Gorga : Jurnal Seni Rupa
Vol 14. No 2, (2025) 654-661
ISSN 2301-5942 (print) | 2580-2380 (online)
https://dx.doi.org/10.24114/gr.v14i2. 68263
Available online : https://jurnal.unimed.ac.id/2012/index.php/gorga

Designing an Interactive Map as a Medium for Information on Facilities and MSMEs in Sukajaya Village, Way Khilau, Pesawaran

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***How to cite*:** Nugraha, A. R. & Rohiman, R. (2025). Designing an Interactive Map as a Medium for Information on Facilities and MSMEs in Sukajaya Village, Way Khilau, Pesawaran. *Gorga : Jurnal Seni Rupa*, *14* (2), 654-661. https://dx.doi.org/10.24114/gr.v14i2.68263

Article History : *Received: Agustus 5, 2025. Revised: September 9, 2025. Accepted: December 31, 2025*

ABSTRACT
The development of digital technology has changed the way people access and manage information, but the digital divide remains a challenge in some areas, including Pesawaran Regency, Lampung Province. This study aims to design and implement a digital-based interactive map as a medium of information on public facilities and micro, small, and medium enterprises (MSMEs) in Sukajaya Village, Way Khilau District. This study uses a qualitative descriptive method with a case study approach, through field observations, documentation, and literature reviews to understand the spatial, social, and economic conditions of the community. The design process integrates 5W+1H analysis and mind mapping to formulate a user-based information structure, while Adobe Illustrator and Figma are used in the visual digitisation and interactive interface development stages. The results of the study show that interactive maps can improve access to information, strengthen the visibility of local MSMEs, and encourage community participation in sustainable village development. This study concludes that interactive digital media is an effective solution to bridge the digital divide and support inclusive economic growth at the village level.

KEYWORDS

Interactive Map, Digital Media, Information System, MSMEs, Sukajaya Village

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INTRODUCTION

Indonesia is the largest archipelagic country in the world with a high level of cultural, ethnic and natural resource diversity. With a population of more than 270 million and more than 300 ethnic groups, Indonesia has great potential in the social, cultural and economic fields. This diversity is not only a national identity, but also a strategic asset which, if managed optimally, can support sustainable development (Kusuma et al., 2021: Fuadi, 2020).

In the last two decades, Indonesia has undergone rapid digital transformation. Information and communication technology has been integrated into various aspects of society, such as government through e-government, the economic sector through e-commerce, and the increasingly digitalised lifestyle of the people (Fauzi et al., 2023; Ardiansyah, 2023). This transformation has also encouraged innovation in various sectors, including education and the creative economy, through the development of digital media and technology-based information systems (Justin et al., 2022;Bahri & Rohiman, 2025).

This digital transformation has not been evenly distributed. Inequality in access to information remains a major challenge, particularly in remote areas that do not yet have adequate digital

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infrastructure. This inequality creates a digital divide that hinders equitable development (Damayanti, 2019). One province facing this challenge while also having great potential for digital development is Lampung Province, which has many creative MSMEs but has not optimally utilised digital platforms for promotion and business development (Muslimin et al., 2025)..

Lampung is known as a region rich in natural resources and cultural diversity, with economic potential in the agriculture, plantation, and tourism sectors. However, limited infrastructure and market access remain major obstacles to the development of micro, small, and medium enterprises (MSMEs). Pesawaran District, part of Lampung Province, is a clear reflection of this phenomenon. MSMEs in this region have produced quality products, but have not been able to reach a wider market due to weak information and marketing systems (Muliarto et al., 2017:Yulmaini et al., 2023). Efforts to optimise digital-based promotion have proven effective in increasing the competitiveness and exposure of local products (Sofiani et al., 2025).

Sukajaya Village in Way Khilau Subdistrict is an example of an area with significant economic and social potential, but this potential has not yet been fully realised. The main challenges in this village are limited access to information about public facilities and the existence of local MSMEs. The absence of an adequate information system has resulted in low visibility of MSME products and a lack of public awareness of available public facilities. The lack of information technology infrastructure also exacerbates information isolation, thereby hampering productivity and efficiency across sectors. A similar phenomenon was also seen in research on SME rebranding through visual identity design (Alim & Chandra, 2023) and visual identity design at the Ruang Keramik Studio SME in Metro City, Lampung (Justin et al., 2022), which showed the importance of visual innovation and information technology in strengthening the competitiveness of local products.

In the context of village development, access to information is a key factor. The availability of easily accessible data and information will encourage active community participation in development and strengthen the position of MSMEs in the local economic ecosystem (Firdaus et al., 2021). MSME Product Innovation Development also emphasises the importance of design innovation and local product development in order to compete in the global market (Septian & Leksono, 2020)

This issue highlights the importance of implementing information technology-based solutions to overcome barriers to information access in Sukajaya Village. The existing digital divide not only reflects the uneven distribution of development, but also contributes to the low economic competitiveness of the village. Therefore, strategic intervention is needed through the development of digital information systems tailored to regional characteristics, such as digital-based interactive maps, as also developed in the development of locally-based teaching materials (Efi & Sahara, 2020:Pranoto et al., 2021).

Interactive maps are considered one of the alternative solutions that can map the potential of villages in a visual, integral, and informative manner. Through these maps, the community can access data on public facilities and MSMEs quickly and efficiently. The interactive feature allows users to interact directly with the information displayed, thereby increasing their understanding and involvement in village development. The use of digital mapping can also be the basis for development planning, policy formulation, and increasing the competitiveness of MSMEs at the regional and national levels.

In addition, design innovation is also an important part of the process of developing technology-based visual media. Approaches such as designing ambient media as public service advertising media (Moussadecq et al., 2022), pottery craftsmanship using the SWOT approach to enhance product image during the pandemic (Arfa et al., 2023), and the exploration of organic mushroom shapes in the aesthetic design of nightstands (Sari et al., 2025) demonstrate the relevance of art, technology, and visual communication in creating effective interactive media.

The purpose of this study is to design and implement a digital-based interactive map in Sukajaya Village, Way Khilau District, Pesawaran Regency. The main objective is to improve public access to information related to public facilities and MSMEs, as well as to encourage the promotion and development of local MSMEs through the use of information technology. This study also aims

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to support the acceleration of digital transformation at the village level as part of inclusive and sustainable national development.

METHOD

This study utilises a descriptive qualitative approach with a case study method. This approach was chosen to provide an in-depth description of the actual conditions and complexity of the issues occurring at the research location, namely Sukajaya Village, Way Khilau Subdistrict, Pesawaran Regency (Creswell & Poth, 2016). This study focused on the design and implementation of digital interactive maps as a medium for public information and the potential of village MSMEs. The type of research was descriptive qualitative with a case study approach. The research subjects included village officials, local MSME actors, and the general public in Sukajaya Village. The research was conducted directly in Sukajaya Village, Pesawaran.

Data collection was carried out using three main techniques: 1. Literature study, to obtain the theoretical basis and research context from relevant journals, books, and reports. 2. Documentation, to obtain visual data and archives of field conditions, types of public facilities, and MSME profiles. 3. Field observation, to obtain empirical information about the geographical, social, and economic conditions of the community and the barriers to information access they face. The instruments used included: semi-structured interview guides for field observation; documentation cameras for taking pictures of locations; and digital/manual recording devices for recording observation results.

The analysis was conducted using two approaches: 5W+1H Analysis, to systematically formulate information needs based on the following aspects: what, why, who, when, where, and how. Mind Mapping, to organise the information structure, relationships between data, and map navigation flow holistically. The integration of these two techniques ensures that the resulting interactive map design is informative, meets local needs, and supports the sustainable empowerment of MSMEs and public facilities.

Mind Mapping Interactive Village Map Design
(source: RN. Andhiva, 2023)

RESULT AND DISCUSSION

1. Sketch Planning

The process of visualizing the interactive map of Sukajaya Village was carried out through a multi-stage design process, starting from manual sketching to spatial data integration. The initial stages were intended to formulate a visual form that was in line with the geographical and social conditions of the village, as well as relevant to the needs of the local community in accessing information related to public facilities and MSME activities. Manual sketches were chosen as the initial approach to develop flexible ideas for form and layout, starting with the marking of boundaries, road networks, and important points such as the village office, schools, places of

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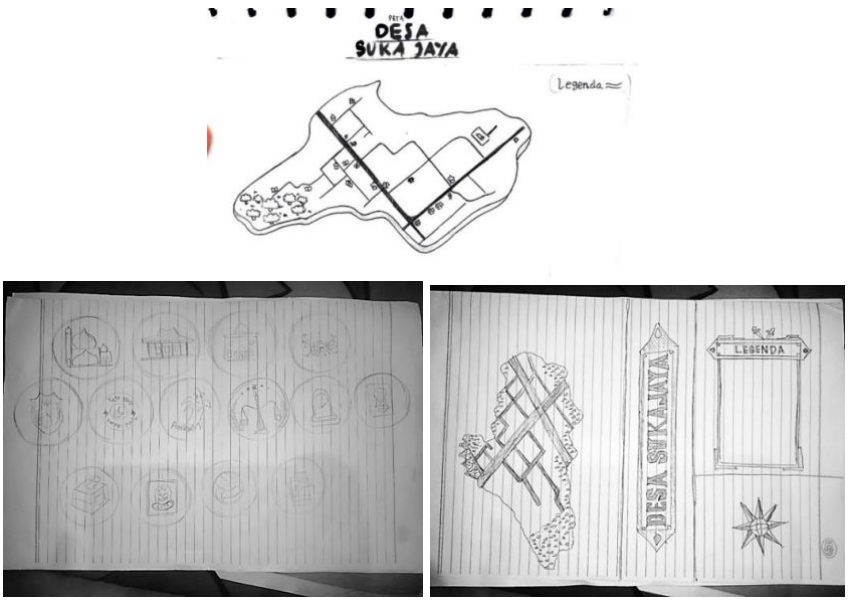
worship, and SME locations. This approach provides room for design exploration based on field realities and serves as the basis for the subsequent digitization stage.

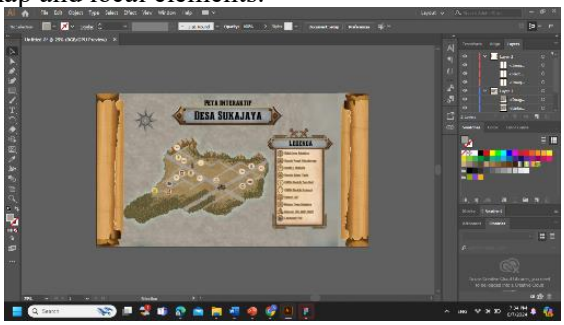


Sketch Map of Sukajaya Village
(source: RN. Andhiva, 2024)

Data collection for map compilation was carried out through direct observation of the location, with the aim of obtaining actual and valid empirical information. This technique allows researchers to document the structure of the village in detail, including its geographical location, infrastructure conditions, and the distribution of existing MSMEs. The observation process focused on verifying spatial positions and visual adjustments so that the information presented on the map is not only accurate in terms of data, but also visually communicative. The results of these observations were translated into manual drawings, which were then refined by adding geographical elements such as land contours, river flows, and vegetative areas that have important orientation values for users.

2. Digitization

After the manual stage is complete, geospatial data is integrated to improve location accuracy by referring to GPS coordinates and official topographic maps. The digitization process is carried out using graphic design and mapping software, where manual sketches are transformed into interactive visuals that contain informative elements such as icons, legends, and compass direction navigation. Each icon on the map is designed based on field observations, using a representative visual approach that resembles the original shape of the object in the field, whether it is a public facility or an SME. Some icons are adapted to the logo of the relevant SME to strengthen the visual identity and connection between the map and local elements.



The process of digitizing the main map display based on the final sketch
(source: RN. Andhiva, 2024)

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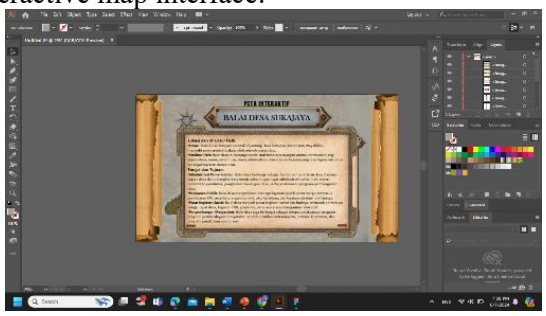
The main page display of the Sukajaya Village Interactive Map was created based on the final sketch that had been prepared beforehand, with the digitization process using Adobe Illustrator to ensure the accuracy of visual elements, design consistency, and readiness for integration into the digital interface.

The process of digitizing the window with a brief explanation based on the final sketch
(source: RN. Andhiva, 2024)

The brief description of each icon representing the landmarks of Sukajaya Village was designed based on the final sketch as the visual foundation, then developed through a digitalization process using Adobe Illustrator to produce the brief description of each icon representing the landmarks of Sukajaya Village. This process includes shaping, coloring, and adjusting the visual composition so that each icon is not only aesthetically consistent but also communicative and ready to be integrated into an interactive map interface.



The process of digitizing the detailed explanation window of the icon based on the final sketch
(source: RN. Andhiva, 2024)

Several key icons representing important elements in Sukajaya Village require more comprehensive explanations, so the menu design has been functionally adjusted to accommodate longer and more in-depth informative narratives, ensuring that information is conveyed to users in a complete and contextual manner.

The process of digitizing icons based on final sketches
(source: RN. Andhiva, 2024)

Each landmark in Sukajaya Village is represented by a visual icon specifically designed according to its characteristics, making it easy for users to intuitively and efficiently identify and navigate to the elements they are looking for on the interactive map.

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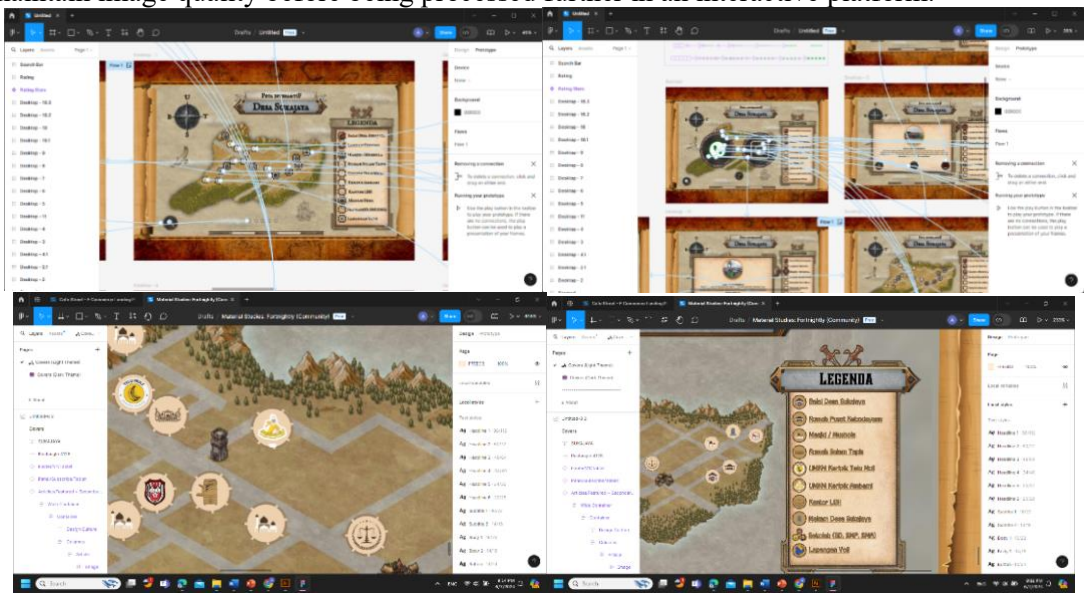
The map title, legend, and compass directions are also designed in an integrated manner, taking into account consistency in theme and visual style. The map title is placed within a special frame using typography that reflects the visual character of the overall design. The legend serves as a visual navigation guide, simplifying the process of locating specific places or objects on the map, while the compass rose is included to reinforce users' spatial orientation. The integration of all these elements collectively enhances the readability and usability of the map as an effective information medium.

Thus, the interactive map design approach based on observation and spatial integration not only produces precise visual representations but also strengthens the map's function as an inclusive information distribution tool. This process demonstrates that data accuracy, depth of field observations, and contextual visual design are the main foundations for producing interactive maps that are responsive to community needs, while also supporting more strategic and sustainable local development.

The digitalization of the interactive map of Sukajaya Village is a continuation of the manual sketches and field observations that were previously conducted, with the main objective of transforming static visual representations into more precise, interactive, and functional digital media. This digitalization was carried out to improve the accessibility of spatial information, expand the distribution range, and enhance the visual and navigational quality of the map. To achieve this, two main software programs were selected that complement each other in terms of technical and design functions, namely Adobe Illustrator for vector-based graphics processing and Figma for interactive interface development based on UI/UX principles. These two software programs were selected based on their ability to handle complex illustrative needs and support dynamic collaboration and prototype testing.

In the early stages of digitization, previously created manual sketches were scanned at high resolution to preserve visual details, then imported into Adobe Illustrator. Within this platform, all important elements such as village boundaries, road networks, public facilities, and geographical contours are digitally traced using vector-based tools. This process not only improves visual accuracy but also allows for aesthetic adjustments and the addition of elements that were not previously optimally depicted. Adobe Illustrator is also used to organize map layers based on specific categories such as topography, land use, and SME distribution, making it easier to integrate spatial data and perform further editing. Once the final composition is complete, the file is exported in PNG format to maintain image quality before being processed further in an interactive platform.



The Process of Applying UI&UX in Figma
(source: RN. Andhiva, 2024)

The transformation from a static digital map to an interactive interface is carried out using the Figma application, which excels in designing digital products based on user experience (UX) and

user interface (UI). Maps in PNG format are uploaded to the Figma workspace, and at this stage, interactive elements such as clickable icons, location markers, and visual indicators for public facilities and SMEs are systematically added. Each information point is assigned additional attributes such as descriptive text, documentary photos, or even multimedia elements like short videos, which serve to enrich the context and enhance users' understanding of the related location. The UI design process is structured to facilitate navigation with a clean and intuitive layout, while UX development focuses on smooth interaction and quick access to information

CONCLUSION

Digital transformation in Indonesia has brought about many positive changes, enabling faster and more efficient access to information across various sectors. The province of Lampung, particularly Pesawaran Regency and SukaJaya Village, is an example of an area with great potential but facing challenges in terms of access to information and technological infrastructure. Good access to information is essential to support economic and social development in these areas, helping communities identify public facilities and supporting the growth of local MSMEs. This study demonstrates that the appropriate use of information technology can overcome existing barriers and provide significant benefits for comprehensive development in remote areas. Efforts to improve information access are expected to support more inclusive and equitable economic development across Indonesia, in line with the nation's vision to become more advanced and inclusive.

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