THE EFFECT OF PLAYABILITY ON USER EXPERIENCE IN "JOKO RUN" GAME

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ABSTRACT

Playability is the easiness of a game player in playing games, while user experience is a game player's reference to the level of satisfaction of a game. A game certainly has an element of playability so that connoisseurs always play the game so as to produce a high level of user experience. Joko Run is one of the games similar to Subway Surfer game which is the best endless runner game for android that is easy to play. The purpose of this study is to find out the aspects of playability and user experience that must be fulfilled by game developers when designing a game and the influence of playability of the game on the level of user experience of the game "Joko Run". This study uses descriptive and verification methods, descriptive methods to know the aspects of playability and user experience, then the verification method to find the influence of playability on the user experience. Based on the results of the descriptive analysis of playability obtained an average of 109.05, in the range of 105-129, which is easy. Whereas for descriptive analysis user experience obtained an average of 110.25, which is in the scale of 105-129, which is easy. Based on the results of the verification analysis obtained the coefficient of determination or the influence of playability on the user experience of 0.664 or 66.4%, is between 0.60-0.799 which is strong. So, game players can play "Joko Run" easily without having to learn the pattern of the game. Game players can also use the game features "Joko Run" smoothly, so that users feel the ease of playing the game and enhance the experience of the game player "Joko Run. Then, there is the influence of playability on the user experience game "Joko Run". A game that has easy playability tends to increase user experience, on the contrary if the playability of a game is low then it decreases the user experience.

I. INTRODUCTION

Nowadays, there are so many games popping up. Game lovers are very easy to get the game they want. Starting from mobile games to desktops. They can download the games for free and paid. Almost every device such as a computer, tablet, smartphone installed the games. They usually play games to fill their free time, some people even get addicted to the games.

One important issue of an interesting game is playability. According to Sanchez [1], playability refers to a game that can be easily played or not. Playability includes player experience, the quality of the game elements, artistic, esthetics and the way the elements of this game are run in video games. Eka Putra [2], said that an interesting game is not difficult and can meet the satisfaction to game lovers. It

could be seen from the element of playability. Eka Putra [2] conducted analysis on two games, such as Cut the Rope and Subway Surfers based on the playability aspects of the game. There were gameplay, usability and mobility. The analysis results stated that nine playability found in Cut the Rop game and eight playability in the Subway Surfers game. Therefore, the element of playability could affect the ease of a game. It helped game developers and game designers to identify the problems in mobile games earlier to achieve game success.

Another issue that makes a game famous and successful in the market is user experience. According to ISO 9241-210 [3], user experience is someone's perception and response from the use of a system, product, and service. According to Gagas Pandusarani's research [4], stating user experience is important in the success of a game and can be used in finding

the lack of appearance of the game, from the results of the study states that the user experience in the CS: GO game is said to be quite good.

From the description above, the author found a game certainly has elements of playability so that players always play the game. It produces a high level of user experience.

Joko Run is an endless run game that runs on the Android platform. The game "Joko Run" played in a single player, this game was made in 2018 by Marisha Pertiwi as author, Winona Saraswaty and Odi Isya Winanda who are students in Politeknik Negeri Batam. The "Joko Run" game has similarities with the Subway Surfers or Temple Run game which are the best endless runner games for Android that easy to play. So the author wants to analyze the effect of playability on user experience in "Joko Run" game that the author has made.

II. THEORETICAL FRAMEWORK

Theoretical Framework contains exposure the independent variable (playability) and dependent variable (user experience).

A. Playability

According to Sanchez [1], playability refers to a game that can be easily played or not. Playability includes player experience, the quality of the game elements, artistic, esthetics and the way the elements of this game are run in video games. In other words, the purpose of playability to measure and ensure an optimal player experience.
According to Sanchez [1], there are several indicators that determine the quality of playability of a game:
1) Satisfaction: attributes that very subjective because difficult to measure but affect the preferences and satisfaction of the player. The level satisfaction of players to complete video games or several aspects such as: mechanisms, graphics, user interfaces, stories, and others. Satisfaction for game elements such as characters, virtual worlds, challenges, and so on.
2) Learning ability: a facility to understand and master the game system and mechanics (goals, rules, ways to interact with video games, etc.). This attribute presents how to learn to play games.
3) Effectiveness: as certain user degrees (players) can achieve the proposed goals with precision and completeness in the context of using video games. It involves the resources needed to offer the players new experiences as they reach various game goals and the ultimate goal of the game.
4) Immersion: the capacity of video game content can be trusted, so the players become directly involved in the world of virtual games or feel like they are in a game. The characteristics of immersion include: awareness, preoccupation in the game, reality of the game,

dexterity of control, and social-cultural closeness to the game.
5) Motivation: as a set of characteristics of the game that encourages players to be aware of specific actions and continue to be done to completion. The characteristics include: techniques to encourage players, curiosity about the game, player progress, and diversity of resources.
6) Emotions: the encouragement or response of the player to the stimulation of video games that causes feelings or a series of reactions from the behavior of game players automatically when playing games. Characteristics of emotions include: player reaction, game behavior and sensory attraction to the elements of the game.
7) Socialization: a collection of game attributes, elements and resources promoting the social dimension of game experience in groups. Characteristics of socialization include: social perceptions, group awareness, personal, social resource distribution, communication techniques, and game interaction rules.

B. User Experience

According to Hartson-Pyla, user experience (UX) [4], the totality effect that users perceive as a result of interaction and the context of use of system, device, or product, including the influence of usability, usefulness, and emotional impact during the interaction.

According to Haris-Pyla, a good UX that must pay attention to four main points:
1) *Usability:* pragmatic components (practical and useful for the public) of UX, including effectiveness, efficiency, productivity, ease of use, ease of learning, resilience, and pragmatic aspects of user satisfaction.
2) *Usefulness:* System functionality provides the ability to complete the purpose of a game.
3) *Functionality:* the power to do the game with features and capabilities without regard to the user interface.
4) *Emotional Impact:* the affective component of UX that affects user feelings. These include the satisfaction, pleasure, pleasant use, aesthetics, likes, something new, originality, sensation, cool, promising, interesting, and can involve more emotional factors such as self-expression, identity, feeling of contribution to the world , and pride has.

III. RESEARCH METHODOLOGY

This study uses a quantitative approach, uses data in the form of numbers which are then processed and drawn conclusions. The method used in this research is descriptive and verificative research method. According to Nazir [6], descriptive method is a method that examines a group of humans, a set of conditions of a system of thought or a class of events in the present to make descriptive, picture or

painting systematic, factual and accurate about the facts, traits and relationships phenomena investigated. According to Nazir [7], the verification method is a research method that aims to determine the causal relationship between variables through a hypothesis testing through a statistical calculation so that can be produced that shows the hypothesis is rejected or accepted. Descriptive method research is used to determine the aspects contained in playability and user experience, in other words to find out the easy and difficult aspects of the game "Joko Run", while the research method is verification used for answer the hypothesis that is knowing the influence of playability on the user experience.

A.Technique Data Collection

Data collection is obtained from questionnaires. It's the data collection techniques carried out by giving a set of questions to the respondent to answer.

The sample criteria or respondents in this study are:
1) Game groups / communities, students, students and private workers.
2) Samples totaling 30 people.
3) The sample consists of the age range 12-35 years.
4) Playing games for more than 1 hour or more every day.

The following table is a description of playability variables (X), along with indicators, size and scale used in the questionnaire statement based on the source of Sanchez (2009) can be seen in table I.

Table I Indicator of Variable X

No.	Variable	Indicator	Criterion	Scale
X1	*Playability*	*Satisfaction*	I satisfied with the obstacles presented in the "Joko Run" game	*Likert*
X2	*Playability*	*Satisfaction*	I satisfied with the character presented in the "Joko Run" game	*Likert*
X3	*Playability*	*Satisfaction*	I satisfied with the mechanism, graphics and interface that presented in the "Joko Run" game	*Likert*
X4	*Playability*	*Learning ability*	I understand the patterns and strategy game "Joko Run" easily	*Likert*
X5	*Playability*	*Learning ability*	Instructions for controlling game characters on about menu help me complete game easily	*Likert*
X6	*Playability*	*Learning ability*	I easily master "Joko Run" game	*Likert*
X7	*Playability*	*Effectiveness*	I can play "Joko Run" game on my android	*Likert*
X8	*Playability*	*Effectiveness*	I easily understand the "Joko Run" game.	*Likert*

No.	Variable	Indicator	Criterion	Scale
X9	*Playability*	*Effectiveness*	I managed to play the "Joko Run" game until it's finished.	*Likert*
X10	*Playability*	*Immersion*	I really feel like I'm in a game while playing the "Joko Run" game.	*Likert*
X11	*Playability*	*Immersion*	I could feel the audio and visual sensations of the graph while playing the "Joko Run" game.	*Likert*
X12	*Playability*	*Immersion*	I found it fun and forget the time playing games "Joko Run".	*Likert*
X13	*Playability*	*Motivation*	I felt focus when playing "Joko Run" game.	*Likert*
X14	*Playability*	*Motivation*	I motivated to complete the "Joko Run" game until it's finished.	*Likert*
X15	*Playability*	*Motivation*	I tried again "Joko Run" game if it's game over.	*Likert*
X16	*Playability*	*Emotion*	I addicted in playing the game "Joko Run".	*Likert*
X17	*Playability*	*Emotion*	I felt curious about the obstacles faced at the next level.	*Likert*
X18	*Playability*	*Emotion*	I feel annoyed if the game "Joko Run" over.	*Likert*
X19	*Playability*	*Socialization*	"Joko Run" game can be played by all players.	*Likert*
X20	*Playability*	*Socialization*	I can interact with friends using Facebook accounts or other social media.	*Likert*
X21	*Playability*	*Socialization*	I could share the results of playing the "Joko Run" game on social media.	*Likert*

The following table is a description of user experience variables (Y), along with indicators, sizes and scales used for the revelation of the questionnaire based on Hartson-Pyla (2012) sources can be seen in table II

Tabel II Indikator of Variabel Y

No.	Variable	Indicator	Criterion	Scale
Y1	*User experience*	*Usability*	I found it easy to learn the rules of the game and complete obstacle "Joko Run".	*Likert*
Y2	*User experience*	*Usability*	I could easily avoid obstacles in the "Joko Run" game.	*Likert*
Y3	*User experience*	*Usability*	I could pass levels and stages with a fast time.	*Likert*
Y4	*User experience*	*Usefulness*	I was able to play the "Joko Run" game until it was finished.	*Likert*
Y5	*User experience*	*Usefulness*	I as a player was able to get a 3 star reward at the end of the stage.	*Likert*
Y6	*User experience*	*Usefulness*	I was able to take all the boosters in the game	*Likert*

Y7	*User experience*	*Functionality*	The menu button in the "Joko Run" game is functioning smoothly.	*Likert*
Y8	*User experience*	*Functionality*	I used bottle booster items and capsules when stamina decreases.	*Likert*
Y9	*User experience*	*Functionality*	The feature in the "Joko Run" game is in accordance with the expectations and desires of the user	*Likert*
Y10	*User experience*	*Emotional Impact*	I felt something new and different from other games when playing the game "Joko Run".	*Likert*
Y11	*User experience*	*Emotional Impact*	I am happy and re-play the game "Joko Run".	*Likert*
Y12	*User experience*	*Emotional Impact*	I satisfied finish the obstacles found in the game "Joko Run".	*Likert*

B. Technique Data Processing

According to Sugiyono [8], data analysis activities are grouping data based on variables and types of respondents, tabulating data based on variables and types of respondents, presenting data for each variable under study, performing calculations to answer the problem formulation and test the hypothesis that has been proposed used by the IBM SPSS application. The following data processing scheme can be seen in Figure 1.
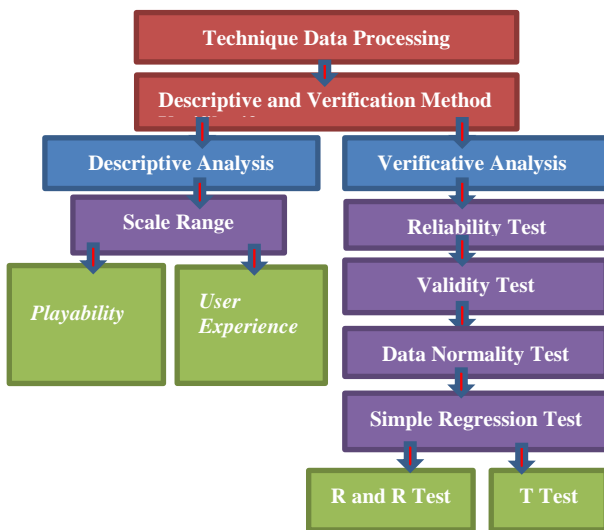

Figure 1. Schema of Technique Data Processing

1. Descriptive Method

1) Descriptive Analysis

Descriptive analysis is used to analyze data by describing the data that has been collected without intending to make conclusions that apply to generalizations. Descriptive analysis in this study was used to determine the aspects of playability and user experience, so that they can know the playability and user experience aspects that are easy and difficult in the "Joko Run" game. It is known to use a range of scales. According to Umar [9], the formula used to calculate the scale range:

$$RK = \frac{n(m-1)}{m}$$ Formula [1]

n = number of samples
m = number of alternative options
Rk = Scale range

Based on this formula, we obtained a range of scales in this study as follow:

$$RK = \frac{30\,(5-1)}{5} = 24$$ Formula [2]

Furthermore, the range will get a range of scales between the comparison of actual scores and ideal scores contributed in table III.

Table III Criteria percentage of respondents against ideal score

No	Total score	Criteria	Result
1	30-54	Strongly disagree	Not easy
2	55-79	Disagree	Less easily
3	80-104	Neutral	Quite easy
4	105-129	Agree	Easy
5	130-154	Strongly agree	Very easy

Based on 7 indicators of playability variables (X) obtained 21 questionnaire items with the number of respondents 30 people, then obtained the ideal score / highest weight of the answer (21 x 30 x 5 = 3150). While 4 indicators of user experience variable (Y) ideal score / highest weight of the answer (12 x 30 x 5 = 1800).

2. Verificative Method

Verification research method is used to answer the hypothesis, knowing the effect of playability on user experience. Before testing the hypothesis using simple regression, the steps used are to test reliability, test the validity and normality to find out the instruments used are reliable, valid and data are normally distributed.

1) Reliability Test

According to Sugiyono [8], reliability is an instrument that used several times to measure the same object, will produce the same data. To measure the reliability of the indicators used in the research questionnaire using Cronbach alpha by the SPSS application. Cronbach alpha reliability coefficient formula according to Sugiyono [8], as follows:

$$r_i = \frac{k}{(k-1)}\left\{1 - \frac{\Sigma s_i^2}{s_t^2}\right\}$$ Formula [3]

k = Mean of the square between subjects
Σs_i = Mean of square error
$S_t{}^2$ = Total Variant
Formula for total variants and item variants:

$$S_t{}^2 = \frac{\Sigma x_t{}^2}{n} - \frac{(\Sigma x_t{}^2)}{n^2} \qquad \text{Formula [4]}$$

$$S_t{}^2 = \frac{JKi}{n} - \frac{JKs}{n^2} \qquad \text{Formula [5]}$$

JKi = Sum of square all item scores
JKs = Sum of square subjects

An instrument can be reliable if the value of the cronbach alpha coefficient is more than 0.6. In addition, decision making in reliability testing are:
a. If the cronbach alpha value is greater than r table, the questionnaire is declared reliable.
b. If the Cronbach alpha value is smaller than r table, the questionnaire is declared unreliable.

2) Validity Test

According to Sugiyono [8], validity is the degree of accuracy between the data that occurs in the object of research and the power that can be reported by the researcher. Valid data is data that not different between the data reported by the researcher and the actual data that occurred on the object of the research. Test the validity of each item used analysis, which correlates the scores of each item with the total score which is the sum of each item score. In terms of analyzing this item, Sugiyono [8] states that correlation techniques to determine the validity of this item up to the most widely used techniques. Furthermore, in giving an interpretation of the correlation coefficient, Sugiyono stated that items have a positive correlation with the criteria (total score) and high correlation, indicate that the item has high validity as well.

Validity test of the instrument can use product moment correlation techniques according to Sugiyono [8], as follows:

$$r_{xy} = \frac{n\Sigma X_i.Y_i - (\Sigma X_i).(\Sigma Y_i)}{\sqrt{\{n.\Sigma Xi^2 - (\Sigma Xi)^2\}.\{n.\Sigma Yi^2 - (\Sigma Yi)^2)\}}} \qquad \text{Formula [6]}$$

r_{xy} = Correlation Coefficient (r count)
n = Number of samples
ΣX = Total of score for variable X question items
ΣY = Total of score for variable Y question items

According to Sugiyono, the minimum requirements to be considered as follows:
a. If r is more than 0.3, the question items from the questionnaire are valid.

b. If r is less than 0.3, the question items from the questionnaire are invalid.

Decision making in the validity test can be done in several ways as follow:
1. Compare the value of r count with r table
   a. If the calculated r value is greater than r table, the instrument item for the questionnaire is declared valid.
   b. If the calculated r value is smaller than r table, the instrument item for the questionnaire is declared invalid.
2. Compare the significance value (2-tailed) with a probability of 0.05
   a. If the significance value (2 tailed) is less than 0.05 and the pearson correlation is positive, the instrument item is valid.
   b. If the significance value (2-tailed) is less than 0.05 and the pearson correlation is negative, the instrument item is invalid.
   c. If the significance value (2-tailed) is more than 0.05, the item about the questionnaire is invalid.

2) Data Normaly Tets

Normality test is a test to find out a regression model that is dependent variable, independent variable or both that have a normal distribution or not. Good regression model is normal or near normal data distribution. The normality test in this study uses the ShapiroWilk test. Shapiro Wilk is a method or formula for calculating the distribution of data made by Shapiro and Wilk. The Shapiro Wilk test is an effective and valid normality test used for small numbers of samples. Using the Shapiro Wilk test if the amount of data is less than 50. In calculating the normality test, this study uses data 30 samples. The calculation is done using Shapiro Wilk. To calculate the value of normality based on Shapiro Wilk, you can use the SPSS statistical application. Formula Shapiro Wilk as follows:

$$T_3 = \frac{1}{D}[\Sigma_{i=1}^{K} a_i(x_{n-i+1} - x_i)]^2 \qquad \text{Formula [7]}$$

D = Based on the formula below
ai = Shapiro Wilk test coefficient
X n-i+1 = Amount of n - i + 1 in the data
X i = Amount i in the data
Formula for D value as follows:

$$D = (\sum_{i=1}^{n}(X_I - \overline{X})^2 \qquad \text{Formula [8]}$$

Xi = Amount i in the data

X = Average data
Formula for the normal distribution value using G as follows:

$$G = b_n + c_n + 1n\left(\frac{T_3 - d_n}{1 - T_3}\right)$$ Formula [9]

G = Identical to the Z value / normal distribution value
T3 = Based on the formula above bn and cn
dn = Statistical conversion shapiro wilk normal distribution approach

Basic decision making in the normality test of Shapiro Wilk:
- If the significance value is more than 0.05, the data is normally distributed.
- If the significance value is less than 0.05, the data is not normally distributed.

3) Simple Regression Test

According to Riduwan [10], regression is a process of systematically estimating important things that may occur in the future based on past and present information that is owned so that errors can be minimized. One of the uses of regression in research is to predict or predict the dependent variable (Y) if the independent variable (X) is known. Simple regression can be analyzed because it is based on a functional relationship or causal relationship independent variable (X) to the dependent variable (Y).

The regression equation is formulated as follows:

$$\hat{Y} = a + bX$$ Formula [10]

$\hat{Y}$= (read Y Topi) subject of the dependent variable projected
X = independent variable that has a certain value to predict
a = The value of the price constant Y if X = 0
  b = Direction values as determinants of predictions that indicate an increase in value (+) or a decrease in value (-) variable Y.

a) R dan R Square Test

According to Sugiyono [8], the correlation coefficient test (R Test) was used to find the relationship of one independent variable with one dependent variable. Determination coefficient is one of the statistical values that can be used to find out there is an influence relationship between two variables. Test of determination coefficient (R square) is to assess how much influence the independent variable (X) has on the dependent variable (Y) which is a correlation coefficient which is usually expressed as a percentage (%). In this study the correlation used is partial correlation, used to determine the strength of the relationship between the correlations of two variables where other variables are considered influential. The variables studied are interval data, the statistical technique used is the pearson correlation product.

According to Sugiyono [8] the determination of the correlation coefficient using the Pearson product moment correlation analysis method, then based on the guidelines to give an interpretation of the coefficient of correlation in table IV.

Table IV Guidelines for Providing Interpretations of Correlation Coefficient

Coefficient Interval	Relationship Level
0,00 - 0,199	Very low
0,20 - 0,399	Low
0,40 - 0,599	Fair
0,60 - 0,799	Strong
0,80 - 1,00	Very strong

b) T Test

T test to find out the rejection and acceptance of the hypothesis and the significance of the influence of variable on the dependent variable partially with a significance of 0.05 (α = 5%).

Test criteria for t test are based on the comparison of t count and t table or can do a comparison of significance with α.
1) Based on t count:
   a. If the value of t count is greater than t table, there is the influence of the independent variable (X) on the dependent variable (Y) or the hypothesis is accepted
   b. If the value of t count is smaller than t table, there is no effect of the independent variable (X) on the dependent variable (Y) or the hypothesis is rejected.
2) Based on signification:
   a. If the significance is more than 0.05, there is no effect of the independent variable (X) on the variable (Y) the hypothesis is rejected
   b. If the significance is less than 0.05, there is the influence of the independent variable (X) on the variable (Y) the hypothesis is accepted.

IV. RESULT AND DISCUSSION
A. Descriptive Analysis Results
  1. Descriptive Analysis Results "Playability"

After analyzing the frequency and score of each indicator, the calculation of the total score and the percentage contribution of each indicator to variable playability. Total score will be calculated cumulatively and the average value. The results of processing for each

statement of each playability variable are obtained in table V.

score obtained through the distribution of questionnaires with the scores of each statement as shown in table VI.

Table V Total Score and Percentage of Variable Playability Contributions

Amount of respondent	Variable X	Mean	Median	Sum	Percentage contributions
30	X1	2,90	3,00	87	3,80%
30	X2	3,77	4,00	113	4,93%
30	X3	3,63	4,00	109	4,76%
30	X4	4,20	4,00	126	5,50%
30	X5	4,03	4,00	121	5,28%
30	X6	3,70	4,00	111	4,85%
30	X7	3,57	4,00	107	4,67%
30	X8	4,13	4,00	124	5,41%
30	X9	4,00	4,00	120	5,24%
30	X10	3,77	4,00	113	4,93%
30	X11	3,80	4,00	114	4,98%
30	X12	3,23	3,00	97	4,24%
30	X13	3,97	4,00	119	5,20%
30	X14	3,87	4,00	116	5,07%
30	X15	3,87	4,00	116	5,07%
30	X16	3,33	3,00	100	4,37%
30	X17	4,13	4,00	124	5,41%
30	X18	3,70	4,00	111	4,85%
30	X19	4,10	4,00	123	5,37%
30	X20	2,30	2,00	69	3,01%
30	X21	2,33	2,00	70	3,06%
Total				2290	72,70%
Ideal score				3150	
Mean				109,05	

The percentage of contributions obtained from total score of each indicator divided by total cumulative score and multiplied by 100%. The indicator that has a large contribution to the playability variable is learning ability found in item X4, based on table I, X4 is a statement "I understand the pattern of game play and strategy game "Joko Run" easily. The statement contributed 5.50%. The calculation results obtained a total cumulative score of 2290 with a percentage of 72.70%. The average score is 109.05 compared to the scale range, the fourth scale is 105-129 with easy information. In other words, game players can play "Joko Run" easily without having to learn the strategies and patterns of the game.

2. Descriptive Analysis Results "User Experience"

User experience variable (Y) in the study is the dependent variable or dependent variable. Descriptive analysis is used to describe the results of the user experience

Table VI Total Score and Percentage of User Experience Variable Contributions

Amount of respondent	Variabel Y	Mean	Median	Sum	Percentage contributions
30	Y1	3,87	4,00	116	8,77%
30	Y2	3,83	4,00	115	8,69%
30	Y3	3,53	4,00	106	8,01%
30	Y4	3,90	4,00	117	8,84%
30	Y5	3,03	3,00	91	6,88%
30	Y6	3,20	3,00	96	7,26%
30	Y7	4,07	4,00	122	9,22%
30	Y8	4,00	4,00	120	9,07%
30	Y9	3,63	4,00	109	8,24%
30	Y10	3,63	4,00	109	8,24%
30	Y11	3,53	3,00	106	8,01%
30	Y12	3,87	4,00	116	8,77%

Total	1323	73,50%
Ideal score	1800	
Mean	110,25	

The percentage of contributions obtained from total score of each indicator divided by total cumulative score and multiplied by 100%. The indicator that has a large contribution to the user experience variable is learning ability found in item Y7, based on table II, X4 is a statement " The menu button in the "Joko Run" game is functioning smoothly. The statement contributed 9.22%. The calculation results obtained a total cumulative score of 1800 with a percentage of 73.50%. The average score is 110,25 compared to the scale range, the fourth scale is 105-129 with easy information. Game players can use the "Joko Run" game feature smoothly, so that users feel the ease of playing games and improve the experience of "Joko Run" game players.

B. Verification Analysis Results
1. Reliability Test Results

After reliability testing by looking at the cronbach alpha value using SPSS, the results of the reliability test of playability (X) on user experience (Y) can be seen in table VII and VIII.

Tabel VII Hasil Uji Realibilitas Variabel *Playability*

Cronbach Alpha Value	Amount of Variable Questionnaire Items X	Result
0,906	21	Reliable

An instrument said to be reliable if the value of the alpha cronbach coefficient is greater than 0.6. Based on the results of data processing using SPSS for the reliability test results of the playability variable, the cronbach alpha value is 0.906, the value is compared with the r table with df = (N-2), df = (30-2), searched for the r value distribution table at 5% significance then obtained r table value of 0.361, because the cronbach alpha value of 0.906 is more than 0.361, it can be said that the instrument used in this playability variable is reliable.

Tabel VIII Hasil Uji Realibilitas Variabel *User Experience*

Cronbach Alpha Value	Amount of Variable Questionnaire Items Y	Result
0,864	12	Reliable

An instrument said to be reliable if the value of the alpha cronbach coefficient is greater than 0,6. Based on the results of data processing using SPSS for the reliability test results of user experience, the cronbach alpha value of 0,864 obtained, the value compared the r table with df = (N-2), df = (30-2), searched for the value distribution r table at 5% significance, then obtained r table value of 0,361, because the value of

Cronbach alpha 0,864 is more than 0,361, it can be said that the instrument used in this user experience variable is reliable.

2. Validity Test Results
a. Validity Test Results "Playability"

Based on the results of the validity test in SPSS, it is known that the r value of the playability variable (X) for item 1 is 0.444, item 2 is 0.424, item 3 is 0.626, item 4 is 0.500, item 5 is 0.529, item 6 is 0.5.23, item 7 is 0.543, item 8 is 0.583, item 9 is 0.500, item 10 is 0.497, item 11 is 0.625, item 12 is 0.688, item 13 is 0.729, item 14 is 0.611, item 15 is 0.481, item 16 is 0.481, item 16 is 0.679, item 17 is 0.749, item 18 is 0.386, item 19 is 0.460, item 20 is 0.414 and item 21 is 0.428, based on the validity test conditions if r count is more than 0,3, the results of this study indicate if the questionnaire item is more than 0,3, meaning that the playability questionnaire items used in this study are valid. Based on table r for N = 30 at a significance of 5% it is found that the r table value is 0.361, meaning items 1 to 21 are valid, because r count is greater than r table. Then for the significance value (2-tailed) the playability variable showing items 1 through 21 seen in table IX is valid. Significance (2-tailed) is smaller than 0.05 and Pearson correlation is positive, then the instrument item is valid.

The following results of the validity test of the playability variable using SPSS can be seen in table IX.

Table IX Test Results for Variable Playability Validity

Variable	Questionnaire Item	Pearson Correlations	Sig. (2-tailed)	Correlation Coefficient (r count)	R Product Moment (r table)	Result
Playability	X1	0,497	0,005	0,444	0,361	Valid
Playability	X2	0,494	0,005	0,424	0,361	Valid
Playability	X3	0,677	0,000	0,626	0,361	Valid
Playability	X4	0,553	0,002	0,500	0,361	Valid
Playability	X5	0,584	0,001	0,529	0,361	Valid
Playability	X6	0,588	0,001	0,523	0,361	Valid
Playability	X7	0,617	0,000	0,543	0,361	Valid
Playability	X8	0,634	0,000	0,583	0,361	Valid
Playability	X9	0,556	0,001	0,500	0,361	Valid
Playability	X10	0,558	0,001	0,497	0,361	Valid
Playability	X11	0,673	0,000	0,625	0,361	Valid
Playability	X12	0,718	0,000	0,688	0,361	Valid
Playability	X13	0,760	0,000	0,729	0,361	Valid
Playability	X14	0,660	0,000	0,611	0,361	Valid
Playability	X15	0,544	0,000	0,481	0,3610	Valid
Playability	X16	0,724	0,000	0,679	0,3610	Valid
Playability	X17	0,778	0,000	0,749	0,3610	Valid
Playability	X18	0,454	0,012	0,386	0,3610	Valid
Playability	X19	0,516	0,004	0,460	0,361	Valid
Playability	X20	0,476	0,008	0,414	0,361	Valid
Playability	X21	0,506	0,004	0,428	0,361	Valid

b. Validity Test Result "User Experience"

The following results of the validity test of the *user experience* variable using SPSS can be seen in table X.

Tabel X Test Results for Variable Variabel User Experience Validity

Variable	Questi onnair e Item	*Pearso n Correl ations*	Sig. (2-*tailed*)	Correlatio n Coefficient (r count)	R Product Moment (r table)	Resul t
User Experience	Y1	0,734	0,000	0,670	0,361	*Valid*
User Experience	Y2	0,626	0,000	0,542	0,361	*Valid*
User Experience	Y3	0,581	0,001	0,463	0,361	*Valid*
User Experience	Y4	0,433	0,017	0,330	0,361	*Valid*
User Experience	Y5	0,571	0,001	0,461	0,361	*Valid*
User Experience	Y6	0,529	0,003	0,414	0,361	*Valid*
User Experience	Y7	0,702	0,000	0,623	0,361	*Valid*
User Experience	Y8	0,774	0,000	0,713	0,361	*Valid*
User Experience	Y9	0,630	0,000	0,544	0,361	*Valid*
User Experience	Y10	0,676	0,000	0,598	0,361	*Valid*
User Experience	Y11	0,700	0,000	0,630	0,361	*Valid*
User Experience	Y12	0,687	0,000	0,606	0,361	*Valid*

Based on the results of the validity test in SPSS, the value of r calculated user experience variable (Y) for item 1 is 0.670, item 2 is 0.542, item 3 is 0.463, item 4 is 0.330, item 5 is 0.461, item 6 is 0.414, item 7 is amounting to 0.623, item 8 is 0.713, item 9 is 0.544, item 10 is 0.598, item 11 is 0.630 and item 12 is 0.606. Based on the validity test conditions if r count more than 0,3, the results of this study indicate if the questionnaire items are more than 0,3, it means that the items in the user experience questionnaire used in this study are valid. Based on table r for N = 30 at significance 5 % found r table value of 0.361, meaning items 1 to 12 are valid, because r count is greater than r table. The significance value (2-tailed) user experience variable shows the instrument number 1 to 12 is valid. Significance (2-tailed) is smaller than 0.05 and pearson correlation is positive, then the instrument item is valid.

3. Data Normality Test Results

The following results of Shapiro Wilk value from the normality test using SPSS are shown in table XI.

Tabel XI Data Normality Test Result Using Shapiro Wilk

	Shapiro-Wilk		
	Statistic	df	Sig.
Σx	.946	30	.134
Σy	.945	30	.125

Based on the results of the normality test the data in SPSS, it is known that the significance of x is 0.134 and the significance of y is 0.125, it is concluded that the data tested are normally distributed because the significance value is more than 0.05.

4. Simple Regression Test Results

The following results of a simple regression test are shown in table XII.

Tabel XII Simple Regression Test Results

Model		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	3.478	5.508
	Σx	.532	.072

From the regression equation table can be written:
$$\hat{Y} = a + bX$$
$$= 3{,}478 + 0{,}532$$

Conclusion:
- Constant = 3,478

  The constant value is 3.478, meaning that if the playability variable is equal to 0, the value of the user experience variable will be 3.478.

- *Playability* (X) = 0,532

  Is the regression coefficient value of playability variable (X) to user experience (Y) means that if playability (X) has a one unit increase, the user experience (Y) will increase by 0.532 (53.2%) coefficient is positive meaning between playability (X) and user experience (Y) have a positive relationship. Increase in playability (X) will result in an increase in user experience (Y).

a. R and R square test results

Results obtained from the R test as in table XIII.

Tabel XIII R and R Square Test Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.815ᵃ	.664	.652	3.801

From the table above explains the magnitude of the correlation value (R) that is equal to 0.815, because the correlation value is between 0.80 - 1,000 (very strong) based on table 3.5 guidelines to provide interpretation of the correlation coefficient, it can be concluded that there is a very strong relationship between playability to user experience.

Explained the magnitude of the influence of independent variable on the dependent variable called the coefficient of determination (R2) of 0.664, the number implies that the influence of independent variables (playability) on the dependent variable (user experience) with a percentage of 66.4% while the rest is influenced by other variables . The magnitude of the influence of other variables is also referred to as error (e) is 3.801.

The magnitude of the coefficient of determination or R square generally ranges from 0 to 1. It is known that the value of R square in this study is 0.664, the influence of playability on user experience is close to 1, the correlation between the two variables is strong and unidirectional, based on table IV guidelines for giving interpretation of correlation coefficient is between 0.60-0.799 (strong), the conclusion is the influence of the independent variable (playability) on the dependent variable (user experience) is strong, So, a game that has easy playability tends to increase the user experience, conversely if It is known that the low playability of a game can reduce user experience.

b. T Test Results

T test to find out the rejection and acceptance of the hypothesis and significance that influence of playability on the user experience partially with a significance of 0.05 (α = 5%). Results obtained in the t test as in table XIV.

Tabel XIV T Test Result

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.478	5.508		.631	.533
	Σx	.532	.072	.815	7.434	.000

The test results are as follows:
1) Hypotesis
    H0: Playability doesn't affect the user experience of "Joko Run" game.
    H1: *Playability* affect the user experience of "Joko Run" game.
2) Significance
    The level of significance used is 0.05 (α = 5%)
3) Value T count
    Based on the table above, t value calculated from the test through SPSS is 7.434.
4) Value T table
    The t distribution table is sought at α = 5% with degrees of freedom (dk) n-2 or 30-2 = 28 (n is the amount of respondents), can be seen from the distribution of the t table attached value is 2.048, or it can be two-sided testing , through the formula in Microsoft Excel by way of an empty cell type = tinv

(0.05,28) then press enter. The results obtained for t table are 2.048.
a. Criteria testing
    • If the value of t count is greater than t table, there is the influence of the independent variable (X) on the dependent variable (Y) or the hypothesis is accepted.
    • If the value of t count is smaller than t table, there is no effect of the independent variable (X) on the dependent variable (Y) or the hypothesis is rejected.
b. The results of the comparison t count with t table and significance with α
    The value of t count is greater than the table (7.434 > 2.048), the significance value is less than the value of α (0.000 < 0.05) so the hypothesis is accepted.
    So, because t count is greater than t table (7.434 > 2.048), the hypothesis is accepted, meaning that the variable playability affects the user experience variable.

V. CONCLUSION

Based on the results of the research and discussion that has been carried out and tabulated the results of the questionnaire, conclusions can be drawn that:
1. Game players can play "Joko Run" easily without having to learn the strategies and patterns of the game. This can be seen from the average obtained at 109.05, in the range of 105-129, which is easy.
2. Game players can use the "Joko Run" game feature smoothly, so that users feel the ease of playing games and improve the experience of "Joko Run" game players. This can be seen from the average obtained at 110.25, in a scale of 105- 129 which is easy.
3. There is an influence of playability on the user experience game "Joko Run". A game that has easy playability tends to increase user experience on the contrary if the playability of a game is low then it decreases the user experience. This can be seen from the coefficient of determination obtained at 0.664 or 66.4%, based on the interpretation table the coefficient is between 0.60-0.799 which is strong.

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