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Designing Journeys Application Interface to Improve Indonesian UMKM Accessibility with a User Centered Design Approach

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a r t i c l e i n f o

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a b s t r a c t

This study examines the application of UI/UX principles to the "Journeys" mobile application to improve accessibility for MSMEs in the tourism sector, using the User-Centered Design (UCD) approach. Digital transformation in today's era offers great opportunities for MSMEs to promote their products and services to a wider audience. The UCD methodology, supported by the User-Based Collaborative Filtering system, is the core of designing an application that is aligned with user needs. The research phase involved user surveys and Focus Group Discussions (FGD) to explore needs, which were then manifested in user personas and customer journey mapping. The UI/UX design was prototyped with Figma, resulting in intuitive interfaces for the welcome screen, login, user profile, as well as destination exploration, social interaction, and itinerary planning features. The "My Ratings" and "Forge Your Route" features demonstrate a commitment to usability principles and community-based content integration. The "Journeys" application is expected to encourage the digital growth of tourism MSMEs and expand their market reach, support the development of local tourism human resources and the effectiveness of digital promotion. Evaluation using the System Usability Scale (SUS) showed an average score of 90,75 placing the application in the "Excellent" category and confirming its ease of use.

a b s t r a k

Penelitian ini mengkaji penerapan prinsip UI/UX pada aplikasi seluler "Journeys" untuk meningkatkan aksesibilitas UMKM di sektor pariwisata, menggunakan pendekatan User-Centered Design (UCD). Transformasi digital di era kini menawarkan peluang besar bagi UMKM untuk mempromosikan produk dan layanan mereka kepada audiens yang lebih luas. Metodologi UCD, didukung oleh sistem User-Based Collaborative Filtering, menjadi inti perancangan aplikasi yang selaras dengan kebutuhan pengguna. Tahap riset melibatkan survei pengguna dan Focus Group Discussion (FGD) untuk menggali kebutuhan, yang kemudian diwujudkan dalam persona pengguna dan pemetaan perjalanan pelanggan. Desain UI/UX diprototipekan dengan Figma, menghasilkan antarmuka intuitif untuk layar welcome, login, profil pengguna, serta fitur eksplorasi destinasi, interaksi sosial, dan perencanaan itinerary. Fitur "My Ratings" dan "Forge Your Route" menunjukkan komitmen terhadap prinsip usability dan integrasi konten berbasis komunitas. Aplikasi "Journeys" diharapkan dapat mendorong pertumbuhan digital UMKM pariwisata dan memperluas jangkauan pasar mereka, mendukung pengembangan SDM pariwisata lokal dan efektivitas promosi digital. Evaluasi menggunakan System Usability Scale (SUS) menunjukkan skor rata-rata 90,75 menempatkan aplikasi dalam kategori "Excellent" dan menegaskan kemudahan penggunaannya.

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1. Introduction

Almost all human lives are undergoing transformation in the current computer and internet era, including the tourism industry (Kusumaningtyas & Latifah, 2024). Small and medium-sized enterprises (UMKM) are seeing many opportunities thanks to digitalization, which is not only changing the way people seek information and plan their trips, but also giving them the opportunity to enter a wider market. According to Fernández-Díaz *et al.* (2023) Tourism is considered a right that everyone must enjoy. With digital platforms, MSMEs that were previously limited by limited access to promotions can now utilize technology to introduce their products and services (Iqbal Hasyim *et al.*, 2023) to local and foreign tourists. Based on Husein *et al.*, (2024) Businesses can easily introduce new goods or promotional packages to customers. An increase in customer loyalty of 25% can be achieved through product diversification through digital platforms. Indonesia with its rich culture and diverse natural beauty attracts millions of tourists every year (Rafiqh & Ismail, 2023).

This provides opportunities for those who want to sell, be it cultural products such as handicrafts, traditional fabrics, to local tourism experiences such as typical culinary, cultural attractions, and community-based vacation packages (Anan *et al.*, 2024). Previous research has shown that Human Resource Management (HRM) training is an important strategic approach to improve the quality of tourism and strengthen village communities through human resource development. The data also shows significant investment from governments and NGOs in improving the capabilities of tourism human resources. To ensure successful tourism growth, integration of management functions and collaboration between stakeholders is essential (Anan *et al.*, 2024). The introduction of tourist destinations can be optimized through a rating system supported by the *User Centered Design* (UCD) approach, by focusing on experience research and user reviews. The user-focused design method (UCD) puts the user on the design process, allowing them to participate and exert influence on the design being created (Amini *et al.*, 2021). In this context, approaches such as *collaborative filtering* are often used in recommendation systems, by calculating the accumulated ratings or user preferences for a product to provide relevant suggestions (Februariyanti *et al.*, 2021). Figma is used as an interactive prototype design tool in this study to design UI/UX-based applications. Figma was chosen for its ability to support teamwork in real-time and the ability to create a responsive and user-friendly interface. The application of UCD *(User-Centered Design)* was chosen because this method allows the application design process to be carried out based on the real needs and preferences of users (Muktaman *et al.*, 2023). Because users are put first at every stage of development, designs are made more relevant, easy to use, and capable of providing a better user experience. To support this, user-based collaborative filtration methods allow the system to make recommendations based on shared preferences and interests between users (Hariri & Rochim, 2022). In this way, recommendations that are more in line with the user's interests and habits can be accepted, increasing engagement in the use of the app.

2. Research Methodology

Because the user-centered design (UCD) approach focuses on the needs and convenience of users when creating applications, this study found that this approach is the best to address this issue (Donni *et al.*, 2024). The UCD method ensures that the system is built to meet the needs and expectations of the user. This allows for an improvement in the overall user experience.

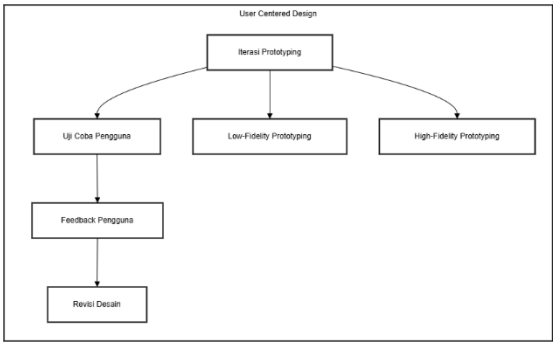

Figure 1. Managemen UCD

The collaborative filter system allows users to access other users' reviews based on comparable ratings and

preferences. According to Hartatik *et al.* (2021), a recommendation system is a method for providing recommendations based on user ratings or other factors. According to Sutjiningtyas *et al.* (2022), buyers consider reviews and customer reviews because they believe that consumers will be more confident to buy products with good reviews or reviews. The research process begins by determining issues related to the possibilities of digitalization for tourism UMKMs and the importance of emphasizing user needs. Data from surveys will be analyzed through data analysis, which can be done with quantitative or qualitative techniques (Erlina *et al.*, 2024), while data from FGD (Focus Group Discussion) and focus group discussions will be analyzed qualitatively to gain a deeper understanding of user perspectives. These two analyses will be used as the basis for the creation of personas, archetypal representations of the target user. The final stage of this research methodology is customer journey mapping. Aim to find out how the user experience interacts with the designed solution (Afraah & Aghniya, 2025). The System Usability Scale (SUS) method will be used to assess the usability of the "Journeys" application. The main goal of SUS is to find weaknesses in applications that can be fixed to improve the user experience (UX) (Flendio *et al.*, 2024).

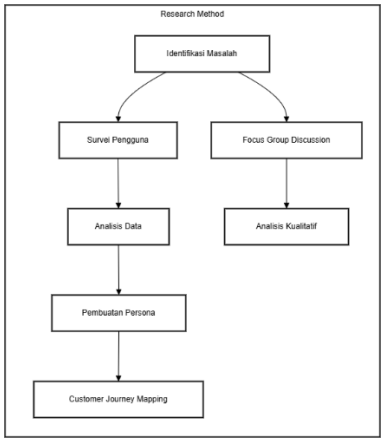

Figure 2. Research Method

It is essential to use the right research methodology to understand the context of the use and the user environment (Wulandari & Voutama, 2023). This study shows that user-centric design, which pays attention to the user's needs and wants throughout the design process, can be applied directly. Functional specifications, information architecture, and user flow are thoroughly planned in the creation plan once user understanding is gained.

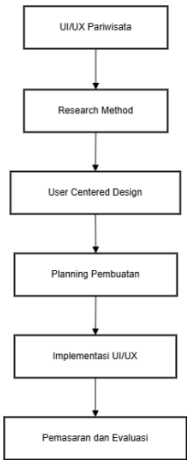

Figure 3. Waterfall Structure Method

The creation of an application called "Journeys" which focuses on promoting tourist destinations and local UMKM products. The design process will be carried out using Figma, a UI/UX design platform that allows for the creation of interactive prototypes efficiently and collaboratively (Karimah *et al.*, 2024). To ensure that every feature and appearance of the Journeys app is truly tailored to the needs of users, both tourists and UMKM entrepreneurs, a user-centric design method will be applied. In addition, a user collaboration-based recommendation system will be implemented to suggest local products, destinations, and services based on other users' preferences and reviews.

3. Hasil dan Pembahasan

Hasil

Figure 4. User Persona

The results of the user persona analysis showed that potential users, such as Putu, a 21-year-old Balinese youth, had very specific needs to support tourism promotion campaigns and local small and medium enterprises. Due to her background of being actively involved in community-based promotional activities, Putu has struggled to reach a larger audience due to the limitations of the platforms she uses, such as personal social media and public apps, which are not focused on developing local potential. The Journeys app is designed by focusing on three main elements ranging from a customized user experience through the UCD approach, ease of access for local actors, and a recommendation system based on user preferences. It is hoped that this implementation will help tourism-based small and medium-sized businesses grow digitally and expand their market reach to local and international tourists.

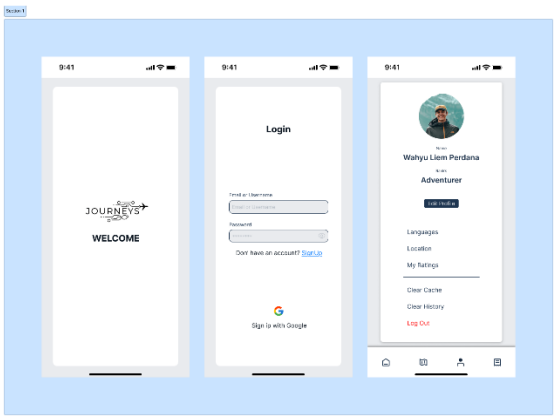

Figure 5. Prototype Splash Screen View

The UI/UX design (welcome screen, login, and profile) is a tangible result of the user-centric development process. It shows strong user needs and preferences, such as the ease of login and the "My Ratings" feature for reviews, which were obtained from initial research. Therefore, this design shows a real example of planning and implementation of designs that are easy to use, relevant, and empower users in a digital tourism environment.

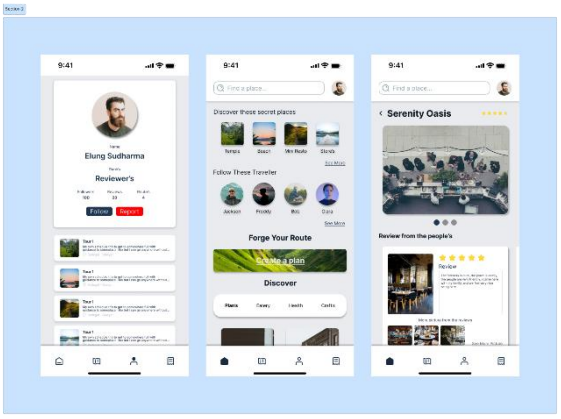

Figure 6. Prototype Profile View

The results of UI/UX implementations that focus on social exploration and interaction are shown in Figure 6. By showing the features that support the User-Centered Design (UCD) system. It aims to facilitate evidence-based decision-making and user-generated content by offering user profiles, recommendation pages, and destination details full of reviews. This shows how the app uses user community information to improve the search experience and selection of tourist attractions.

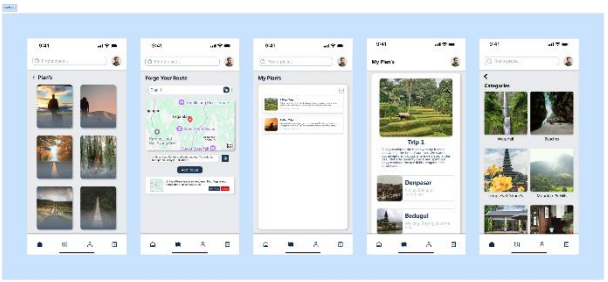

Figure 7. Prototype Home View

The existence of the "Forge Your Route" and "My Plan's" features directly reflects the needs of users to plan and manage their trips. The ability to view itinerary details ("Plan Opened") and browse destination categories ("Categories") indicates an effort to provide structured and accessible information, improving the efficiency of the user experience. Although the collaborative filtering feature is not directly displayed here, the itinerary created or the categories explored can be data used for future recommendations, or even shared for the benefit of the community, in line with the principles of User-Based Collaborative Filtering. Thus, this design explains the design that is functional and

oriented to the needs of users in organizing and exploring tourism destinations. The results of the assessment on the system usability scale (SUS) are calculated using the following formula:

Keterangan :
$\bar{x}$ = nilai rata-rata
$\sum x$ = jumlah nilai SUS
n = jumlah responden

$$\bar{x} = \frac{\sum x}{n} \quad (1)$$

Table 1. SUS Result

		Score
Respondend	SUM	SUM*2.5
1	36	90
2	37	92,5
3	36	90
4	34	85
5	37	92,5
6	37	92,5
7	35	87,5
8	38	95
9	36	90
10	37	92,5
Score Total		907,5
Average		90,75

The average result of the respondents' score showed a score of 90.75 where According to the interpretation of the SUS standard, a score between the value range of 85 – 100 is included in the "Excellent" category and shows that the application is considered easy to use, intuitive, and feasible to use in real terms (Nisrina *et al.*, 2025). The primary goal of using SUS is to identify weaknesses in applications that can be improved to improve the user experience (UX) (Flendio *et al.*, 2024). Thus, SUS serves as a quantitative tool to evaluate the usability of a system and provides a basis for further improvement.

Discussion

The analysis of user personas revealed specific needs of the target users, exemplified by Putu, a young Balinese actively engaged in community-based promotional activities. This finding aligns with Amini *et al.* (2021), who emphasize the importance of thoroughly understanding user characteristics to create relevant and effective designs. The application of the User-Centered Design (UCD) approach in developing the "Journeys" app allowed for tailoring features to actual user needs, consistent with Muktaman *et al.* (2023), who demonstrated that user-focused design enhances engagement and satisfaction. The integration of a collaborative filtering recommendation system further strengthens content relevance, supporting Hariri and Rochim's (2022) findings that this method improves recommendation accuracy by leveraging the preferences of similar users. The interface design produced through Figma prototypes exhibits intuitive and accessible elements, facilitating smooth navigation across welcome screens, login, and user profiles. This corresponds with usability principles outlined by Flendio *et al.* (2024), which highlight that simple and responsive interfaces contribute significantly to improving user experience. Social and exploration features, such as recommendation pages and destination reviews, address users' needs for trustworthy, experience-based information, as noted by Sutjiningtyas *et al.* (2022), who stress the influence of customer reviews on purchasing decisions. Moreover, trip planning features like "Forge Your Route" and "My Plan's" enable users to manage itineraries in a structured and efficient manner. This approach supports Erlina *et al.* (2024), who found that easy access to information and itinerary management enhances user satisfaction and encourages sustained application use. The System

Usability Scale (SUS) evaluation, yielding an average score of 90.75, indicates that the "Journeys" app meets high standards of usability, consistent with the interpretation by Nisrina *et al.* (2025). These results reinforce that combining UCD with collaborative recommendation techniques can produce effective digital products well-received by users. Overall, this study confirms that integrating a user-centered design approach with adaptive recommendation technology can significantly improve the accessibility and competitiveness of MSMEs in the tourism sector. This conclusion echoes Kusumaningtyas and Latifah (2024), who argue that digital transformation must be accompanied by responsive strategies to user needs in order to promote inclusive and sustainable growth in tourism.

4. Conclusion

This research successfully applies UI/UX principles with a User-Centered Design (UCD) approach to develop the "Journeys" application which aims to improve the accessibility of UMKM in the tourism sector. The use of the UCD method ensures that the application design is centered on the user's needs and preferences, resulting in an intuitive and functional interface, as seen on the welcome screen, login, and user profile. The app's key features, including "My Ratings" and "Forge Your Route", directly reflect the user's need to provide reviews and plan their trips. Although the collaborative filtering feature is not explicitly displayed on the travel prototype, the concept is integrated through potential itinerary or category data that is explored for future recommendations and information sharing between communities, in line with the principles of User-Based Collaborative Filtering. The resulting design shows a functional design and is oriented to the needs of users in organizing and exploring tourism destinations. The app's usability evaluation using the System Usability Scale (SUS) showed an average score of 90.75, which was categorized as "Excellent". These results indicate that the "Journeys" app is considered easy to use, intuitive, and feasible for real users to use. Thus, the "Journeys" app is expected to not only connect customers with local products and destinations, but also significantly empower tourism UMKM by digitally expanding their market reach.

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