Interface and User Experience Design in Selalulaku Applications Using Lean UX Methods

Brahmantio Widyo Trenggono [a,1,*]

[a] Information Technology Departmen Universitas Pembangunan Nasional "Veteran" Jawa Timur, Surabaya, Indonesia
[1] brahmantio25@gmail.com*
* corresponding author

ARTICLE INFO

Keywords
Selalulaku
interface
User experience
Lean ux
Online shopping

ABSTRACT

Consumptive behaviour often occurs in the younger generation, where changes in appearance and lifestyle have become essential today, especially in purchasing goods online. Online shopping events in Indonesia are interesting to study further because they have become a habit or trend for the younger generation, especially since they are easy to access anytime and anywhere. User interface and user experience are essential things that are useful for making it easier for users to operate applications, obtain responses from application services, and meet and understand user needs. Therefore, this research aims to design the user interface and user experience of the mobile-based Selalulaku application using the Lean UX method. This research found that the overall average score was 1.34, with a comparative value of "Good". So, it can be said that the interface design and user experience regarding efficiency, functionality and appearance received a "Good" rating.

1. Introduction

Consumptive behaviour often occurs in the younger generation, where changes over time in appearance and lifestyle have become an important aspect today, especially in purchasing goods online. Online shopping events in Indonesia are interesting to study further because online shopping has become a habit or trend for the younger generation, especially since it is easy to access anytime and anywhere [1].

The convenience of shopping online is very beneficial for consumers because it saves daily time, especially when selling used goods that are still suitable for use and have a reasonably high selling value, which benefits both sellers and buyers. There has increased in the use of e-commerce in Indonesia. In 2015, there were 92 million users, and in 2020, there was an increase of 215 million people, 18 million of whom were e-commerce users in Indonesia. Furthermore, in 2025, it is predicted that 119 million e-commerce users will be in Indonesia [18].

As quoted from antarnews.com, Indonesians sell and buy used goods online. 8 out of 10 Indonesians are willing to sell used goods full of meaning or value. This is necessary to achieve effectiveness and efficiency in online transactions for used goods. However, there are several aspects to guarantee users when carrying out buying and selling activities, such as comfort, security, convenience and so on.

The level of consumer satisfaction with a product or service is measured after receiving the service provided according to the user's expectations or desires. User Interface and User Experience are important things that are useful for making it easier for users to operate applications, obtain responses from application services, and meet and understand user needs.[16]

Several research aims to developed UI/UX using Lean UX includes: in [1] explained the increasing number of startups in Indonesia; however, there were many failures of 90%. His research found that the influence of UI/UX analysis and design is an aspect that needs to be considered because online guidance currently needs to be carried out. Due to limited costs, Fewer startups are run efficiently and effectively. Therefore, the design of this research platform uses the Lean UX method. The research results show that positive user experiences and better usability are significant for further development of the private tutor ordering application prototype, which plays a vital role in acceptance, satisfaction and efficiency in using the Less-ON application. Then, the user interface obtained a SUS score of 85.53, which is above average and acceptable.

Another research in [2] explains the activity of memorizing the Al-Quran, which has become a learning program so that with the development of the times, it is hoped that this research can bring the Al-Quran closer to users so that it can provide ease in the memorization process. Then, in the research results obtained, several features that have been provided have received a positive response, and two features still need to be considered more because users still feel that they have not found it easy. However, researchers reviewed it and got a positive response.Then in [3] explains the use of tourism websites for domestic and foreign tourists to maximize information about tourist attractions such as categories, facilities, visiting hours, and location map. The research results show 2 stages of iteration so that it gets a positive response from users so that it can be said to be suitable for use and by user expectations, where in iteration 1 to iteration 2, there is an increase of 62%.

Researcher in [3], explained developing a service or e-government to accommodate online public services in North Bogor District. The research results showed that the first stage of Declare Assumptions was obtained from field observations with 3 assumptions, namely that people need the online licensing feature, the licensing status feature, and the profile change feature. Then, continue creating an MVP and making a low-fidelity and high-fidelity prototype after brainstorming with the team. Next, run an experiment where team members evaluate the prototype internally, such as service flow that still needs to be responsive, button colours that are not uniform, the footer section is too busy, and so on. In [4] explains the campus knowledge information system which plays a role in providing opportunities for students to develop themselves in various cheerful activities such as science which can be accessed by all students wherever and whenever. In the research results obtained, the first stage of Declare Assumptions obtained from IT Telkom Purwokerto students contained 5 main features: news, group discussions, knowledge sharing, and comments on events and bookmarks. Similar with [5,6,7,8,9,10,11] this research aims to design the user interface and user experience of the website-based Selalulaku application using the Lean UX method. Based on this goal, it can provide a place for users to buy and sell and help businesses buy and sell used goods with comfort, security and convenience for their users.

2. Method

This section explains the systematically carried-out research steps. These stages help achieve output by existing rules or norms. This research uses the Lean UX method; the stages can be seen in Figure 1.

In this research, problem identification or the Lean UX method, namely Declare Assumption, obtains information through a questionnaire with the help of Google Forms. This is done to determine users' needs and expectations, such as deciding what features are expected and what kind of comfort to meet user expectations. Respondents in this study were workers and teenagers aged 20 to 30 who were interested in shopping. At the literature study stage, search for references such as journals, books and similar research regarding user experience.

Then, at the planning stage or when Creating an MVP, design a wireframe, namely Low fidelity and High fidelity, using Miro and Figma, which is supported by colour, animation, etc. After the design, testing involved 15 respondents who used the Lean UX method. The results of this test show that a design can run well and meet the user's needs.

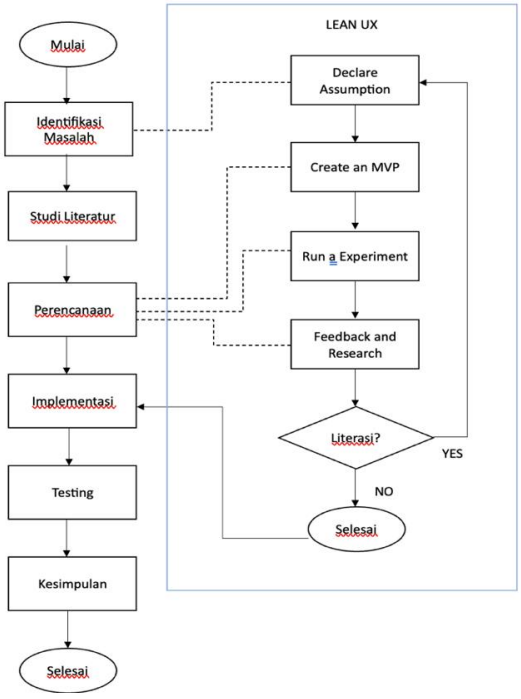

Fig. 1. Research methods

Furthermore, this research processes the output from the previous stage, where the Feedback & Research stage must know the feedback from respondents or users who use the Selalulaku application. This is very useful for increasing user expectations for the Selalulaku application..

3. Results and Discussion

3.1. Declare Assumptions

At this stage, potential users' assumptions are declared based on problem statements, beliefs, and user personas.

a. Problem Statement

This list of assumptions was collected using a Google Form questionnaire. After obtaining the questionnaire results, the list of assumptions became a reference and limitations in using features when designing the application. User personas can also provide additional information and detailed descriptions of potential users.

Table 1. Problem Statement

No.	Problem Statement
1	The Selalulaku application is designed for users to sell used, usable goods easily. Currently, similar e-commerce does not meet users' needs, so users are unsatisfied when using e-commerce.
2	The Selalulaku application is targeted at students and workers where the current conditions of e-commerce can only be understood by teenagers.
3	The Selalulaku application is expected to become an e-commerce platform selling used goods that can meet users' needs with features that suit their needs. E-commerce has too many features not necessarily used, so users must take a long time to operate one activity

b. Assumptions

The following list of assumptions results from a questionnaire of 10 respondents who expressed their assumptions. These assumptions will then be analyzed and can also become a limitation in providing a feature in the Selalulaku application.

Table 2. Respondents' Assumptions

No.	Assumption
1	User needs are only for buying and selling transactions with features that are simple and easy to understand
2	Flexible design display layout and use of colours that are still comfortable when used
3	Feeling clear navigation directions from the application also influences the user's completion of the goal
4	Users need a search feature and several menu options to support searches
5	Use buttons that are clear and can be read to understand the function and differences between icons or other features
6	The use of attractive colour compositions can increase user comfort when operating
7	The importance of the elements contained in the application always depends on the user's needs.

c. User Personas

Next, consider the User Persona so that the features and appearance are provided by the users' needs and understanding when operating the application.

d. Feature

The design of the features that will be built is based on an analysis of user personas and a list of assumptions. This research uses user flow to depict the flow or feature steps.

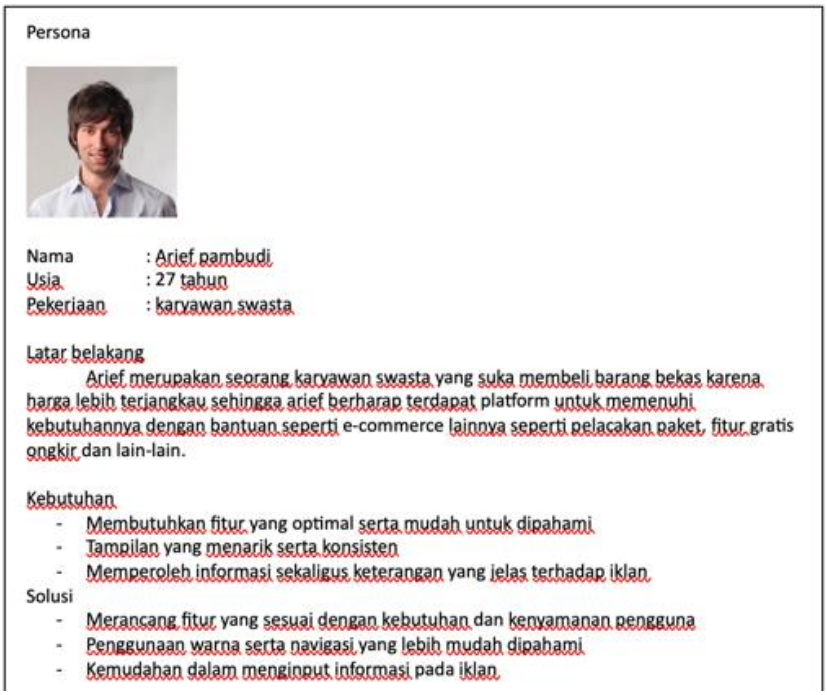

Fig. 2. User Persona

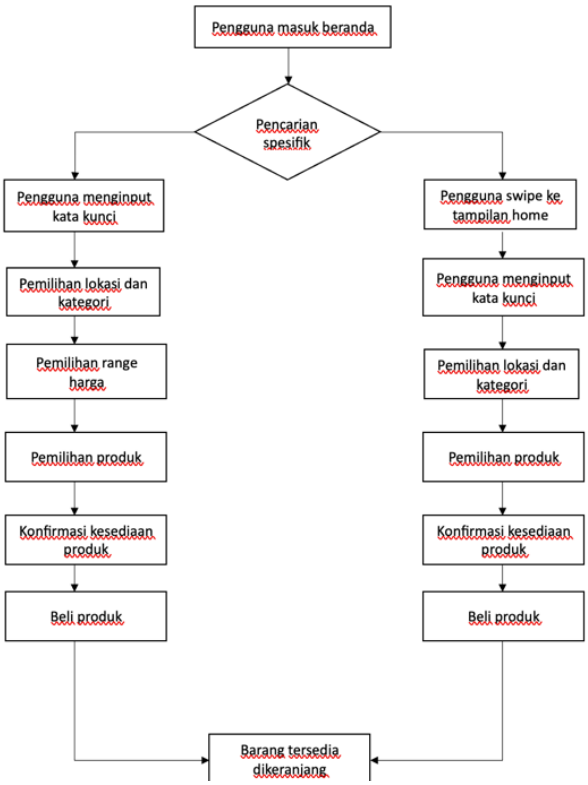

Fig. 3. Transaction User Flow

3.2. Create MVP

Designing a wireframe design using Figma, then continuing with a prototype design using Figma, which is supported by the use of colours and transitions like the flow of the application that has been designed.

a. Wireframe

This design is based on the respondents' assumptions at the declared assumption stage. This stage is also where the layout is prepared before a more realistic prototype is carried out, often called a Low-Fidelity Prototype.

Fig. 4. Low Fidelity Prototype

b. Create Prototype

After making a design or wireframe, proceed with prototyping, where a higher level of design, such as using colours, shapes, and transitions such as an application, has been formed or is often called a High Fidelity Prototype.

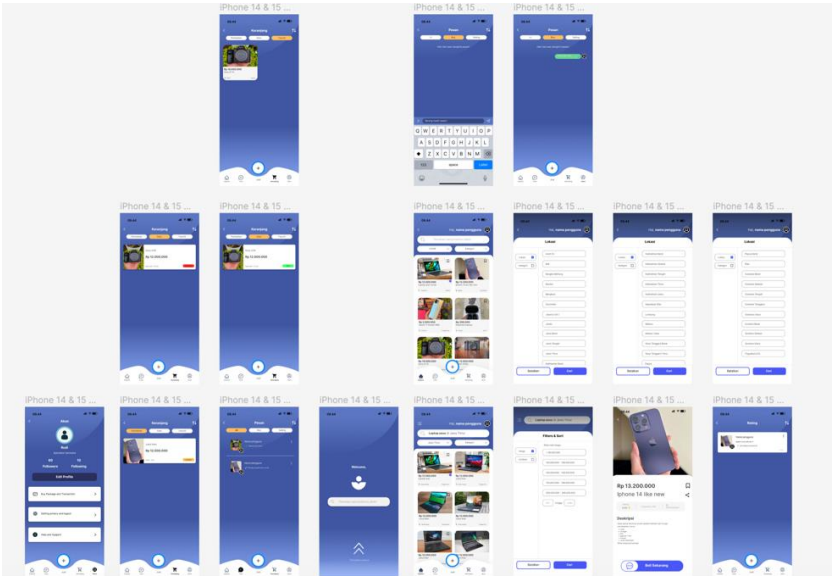

Fig. 5. High Fidelity Prototype

3.3. Run an Experiment

This stage is a test of the design from the previous stage. It was conducted on 10 respondents based on question items with a scale of 1 to 7.

Table 3. Question questionnaire

No.	Questionnaire Questions
1	Does the design appearance of the Selalulaku application make you more comfortable?
2	Is the navigation of the Selalulaku application easy to learn and understand when operating it?
3	Is the Selalulaku application efficient for your needs?
4	Can the introductory information presented in the Selalulaku application be clear and easy to understand?
5	Does the colour and aesthetic appearance of the Selalulaku application look attractive and pleasing to the eye?
6	Does the overall interface of the Selalulaku application meet user needs?
7	How easy is it to understand the interface design of the Selalulaku application with similar applications?
8	Is the appearance of the Selalulaku application design familiar to similar applications?

The following are the results of the questionnaire analysis using the User Experience Questionnaire (UEQ) analysis method. Here are the benchmark results using the UEQ method.

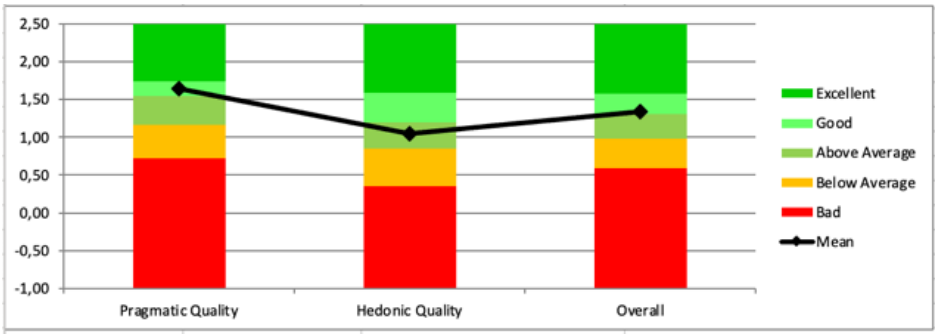

Fig. 6. Hasil Metode UEQ.

Based on Figure 6, Pragmatic Quality obtained a value of 1.64 with the "Good" comparison, and Hedonic Quality obtained a value of 1.05 with the "Above Average" comparison. Furthermore, the average of these two values gets a total of 1.34 with a comparison of "Good."

3.4. Feedback and Research

In the next stage, respondents from a similar questionnaire in the previous stage provide feedback, which can be used to evaluate the development of further research applications. The following is the respondent's feedback.

Table 4. Feedback Responden

No.	Respondent Feedback
1	The design appearance is quite good and easy to understand for laypeople
2	The use of colour may need to be improved a little so that it is more ingrained in consumers' minds
3	The presentation of information and navigation sequences are easy to understand and learn
4	The features provided are simple and suit your needs, so their use is very optimal
5	I think it's okay, but some icons are still challenging to understand
6	The prototype design is perfect; from design to layout, it is neat and comfortable to the eye, and the features are easy to use
7	Everything is quite okay; maybe the font size can be improved to make it easier to see
8	Maybe you could add some features, such as frequently searched recommendations, to make it easier for users
9	I like the features; maybe the colours could be brighter so the vibe looks cheerful
10	Very efficient and effective for the feature, the use of colours might be pastel colours (?)

4. Conclusion

Based on the results of this research, which is an interface design and user experience using the Lean UX method and the UEQ framework for the Selalulaku application, it was found that the overall average score was 1.34 with a comparative value of "Good". So, it can be said that the interface design and user experience in terms of efficiency, functionality and appearance received a "Good" rating..

References

[1] Malik, R. A. & Frimadani, M. R. (2022). UI/UX Analysis and Design Development of Less-ON Digital Startup Prototype by Using Lean UX. JURNAL RESTI (Rekayasa Sistem dan Teknologi Informasi), 6(6), 958-965.

[2] Rifki, M. A. & Haryono, K. (2023). Desain Antarmuka dan Pengalaman Pengguna pada Aplikasi Menghafal Quran berbasis Mobile menggunakan Lean UX. SISTEMASI: Jurnal Sistem Informasi, 12(1), 139-153.

[3] Ramadhan, et. al. (2023). Website Promosi Wisata Baru di Wilayah Yogyakarta Dengan Pendekatan Lean UX. Journal of Information System Management. Vol 5, No 1.

[4] Ramadhan, D. A. & Gultom, P. J. (2020). Perancangan Web Pelayanan Perizinan Pemerintah Menggunakan Lean UX. Jurnal Ilmu Komputer Agri-Informatika, 7(1), 21-30.

[5] Putra, et. al. (2021). Designing A User Interface and User Experience from Piring Makanku Application by Using Figma Application for Teens. International Journal of Information System & Technology, 5(3), 308-315.

[6] Malik, R. A. & Frimadani, M. R. (2023). Lean UX: Applied PSSUQ to Evaluate Less-ON UI/UX Analysis and Design. International journal of Advances in Data and Information System. 4(1), 73-85.

[7] Kartiko, et. al. (2021). Designing a Mobile User Experience Student Knowledge Management System Using Lean UX. Journal of Engineering and Applied Technology, 2(1), 43-52.

[8] Kurniawan, N. A. & Suranto, B. (2021). Adopsi Metode Lean UX Untuk Perancangan Pengalaman Pengguna Aplikasi Startup Safir. Universitas Islam Indonesia AUTOMATA, 2(2).

[9] Ikhsan, et. al. (2023). Perancangan Desain Antarmuka Pengguna Dengan Metode Lean UX pada Aplikasi Sistem Informasi Desa Cibentang Berbasis Android. Jurnal Sosial dan Teknologi (SOSTECH), 3(9).

[10] Insani, et. al. (2022). Prototype Desain User Interface Aplikasi My School Menggunakan Metode Lean UX. Journal of Information System Research (JOSH), 3(4), 626-635.

[11] Wijaya, F. D. & Pakereng, M. A. (2023). Perancangan Aplikasi E-Commerce FDW Store Menggunakan Metode Lean UX. Jurnal Teknologi Informasi dan Komunikasi (JTIK), 7(2), 337-347.

[12] Dewangga, et. al. (2023). Perancangan Ulang UI/UX Website Sistem Informasi Akademik Pada Universitas XYZ Menggunakan Metode Lean UX. Jurnal Ilmiah Sistem Informasi dan Ilmu Komputer, 3(3), 21-32.

[13] Priyanto, F. W. & Setiaji, H. (2022). Penerapan Metode Lean UX Pada Perancangan Pengalaman Pengguna Website Islamic Vibes. Jurnal Multimedia dan IT, 6(1), 011-016.

[14] Anggara, et. al. (2021). Prototipe Desain User Interface Aplikasi Ibu Siaga Menggunakan Lean UX. Jurnal Teknologi, Informasi dan Industri, 4(1).

[15] Pradipta, et. al. (2022). Pengembangan UI Aplikasi Mobile Konsultasi Karir Menggunakan Metode Lean UX. Jurnal Teknologi dan Komputer, 3(1).

[16] Ernawati, S. & Indriyanti, A. D. (2022). Perancangan User Interface dan User Experience Aplikasi Medical Tourism Indonesia Berbasis Mobile Menggunakan Metode User Centered Design (UCD) Studi kasus: PT Cipta Wisata Medika, 3(4).

[17] Bongso, L. A. & Kristiawan, A. (2022). Kenyamanan Online Dalam Menciptakan Kepuasan Pelanggan Online Pada Pengguna Tokopedia. Jurnal Ilmiah Manajemen Bisnis dan Inovasi Universitas Sam Ratulangi, 9(1), 123-140.

[18] Efrianti & Idrus, N. I. (2020). Preloved Shopping: Jual-Beli Online dan Pengelolaannya di Instagram. Jurnal EMIK, 3(1).

[19] Amalia, R. J. (2022). Analisis Perilaku Konsumtif Dan Daya Beli Konsumen Terhadap Belanja Online di Masa Pandemi COVID-19. Jurnal Ilmu Ekonomi dan Bisnis Islam, 4(1).