The Experience of Students Of State University Of Malang (Um) On The Sipejar Mobile Application Using The Usability Testing Method

Nur Eva[1], Farras Huwaidi Ar-Robbaniy[2], Henry Praherdhiono [2], Eka Pramono[2],

[1]Faculty of Psychology, State University of Malang, Malang
[2]Faculty of Education, State University of Malang, Malang
nur.eva.fpsi@um.ac.id

Abstract. The Covid-19 pandemic has made students of the State University of Malang (UM) learn using digital media. The mandatory digital media used is the SIPEJAR MOBILE learning application. State University of Malang (UM) is among the best universities in the implementation of online learning according to the 2021 SPADA Award. However, there are still many complaints received from students regarding the SIPEJAR MOBILE application. Therefore, efforts are needed to evaluate the SIPEJAR MOBILE website. This research uses qualitative and quantitative approaches. The qualitative approach is carried out by observing testing when SIPEJAR MOBILE users carry out scenarios made by researchers, after which users will be given SUS instruments at the end of the session. The data types obtained are in the form of video recordings and questionnaire filling figures. The research sample is students of the Class of 2020 who come from the Faculty of Education who have never or rarely used SIPEJAR MOBILE even though they have accessed it through the SIPEJAR website. Data collection uses a System Usability Scale (SUS) questionnaire which totals 10 items. The results of the average score of the System Usability Scale involving 5 respondents were obtained 65.5 shows that the interpretation of the usability level of SIPEJAR MOBILE has "Grade D" (with a score greater than 51 and less than 68), "Good" on adjective ratings means it has Good usability, "Marginal High" on acceptability ranges which means it is quite acceptable by users. This means that SIPEJAR MOBILE's usability means that it has good usability and is quite acceptable to users. The conclusion is that the experience of students of the 2020 educational technology study program in using the SIPEJAR MOBILE application is quite effective, efficient and satisfactory.

Keywords: -

1 Introduction

The COVID-19 pandemic that has been going through for approximately two years has made students of the State University of Malang (UM) accustomed to learning using digital media. One of the mandatory digital media used is the SIPEJAR MOBILE (Learning Management System) UM (https://SIPEJAR MOBILE .um.ac.id/ learning application). SIPEJAR MOBILE is an LMS (Learning Management System) as an online learning facility (in the network) developed by the State University of Malang

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(UM) [1]. SIPEJAR MOBILE is an application that supports UM student learning activities during the pandemic, such as in conducting attendance, collecting assignments and distributing learning materials. In carrying out online lecture activities through SIPEJAR MOBILE, each lecturer is also required to be able to develop lecture content consisting of various text formats, ppt, videos, animations, and so on.

State University of Malang (UM) is among the best universities in the implementation of online learning, which is ranked 3rd out of 5 universities in the Online Learning System (SPADA) Award 2021. This means that the online learning carried out can be said to be good [2].

However, there are still many complaints received from students. Some of the complaints of UM students on Q and A on the SIPEJAR MOBILE application include that many students ask for help to enroll, ask how to enroll, e-mails that cannot be replaced, reverse dates of birth and month of birth, courses that have not been included in the courses, the absence of the SIPEJAR MOBILE application on mobile phones, the task check feature that does not have notifications and many more [1], In addition, the results of regarding the analysis of student satisfaction in the use of SIPEJAR MOBILE showed that the level of satisfaction of UM students with SIPEJAR MOBILE was 55.9%, which means that SIPEJAR MOBILE has not made UM students quite satisfied but also not disappointing. Therefore, an effort is needed to evaluate the SIPEJAR MOBILE website.

Usability is an important aspect of the process of creating an application. Usability is a quality aspect to measure the level of ease of using the user interface [3]. Basically, the benefits of the system for users, as well as whether the system survives on an application distribution platform depends on the level of usability. Applications with a high usability level will certainly attract users' attention to download and tend to use the application for a long period of time. On the other hand, with applications with a low usability level, users will tend to leave and look for other applications that are almost similar. According to [4], the way to evaluate the Usability level of a system is by Usability testing. Usability testing involves directly using the system to obtain information on problems with specific tasks that are customized. Through this test, the shortcomings and advantages of the application will appear and get improvement recommendations that can increase user satisfaction with the application.

Various studies to evaluate the SIPEJAR MOBILE website have been carried out, but there are still few that evaluate using Usability testing and on the Mobile version of the SIPEJAR MOBILE application. Research [5] evaluates the user experience and user interface of the SIPEJAR MOBILE website using design thinking, while other research uses an implicit evaluation approach using the metrics User Experience Question framework on the SIPEJAR MOBILE website [6], while the research conducted by [1] does not explain in detail the perception evaluation process and research instruments that used to evaluate users, and other researchers use the Technology Acceptance Model (TAM) approach to research SIPEJAR MOBILE website.

Regarding the research that examined SIPEJAR MOBILE Mobile, only one study was found, namely in the form of user persona analysis [7]. Budiman uses the kansei engineering method. Therefore, the researcher considers it necessary to conduct Usability testing on SIPEJAR MOBILE to complete the evaluation of the usability of the SIPEJAR MOBILE website which has been carried out in many previous studies.

2 Method

This research uses qualitative and quantitative approaches. The qualitative approach is carried out by observing testing when SIPEJAR Mobile users carry out scenarios made by researchers, after which users will be given SUS instruments at the end of the session. The data types obtained are in the form of video recordings and questionnaire filling figures. The sample of this study is five students of the State University of Malang (UM) class of 2022 who are actively using SIPEJAR MOBILE. Five people were considered enough by [8] when the pages to be tested were overwhelming. In SIPEJAR MOBILE itself, there will be many features tested. Meanwhile, the 2022 batch was chosen because it was considered the most active generation using S This study used a System Usability Scale (SUS) questionnaire consisting of 10 items with a Likert selection scale of 1-5 with the interpretation of 1 Strongly Disagree (STS), 2 Disagree (TS), 3 Hesitant (RG), 4 Agree (S), 5 Strongly Agree (SS) [9]. SIPEJAR MOBILE compared to the previous batch.

3 Result

Table 1. Data of Research Participants

No	Name	Department	Batch
1	FRP	Educational Technology	2022
2	MHA	Educational Technology	2022
3	DWK	Educational Technology	2022
4	HOZ	Educational Technology	2022
5	AHA	Educational Technology	2022

Qualitative Data
Qualitative data collection was carried out by asking participants to complete six tasks designed to measure usability. The six tasks can be found in the following table 2:

Table 2. Tasks Used to Measure Usability of Mobile Teachers

No	Task	Goals	Succeess indicator	Event
1	Accessing Sipejar	User successfully fills in the site address	Fill in the site address column on the moodle with the address Sipejar.um.ac.id Moodle home page	Mwander home page
2	Enter the account	User successfully accesses Sipejar	Write down the identity and password	Sipejar login page

	name and password		> click to enter the Sipejar login page	
3	Search for courses and check the assignments	User successfully finds the course and assignmenst	Find the course > click on the course Sipejar Dashboard	Sipejar Dashboard
4	Search and find the course summary	User successfully found the course/course summary (icon i)	Find the i icon > click the > icon click the arrow > scroll down the Sidebar of the course/course summary	Course/course summary sidebar
5	Fill in the attendance check box	User fill in the check box for attendance	Find the attendance check box> scroll down > click the attendance check box and check the Attendance column	Attendance column
6	Upload coursework	Users can send coursework	Click on the assignment > submit the assignment	Assignment

Based on the participants' responses, both verbal and nonverbal responses to the tasks given by the researcher, then a qualitative analysis is carried out, namely by classifying the responses with usability indicators, such as ease, uncomplicated, and the speed at which participants complete the given tasks.

Table 3. Participants' Response to the Task to Measure the Usability of Mobile Sipejar

	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
FRP	V (difficult)	V (fluent)	V (fluent)	X (search randomly)	V (fluent)	V (fluent)
MHA	V (fluent)	V (fluent)	V (fluent)	X (search randomly)	V (fluent)	V (fluent)
DWK	V (difficult)	V (fluent)	V (fluent)	V (accidentally discovered)	V (fluent)	V (fluent)
HOZ	V (fluent)	V (fluent)	V (fluent)	V (accidentally discovered)	V (fluent)	V (fluent)
AHA	V (fluent)	V (fluent)	V (fluent)	V (fluent)	V (fluent)	V (fluent)

Based on qualitative data, it is known that in task 1 the majority of respondents are fluent in accessing the sipejar site on the moodle page. In task 2, no respondents experienced difficulties. In task 3 only the respondents found it smoothly, the other two

found it after a long time and got it randomly, the rest of the respondents found it quickly but also by accident. In tasks 5 and 6, all respondents were able to run it smoothly.

Quantitative Data

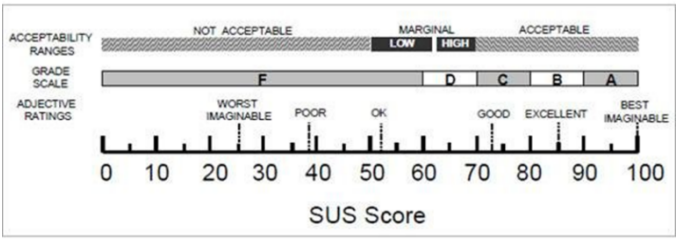
Table 4. Raw Data of System Usability Scale of Sipejar Mobile

No	Respondent	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
1	FRP	2	4	5	3	4	1	5	1	5	4
2	MHA	5	3	4	4	4	5	3	3	4	5
3	DWK	4	4	5	2	4	2	4	2	4	4
4	HOZ	4	5	5	1	4	3	5	1	5	2
5	AHA	3	5	5	1	5	4	4	2	5	5

Interpretation:
1 = Strongly agree
2 = Agree
3 = Hesitant
4 = Disagree
5 = Strongly disagree

Table 5. System Usability Scale Calculation Process

	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Q6**	**Q7**	**Q8**	**Q9**	**Q10**	**Jmlh**	**Nilai (Jumlah x 2,5)**
FRP	2-1=1	5-4=1	5-1=4	5-3=2	4-1=3	5-1=4	5-1=4	5-1=4	5-1=4	5-4=1	28	70
MHA	5-1=4	5-3=2	4-1=3	5-4=1	4-1=3	5-5=0	3-1=2	5-3=2	4-1=3	5-5=0	20	50
DWK	4-1=3	5-4=1	5-1=4	5-2=3	4-1=3	5-2=3	4-1=3	5-2=3	4-1=3	5-4=1	27	67,5
HOZ	4-1=3	5-5=0	5-1=4	5-1=4	4-1=3	5-3=2	5-1=4	5-1=4	5-1=4	5-2=3	31	77,5
AHA	3-1=2	5-5=0	5-1=4	5-1=4	5-1=4	5-4=1	4-1=3	5-2=3	5-1=4	5-5=0	25	62,5
Number of Average Scores												**327,5 : 5 = 65,5**



Based on the results of the average score of the System Usability Scale obtained 65.5, it can be seen that the interpretation of the usability level of SIPEJAR MOBILE has "Grade D" (with a score greater than 51 and less than 68), "Good" in adjective ratings means it has Good usability, "Marginal High" in acceptability ranges which means it is quite acceptable by users. This means that SIPEJAR MOBILE's usability means that it has good usability and is quite acceptable to users. The conclusion is that the experience of students of the 2020 educational technology study program in using the SIPEJAR MOBILE application is quite effective, efficient and satisfactory.

4 Discussion

This study has two objectives, the first is to find out the results of the usability test on the SIPEJAR MOBILE application for UM students, the second is to find out the score of the SIPEJAR MOBILE application from the results of the analysis through the Usability testing method. To obtain data from the first objective, a qualitative method is used. Based on this method, it is known that based on the six tasks given, the respondents experienced difficulties only at the beginning of entering the sipejar site on the moodle page and searching and finding the course summary, while the other four tasks all respondents were able to go through even though there was a difference in speed in carrying out the instructions given, the four tasks were entering the account name and password after entering the site address on moodle, Find courses and assignments, fill out the attendance check box and upload coursework.

The data to explain the second objective was obtained based on the System Usability Scale score where the score obtained can be categorized as Sipejar Mobile's usability is in good condition. This means that SIPEJAR MOBILE's usability means that it has good usability and is quite acceptable to users. The conclusion is that the experience of students of the 2020 educational technology study program in using the SIPEJAR MOBILE application is quite effective, efficient and satisfactory. This is based on the results of the average score of the System Usability Scale obtained 65.5, it can be seen that the interpretation of the usability level of SIPEJAR MOBILE has "Grade D" (with a score greater than 51 and less than 68), "Good" on adjective ratings means it has Good usability, "Marginal High" on acceptability ranges which means it is quite acceptable by users.

Based on the two data, it shows alignment, so it is concluded that SIPEJAR MOBILE is quite satisfactory when used, as stated by [10] that the average score of SUS is 68, above 68 means satisfied. The score of USU SIPEJAR MOBILE of 65.5 is close to a satisfactory score, therefore it still needs to be improved both in features that are considered difficult for students to understand, as well as those that extend socialization more related to these features. Although there were difficulties for respondents after using SIPEJAR MOBILE, the response in the process of working on the scenario stated that SIPEJAR MOBILE was simpler than the features on the website that they had been using.

Good usability in SIPEJAR MOBILE is a combination of intuitive design, ease of learning, efficiency of use, memorability, error frequency and severity, and subjective satisfaction [11]. In terms of ease of learning, SIPEJAR MOBILE needs to be improved because all participants in this study have difficulty in finding and finding course summaries and consider SIPEJAR MOBILE to be still complicated to use.

Usability testing is a technique used to evaluate products by testing them directly on key users [12][13]. Usability evaluation must involve users so that system developers can learn and use the digital product in order to achieve aspects of user comfort such as effectiveness, efficiency, and user satisfaction with the system as a whole [14].

The main purpose of usability testing refers to the evaluation of a product or service by testing the product or service to the user to see how far the system functions including the suitability of the use of the system to the user's expectations, identifying specific problems that occur in the system and satisfying the scope of the user [15].

5 Conclusion

The results of the usability test on the SIPEJAR MOBILE application for UM students were that of the six response tasks, only two tasks were constrained, entering the sipejar address on the mobile page and looking for a course summary.

6 Suggestion

Students are expected to further explore the various features contained in SIPEJAR MOBILE, because it is considered by some respondents to be easier to use than the SIPEJAR website. It is hoped that this usability testing can be carried out on various other features that have not been researched and redevelop SIPEJAR MOBILE based on the results of the research so that the value of the SIPEJAR MOBILE application can be above 68, which means satisfying application users. As well as increasing socialization of the features and use of SIPEJAR MOBILE.The results of the usability test on the SIPEJAR MOBILE application for UM students show that the effectiveness, efficiency, and overall user satisfaction are quite good.

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