Evaluation of User Experience of Online Food Ordering Applications Using the Usability Method

Muhammad Haikal Azzadin*[1], Rizky Fadilah Akbar[2], Muhammad Ainul Yaqin[3]
[1,2,3] Universitas Islam Negeri Maulana Malik Ibrahim, Jalan Gajayana 50, malang, Indonesia
[1]220605110157@student.uin-malang.ac.id [2]220605110159@student.uin-malang.ac.id
[3]yaqinov@ti.uin-malang.ac.id

*Corresponding Author

Abstract

The online food ordering application industry in Indonesia has experienced significant growth in recent years, driven by increased internet penetration, widespread smartphone usage, and shifts in consumer lifestyles characterized by busyness. This growth has led to intensified competition among various online food ordering applications. These applications not only simplify the ordering process for busy individuals, such as office workers, but also provide food vendors with effective platforms to reach a broader audience in this rapidly evolving technological landscape. The primary objective of this research is to evaluate the user experience of three prominent applications: GrabFood, ShopeeFood, and GoFood. By conducting this evaluation, the study aims to identify the strengths and weaknesses in the user experiences offered by these applications. The research employs the Usability Method, which is integral to designing and developing optimal user experiences. Data collection involves conducting interviews and usability testing with fifteen or more respondents, facilitating a comprehensive assessment of user interactions with the applications. The findings of this study reveal critical insights into user satisfaction and highlight key areas for improvement within each application. By addressing user experience deficiencies, developers can enhance the overall effectiveness and user enjoyment of online food ordering applications. In conclusion, the implications of this research underscore the necessity for continuous evaluation of user experience in the context of rapidly evolving digital services. Future research should explore additional user demographics and incorporate more extensive usability testing to further refine these platforms.

Keywords: Evaluation, User Experience, Usability, Design Thinking.

.
INTRODUCTION

The rapid development of internet technology and mobile applications has significantly transformed modern life, enabling various innovations, including online food ordering applications. These applications have revolutionized the way we obtain food by eliminating the necessity to physically visit food establishments, instead allowing users to conveniently order their favorite meals directly through online platforms [1].

This convenience not only enhances user satisfaction but also broadens the options available to consumers, providing greater flexibility in meeting their dietary needs. The emergence of online food ordering has influenced food consumption practices and shifted user behaviors and lifestyles, offering unprecedented convenience in managing diets and daily schedules [2].

However, the effectiveness of an online food ordering application hinges not only on the variety of food options available but also on the user experience (UX) it delivers. UX plays a pivotal role in determining user engagement and overall satisfaction with the application. Consequently, evaluating UX is essential for measuring the quality and usability of an online food ordering app [3][4].

Usability methods have emerged as a prevalent approach for assessing an app's UX. This approach facilitates a comprehensive evaluation of various aspects such as navigation, interface clarity, efficiency of the ordering process, and the application's responsiveness [5][6].

Despite the growing body of research in this area, gaps remain regarding specific user experiences related to various online food ordering applications. Previous studies have primarily focused on general usability, leaving aspects of user engagement and satisfaction inadequately explored. Addressing these gaps is crucial for enhancing the functionality and appeal of these applications.

This study aims to focus on the user experience of major online food ordering applications in Indonesia, specifically examining GrabFood, ShopeeFood, and GoFood. By evaluating their usability and identifying areas for improvement, this research seeks to contribute valuable insights for developers and stakeholders striving to enhance user satisfaction and optimize service delivery in the industry.

METHODS
DATA USED IN RESEARCH

The data utilized in this study pertains to the evaluation of user experience for online food ordering applications, specifically GrabFood, ShopeeFood, and GoFood. The following data types will be collected:

a) User Data

- User Preferences: This dataset includes information regarding food choices, desired features within the application, layout preferences, and general design inclinations [7].
- Previous User Experience: This data encompasses users' past experiences with similar applications, providing a comparative basis for evaluating the app being assessed.

b) User Interaction Data

- Usage Time: It records the duration users spend within the application during each session. This metric is essential in assessing the app's efficiency and engagement levels.
- Navigation Flow: This includes data on how users navigate through various sections or screens of the app, which is critical for evaluating navigation ease.
- User Errors: This dataset captures errors encountered by users while interacting with the app, which may include missteps in form submissions or navigation issues.

c) Feedback and Survey Data

- Feedback: Direct feedback from users regarding the app's advantages and disadvantages will be obtained through surveys, user reviews, and direct interactions.
- User Satisfaction Scale: This metric will quantify user satisfaction levels for further analysis.

RESEARCH DESIGN

The research design to evaluate the user experience of online food ordering applications consists of several key components:

a) Literature Review:
   A thorough review of existing literature will be conducted, focusing on user experiences related to the design and usability of previous online food ordering applications (specifically GrabFood, ShopeeFood, and GoFood).
b) Data Collection:

Data will be gathered after the research activities, including user interactions, feedback, and performance metrics.
c) Data Analysis:
The analysis will provide in-depth insights into user challenges when using the applications and their interactions with various features and screens.
d) Usability Evaluation:
This phase will include user testing, expert evaluations, and heuristic analysis to systematically assess the usability of the applications [8][9].
e) Recommendations for Improvement:
Based on the results of data analysis and usability evaluations, the research will offer actionable recommendations aimed at enhancing the user experience of the applications [10].

By employing this comprehensive methodology, the study seeks to deliver valuable insights into the user experience of online food ordering applications and identify potential areas for refinement.
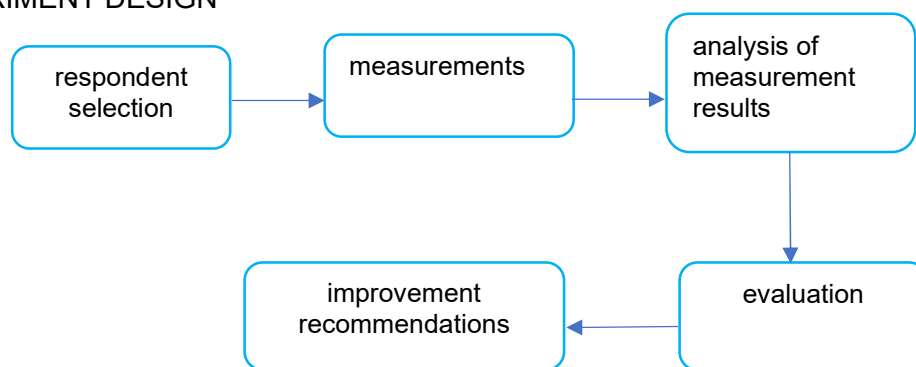
EXPERIMENT DESIGN

Figure 1. Experiment Design

a) Respondent Selection: Online food ordering application users in areas covered by the three platforms, namely GrabFood, ShopeeFood, and GoFood.
b) Measurement: The user satisfaction scale will be measured using a survey with structured questions.
c) Analysis of Measurement Results: Includes comparison data between different app user respondents.
d) Evaluation: This evaluation will involve UI/UX experts to assess the application design and provide recommendations.
e) Improvement Recommendations: Improvements include UI design improvements, performance enhancements, and customization of certain features.

RESULTS AND DISCUSSION
To evaluate user satisfaction with the use of an application, a frequently used method is to use a questionnaire after the user has completed a specific task. One type of questionnaire commonly used for this purpose is the Single Ease Question (SEQ). It offers 4 scales of difficulty, ranging from very difficult to very easy. SEQ questionnaires are used to assess the difficulty level of a task and are completed by users after they have completed a given task.

The tasks selected in this test are based on the functions found on the online food ordering application pages (GrabFood, Shopefood and Gofood), as in table 1. From these tasks, a question can be obtained that can find out what shortcomings and difficulties are obtained from the respondents' answers, as in table 2.

Table 1. List of tasks selected in the usability testing of GrabFood, Shopfood and Gofood applications.

No	Task Name
1	Finding food or a place to eat
2	View food categories
3	Specify the delivery address
4	Select a menu from the recommendation list
5	Select a menu from the promotions list
6	Change the theme or appearance of the app

Table 2. List of questions about the user experience of the GrabFood, Shopfood and Gofood applications.

No	Question
1	Which Online Food Ordering App Do You Use?
2	Does using the app make it easier for you to order food?
3	When using the app for the first time, was it easy to learn?
4	Were there any difficulties in learning it? What difficulties did you face?
5	Do you think the design of the application you use makes it easy to find the desired food or place to eat?
6	Do you think the design of the application you use makes it easy to order food?
7	What do you think are the advantages of the user experience of the application you are using?
8	What do you think are the shortcomings of the user experience of the application you are using?

The data indicated that respondents preferred using the ShopeeFood application over GrabFood and GoFood, with usage percentages of 52.9% for ShopeeFood, 41.2% for GrabFood, and 0% for GoFood. Several user experience issues were identified through respondent feedback, which include:Participants found the menu selection process overly complicated and difficult to navigate.

1. Many were unaware of the existence of a map feature when selecting a delivery address.

2. Respondents did not realize that some menus were part of ongoing promotions.
3. The lack of categorization of food items by type sometimes led to confusion.
4. Some restaurants did not provide food photos during the menu selection process.
5. The Cash on Delivery (COD) feature was restricted to a single transaction at a time, preventing its use in multiple concurrent orders if a previous order was still pending.

DESIGN AND IMPLEMENTATION
Following the testing phase, several design improvements were proposed to address identified user experience issues, aiming to enhance usability and user satisfaction:

1. Improved Maps Features (Figure 2)
   The address icon in the maps feature was redesigned and repositioned to the footer of the main page, as depicted in Figure 2. This adjustment makes the feature more immediately noticeable to users. Additionally, users can now set a default address, allowing them to place orders without repeatedly entering their address information.
2. Food Categorization (Figure 3)
   As shown in Figure 3, a system for categorizing food items based on type was introduced. This improvement simplifies navigation and menu selection for users.
3. Adding Categories on the Home Page (Figure 3)
   Enhanced the main page by adding categorized sections, illustrated in Figure 3, to facilitate easier exploration of the menu based on available categories. This change significantly improves the overall navigation experience.
4. Promotion Visibility
   Promotions are now clearly displayed on the main page of the application, ensuring users are aware of ongoing offers and can take advantage of them.

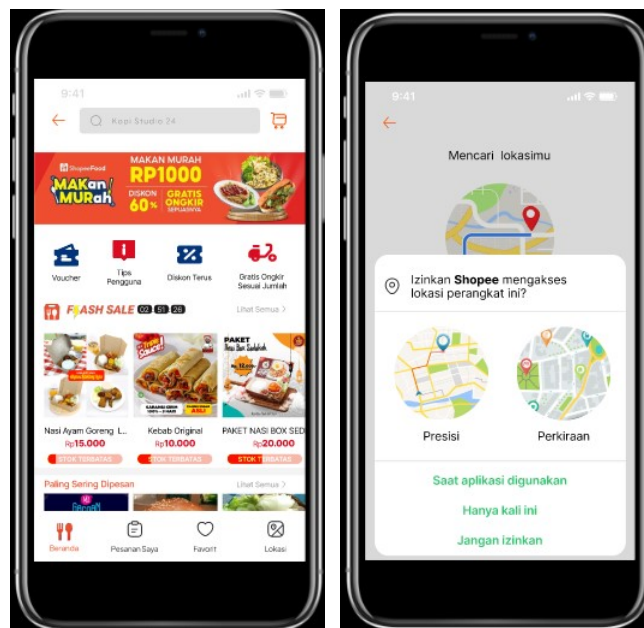IMPLEMENTATION OF MAPS FEATURE IMPROVEMENTS

Figure 2. Improved Maps Features

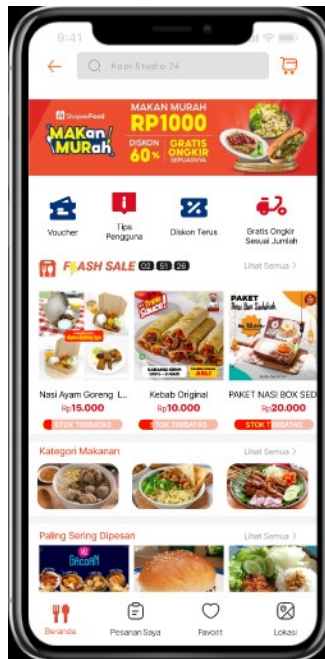IMPLEMENTATION OF CATEGORY ADDITION BASED ON TYPE

Figure 3. Adding Categories on the Home Page

CONCLUSION

The study showed that the ShopeeFood application was used more frequently by respondents compared to GrabFood and GoFood, with a usage percentage of 52.9% for ShopeeFood, 41.2% for GrabFood, and 0% for GoFood. ShopeeFood excelled in SEQ testing, which included efficiency and simulation, achieving better overall results compared to GrabFood and GoFood. This indicates that ShopeeFood's features and interface are more effective in meeting user needs. These findings suggest that ShopeeFood has the opportunity to further increase its market share by addressing some aspects of user experience that were identified as problematic. This could positively impact user satisfaction and application usage frequency. This study is limited by the relatively small number of respondents, only seventeen, and the data collection methods, which included only interviews and questionnaires. These may not fully represent the experiences of all application users. Future research could expand the number and diversity of respondents to gain more representative results. Additionally, further exploration of other features and in-depth analysis of user behavior could provide more valuable insights. It is hoped that the online food ordering app can continuously provide a better experience, enhance user satisfaction, and ultimately increase the number of users and the frequency of orders. Continuous evaluation and regular updates are essential to ensure the app remains relevant and competitive in an ever-evolving market.

REFERENCES

[1]   D. D. Prasetya, "Membuat Aplikasi Smartphone Multiplatform". Jakarta: *PT. Elex Media Kompatindo*, 2013.

[2]   G. Pigatto, J. G. de C. F. Machado, A. dos S. Negreti, and L. M. Machado, "Have you chosen your request? Analysis of online food delivery companies in Brazil," *British Food Journal*, vol. 119, no. 3, pp. 639–657, 2017. doi: 10.1108/BFJ-05-2016-0207.

[3]   F. Z. Ridwan, D. Hardianto, and Y. G. Sucahyo, "Analisa Usability untuk Mengetahui User Experience Pada Aplikasi Berbasis Web," *in Proceeding Konferensi Nasional Sistem dan Informasi*, 2008, pp. 186–191.

[4]   H. Hoehle and V. Venkatesh, "Mobile application usability: Conceptualization and instrument development," *MIS Q. Management Information System*, vol. 39, no. 2, pp. 435–472, 2015. doi: 10.25300/MISQ/2015/39.2.08.

[5]   S. R. Wardhana, D. Purwitasari, and S. Rochimah, "Analisis Sentimen Pada Review Pengguna Aplikasi Mobile Untuk Evaluasi Faktor Usability," *Jurnal Sistem dan Informatika*, vol. 11, no. 1, pp. 128–136, 2016, doi: 10.30865/jurikom.v9i6.5295.

[6]   U. Ependi, T. B. Kurniawan, and F. Panjaitan, "System Usability Scale Vs Heuristic Evaluation: A Review," *Simetris Jurnal Teknik Mesin, Elektro dan Ilmu Komputer*, vol. 10, no. 1, pp. 65–74, 2019. doi: 10.24176/simet.v10i1.2725.

[7]   N. Bevan, J. Carter, and S. Harker, "ISO 9241-11 revised: What have we learnt about usability since 1998?", *in Lecture Notes in Computer Science*, vol. 9169, pp. 143–151, 2015.

[8]   N. G. R. S. Diatmika et al., "Perancangan User Interface dan User Experience Aplikasi Pemesanan Menu Restoran," *Jurnal Ilmiah Teknologi dan Komputer*, vol. 3, no. 2, pp. 1051–1060, Aug. 2022. doi: 10.24843/jtrti.2022.v03.i02.p04.

[9]   D. Karim and H. B. Santoso, "Perancangan Dan Usability Evaluation Prototipe Informasi Akademik Menggunakan Metode Rapid Application Development," *Jurnal Ilmiah ILKOMINFO-Ilmu Komputer & Informatika*, vol. 2, no. 2, pp. 68–79, 2019. doi: 10.47324/ilkominfo.v2i2.33.

[10]   A. Damayanti, S. H. Wijoyo, and A. N. Rusydi, "Evaluasi Usability dan Perbaikan Desain Antarmuka Pengguna Aplikasi Mobile Library Perpustakaan Kota Malang menggunakan Metode Usability Testing," *Jurnal Pengembangan Teknologi Informasi dan Ilmu Komputer*, vol. 3, no. 9, pp. 10427–10434, 2019. doi: 10.31090/narodroid.v1i2.71.