

# Analysis of User Experience in Go Kreasi Application Using User Experience Questionnaire (UEQ)

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**Abstract**— This study aims to analyze the user experience of the Go Kreasi mobile application. The Go Kreasi application is a mobile application that provides tutoring services for students. The application was developed by PT. Ganesha Operation is still under development and used by 100 thousand users in Indonesia. The application has several features, including Visual, Audio, and Kinesthetic Ability Test (VAK), GO Assessment (GOA), Learning videos, Theory E-Books, Magic Books, Empathy, Racing, TOBK (Computer-Based Try Out), EPB, Leaderboard, and M3. [2] There are a number of complaints in the GO Kreasi app reviews, such as inappropriate color selection and confusing icon placement. This contributes to the app's low rating, which is 2.7 out of 5 on the Apple Store and 2.3 out of 5 on the Play Store. Many users stated that the app is less than satisfactory, which is one of the main reasons for this study. This study aims to analyze the user experience of the Go Kreasi mobile application using the User Experience Questionnaire (UEQ). UEQ measures user experience based on six dimensions: satisfaction, efficiency, stimulation, aesthetics, clarity, and identity. The research method is an online survey of 58 respondents who answered 26 questions about the Go Kreasi application. The researchers conducted a demographic analysis of the respondents. Most of the respondents were aged 17 years old and were students at the high school level. The results of the study showed that the overall UX of the application is good. The results showed that the dimensions of clarity and identity had the highest scores, while the dimensions of efficiency had the lowest. However, some aspects need to be improved to improve the user experience. These aspects include the ease of use, the accuracy of the information, and the dependability of the application. The researchers concluded that the Go Kreasi application has the potential to be a useful tool for students. From the research, we expected the Go Kreasi application can be better and more evolved in the future.

**Index Terms**—user experience; user experience questionnaire; mobile learning application.

## I. INTRODUCTION

At present, technological advances are developing very rapidly so many things are converted to digital. Advances in technology also have an impact on various fields, including the field of education. [14] Tutoring is one of the mandatory things for students to support the knowledge they have. Apart from that, this is also useful for preparing for the selection of the dream college of every SMA/SMK student. Selection of tutoring is very important so that the expected goals are achieved. [20] Fluency in tutoring is the main thing that students look for in choosing a place for tutoring, including the application of tutoring as a learning support medium. Learning applications are considered practical for students in conducting learning outside of school hours.

One of the tutoring applications Go Kreasi has already been used by more than one hundred thousand users in Indonesia. This application made by Ganesha Operation allows students to study online and offline through media such as pictures, theoretical explanations, and interesting videos, do tryouts, and see the results of student progress. This application is made so that students can learn from anywhere and anytime. It is hoped that students will have more time to prepare themselves for taking the college selection exams they want. In addition, students can also evaluate their learning outcomes by looking at the progress of this application.

Many positive impacts have been given by the application of tutoring their students. The use of online tutoring applications can have a positive and significant impact on student achievement [3][15]. Students who are interested in a lesson must have the student's interest in taking the lesson. [19] The Go Kreasi application is considered to have the potential to be used on an ongoing basis in the future. This application is still under development, and currently, the app has received a lot of criticism and feedback from users, many of whom have said that the quality of the app is still unsatisfactory. So, we hope the research

is providing solutions and input to PT. Ganesha Operation so that the application becomes better and more useful in the future. Adaptive learning systems adjust the content and difficulty of the learning experience based on the individual learner's needs and progress. [4][14]

#### A. A. Theoretical Basis

a) *Mobile Applications*: often referred to as mobile applications or mobile applications, are specially designed and developed software packages that can run on mobile devices such as smartphones or tablets. Users can download and install mobile applications through the app store on certain mobile platforms, such as the Google Play Store for Android or the App Store for iOS.

Mobile applications can have a variety of functions, ranging from everyday uses such as social networking, communication, productivity, and entertainment, to applications specifically for business, education, health, banking, and others. Mobile applications can be used online or offline depending on the type and functionality of the application. The benefits of mobile learning are [8]:

- Flexibility
- Personalization
- Engagement
- Accessibility
- Cost-effectiveness
- Support for informal learning
- Improved communication and collaboration
- Enhanced motivation and engagement
- Increased learner satisfaction

b) *User Experience*: commonly abbreviated as UX is the feeling of users when using digital products, in another sense the result of the interaction of each user who visits or uses applications and websites. This feeling can be seen from the comfort of users in using digital products more easily and pleasantly. It is also an important aspect that focuses on the user experience, including in terms of response, emotion, and perception of the application or itself in the development of digital products. in today's modern era, such as websites, applications on smartphones, software on computers, and others.

UX is not just about making a product look good. It is also about making sure that the product is functional and meets the needs of the users. UX designers need to understand the users' needs and goals to create a product that is useful and delightful. [9]

c) *The User Experience Questionnaire (UEQ)*: a method in the form of a questionnaire that is used to measure the user experience of a product. [1]

User Experience describes the user's subjective feelings towards the product they use. Every user has different feelings and impressions even when using the same product. [17]

The UEQ is used to evaluate different products and services, and the development of new versions of the UEQ that are more tailored to the needs of users, that the UEQ is a valid and reliable tool for evaluating user experience, and that it can be used to evaluate a wide range of products and services. [12]

Using the UEQ method can help determine and test whether the application/website has a good User Experience because the UEQ method uses several scenarios that help test the application. [18]

UEQ has 26 question items with six scales:

- Attractiveness: Measures the user's impression of interest in the product.
- Perspicuity: A measure of how easily users can understand and learn about the product.
- Efficiency: Measuring interactions between users and products quickly and efficiently.
- Dependability: Benchmarks of user feelings/interaction when using the product.
- Stimulation: Measures the user's enjoyment and motivation to use the product.
- Novelty: A measure of how creative and innovative the product is that can attract users' interest in using the product.

#### B. Literature Reviews from Similar Research

In the first study, Ahmad Husein Tarigan, Hergy Pradana, and Raihan Najmi Hersian used the User Experience Questionnaire (UEQ) method to analyze the UX of the MyTelkomsel application. The results show that the UX of the MyTelkomsel application has good value. However, several aspects need improvement, such as ease of use and accuracy of information. [5]

In the second study, Aditya Kusumadwiputra and Adela Zahwa Firdaus Suherman used the UEQ method to analyze the UX of the PeduliLindungi application. The results of the study show that the UX of the PeduliLindungi application still needs to be improved, especially in terms of the accuracy of the information. [6]

In the third study, Cici Damayanti Munthe and Sondang Sartika Siahaan used the UEQ method to analyze the UX of the Auto2000 application. The results of the study show that the UX of the Auto2000 application has good value. However, some aspects need improvement, such as ease of use and aesthetics. [7]

From those three studies, it can be concluded that. A good UX will make users feel satisfied and

comfortable in using the product so that it can increase the number of downloads and user satisfaction.

The difference between the third research and previous research is that the third research will examine mobile and web applications. This is done to get a more complete picture of the UX of the Auto2000 application. In addition, the third study will also propose a new user interface design based on the results of the evaluation carried out. Those studies are expected to contribute to the development of better digital products.

## II. METHODOLOGY

### A. Research step

The framework begins with the description and explanation of this Go Kreasi application. This research is based on User Experience with the User Experience Questionnaire (UEQ) Method. The results of this research later aim to help the Go Kreasi application have a UI/UX that suits its users which can later speed up running the application.

In this research, the first thing to do is to identify the problem. It is necessary to find out what problems occurred in the application so the solutions or corrective actions can be proposed correctly. In solving existing problems, a solution method will be used by referring to library sources, literature, and journals. In determining the number of samples to be used, the random sampling technique and the solvency method.

A collection of samples will be collected in the form of a questionnaire with the UEQ method, and the results will be analyzed. The sample size should be as large as possible, the more samples that are collected, the more representative they will be, and the more generalizable the results will be.[13] At this stage, 20 to 30 respondents are needed, this follows the requirements for the minimum number of respondents in the UEQ method.[18]

The research step is shown in Fig. 1.

### B. Stages of analysis

The stages in conducting data analysis in this study include:

1) *Create a questionnaire according to the UEQ template*: This questionnaire contains questions about demographic data. A questionnaire based on a literature study on UEQ was then re-created in the form of a Google Form and distributed to respondents via social media to fill out. An example of the questionnaire used in this study can be seen on the attachment page.

2) *Collecting data*: These data are based on answers to questionnaires by respondents. After that, a recapitulation of the answers given was carried out.

3) *Convert the questionnaire*: Convert into a weighted value for each answer by grouping each positive item and negative item. Here is an example of the conversion scale of UEQ in Table I.

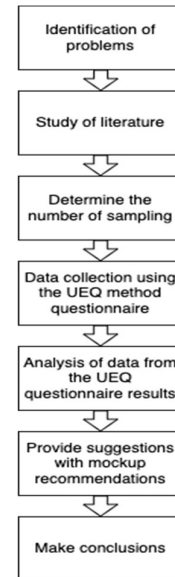


Fig. 1. Research step.

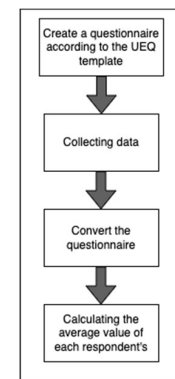


Fig. 2. Stage of analysis.

TABLE I. Example of Conversion Scale of UEQ.

Item	Conversion Scale							Item
	1	2	3	4	5	6	7	
inferior	-3	-2	-1	0	+1	+2	+3	valuable

This grouping is intended so that each item can be assessed on a scale range from -3 to +3. Values of -3, -2, and -1 indicate negative answers, values of 0 are neutral, while +1, +2, and +3 indicate positive answers. After the responses are obtained from the respondents, the answers are then converted into weighted values on the same scale, namely from -3 (strongly agree with the

negative statement) to +3 (strongly agree with the positive statement) [2].

4) *Calculating the average value of each respondent's scale:* Calculate with the data that has been converted into the weight of the answer value then grouped into 6 UEQ scales and items per scale. Each UEQ scale and its items are calculated on average by adding up all items on each UEQ scale and dividing by the number of each item.

### III. RESULT AND DISCUSSION

#### A. Current Business Process

The current business process is to access this application, users need to register as students in online tutoring programs. The program provides several features including Visual, Audio, and Kinesthetic Ability Test (VAK), GO Assessment (GOA), Learning videos, Theory E-Books, Magic Books, Empathy, Racing, TOBK (Computer-Based Try-Out), EPB, Leaderboard, and M3. Users access the application by registering with the program separately outside of this application, then entering their mobile number, the registration number obtained when registering for the program, and receiving an OTP code via email, SMS, or WA based on the registered mobile number. After entering the OTP code, users can access the features of the Go Kreasi application. There are three menus in the Go Kreasi application, namely the Home menu, the 3B menu (Belajar, Berlatih, Bertanding), and the Social menu. The Home menu is the initial page when the user enters the application. Menu 3B is a page containing questions and theories that students can work on. The Social Menu is a menu for socializing with fellow GO students. This research focuses on the Home menu and 3B menu.

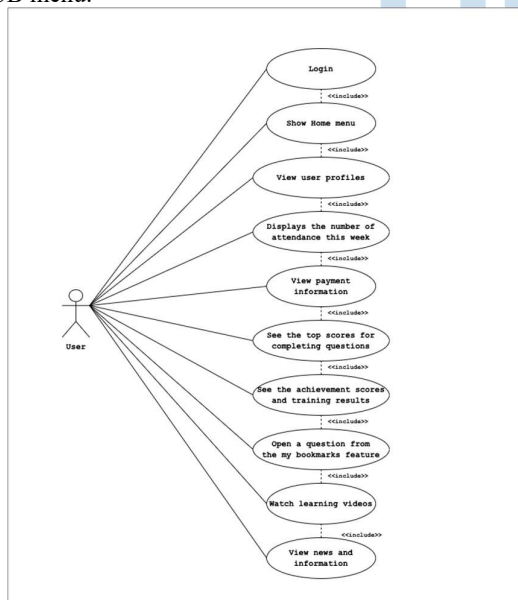


Fig. 3. Home menu use case diagram.

*Home menu:* The use case diagram describes the activities or activities that can be carried out by the user when accessing the GO Kreasi application on the home menu as the main menu of the Go Kreasi application. It is shown in Fig. 3.

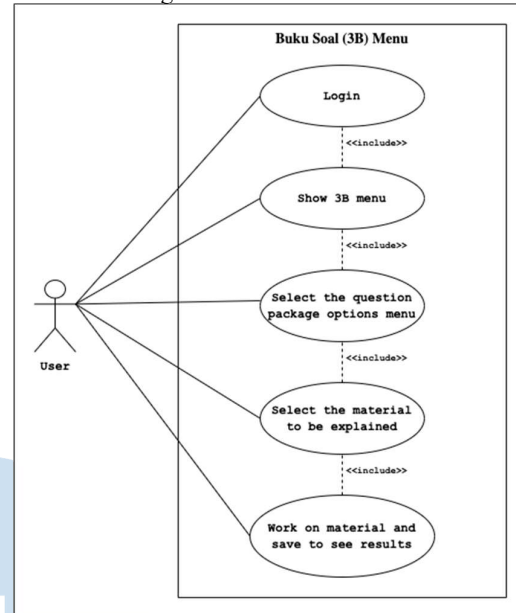


Fig. 4. Questions Book menu use case diagram (3B).

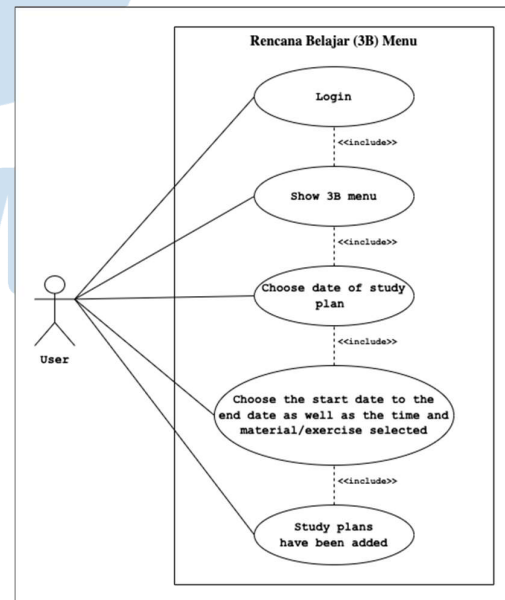


Fig. 5. Study Plan use case diagram (3B).

*Buku Soal in 3B menu:* The user opens menu 3B, the Buku Soal submenu, then selects the desired question package. Then select the material to be worked on. If you have chosen, then you can start working on the questions and immediately save them to see the results of the work evaluation. It is shown in Fig. 4.

*Rencana Belajar in 3B menu:* 3B menu: User opens menu 3B, the buku soal submenu, then selects the desired question package. Then select the material to be worked on. If you have chosen, then you can start working on the questions and immediately save them to see the results of the work evaluation. It is shown in Fig. 5.

### B. Respondent Analysis in Demographics Result

Based on 58 respondents who participated in filling out the questionnaire on the Go Kreasi application. The age range of respondents who filled out the questionnaire was from 10 years old to 18 years old. Most respondents were respondents aged 17 years with a total of 17 respondents. Demographic results based on the age category of all respondents who have filled out the questionnaire for the Go Kreasi application are attached to Fig. 6.

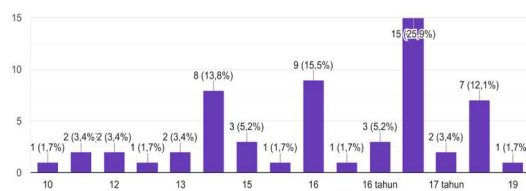


Fig. 6. Graphic of respondents based on age.

Respondents who used the application at the high school level were 43 people (74.1%), at the junior high school level there were 10 people (17.2%), and at the elementary level there were 5 people (8.6%). Demographic results based on the category of educational level when using the application from all respondents who have filled out the questionnaire for the Go Kreasi application are attached in Fig. 7.

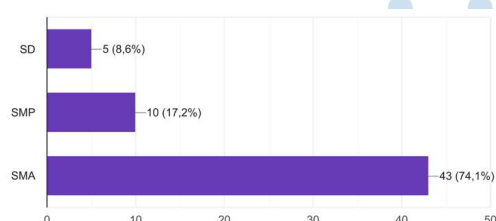


Fig. 7. Graphic of respondents based on education level.

### C. UEQ Questionnaire Analysis Results of Home Menu

The questionnaire on the GO Kreasi application Home menu was compiled based on the UEQ template and distributed to respondents. The answers to the questionnaire were then converted into weighted values for each question item. Conversion begins by grouping each positive item and negative item. The results of the average value of the respondent's value scale are converted to the weight of the answer scores on the 6 UEQ scales and items per scale. The average value of all respondents on each questionnaire item is calculated by adding up all the respondents' values for each item divided by the number of respondents. The

following are the results of these calculations in Table II.

TABLE II. Result of Calculation for Home menu based on 26 Items.

Item	Mean	Left	Right	Scale
1	1,59	annoying	enjoyable	Attractiveness
2	1,88	not understandable	understandable	Perspiciuity
3	1,95	dull	creative	Novelty
4	1,88	difficult to learn	easy to learn	Perspiciuity
5	2,28	inferior	valuable	Stimulation
6	1,59	boring	exciting	Stimulation
7	1,86	not interesting	interesting	Stimulation
8	1,60	unpredictable	predictable	Dependability
9	0,74	slow	fast	Efficiency
10	1,19	conventional	inventive	Novelty
11	1,76	obstructive	supportive	Dependability
12	2,10	bad	good	Attractiveness
13	1,60	complicated	easy	Perspiciuity
14	1,47	unlikable	pleasing	Attractiveness
15	1,60	usual	leading edge	Novelty
16	1,79	unpleasant	pleasant	Attractiveness
17	2,10	not secure	secure	Dependability
18	1,71	demotivating	motivating	Stimulation
19	1,71	does not meet expectations	meets expectations	Dependability
20	1,71	inefficient	efficient	Efficiency
21	1,74	confusing	clear	Perspiciuity
22	1,79	impractical	practical	Efficiency
23	1,76	cluttered	organized	Efficiency
24	1,53	unattractive	attractive	Attractiveness
25	1,93	unfriendly	friendly	Attractiveness
26	2,02	conservative	innovative	Novelty

The results of the average value of each scale from all respondents are added up with all the scale values of the respondents and divided by the number of respondents. The following results can be seen in Table III.

TABLE III. The Average of Each Scale from All Respondents on The Go Kreasi Home Application Menu.

UEQ's Scale	Average
Attractiveness	1,736
Perspiciuity	1,776
Efficiency	1,500
Dependability	1,793
Stimulation	1,858
Novelty	1,690



Based on the results of the analysis of the UEQ questionnaire that has been distributed, it can be calculated the value of the average of all items on each scale from all respondents on the Home menu of the Go Kreasi application. The results of the overall average value are in Table IV and Fig. 8.

TABLE IV. Comparison Interval on The UEQ Home Menu.

Scale	Mean	Comparison interval for the UEQ scale
Attractiveness	1,74	Good
Perspicuity	1,78	Good
Efficiency	1,50	Above Average
Dependability	1,79	Excellent
Stimulation	1,86	Excellent
Novelty	1,69	Excellent

#### IV. CONCLUSION

Based on the results of the discussion in this study, it can be concluded that:

1. This study succeeded in conducting an analysis of the user experience evaluation [21] for the Home menu and the 3B Go Kreasi Application menu.
2. The results of data processing from 58 respondents using the scale comparison interval on the UEQ questionnaire for each item to measure the value of user experience, show that:
  - a) Evaluation on the Go Kreasi Application Home menu received a *good* category for the attractiveness scale (1.74) and clarity (1.78), the *above average* category for the efficiency scale (1.50), and the *excellent* category for the accuracy scale (1.79), stimulation (1.86) and novelty (1.69).
  - b) Evaluation on the 3B menu for the Go Kreasi application received a *good* category for an efficiency scale (1.71), an *above average* category for a clarity scale (1.38), and an *excellent* category for an attractiveness scale (1.93), accuracy (1.98), stimulation (2.00) and novelty (1.68).
  - c) Evaluation of the Home and 3B menus of the Go Kreasi application has produced an average value on a scale with good and above average categories, so the application is said to be good.
3. Based on the results of the user experience assessment questionnaire on the Home menu of the Go Kreasi Application, the GO Kreasi application has a good user experience quality.

From the results of the questionnaire, suggestions were given in the form of a mockup of the GO Kreasi application.

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