

Designing A User Interface and User Experience from *Piring Makanku* Application by Using Figma Application for Teens

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Abstract

This study is aimed to design a user interface for *Piring Makanku* application that can be used for a promotion medium to introduce *Piring Makanku* program issued by the Ministry of Health, for the teens aged 15-18. A Figma webapp was employed as a tool for designing this interface quickly and easily. Whereas A Lean UX method, which is one method in designing UX, was used to design the interface shortly and effectively. A usability test with Retrospective Thinking Aloud was applied to measure whether or not the design can be accepted by the teen users. Findings derived from the stages of the test revealed that the design can be accepted by teens with positive response of 95.56% out of the total 5 respondents. It can be concluded that the interface to have been designed becomes appropriate for development into *Piring Makanku* application layout.

Keywords: *Piring Makanku*, Figma, Lean UX, User Interface

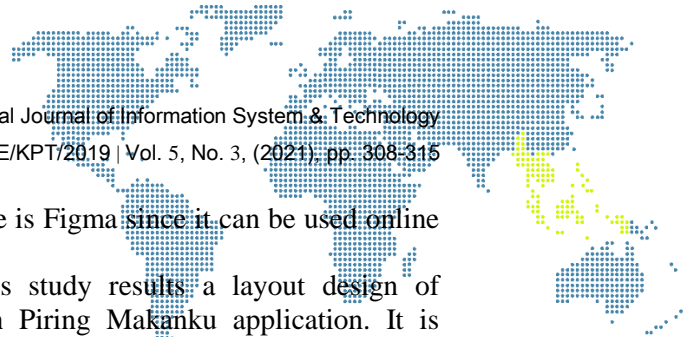
1. Introduction

Piring Makanku is a visual layout from Balanced Nutrition Guidelines describing a guide to served dish at each mealtime and issued by the Ministry of Health in an attempt to better give the Indonesian community an understanding about the appropriate diet required for meeting the nutrient needs. This Balanced Nutrition is indeed Guidelines in place of 4 Healthy 5 Perfect Program which is no longer relevant with the condition of the country due to the shift taking place as to eating habit or diet of the Indonesian society. Therefore, in compliance with the Regulation of the Minister of Health Number 41 Year 2014, the so-called Balanced Nutrition Guidelines, the Indonesian food-based dietary guidelines, was launched in 1995 to change the 4 Healthy 5 Perfect Program. This newly-launched program has been part of Nutrition Improvement Program in Indonesia. In 2009, The Balanced Nutrition Guidelines was officially stipulated in the Regulation of the Minister of Health for the Republic of Indonesia Number 41 Year 2014.

WHO has recommended consuming fruit and vegetables as many as five portions daily to fulfill sufficient nutritional requirement; unfortunately, the habit has not been consistently done by the Indonesians. This was revealed in the Basic Health Research [1] noting that 93.5% of the people aged above 10 still lack of consuming fruit and vegetables. They majorly only consume as many as 1-2 portions of fruit and vegetables per day. Not only is it a matter of consuming fruit and vegetables, but also of considering food intake in order to meet what the body needs. Therefore, *Piring Makanku* plays an important role as knowledge in the guidelines to food consumption.

Why do teens need to know the significance of keeping a balanced diet and nutrition? This is because teenagers belong to a group of people with full potential from which its benefit can necessarily be taken. Psychologically, the adolescence refers to individuals who integrate with the adults. It is an age period which is no longer below the elder; instead, it is of the same level as that of the adult. Having this stage, a teenager begins to decide and identify individual needs and growth.

In an attempt to appeal the teens to use the application as the resource of information, a user interface and user experience are required in an application design. One medium



which is able to provide a good design and prototype is Figma since it can be used online and applied in a team to make the use at ease.

Based on the abovementioned explanation, this study results a layout design of minimum fidelity prototype from UX concept on Piring Makanku application. It is expected that this study be a reference and an aid for similar research.

2. Research Methodology

2.1. Balanced Nutrition Guidelines

Based on the Regulation of the Minister of Health Number 41 Year 2014, Chapter 1, Balanced Nutrition Guidelines is a guideline to daily food consumption and healthy behavior based on the principle of Four Pillars of Balanced Nutrition which involve food diversity, physical activity, implementation of clean and healthy lifestyle, and also monitoring and maintaining normal body weight. Piring Makanku is a visualization of balanced nutrition guidelines that show a serving of food and beverage each meal. The Piring Makanku Program suggests healthy food which is good for consumption due to its good nutrients and vitamins.

2.2. Application

The word application is derived from the Verb -to apply; that means to process in Bahasa. Terminologically, a computer application is a sub class of computer software making use of its ability to complete a task as desired by user [1].

2.3. Android

Android is an operation system for a cellular phone on Linux basis. Android provides an open platform for developers to create their own application to be used for varied mobile gadgets. Android is commonly used for smartphone and PC tablet and has similar operations to that of Symbian of Nokia, iOS of Apple, and Blackberry OS [2].

2.4. Graphic Design

Graphic design is a form of applied painting (drawing) giving freedom to the designer to select, create, or adjust the fine elements i.e. illustration, photograph, writing and line, on a worksheet aiming to be produced and communicated as a message. The word graphic is derived from the Greek Graphein meaning to write or to draw. Graphic design is an art of two-dimension drawing which generally covers several forms of activities like drawing, painting, and photography. Specifically, its scope is limited to printed works or artworks created for multiplication by a printing process [3].

2.5. User Interface

User interface is how a program and user interact. This terminology is somehow used as a substitute of Human Computer Interaction (HCI) that includes all aspects of user and computer interaction. What is seen on screen, read in documentation, and manipulated with keyboard and mouse also refers to user interface. User interface can mean an inter-relation mechanism or a total integrase of both hard- and software which form a user experience [4].

2.6. User Experience

According to (ISO 9241-210,2010), User Experience is one's perception and response to using products, systems, and services. User Experience is a collection of methods applied in designing process for interactive experience [5].

2.7. Figma

Figma has been a tool to design UI with excellent features in terms of Design, Prototype, Collaboration, Design System Plug-in (<https://www.figma.com/design/>).



2.8. Lean UX

Lean UX is a very collaborative and cross-functioned method that requires daily involvement persistent with teamwork in order to make it highly effective. This involvement enables this study to reduce errors by restructuring a design conversation as of an objective business target, by measuring what has succeeded, by learning and adjusting [6].

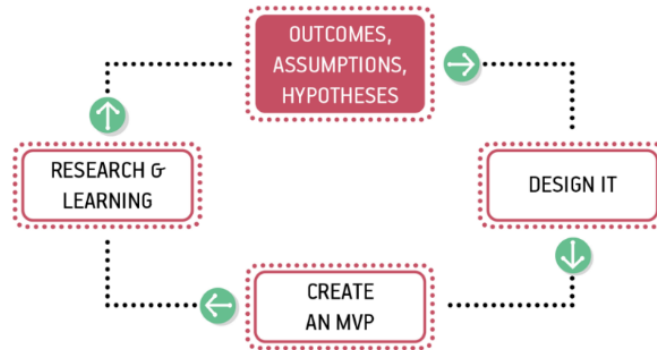


Figure 1. Lean UX Cycle, Goethelf (2016)

2.9. Think Aloud Testing

In UX area, think aloud test is a sort of data collection technique by involving direct users. Think aloud process is a process where the researcher motivates the participants to express what they have in mind while using the product [7].

The tool used in this study consisted of hardware and software. The hardware was Laptop Asus Vivobook A412f whilst the software included Windows 10 Home Single Language 64bit, Adobe Photoshop, and Figma, which was used for designing the prototype. Data of the study of Piring Makanku application interface was collected by means of questionnaire distributed to 78 teenagers, and interview conducted to 5 students of SMKN 1 Cibinong. Data gathered from the interview was then analyzed and tested at determining assumption (outcomes, along with research and learning stages. This study was carried out on the basis of UX concept with Lean UX method, a system design method of Jeff Gothelf dan Josh Salden (2016).

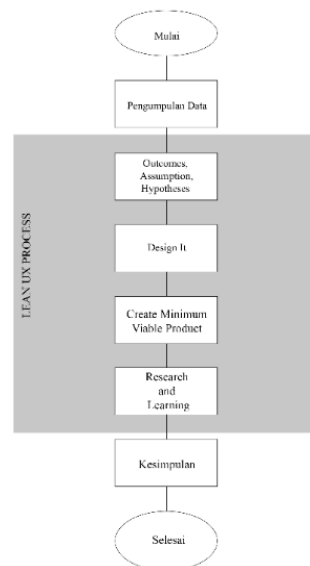
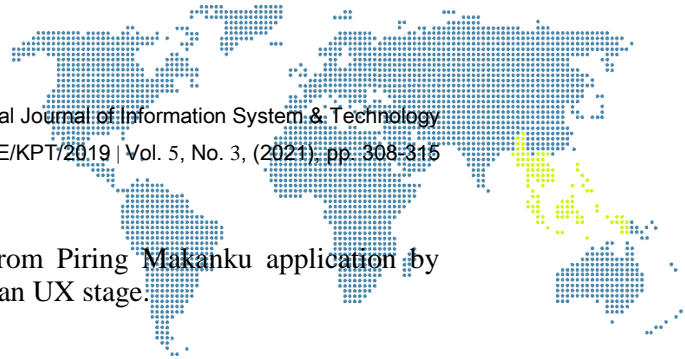


Figure 2. Diagram of Research Flow



3. Results and Analysis

Designing user interface and user experience from Piring Makanku application by using Figma for the teens result outcomes in each Lean UX stage.

3.1. Outcomes Assumption and Hypotheses

The researchers in this stage are seeking problems to be the objective of completing the interface design. Based on the interview with 5 students in SMK Negeri 1 Cibinong, the outcomes stages are as follows:

- 1) Several students still assume that the motto of 4 Healthy 5 Perfect has remained relevant up to present. How is it to make them know about Piring Makanku?
- 2) In order to promote Piring Makanku, how is it to appeal to the teenagers in order that some information can be informatively derived?
- 3) The information about Piring Makanku is sometimes delivered in a boring manner, how is it to make the teenagers happy and interested in the layout of Piring Makanku?

List of the questions on the outcomes can be answered by using an assumption worksheet made in two steps namely user assumptions and business assumptions.

Table 1. Assumption Worksheet Table

<i>Assumption Worksheet</i>		
No.	<i>Business Assumptions</i>	<i>User Assumptions</i>
1.	I believe that my customers need knowledge and information about Piring Makanku with engaging visualization.	Users are teenagers aged 15-18
2.	The needs can be met with an effective and easy-to-understand information architecture	Where does our product fit their jobs or lives? It is used by teenagers to make them familiar with Piring Makanku Program
3.	My first user is (or will be) teenagers of 15-18 years old	What problems can be resolved by our product? A convenient interface layout to see.
4.	A #1 score my customers want from my service is that the interface design of the application will appeal to the teenagers for use	When and how is our product used? Our product can be used for initial learning or as a means of promotion using an android smartphone.
5.	Users can also get another benefit that is they can have an easy visualization of the concept of Piring Makanku through a simulated design.	What is the most important feature? It is a simulated Piring Makanku.
6.	The highest risk of the product is that the users are likely to use different smartphones.	How should our product be seen and operate? Our product can be a promotion medium or used for private as a guideline to understanding the concept of Piring Makanku.

3.2. Design It

Design it stage consists of design studio and style guide. The design studio, which is conducted, is creating a wireframe. Style Guide stage determines the color palette and font type. Roboto and Sacramento font types are frequently used by graphic designers for they are easily readable by human eyes. Sacramento is suitable for use as the title since this type looks neat and easily readable as well. A contrast combination of blue and white has been decided for the concept of color. Blue color symbolizes smartness, technology, trust, and maturity.



Figure 3. Wireframe Home Screen

3.3. Create MVP

The following is the result of MVP created in a medium fidelity prototype using Figma application:



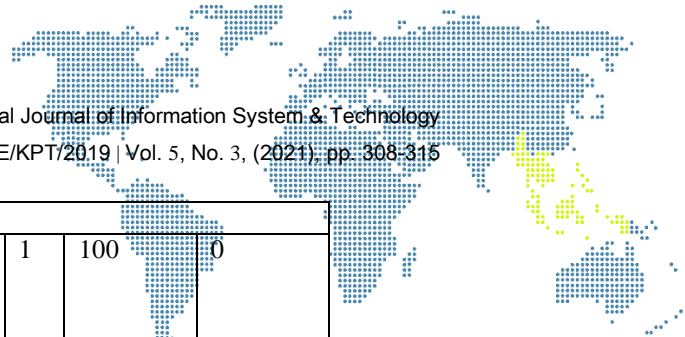
Figure 4. Homepage Layout

3.4. Research and Learning

This stage examines the application to 5 future users: 5 students using retrospective thinking aloud method. The resulted design of interface layout is shown to the examiners. The examiners then answer the proposed questions corresponding to what the users have seen and got.

Table 2. Result of Usability Test

No	Question	Responses (in numbers)					Positive (%)	Negative (%)
		P1	P2	P3	P4	P5		
LEARNING ABILITY								
1	Is the text font used on the page easy and clear for you, why?	1	1	1	1	1	100	0
2	Are the available menus easy to understand? Elaborate it	1	1	1	1	1	100	0
3	Is it easy to start the simulated page? Why?	1	1	1	1	1	100	0
4	Are the kinds of food, with calories, easy to understand? Explain it	1	1	1	1	1	100	0
Total							100	0

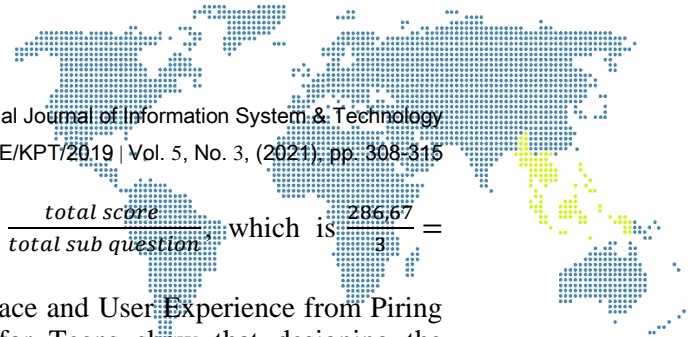


Memorability								
5	Are the pictures on the page easy to understand? Explain it	1	1	1	1	1	100	0
6	Are the layout and menus on the page easy to memorize? Elaborate it	1	1	1	1	1	100	0
7	Is the combination of color nice to see? Why?	1	1	1	1	1	100	0
8	Is the information written on the available information menu clear enough? Explain it	1	1	1	0	1	80	20
9	Is the layout on the simulated page understandable? Explain it	1	1	1	1	1	100	0
10	Is the information about Piring Makanku on the page understandable? Explain it	1	1	1	1	1	100	0
Total							96.67	3.33
Satisfaciton								
11	Do you think that the information presented informative? Explain it	1	1	1	0	1	80	20
12	Are you interested in using the application of the design? Explain it	1	1	1	1	1	100	0
Total							90	10
Total sum							95.56	4.44

The result is shown as follows: score of learnability process is 100% calculated by $\frac{\text{total score}}{\text{total question}}$, which is $\frac{400}{4} = 100\%$.

Score of memorability is 96.67% calculated by $\frac{\text{total score}}{\text{total question}}$, which is $\frac{580}{6} = 96.67\%$.

Score of satisfaction is 90% calculated by $\frac{\text{total score}}{\text{total question}}$, which is $\frac{180}{2} = 90\%$.



Scores of usability test is 95.56% calculated by $\frac{\text{total score}}{\text{total sub question}}$, which is $\frac{286,67}{3} = 95.56\%$.

Findings of the study of Designing a User Interface and User Experience from Piring Makanku Application Using Figma Application for Teens show that designing the interface in the form of fidelity prototype medium has been acceptable by the teens and properly selected as the layout of the application as indicated by the percentage of dominant positive response, 95.56%.

4. Conclusion

Designing a user interface from Piring Makanku application using Figma application for teens has been successfully created by applying Lean UX approach and has generated a final product, that is a medium fidelity prototype using Figma. This final prototype is tested to the future customers on research and learning stage using Retrospective Thinking Aloud method. Results of the test show the mean percentage of dominant positive is 95.56% and of dominant negative is 4.44%. Examiner #1 gives a total score of 100%, Examiner #2 gives a total score of 100%, Examiner #3 gives a total score of 100%, Examiner #4 gives a total score of 83.33%, and Examiner #5 gives a total score of 100% in spite of having some matters need development and improvement. The design under trial has received a good response and the 5 teenagers involved in the trial are interested in using the application from the created design. More features and food menus can be added in order that more things can be surfed by users; thus, the application will get more informative and attractive. In addition, it is recommended that animation be used for better design, and a friendly-use application be created.

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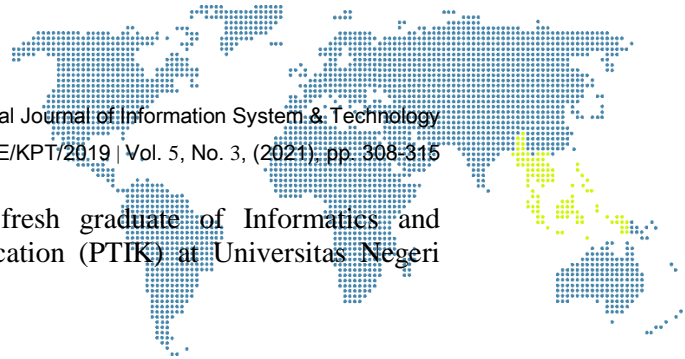
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