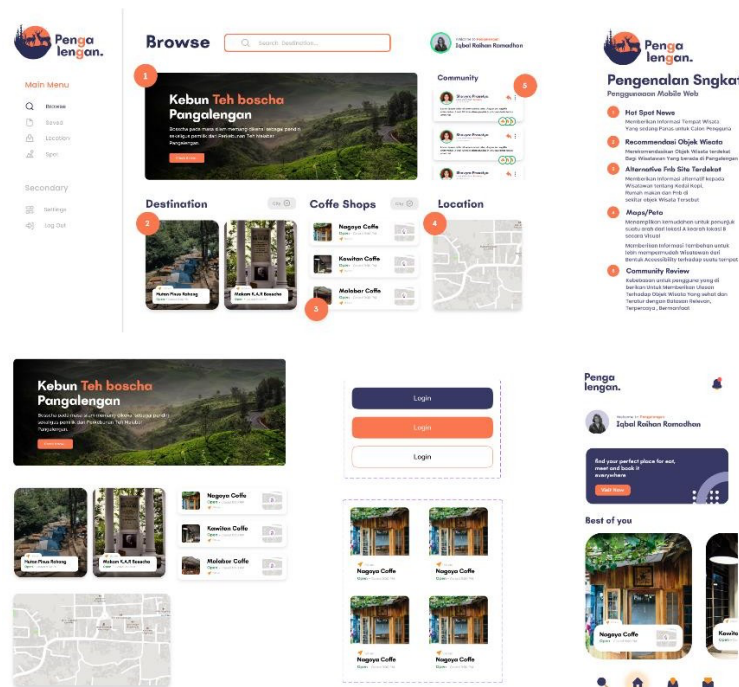


Figure 2
Wireframing Prototype

4. CONCLUSION

The biggest tourism potential in Pangalengan is agro-tourism in the form of coffee tourism. In general, the assessment of tourist attractiveness for this type of coffee tourism needs to prioritize the information aspect as a necessity in getting to know this coffee tourism destination. This is intended so that tourists can obtain relevant information regarding coffee locations and recommendations in Pangalengan. Digital maps are one of the media for information, socialization, as well as education for tourist attractions. The use of the mobile web in developing digital maps to support coffee shop tours assisted by the Ambeu Preanger Community in Pangalengan District is based on the reference that mobile smartphone handheld devices are considered to be an easier interaction tool for tourists. The use of the mobile web is considered to have an advantage where tourists know the location of the coffee shop easily according to the destination.

5. REFERENCES

- C. I. Subagja, S., Gunawan, A., & dan Setiawan, Y. (2018). Peranan situs Makam Bosscha sebagai pengembangan objek wisata di Desa Banjarsari Kecamatan Pangalengan Kabupaten Bandung. *GEOAREA/ Jurnal Geografi*, 1(2), 36–44.
- Ceha, R., Dzikron, M., Muhamad, C. R., Syahmi, M. F., & dan Riyanto, S. (2019). The proposal of West Java export coffee distribution model. *MIMBAR: Jurnal Sosial Dan Pembangunan*, 35(1), 221–234.
- Chen, S. H., Huang, J., & dan Tham, A. (2021). A systematic literature review of coffee and tea tourism. *International Journal of Culture, Tourism and Hospitality Research*, 15(3), 290–311.
- Dwiridotjahjono, J., Arifin, A. Z., Sasongko, P. E., & dan Santoso, W. (2017). Pengembangan agroekowisata berbasis perkebunan kopi rakyat di Kecamatan Tutur, Kabupaten Pasuruan. *Jurnal Ilmiah Pengabdian Kepada Masyarakat*, 3(2), 157–165.
- Dwyer, L. (2018). Saluting while the ship sinks: The necessity for tourism paradigm change. *Journal of Sustainable Tourism*, 26(1), 29–48.
- Folgado-Fernández, J. A., Campón-Cerro, A. M., & dan Hernández-Mogollón, J. M. (2019). Potential of olive oil tourism in promoting local quality food products: A case study of the region of Extremadura, Spain. *Heliyon*, 5(10), 1–8.
- Hariyanto, O. I. B. (2016). Destinasi wisata budaya dan religi di Cirebon. *Jurnal Ecodemica: Jurnal Ekonomi Manajemen Dan Bisnis*, 4(2), 214–222.
- Iskandar, B. S., Iskandar, J., Partasasmita, R., & dan Alfian, R. L. (2018). Planting coffee and take care of forest: A case study on coffee cultivation in the forest carried out among people of Palintang, highland of Bandung, west Java, Indonesia. *Biodiversitas Journal of Biological Diversity*, 19(6), 2183–2195.
- Jafaruddin, N., Noor, T. I., & dan Karyani, T. (2020). Variables influencing the potency of community based coffee agro-tourism in Mount Galunggung, Tasikmalaya, Indonesia. *Pelita Perkebunan (a Coffee and Cocoa Research Journal)*, 36(3), 267–276.

- Kansrini, Y., Febrimeli, D., & dan Mulyani, P. W. (2021). Analysis of the motivation of coffee farmers in applying good agriculture practices in arabic coffee commodities in south tapanuli district. *Psychology and Education Journal*, 58(2), 6411–6418.
- Karyani, T., Djuwendah, E., Sadeli, A. H., & dan Marlina, I. (2018). Penumbuhkembangan Agribisnis Kopi Arabica Java Preanger: Dari Pangalengan Ke Pasar Dunia (Studi Kasus Di Koperasi Produsen Kopi Margamulya). *Jurnal Agribisnis Terpadu*, 11(1), 15–29.
- Kim, K. S., Lee, T. J., & dan Ryu, K. (2018). Alternative healthy food choice for tourists: Developing Buddhist temple cuisine. *International Journal of Tourism Research*, 20(3), 267–276.
- Lestari, P. F. K., Sukanteri, N. P. S., & dan Amaral, N. P. A. A. (2021). The farmers participation in Agro-Tourism development in Subak Jatiluwih, Penebel District, Tabanan Regency. *SEAS (Sustainable Environment Agricultural Science)*, 5(2), 96–104.
- Masykur, F. (2014). Implementasi sistem informasi geografis menggunakan google maps api dalam pemetaan asal mahasiswa. *Simetris: Jurnal Teknik Mesin, Elektro Dan Ilmu Komputer*, 5(2), 181–186.
- Matej, B., Miliareisis, G. C., Matjaž, M., Ambu, R., & dan Michele, C. (2019). New method for estimating fractal dimension in 3d space and its application to complex surfaces. *International Journal of Advanced Science, Engineering and Information Technology*, 9(6), 2154–2159.
- Neilson, J., & dan Wang, J. H. Z. (2019). China and the changing economic geography of coffee value chains. *Singapore Journal of Tropical Geography*, 40(3), 429–451.
- O’Sullivan, P. B., & dan Carr, C. T. (2018). Masspersonal communication: A model bridging the mass-interpersonal divide. *New Media and Society*, 20(3), 1161–1180.
- Putri, N. A., Saidah, Z., Supyandi, D., & dan Trimo, L. (2019). Analisis kelayakan bisnis kedai kopi (studi kasus pada Agrowisata N8 Malabar, Pangalengan, Kabupaten Bandung). *Journal of Food System and Agribusiness*, 3(1), 89–100.
- Rahadi, R. A., Nainggolan, Y. A., Afgani, K. F., & dan Zainuddin, I. M. (2021). Sustainable financial development for small medium coffee farmers in Sumedang Regency, Indonesia. *Journal of Entrepreneurship*, 4(14), 1–12.
- Rahardjo, B., Hasbullah, R., & dan Taqi, F. M. (2019). Coffee shop business model analysis. *Integrated Journal of Business and Economics*, 3(2), 140–152.
- Rahayu, S. (2022). Aplikasi “Kepri Travel Gate” Sebagai strategi dalam pengembangan industri pariwisata 4.0 Kota Batam Di era digitalisasi. *Social Issues Quarterly*, 1(1), 194–209.
- Ridhoi, R. (2021). Ada yang manis di timur Nusantara: Kosmopolitanisme tanaman tebu dalam historiografi Indonesia. *Sejarah Dan Budaya: Jurnal Sejarah, Budaya, Dan Pengajarannya*, 15(1), 164–182.
- Smith, N., Suthitakon, N., Gulthawatvichai, T., & dan Karnjanakit, S. (2019). Creating a coffee tourism network in the north of Thailand. *Local Economy*, 34(7), 718–729.
- Wang, M., Jiang, J., Xu, S., & dan Guo, Y. (2021). Community participation and residents’ support for tourism development in Ancient Villages: The mediating role of perceptions of conflicts in the tourism community. *Sustainability*, 13(5), 1–15.

Winarni, S., Yuwono, S. B., & dan Herwanti, S. (2016). Struktur pendapatan, tingkat kesejahteraan dan faktor produksi agroforestri kopi pada kesatuan pengelolaan hutan lindung batutegei (studi di gabungan kelompok tani karya tani mandiri),". *Jurnal Sylva Lestari*, 4(1), 1–10.