User Interface Design Techniques with Wireframing for Online Library Website Layout Design Using Figma

Anisa Lutfiyani[1*], Riyan Jaya Sumantri[1], Tri Anggoro[1]
[1]Universitas Ma'arif Nahdlatul Ulama Kebumen, Kebumen, Indonesia
an.lutfiyani@gmail.com[*]

Abstrak

Perkembangan teknologi pada zaman sekarang ini semakin hari semakin berkembang, penting bagi instansi untuk memahami user experience (UX), dan user interface (UI) guna menunjang peningkatan kepuasan pelanggan. Dalam penelitian ini, peneliti merancang wareframe desain user Interface (UI), prototype rancangan sistem Perpustakaan online berbasis web dengan menggunakan Figma, yang bertujuan untuk menghasilkan konsep alur dalam rancangan wareframe desain yang menarik dan menerapkan hasil desain ke dalam prototype. Focus penelitian adalah merancang tampilan user interface website dengan melihat kebutuhan pengguna. Metode yang dipakai dalam perancangan User Interface (UI) menggunakan metode User Centered Desain agar mendapatkan tampilan antarmuka system yang diinginkan dapat tercapai. Hasil penelitian adalah perancangan wareframing user interface website Perpustakaan Online menggunakan figma dengan pendekatan User Centered Desain dapat membantu menemukan solusi sesuai kebutuhan target pengguna. Berdasarkan hasil pengujian menunjukan bahwa dengan pendekatan User Centered Desain website sudah berhasil membantu membuat tampilan antarmuka website Perpustakaan Online secara informatif, interaktif dan komunikatif sesuai kebutuhan target pengguna.

Kunci: Desain, Interface, User Interface, User Experience, Wareframe, Prototype, Figma.

Abstract

Technological developments nowadays are increasingly developing day by day, it is important for agencies to understand user experience (UX) and user interface (UI) to support increased customer satisfaction. In this research, the researcher designed a user interface (UI) design wareframe, a web-based online library system design prototype using Figma, which aims to produce a flow concept in an attractive design wareframe design and implement the design results into a prototype. The focus of the research is designing the website user interface by looking at user needs. The method used in designing the User Interface (UI) uses the User Centered Design method so that the desired system interface can be achieved. The results of the research are the design of online library website user interface wareframing using

Figma with a User Centered Design approach that can help find solutions according to the needs of target users. Based on the test results, it shows that the User Centered Website Design approach has succeeded in helping to make the Online Library website interface informative, interactive and communicative according to the needs of target users.

Keyword: Desain, Interface, User Interface, User Experience, Wareframe, Prototype, Figma.

1. Introduction

Reading is the process of pronouncing writing in a reading product for correct spelling pronunciation in order to obtain information. Many people now read information every day at home, at school, at the office, and even when riding public transportation, because it is not only important but necessary to carry out and obtain daily information. It has now become commonplace for people to read books, newspapers, news articles, social media posts, banner ads, brochures and other materials. However, day by day reading books and newspapers is increasingly being abandoned or even not read anymore. As a result, the literacy level of Indonesian society is low, and it is easy to misinterpret news that may not be accurate.

Many Indonesians, especially students, have a lazy habit of reading, both student books, magazines, newspapers, textbooks and other types of books. Many factors, including reading materials, media, location, content, and readers themselves, can contribute to this phenomenon as readers prefer reading that is convenient and accessible from anywhere. Therefore, in order to make it easier for developers to build applications using this Online Library design reference, a user interface design has been created which will then be used in the Online Library system that will be built by the developer.

The last two decades have seen an extraordinary surge in the development of technological trends, especially the internet, which offers a variety of sites, or better known as websites, which function as communication tools, information centers and promotions. This gives website designers the initiative to create user interface designs on a website. This offers convenience and a comfortable experience for users. User Interface (UI) which is more oriented towards layout design has priority in the modern interface design paradigm. However, the level of comfort, satisfaction, enjoyment and user experience are also considerations when designing a modern website interface or better known as User Experience (UX).

Websites are useful media for searching for certain information and can be accessed online. One of the advantages of using a website is that it can be accessed quickly via a browser on electronic devices such as computers and laptops. Websites can also be used for various purposes, such as providing detailed information about a business or agency. Because it can foster comfort and experience between users and websites, designing the user interface and user experience is very important. Therefore, when creating a website design, a strategy must be used that adapts to the needs of the target user (Chandra et al., 2019). In the current era of development of application layout design, it is highly recommended that interface design combine User Interface (UI) and User Experience (UX) methods. User Experience (UX) is more concerned with user experience, whether the application is easy to use or complicated for the user, while User

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Interface (UI) is more concerned with layout, color play, typography, hierarchy, components and features contained in the application (Frendiana & Widhiantoro, 2020).

People can now get information more easily without having to meet in person thanks to the internet. In addition, this technology makes it easier for people to communicate directly and provides a platform for customers to voice their opinions regarding products, thereby enabling companies to use the internet as an advertising medium to reach a wider audience According to (A.P.J.I.I., 2017), there are 143.26 million internet users in Indonesia or the equivalent of 54.68% of the total population of Indonesia. The more people who use the internet, the more it encourages business people to develop in market competition, especially in the e-commerce sector.

The goal of integrating UI/UX concepts and techniques into application interface design (layout) is to produce an attractive user interface and user experience while achieving system requirements and business flow alignment. Interface design should ultimately be easy to use and understand. The level of ease and difficulty of a user's interaction with the elements, features, and components created by a UI designer determines the user experience. Software such as Figma will be used as the main tool in this research to create initial designs in the form of sketches or wireframes, also called low fidelity, up to the prototyping or highfidelity stage, to combine UI/UX concepts and methods. into interface design. The Chrome and Mozilla Firefox browser engines will use additional support tools to render pages, test and simulate developed prototypes.

The expected results from the application or web interface developed can meet user needs. The app is easy to use, with objects arranged harmoniously and colors that influence the user's mood. It is also easily accessible, and the design adds value to the sponsor or stackholder by increasing user satisfaction, thereby increasing or increasing business profits.

2. Research Methods

The research method used uses User centered design, this method is an approach in developing and designing a design that focuses on users according to aspects of needs and habits (Ariawan et al., 2020).
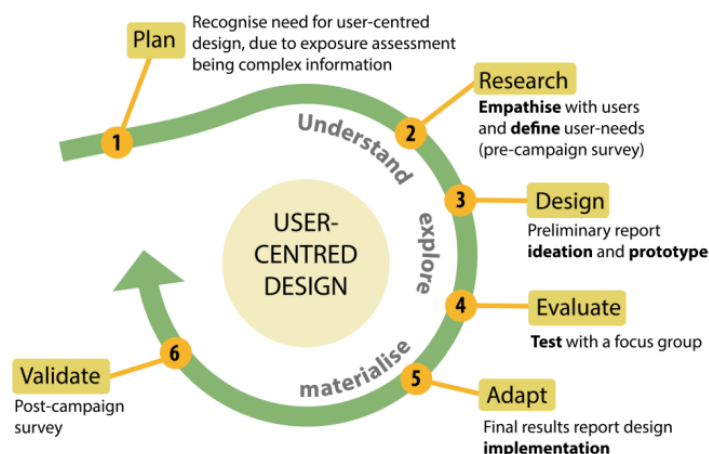

Figure 1. User Center Design

(Robinson et al., 2021)

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Step (1): Define the context of use and recognize User Center Design requirements, taking into account the complexity of individual exposure data;

Step (2): Collect input from users early in the process through pre-campaign surveys to identify and understand their needs and preferences.

Step (3): Develop a prototype report and discuss the visualization concept.

Step (4): Form a focus group with n = 5 members, test the initial design, and help refine it in response to group input.

Step (5): Modify the visualization based on focus group findings and technical constraints.

Step (6): Use online post-campaign surveys to validate and evaluate whether user requirements were met.

The six design principles that can be applied in the Design User Center include: Empathise (define), Design / (idealize) and create a prototype, Evaluate / (test), and Adapt / (implement). Application of the User Center Design model includes:

a. Plans

The process of finding information that supports making application designs. Usually a study is carried out on several articles and books related to interface design that implements UI/UX concepts and methods. This section is also used to find the focus of the problem and formulate solutions that will be offered in the research.

b. Reserch

Researchers will manage and analyze the data and information that has been obtained. Researchers will try to examine existing problems. Some of the activities carried out in this process are creating an empathy map, determining pain points, creating a user persona, and creating a user journey map.

The empathy map diagram can be seen in Figure 2. The parts of the empathy map diagram are as follows:

1) The "Says" column contains input sentence quotes from users without any changes. The sentences entered relate to the user's problems and desires.
2) The "Thinks" column contains brief input from what the user expressed or wrote.
3) The "Does" column contains details of the steps taken by the user to achieve the goal.
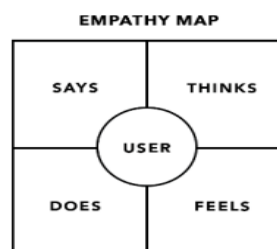4) The "Feels" column contains user feelings such as frustration, anger, joy, and so on.

Figure 2. *Empathy Map Diagram*

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(Norman, 2021)

c. Design

After the analysis is carried out, the next step is to design the media and materials to be developed. Starting from system requirements analysis design, material design adapted to the school syllabus, and website-based learning media design. The design process is divided into several activities, namely creating a moodboard, designing a wireframe, and creating a high-fidelity design.

A moodboard is a collection or composition of images, visuals and other objects that are usually created for design or presentation purposes. Moodboards aim to help determine a theme for a design project. A moodboard consists of images, fonts, colors, graphics and patterns. Moodboards are casual so there are no binding rules regarding their creation.

1) UX design

Entering the UX design stage. The designer will start creating wireframes and prototypes. A wireframe is a framework for structuring various elements on a website or application page, before the actual design process begins. Meanwhile, a prototype is a simple model of a product before proceeding in detail. The design created will be adjusted to the results of the researcher's analysis. In this stage, the Researcher and Product Designer will discuss a lot to create a design that answers existing problems. User experience is largely determined by how an interface is designed by a UI designer, whether it is easy to use or difficult to use or even takes time to understand the features in the application or product design. User experience is the main factor that influences the success or failure of an application whether it is continued or not (Yastin et al., 2022).

2) UI design

UI and UX are an inseparable unit. Both are interrelated and influence each other. Various aspects of the UI display will be directly involved in creating comfort and leaving a good impression for users (Ariawan et al., 2020). At this stage, the previously created wireframe will be refined by adding appropriate colors and elements. Apart from that, various design specifications will also be prepared to be given to the engineering division. A wireframe is a rough outline or outline used to arrange items on a website page before the actual design process begins. Examples of items that can be arranged include content, headers, banners, footers, links, input forms, and so on (Budhiluhoer, 2018).

d. Evaluate

Solution design evaluation is carried out to find user interface problems that need further refinement. At the evaluation stage, the solution design is presented in the form of a list of improvement notes by the user which describes the problem findings based on the wireframe design that has been created and shown to the user. Newly developed designs must be tested by users to ensure they meet their needs. You need to test the design with the help of users to see exactly how they use the interface/platform and determine what to adapt/change.

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e.   Adapt

The results report design was refined and enhanced in response to evaluations provided by users and feedback from special groups. Each evaluation result is finalized by considering reasonableness, technical limitations, and incorrect evaluation interpretations.

f.   Validate

Users receive design results that are suitable so they can be used. Users can provide suggestions to improve the design report in the future until the data is valid for use.

3.   Results and Discussion
3.1 Steps creating a wireframe

This research aims to create a user interface for the Online Library system website with a high-fidelity wireframe model and prototype. The user interface design was created entirely using the Figma application by focusing on the Book and Service Recommendation list feature. User interface design begins by creating a wireframe model and then continues to the navigation and prototyping stages. Steps before creating a wireframe include:

a.   New File

Before creating a wireframe, you are required to create a new file first to save the wireframe that will be created later. By clicking on the file on the left and new design file for Prototype Making.
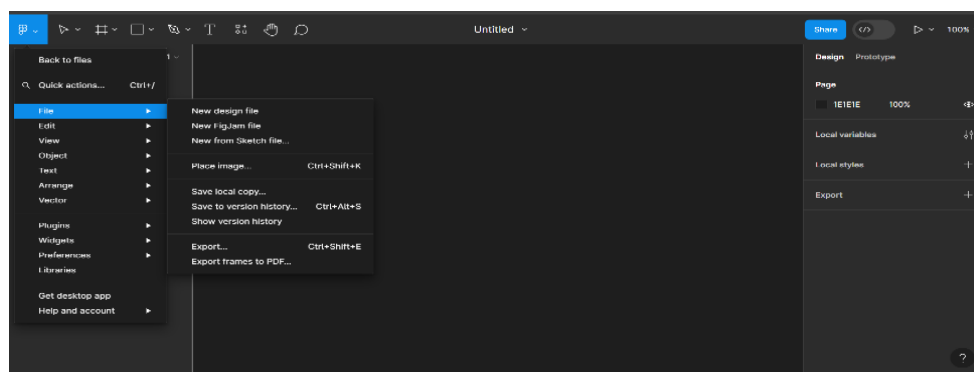

Figure 3. Figma page

b.   Home Wireframe

The online library homepage wireframe design can be seen by all users. This homepage design contains a navigation bar menu including: Homepage, Book Recommendations and Services, while the page contains Header, Footer, Latest News and Latest Books. The following displays the output from creating a Home Page wireframe.

Figure 4. Home Page Wireframe

c.   Book Recommendation Wireframe

In the Wireframe design, the Book Recommendation Page displays containing the types of books, postdate, title and recommended collection details. The following displays the output from creating a wireframe for the Book Recommendation Page.
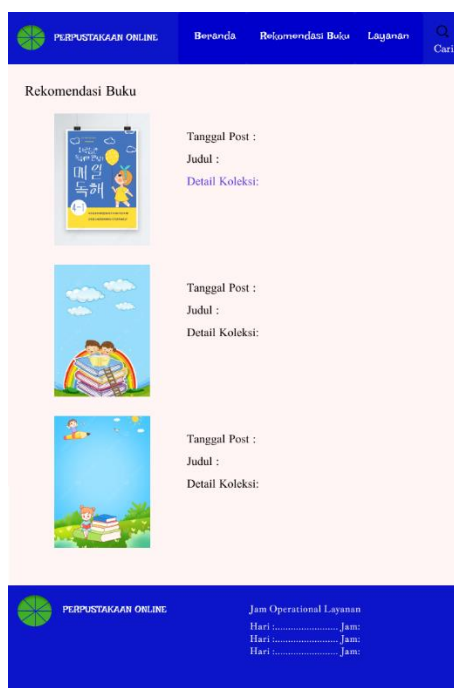

Figure 5. Wireframe of the Book Recommendation Page

The Collection Details design on the Book Recommendations page contains Collection Details which include book description, book title, author, year of publication, ISBN, abstract and source. The following displays the output from creating the Collection Details wireframe.
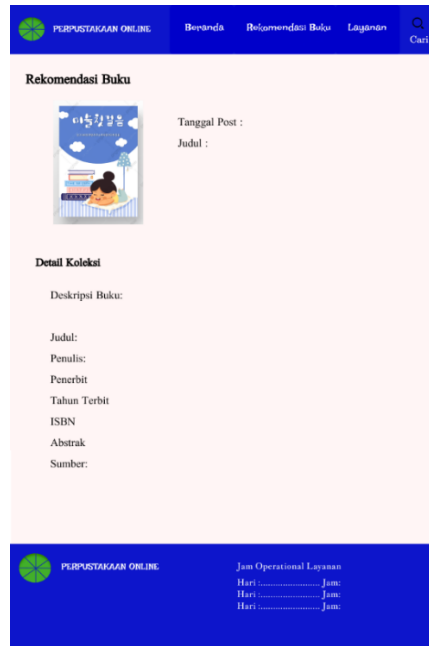
Figure 6. Wireframe of the Book Details Page

d.   Service Wireframes

In the Wireframe design, the Services Page contains Membership Services and Library Services. The following displays the output from creating a Service Page wireframe.
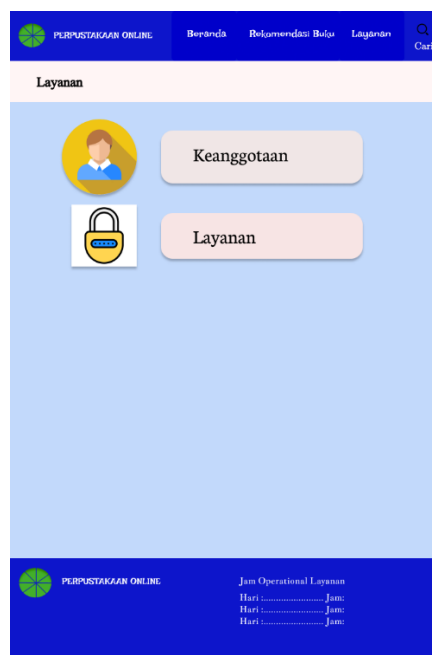
Figure 7. Service Page Wireframe

Figure 8. Member Login Page Wireframe

In this member page design, it functions for users if they want to register to become a member of the online library and if they are already members, the user just needs to log in to enter the online library member page. The following displays the output from creating a wireframe for the member page for logging in and the member page for registering as an online library member.
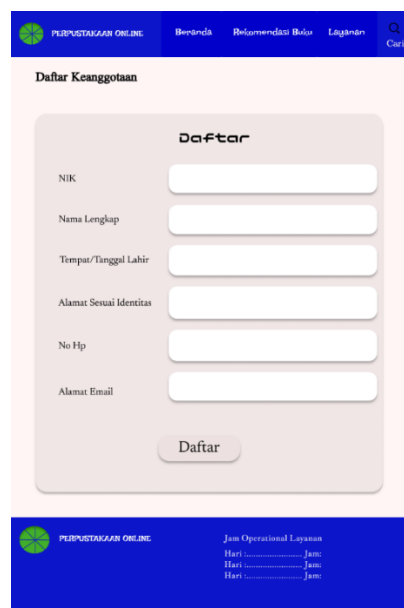

Figure 9. Wireframe Design of Member List Page

The service display page contains our contacts and there is a telephone number, email and address of the person in charge of the online library who needs help if there are difficulties in

accessing the online library. The following displays the output from creating a Service Page wireframe.

Figure 10. Service Page Wireframe Design (Contact Us)

3.2 Prototype

Prototype is a very important step to know because with a prototype, designers can test the operation of the system that will be created by the programmer and can also be demonstrated by the client The online library web home page contains features consisting of the latest news regarding what announcements the admin needs to convey to users to make it easier for users if there are problems or news about online libraries, there are recommendations for the latest books if the online library uploads the latest books on the website. , and there are also operating hours in the footer of the website. In the header of the website there are four features, namely, Online Library Logo, Homepage, Book Recommendations, Services and Search. For the first prototype, navigate from the Book Recommendations feature to the Book Recommendations page. In this design, the prototype used is digital prototyping using figma, the following is the output of the prototype display on the online library page leading to the book recommendation page as follows.
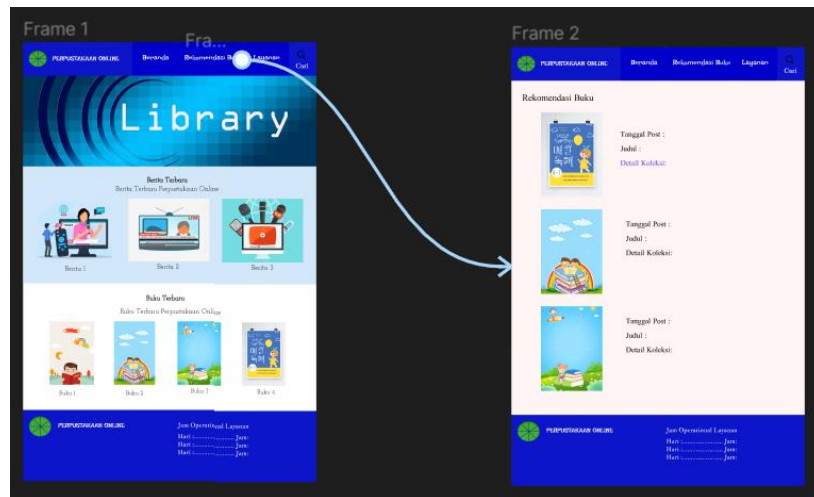
Figure 11. Prototype for Book Recommendations

On the Book Recommendation Page Prototype, when the user selects Collection Details, the page will go to Collection Details, the following Book Recommendation output goes to Collection Details.
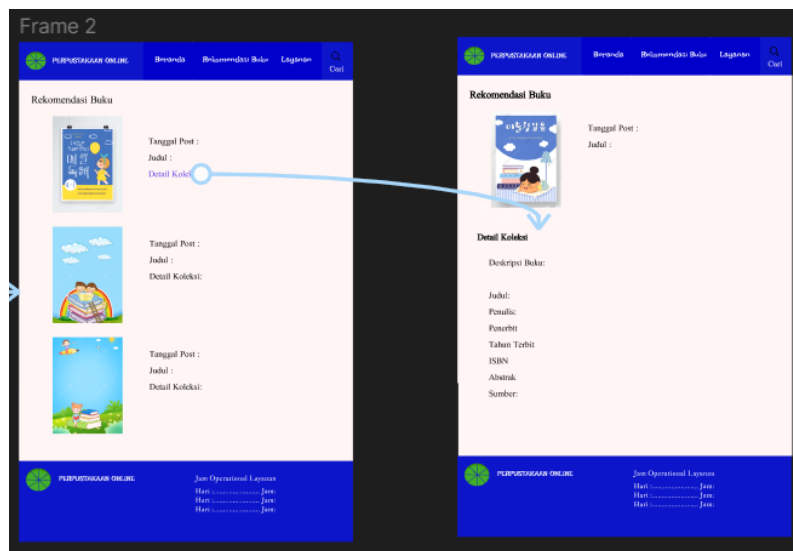

Figure 12. Prototype to Book Details

On the home page prototype, when the user selects navigation/service features, the page will go to the service page, on the service page there are membership services and services, the following is the output of the service feature prototype to the service page
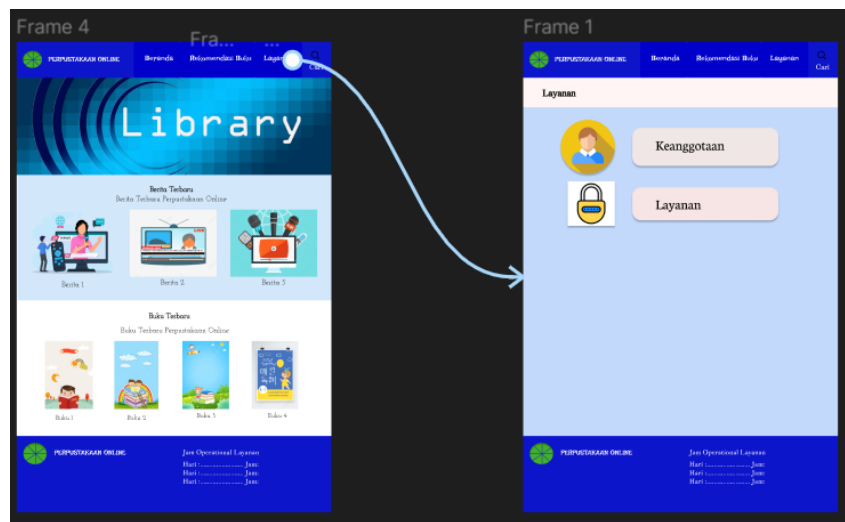
Figure 13. Prototype to the Services Page

On the service prototype page, when users select the membership feature, they will enter the membership login. If they are not yet a member of the online library, the user is directed to register to become a member as in Figure 15. When the user selects the service, they will be directed to our contact page, the following is the feature prototype output. The service goes to our member login and contact page.
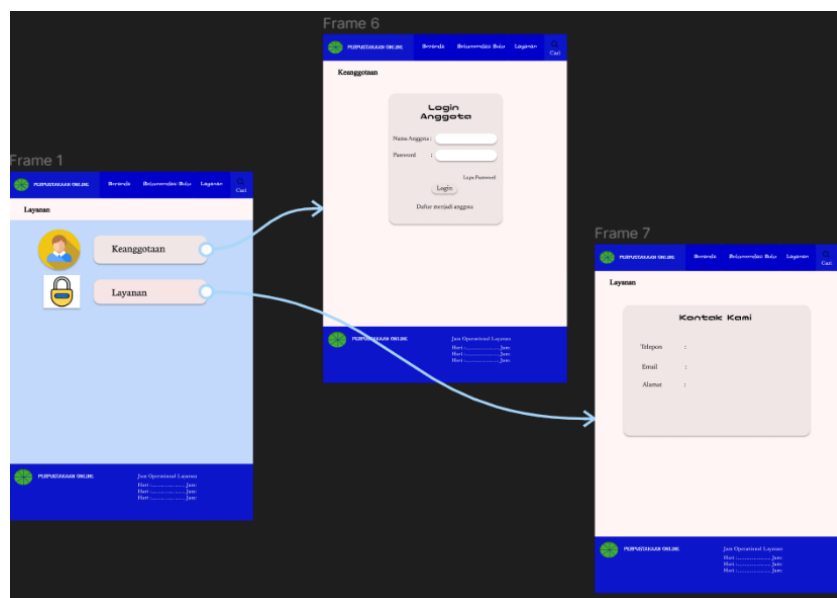

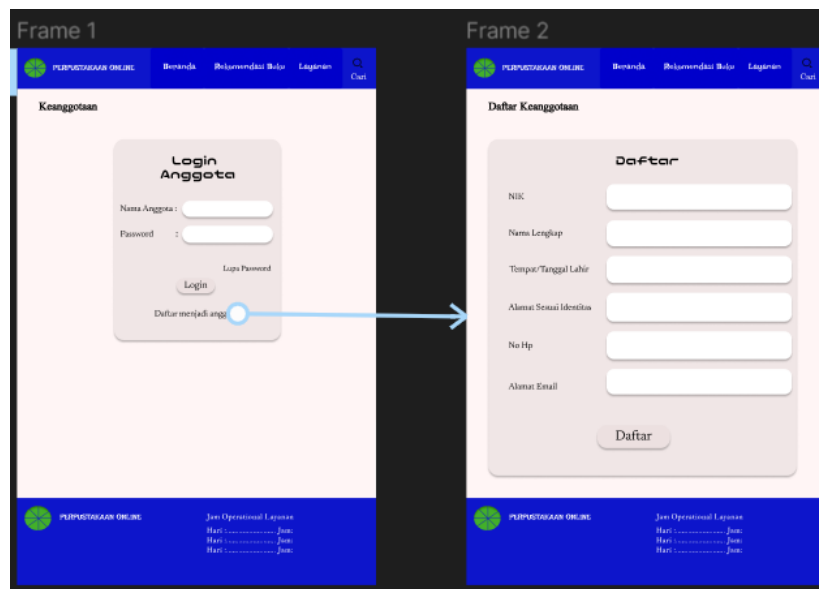Figure 14. Prototype for the Member Login Page and Contact Us Services

Figure 15. Prototype for the Membership Registration Page

4. Conclusion

Based on the results and discussion of the wireframe design, it can be concluded that the online library user interface wireframe design can be used as a reference for future development, the designed appearance has been made as minimal as possible so that users can be comfortable when using the system. The shortcomings of this Online Library's wireframe user interface display design are that the display is still very simple, the color combination is still lacking, and the navigation bar still needs to be added in detail. And based on the test results, it shows that with the User Centered approach, website design has succeeded in helping to make the Online Library website interface informative, interactive and communicative according to the needs of target users.

References

A.P.J.I.I. (2017). Jumlah Pengguna Internet di Indonesia. Http://www.apjii.go.id. *Diakses*, *06*(53).

Ariawan, M. D., Triayudi, A., & Sholihati, I. D. (2020). Perancangan User Interface Design dan User Experience Mobile Responsive Pada Website Perusahaan. *Jurnal Media Informatika Budidarma*, *4*(1), 161.

Budhiluhoer, M. (2018). *Konsep Wireframe Pada Website*.

Chandra, Angela, & Wenas, M. B. (2019). *Perancangan Desain Website Sekolah Kristen Pelita Nusantara Kasih Surakarta Dengan Pendekatan User Centered Design*. Universitas Kristen Satya Wacana.

Frendiana, V., & Widhiantoro, D. (2020). Desain UI dan UX pada Aplikasi Android Coronavirus Disease 2019 (COVID-19. *J. Comput. Sci. Vis. Commun. Des*, *5*(2), 85-93.

Norman, N. (2021, August 2). *Nielsen Norman Group Design Thinking 101.* https://www.nngroup.com/articles/design-thinking

Robinson, J. A., R, N., T, K., & etc. (2021). User-Centred Design of a Final Results Report for Participants in Multi-Sensor Personal Air Pollution Exposure Monitoring Campaigns. *International Journal of Environmental Research and Public Health.* https://doi.org/10.3390/ijerph182312544

Yastin, D. N., Suseno, H. B., & Arifin, V. (2022). Evaluasi dan Perbaikan Desain User Interface Untuk Meningkatkan User Experience Pada Aplikasi Mobile Siaran Tangsel Menggunakan Metode Goal Direct Design. *Jurnal Teknik Informatika*, *13*(12), 157.