

Usability Test Application Software Packages School (PAS-SMA) in SMA 3 Palembang

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Abstract

In the field of software engineering , quality factor is essential for the continuation of the assessment of software development projects . A wide variety of software products produced gives a lot of options and the prices are quite favorable in terms of the user (users) . But of the many options that are only slightly prioritize issues of software quality measurement , whereas standard analysis and measurement of software quality are needed to enhance the competitiveness of products both in local and international circles . A software needs to be measured in terms of the ease of which will be studied , efficiency in use , easy to remember , frequency uensi low error rates and user satisfaction for so useful for the future development of the software . These measurements will be tested using a test that will measure the usability testing in terms of user . In this study the software to be measured is the School Application Package (PAS - SMA) using 3 respondents consisting of skilled users , active users and novice user . The results of the usability testing will result in an assessment of the PAS software so that it will be useful in the development of PAS software for the future .

Keywords : *Usability, Software Packages*

1 INTRODUCTION

In the field of software engineering , quality factor is essential for the continuation of the assessment of software development projects . A wide variety of software products produced gives a lot of options and the prices are quite favorable in terms of the user (users) . But of the many options that are only slightly prioritize issues of software quality measurement , whereas standard analysis and measurement of software quality are needed to enhance the competitiveness of products both in local and international circles . Low levels of product quality will affect the risk of software development . The ability to ensure the quality of software engineering is a mature discipline of measurement . When the mapping is done well , it will produce a mature software engineering and software product quality is high.

System Administration used SMA 3 Palembang is School Application Package System (PAS - SMA) . School Application Package software or more commonly called System Application Package Schools Secondary Education (abbreviated : PAS - SMA) is a software education management information system for the senior high school level , which was specifically developed by the Directorate of high school , addressed to the school for assist in the implementation of ICT -Based School Management . PAS - SMA or often called PAS alone , has a fairly broad scope , ranging from school facilities , administrative Officer , Admission , Student Administration and Alumni to school finance . Such enormous , so it requires a good understanding of the flow of data entry when implementing it in schools . Complete information about the Application - SMA can be seen in <http://pendataan.dikmen.kemdikbud.go.id>.

PAS development believed to be the solution to the problem of Information Technology and Information Education data quality . The benefits of data collection were performed using this software is to assist the school administration systems , especially of data , data collection , reporting , data services and information about the school to outsiders who membutuhkannya.

Lack of wider dissemination in the operation and utilization as well as the expertise of the user 's application causes the difference in perspective about the quality of the software, the data is processed , and the information that can be generated from the use of this software.

Therefore, in this study the authors wanted to try to Test the usability test (usability testing) PAS system software at SMA 3 Palembang that has been optimally implemented by several high schools in the city of Palembang.

2 RESEARCH METHODOLOGY

2.1 Object Research

This research is taking the object Schools Application Package software (PAS-SMA), this software can be downloaded dikomputer the internet or can be installed with software that has been given from the Directorate of high school coaches.

2.2 Profile of Respondents

Respondents were drawn to represent all users for three (3) respondents, with respondents based on separation: active users, users skilled and novice user. With the separation of users is expected to represent all levels of users according to existing users.

2.3 Components of Usability Testing

According to Jacob Nielsen (2003) argues that usability is defined by five quality components consist of :

1. Learnability, measures the extent to which users can learn how to use the product so that users can easily complete the basic tasks when viewing the product for the first time.
2. Efficiency, Measuring how quickly a user can complete tasks exist.
3. Memorability, Measuring the extent to which the user can recall the processes that have been done before.

4. Error, measures how much the execution of the user to make mistakes, to what extent a result of these errors, as well as whether a user can easily resolve such errors.
5. Satisfaction, Measuring how users' opinions when using the product, or feedback on the design of the overall design.

2.4 Usability Testing

How to conduct usability testing of a product should involve the performance of a particular user in performing a particular job in a controlled situation . Field observations can also be used . When users do a job , they observed and recorded using video , and data recorded keystrokes are used to calculate future performance , identify errors , and helps explain why users do what they do user satisfaction questionnaires and interviews are used to obtain the user opinion.

2.5 Research Design

This study is an action research, in which the selected sample data entry process at the School Application Package system (PAS) High School . The steps that must be performed to test interoperability, namely :

The initial step of usability testing is to provide some task or tasks that have been prepared in advance to the user when interacting with the system under test . Task - This task was given to respondents from employees Administration (TU) which are used to using the PAS software so that they no longer have trouble when doing the task -task . Task - This task is used as a ' means of interaction ' in the measurement of usability (Sastramihardja et al , 2008).

Each task in the above can be explained as follows :

1. Task 1.

Perform logged in as the admin user, log out, then log back on .Users are required to log in as admin, start from finding and filling the login form to log in to the admin page, then asked to find the logout button, then log back on.

2. Task 2.

Looking for a sub menu along with the specifications prescribed. Users are asked to find the sub menu related to Personnel Administration data. Task is considered complete when the user can find the desired information.

3. Task 3.

Fill out the form to the Sub Menu User prompted to click a sub menu and then fill out the form as desired. All criteria can be filled or only some of them (the others blank) , then click the search button. Task is considered complete when the desired data appears in accordance with the criteria entered by the user.

4. Task 4.

Table 1: Task-Task Usability Testing

No	Task / Tugas
1	<i>Perform logged in as the admin user, then log out and log back in</i>
2	<i>Looking for a sub menu along with the specifications prescribed</i>
3	<i>Fill out the form on the sub menu</i>
4	<i>Add, modify, and delete data in the admin page</i>
5	<i>Looking for information updates in the web application</i>

Add, modify, and delete data in the admin page. Users are prompted to enter the admin page and look for the form to do the addition, editing and deletion of data. Task is considered complete when a user managed to add, edit and delete data.

5. Task 5.

Looking for information updates in the web application. Users are prompted to update the data that has been made to the web Directorate of high school coaches.

After completing all the tasks that the user exists, the next step is to distribute questionnaires to those already contains 20 questions that represent the five aspects of usability . Users fill out a questionnaire that has been distributed based on experience (what is seen and felt) when doing the task or tasks earlier. Each question of the questionnaire aimed to demonstrate the usability level of acceptance by the user , which will be assessed in a 5 point scale (Wingnjosoebroto et al , 2009)

2.6 Population and Sample

In a test conducted on PAS-SMA software using usability testing requires samples of a population. According Rahayu (2005:60) defines that: "In general, the population can be defined as a set of data that identifies a phenomenon". Samples taken from pupulasi is that users will be used as respondents in usability testing. Users to be sampled should be representative of the entire population (users). In Usability Testing to Software PAS will take samples representing three levels of users namely:

1. Active Users: skilled users actively accessing the internet and the website of the Directorate of Trustees High School.
2. Skilled users: users who skillfully use computers and the internet.
3. Novice users: new users know to use computer

3 RESULT AND DISCUSSION

From the research , recapitulation NilaiUsability are as follows 2.

Table 2: Recap Usability Value

<i>No</i>	<i>Attribute</i>	<i>Value</i>
<i>1</i>	<i>Learnability</i>	<i>4.03</i>
<i>2</i>	<i>Efficiency</i>	<i>4.1</i>
<i>3</i>	<i>Memorability</i>	<i>3,9</i>
<i>4</i>	<i>Error</i>	<i>3.7</i>
<i>5</i>	<i>Satisfaction</i>	<i>4.1</i>

From Table 2 above shows the values of user satisfaction for each usability attribute . It can be seen that for Learnability attributes (Level ease of an application to be learned by the user) has a value of 4:03 (already above the middle value in a scale of 5) . This may imply that the application of PAS has been made in the category of good in terms of ease studied by the user for the first time . Looking at the results in the observation that this software has manual use of the application if the user has installed the application kedesktop.

From the results of research on the opinions of respondents on Efficiency attribute has a value of 4.1 which means that the results of the test users are able to perform tasks - tasks there quickly because the software has a clear view of the application as well as on the menus that there has been oriented the GUI (user Grafic Interface). From the results of research on the opinions of respondents on memorability attribute has a value of 3.9 which means that the user has both the recall process has been done in achieving the goal.

From the results of research on the opinions of respondents on error attribute has a value of 3.7 which means that the frequency of mistakes made by the user level is not too high or low can be said , from the observation of the user can resolve the error.

From the results of research on the opinions of respondents on satisfaction attribute has a value of 4.1 which means that the user has a good response when using the application as a whole , because this application has complete features.

4 CONCLUSION

From the research conducted it is concluded as follows :

1. The results showed overall Recap Usability Value attribute has a value of usability acceptance by the user, the average over the value of 4, so it can be said that the application software PAS - SMA that have been made have had value Usability aspects, namely : learnability, efficiency, memorability, errors, and satisfaction is excellent.
2. Application software Application Package Schools (PAS) that have been made have fulfilled the five aspects of usability that can be implemented as a system to be operated by the user.

4.1 Suggestion

Based on the conclusions drawn , then the advice that can be given is as follows :

1. The Ministry of Education should be able to increase the ease of better technology to the end-users, in order to increase the usefulness of the system in the WSS application Schools in Indonesia in general, especially in Palembang.
2. Implementation of usability testing that has been given can be maintained, but it also created an application management team, in order to better application management and more information provided up to date.

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