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ISO / IEC _ 25010 for Quality Testing of Labor Market Information System (SIPTK)

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***Abstract* — This** *study aims to examine the quality of the developed Mianahsa Labor Market Information System. The research method used is descriptive analysis where each test results are described. There are 5 tests carried out using ISO/IEC25010 namely, suitability, performance efficiency, usability, reliability, and portability. Based on the tests that have been carried out, it is obtained Functional Suitability testing of the labor market information system with a percentage of 100% in the accepted category, Performance Efficiency Testing of the labor market information system with a percentage of 99% I n the fast category, Usability testing of the labor market information system with a percentage of 96.70 % in the very feasible category, Reliability Testing of the labor market information system with a presentation of 90% in the category of success, and Portability testing of the labor market information system with a presentation of 100% in the very good category.*

Keyword: Quality of Information System, ISO/IEC25010, Labor Market

Abstrak — Penelitian ini bertujuan menguji kualitas Sistem Informasi Pasar Tenaga Kerja (SIPTK) Kabupaten Minahasa yang telah dikembangkan. Metode penelitian yang digunakan adalah analisis deskriptif dimana setiap pengujian dideskripsikan hasilnya. Terdapat 5 pengujian yang dilakukan dengan menggunakan ISO/IEC25010 yaitu; kesesuaian, efisiensi kinerja, kegunaan, keandalan, dan probabilitas. Berdasarkan pengujian yang telah dilakukan diperoleh pengujian Functional Suitability dari sistem informasi pasar kerja dengan persentase 100% dengan kategori diterima, Pengujian Performance Efficiency dari sistem informasi pasar kerja dengan persentase 99% dengan kategori cepat, pengujian Usability dari sistem informasi pasar kerja dengan persentase 96,70 % dengan kategori sangat layak, Pengujian Reliability dari sistem informasi pasar kerja dengan presentasi 90% dengan kategori sukses, dan pengujian Portabilitas dari sistem informasi paar kerja dengan presentasi 100% dengan kategori sangat baik.

Kata Kunci: Kualitas Sistem Informasi, ISO/IEC25010, Pasar Tenaga Kerja

I. INTRODUCTION

In software development, it is necessary to guarantee software quality. So that the quality of the software according to requirements. A software that is of suitable quality can satisfy most of its users. Good enough software provides high-quality functions and features that users want [1] .

Software quality is defined as the expected suitability of all software built related to software performance. A quality product can provide confidence that the product meets the standards. Software testing is used to identify the suitability of software. Software testing to find out whether the software meets the expected standards [1] . Software testing has been carried out all over the world with various sets of characteristics, if achieved it results in high software quality [1] . Software quality can be seen in terms of the development process and the products produced [2] . The results of software testing are oriented to how the software is developed according to the wishes of the user.

Minahasa district manpower office has just developed a labor market information system (SIPTK), where this information system still has several weaknesses/ obstacles, such as there are still several features that cannot be accessed which makes this information system less attractive, users also complain to access this information system is occasionally inaccessible. Therefore it is necessary to test the labor market information system (SIPTK). Testing the quality of the labor market information system (SIPTK) using ISO/IEC 25010. ISO/IEC 25010 is a new test developed from the ISO/IEC 250 series which is a requirement and quality test for SQuaRE software [3] . ISO/IEC 25010 tests the quality of software in terms of *Quality in use model* and *Software product quality models* [3] .

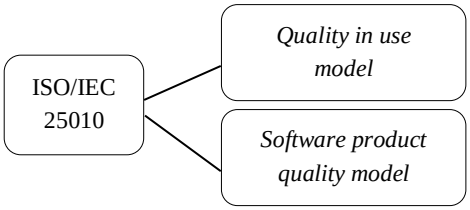


Figure 1 ISO/IEC 25010 *Metrics*

Quality in use model is a model to assess the extent to which certain users can use the software to meet certain business needs in a particular context of use. There are 5 characteristics namely, *Effectiveness* , *Efficiency* , *Statistics* , *Freedom from risk* , and *Context coverage* [4] .

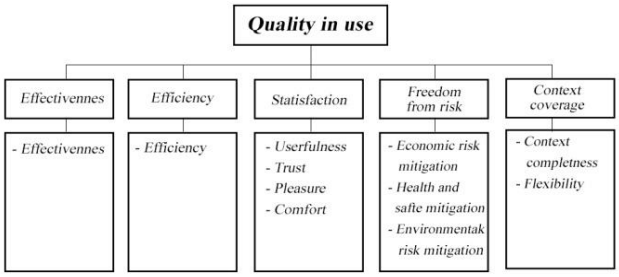


Figure 1. *Quality in use models*

Figure 2 is a product quality test in terms of *the Quality in use model* which consists of: *Effectiveness* is a characteristic that measures how accurate and complete a user is in achieving certain goals; *Efficiency* is the characteristic of the resources used based on the accuracy and completeness used by users to achieve goals; *Satisfaction* is a characteristic that measures the extent to which user needs are met when the product or system is used ; *Freedom from Risk* is a characteristic that measures the extent to which a system reduces potential risks to economic status, human life, health or the environment; *Context Completeness* is a characteristic that measures the extent to which a system is used effectively, efficiently, risk-free and satisfactorily in a particular context of use [4] .

Software Product quality model is a model used to define product quality requirements, assess product or process quality, and estimate product quality. There are 8 characteristics namely, *Functional Suitability, Performance Efficiency, Compatibility , Usability, Reliability, Security , Maintainability ,* and *Portability* [5]

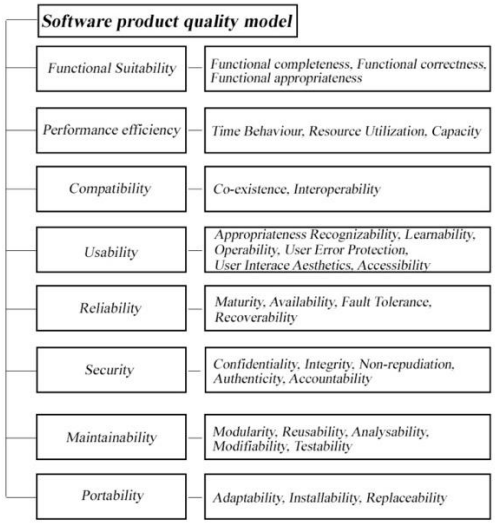


Figure 2. *Software product quality model*

Figure 2 is *Software product quality model* consisting of; *Functional suitability* is a product characteristic that provides specified functions according to circumstances [6] , *Performance efficiency* is the level at which software provides good performance according to conditions [7] , *Compatibility* is the extent to which a product, system or component can exchange information with other products, systems or components and/or perform the required functions, while sharing the environment with the same hardware or software [8] , Usability is as part of the *quality* used which consists of effectiveness, efficiency and satisfaction, for consistency with the objectives set [9] , *Reliability* measures the extent to which a system or product performs certain functions under certain conditions for a certain period of time [3] , *Security* is an aspect related to data security and user information [10] , *Maintainability* is the level of effectiveness and efficiency where a product or system can be modified by the intended manager [11] , and *portability* is a quality characteristic related to the effectiveness and efficiency with which a system can be transferred from one hardware or environment use to others [12] .

The application of ISO/IEC 25010 has often been used in testing to ensure that the products being developed are of good quality. There are several studies on ISO/IEC 25010, including research from Mustari et al (2020) conducting a Lecture Monitoring System Application Testing Using the ISO 25010 Standard. The purpose of this research is to ensure the quality of the lecture monitoring system. In this study using 5 characteristics, namely *performance efficiency*, *usability*, *reliability*, *maintainability*, and *functional suitability.* Based on the research results, the lecture monitoring system complies with ISO/IEC 25010 for *performance efficiency* of 4.2 seconds (accepted), *usability* of 88.53% (very feasible), *reliability* of 100% (passed), *maintainability* as big as 100 (very easy to maintain) and *functional suitability* *100* % (good) [13] .

Another study conducted by Hermawan (2021) used ISO/IEC 25010 to evaluate the quality of work performance measurement information systems. The purpose of this research is to realize clean, effective, transparent, and accountable government governance, as well as quality and reliable public services. This study uses the characteristics of *portability, usability, reliability, security, maintability, performance efficiency, functional suitability, and compatibility.* The results of this study show that the quality level of SIRANSIJA is in the quality category with a percentage of 76%, *usability* 75%, *reliability* 74% *security* 73%, *maintainability* 73%, *performance efficiency* 73% *functional suitability* 71%, and *compatibility* 71% [14] . Aditya et al (2021) conducted an ISO/IEC 25010 test for an *Android*- based computer hardware recognition application using *augmented reality.* This research is to determine the quality of this application using the characteristics of *functional suitability, usability, portability,* and *performance efficiency.* The results of this study indicate that this application as a whole has a good scale with percentages *functional suitability* of 100% , *usability* is 81.2% ,

portability is 70% , and *performance efficiency* is 6.1699 seconds [15] .

Purbo (2021) with the research title *Development and Quality Analysis of Web-Based Information Systems* to develop a web-based seminar management information system and analyze quality using ISO/IEC 25010. The characteristics used to analyze the quality of information systems are, *functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability,* and *portability.* The results of testing using ISO/IEC 25010 show that the quality of the web-based seminar management information system shows good results. *functional suitability* 100%, *performance efficiency* obtained from tools Yslow with a score of 92.97 (grade A), *compatibility* can run well on the 4 web mails tested, *usability* gets a SUS score of 73.00 with acceptable results, *reliability* with 100% results, *security* is still at level 1 (low)), *maintainability* with an index result of 90.81 (high category) and *portability* can run on 5 different *web browsers* [16] .

This research is the same as previous studies to test the quality of products that have been made using ISO/IEC 25010 in terms of *software product quality model* with the characteristics of *Functional Suitability, Performance Efficiency, Usability, Reliability,* and *Portability.*

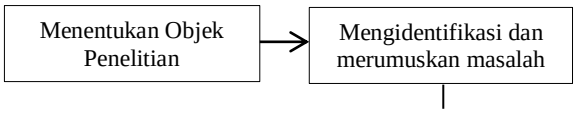
The purpose of this study is to provide input to the Minahasa Regency Manpower Office in the form of recommendations for product developers of labor market information systems to improve the quality of SIPTK, to also be able to find out the advantages and disadvantages of SIPTK and to improve the quality of information and the quality of other features to make it better.

II. METHOD

The research method used in this study uses a quantitative descriptive type. Quantitative descriptive research is a type of research that describes the characteristics of a social variable, group, or symptoms that occur in a society without comparing or connecting with other variables [17] .

In this study, to analyze the quality of software products using ISO 25010 in terms of *Software product quality models* [4] . In testing the quality of the SIPTK software, it uses 5 characteristics, namely *Functional Suitability, Performance Efficiency, Usability, Reliability,* and *Portability.*

In conducting this research, the stages of the research carried out can be seen in Figure 4.



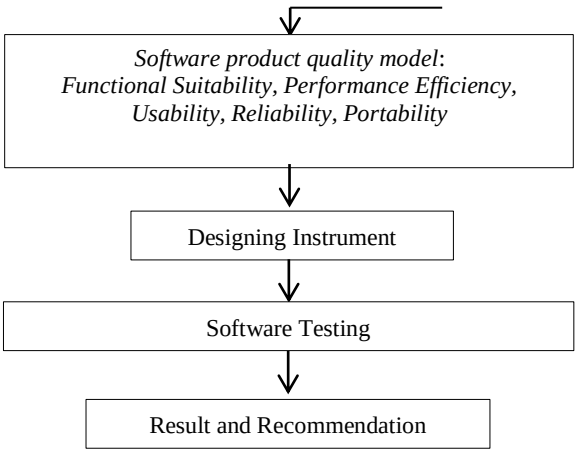


Figure 3. Research Procedure

Data Analysis Techniques

Characteristics of *Functional Suitability*

Functional Suitability Characteristics Testing was carried out by 2 experts (expert *judgment)* by using a questionnaire in the form of *a checklist* of functions contained in the labor market information system that has been developed.

TABLE 1
INSTURMENT FUNCTIONAL SUITABILITY

No	Function	Succeed	Fail
	ADMIN		
1.	Login page		
2.	Dashboard page		
3.	Finder Page Work		
4.	Company Page		
5.	Skills Page		
6.	Job Apply page		
7.	Vacancies Page Work		
8.	Logout page		
	JOB SEEKERS		
9.	Login Page		
10.	Registration Page		
11.	Home page		
12.	Vacancies List Page Work		
13.	Job List Page		
14.	Profile Page seeker Work		
15.	Logout page		
	COMPANY/INDUSTRY		
16.	Login Page		
17.	Registration Page		
18.	Page Create Vacancy Work		
19.	View page Vacancy Work		
20.	Applicant List Page		
21.	View page Applicants		
22.	Profile Page Applicants		
23.	Company/ industry profile page		
24.	Logout page		

TABLE 1
SCORE ASSESSMENT BY EXPERTS

Answer	Scored By Members/ Experts

	Member/ Expert 1	Member/ Expert 2
Succeeded	-	-
Fail	-	-
Total	-	-

The formula used to calculate *Functional Suitability testing* is :

$$Berhasil = \left(\sum \frac{skor}{fungsi}\right) x100\%$$

The collected data were analyzed using a qualitative descriptive analysis technique expressed in the distribution of frequencies and percentages of the rating scale items identified from the presentation as percentages. If the feasibility percentage has been obtained, conclusions can be drawn about the qualitative data by using the following conversion table .

TABLE 2
QUALITATIVE DATA CONVERSION FROM PERCENTAGE APPROPRIATENESS

Percentage appropriateness	Category
≥ 50%	Accepted
< 50%	Rejected

Characteristic of *Performance Efficiency*

Testing characteristics *Performance Efficiency* to determine the level of efficiency of the developed labor market information system. *Performance Efficiency* testing using the *PageSpeed application Insights*. *PageSpeed Insights* reports page performance on mobile and desktop devices . *Website* is said to be efficient if the percentage of performance is at 90% or it is said to be fast. After getting the *performance score* from the test results, the category can be seen obtained as in table 5.

TABLE 3
EVALUATION *PERFORMANCE EFFICIENCY* BASED CATEGORY

Score	category
90% - 100%	Fast
50% - 89%	Average
0% - 49%	Slow

characteristics *usability*

Characteristic testing *usability* in the form of a questionnaire to evaluate the usefulness of the labor market information system. The questionnaire used is *the USE Questionnaire* which is divided into 4 aspects *of Usefulness, Ease of Use, Ease of Learning* and *Satisfaction.* Usability analysis was carried out by analyzing user feedback using a 5-choice scale [18] . The Likert scale is used to measure attitudes, opinions, and perceptions of a person or group of people about social phenomena [19] .

Scores for alternative answers for each item are as follows: Strongly Disagree (STS), Disagree (TS), Less Agree (KS) , Agree (S), and Strongly Agree (SS).

Testing *usability characteristics* uses descriptive analysis techniques where analysis is needed in order to be able to explain a data by describing it, in order to obtain conclusions from a group of data. Respondents in this study involved 50 respondents who were users of this labor market information system. The following is the calculation formula used:

$$skorperoleh = (JSS * 5) + (JS * 4) + (JKS * 3) + (JTS * 2) + (JSTS\ x * 1)$$

$$skormaksimal = JP * JR * 5$$

Information
JSS = Number of respondents answered Strongly Agree
JS = Number of respondents Agree
JKS = Number of respondents Disagree
JTS = Number of respondents Disagree
JSTS = Number of respondents Strongly Disagree
JP = Number of questions
JR = Number of respondents

After score obtained then look for the percentage to get an interpretation of the *usability test results* using the formula:

$$Presentase\ Usability = \frac{skorperoleh}{skormaksimal}\ x\ 100\%$$

The results obtained are then compared with the percentage results obtained with table 6. The usability aspect is said to be good if the percentage results show the "decent" criteria

TABLE 4
CRITERIA SCORE INTERPRETATION

Percentage score	Criteria appropriateness
0% - 20%	Very Inadequate
21% - 40 %	Less Eligible
41% - 60%	Enough
61% - 80%	Worthy
81% - 100%	Very Worth it

Characteristics _ *reliability*

Reliability testing is measuring the extent to which a developed system or product performs a function under certain conditions for a certain period of time. The *reliability* test is carried out using the *webservers application stressed tools* 8 with 3 types of testing *click test* , *time test* and *ramp test.* Testing the characteristics of *reliability* is said to be high, if system testing produces a success rate of more than 90%.

Portability Characteristics

Testing _ *Portability* is done by *cross browser testing* on different *browsers* . so that the results of data analysis for the portability aspect are obtained from the results of testing on each browser whether the displayed page is running correctly and there are no errors (*errors*). The formula used in this test is as follows:

$$Presentase\ Skor = \frac{BB}{B}\ x\ 100\%$$

Note
BB = Successful Browser
B = Number of browsers tested

After getting the percentage score, it is then compared with the percentage results obtained by table 7.

TABLE 5
SCORE PERCENTAGE

Score	Category
90% - 100%	Very Good
80% - 89%	Good
70% - 79%	Less Good
<69%	Very Less Good

III RESULTS AND DISCUSSION

The following are the results of testing the labor market information system which has been developed based on ISO 25010 software quality standards consisting of characteristics *Functional Suitability, Performance Efficiency, Usability, Reliability, Portability.*

Characteristic Testing *Functional Suitability*

Characteristic testing *functional suitability* is carried out by 2 experts (*expert judgment*) by using a questionnaire in the form of *a checklist* of functions contained in the labor market information system that has been developed. The results of the functional feasibility test that has been carried out by experts are as follows:

TABLE 6
TEST RESULTS *FUNCTIONAL SUITABILITY*

No	Function	Expert 1	Expert 2
	ADMIN		
1.	Login page	✓	✓
2.	Dashboard page	✓	✓
3.	Finder Page Work	✓	✓
4.	Company Page	✓	✓
5.	Skills Page	✓	✓
6.	Job Apply page	✓	✓
7.	Vacancies Page Work	✓	✓
8.	Logout page	✓	✓
	JOB SEEKERS		
9.	Login Page	✓	✓
10.	Registration Page	✓	✓
11.	Home page	✓	✓
12.	Vacancies List Page Work	✓	✓
13.	Job List Page	✓	✓
14.	Profile Page seeker Work	✓	✓
15.	Logout page	✓	✓
	COMPANY/INDUSTRY		
16.	Login Page	✓	✓
17.	Registration Page	✓	✓
18.	Page Create Vacancy Work	✓	✓
19.	View page Vacancy Work	✓	✓
20.	Applicant List Page	✓	✓
21.	View page Applicants	✓	✓
22.	Profile Page Applicants	✓	✓
23.	Company/ industry profile page	✓	✓
24.	Logout page	✓	✓

TABLE 7.
RECAP OF EXPERT ASSESSMENT RESULTS

Answer	Score By Expert / Expert	
	Expert/ Expert 1	Expert/ Expert 2
Succeed	24	24
Fail	-	-
Total	24	24

Based on the results of the functional suitability test feasibility percentage can be calculated as follows:
(Total score/questions)*100%
= (24/24)*100%
= 100%

Based on the calculation results above, the feasibility percentage is 100%. So it can be concluded that the *functionality suitability* test can be accepted based on conversion to qualitative data > 50%.

Performance Efficiency Characteristics Testing

Performance efficiency testing using the *PageSpeed application Insights* . The results of the *Performance Efficiency* test are as follows:

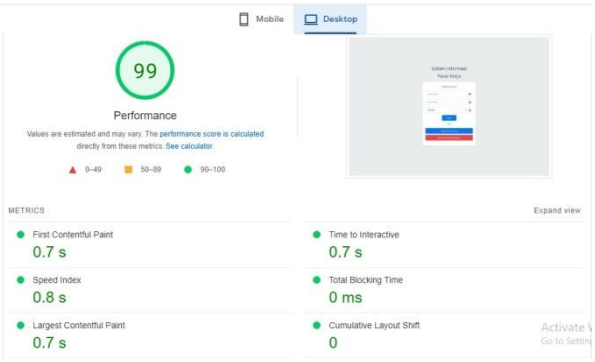


Figure 4. Test Results *Performance Efficiency*

performance efficiency testing showing *the performance* of this labor market information system is at a percentage of 99% in the fast category. so that it can be concluded that the *performance efficiency test* is stated to be fast.

Testing *Usability Characteristics*

usability characteristics is carried out by direct testing on users with a total of 50 respondents and the questionnaire used is *the USE Questionnaire* which is divided into 4 aspects of *Usefulness* , *Ease of Use* , *Ease of Learning* and *Satifaction* which has 30 maps . The following table shows the results of the respondent's feedback analysis.

TABLE 8
TEST RESULTS *USABILITY*

No	Question	Amount respondents who answered				
		SS	S	KS	TS	STS
1	System This capable help I look for work easier and faster (effective)	27	19	4	-	-
2	system This capable help I become more active in look for work	28	20	2	-	-
3	System This very useful	35	15	-	-	-
4	System This capable give I big impact _ to moment look for work	30	17	3	-	-
5	System This make it easy I For get suitable job _ with skill	45	5	-	-	-
6	System This save time when I when look for work	32	10	8	-	-
7	System This in accordance with need I	40	10	-	-	-
8	This system work in accordance what i _ expect	48	2	-	-	-
9	System This easy used	50	-	-	-	-
10	System This practical For used	50	-	-	-	-
11	system This easy understood	50	-	-	-	-
12	system This need a number of practical steps _ For reach what want _ I do	29	20	1	-	-
13	system This can customized with need	50	-	-	-	-
14	No difficulty moment use system This	50	-	-	-	-
15	I got use without instructions written	43	7	-	-	-
16	I don't see exists inconsistency during I use it	40	7	3	-	-
17	Infrequent user _ nor routine use will like system This	46	4	-	-	-
18	I got it deal with fault in usage by quick and easy	40	10	-	-	-
19	I got use system This with Correct every time i use it	50	-	-	-	-
20	I can understand use system This with fast	50	-	-	-	-
21	I'm easy remember How method use system This	50	-	-	-	-
22	System This easy for studied method use it	50	-	-	-	-
23	I become faster For get work	20	23	7	-	-
24	I'm satisfied with	50	-	-	-	-

25	system This I will recommend system This to Friend	50	-	-	-	-
26	system This pleasant for used	50	-	-	-	-
27	system This Work like me _ want	38	12	-	-	-
28	system this is very good	50	-	-	-	-
29	I feel I must own system This	40	10	-	-	-
30	system This comfortable for used	50	-	-	-	-

TABLE 9.
RECAPITULATION OF ASSESSMENT RESULTS RESPONDENTS

SS	S	KS	TS	STS
1281	191	28	0	0

$skorperoleh = (JSS * 5) + (JS * 4) + (JKS * 3) + (JTS * 2) + (JSTS * 1)$
$skorperoleh = (1281 * 5) + (191 * 4) + (28 * 3) + (0 * 2) + (0 * 1)$
Gain score = 6405 + 764 + 84 + 0 + 0
Score = 7253

$skormaksimal = JP * JR * 5$
$skormaksimal = 30 * 50 * 5$
$skormaksimal = 7500$

above calculations obtained, score get 7253 and a maximum score of 7500. then look for a percentage to get an interpretation of the *usability test results* using the formula:

$$Presentase\ Usability = \frac{skorperoleh}{skormaksimal}\ x\ 100\%$$

Percentage of Usability = 7253/7500*100%
Percentage = 96.70%

Based on the calculation analysis above , it can be obtained that the percentage is 96.70% with a very decent category. This percentage shows that the quality of the labor market information system from the usability characteristics is appropriate.

Reliability characteristic testing

Reliability testing using the *Webserver application stress Tool* for measuring the extent to which a developed system or product performs a function under certain conditions for a certain period of time. In testing using this application there are 3 types of *click test* , *time test* and *ramp test.*

Click Test

The click test is a constant load tester until each user generates the specified number of clicks. The following are the results of *the click test* with 10 virtual users and 5 clicks. The test results can be seen in the following figure

Logfiles | Results per User (Complete Test) | Results per URL (Complete Test)

User No.	Clicks	Hits	Errors	Avg. Click Time [ms]	Bytes	kbit/s	Cookies
1	1	1	1	120,355	181,543	12.07	
2	1	1	1	120,037	182,991	12.20	
3	1	1	1	25,969	12,670	3.90	
4	1	1	1	25,675	12,127	3.78	
5	1	1	1	33,244	27,331	6.58	
6	1	1	1	120,294	181,362	12.06	
7	1	1	1	86,376	106,247	9.84	
8	1	1	1	23,513	7,964	2.71	
9	1	1	1	120,856	187,697	12.43	
10	1	1	1	120,303	148,420	9.87	

Figure 5. Test Results *Click Test*

Based on the picture above , the number of users is 10 and the number of clicks is 5 times, the error rate is 1, Avg . *click time* is between 23.513 – 120.856ms and the sending time from the server is different between 7,964-187,697 *bytes* and time to access how many pages between 2.71 – 12.06 kbit /s.

Time test

Time test is testing with a constant load at a specified time. *The time* test was carried out for 30 minutes with 5 users and 20 delay times . The test results can be seen in the following figure.

Logfiles | Results per User (Complete Test) | Results per URL (Complete Test)

User No.	Clicks	Hits	Errors	Avg. Click Time [ms]	Bytes	kbit/s	Cookies
1	36	35	0	83,212	4,324,995	11.88	
2	34	34	1	88,028	4,949,807	13.23	
3	32	31	0	95,792	4,824,193	13.00	
4	34	34	1	86,556	4,871,615	13.24	
5	34	34	1	87,658	4,726,996	12.69	

Figure 6. Test Results *TimeTest*

Based on the picture above , the number of users is 5 and the delay time is 20, which results in an error rate of 1, Avg . *click time* is between 82.212 – 95.792ms and the sending time from the server is different between 4,324–4,949 *bytes* and the time to access what page between 11.88 – 12.69 kbit /s.

Ramp Test

Ramp Test is a test with an increasing amount of load at a predetermined time. The ramp test is carried out in 5 minutes, with 10 virtual users, and there is no delay between users. The results of the *ramp test* can be seen in the following figure.

Logfiles	Results per User (Complete Test)						Results per URL (Complete Test)
User No.	Clicks	Hits	Errors	Avg. Click Time [ms]	Bytes	kbit/s	Cookies
1	10	10	1	65,875	933,598	11.34	
2	8	8	1	76,439	758,933	9.93	
3	5	5	1	104,807	823,007	12.56	
4	6	6	1	81,991	725,629	11.80	
5	5	5	1	83,310	602,911	11.58	
6	6	6	1	63,218	521,099	10.99	
7	3	3	1	117,678	416,300	9.43	
8	4	4	1	68,284	381,186	11.17	
9	3	3	1	75,043	344,443	12.24	
10	3	3	1	75,974	387,883	13.62	

Figure 7. Test Results *Ramp Test*

Based on the picture, the number of users is 10 and there is no amount of delay time between users, which results in an error rate of 1, Avg . *click time* is between 63.875-117.678ms and the sending time from the server is different between 344,443-933,598 *bytes* and time to access how many pages between 9.43-13.62 kbit /s.

Based on the test results of the three types of testing, it can be concluded that the percentage of labor market information systems is at an average of 6.7 %, while the description of the percentages can be seen in the following table.

Table 10. Test Results *reliability*

Type testing	Error percentage	Percentage success
Click Test	10%	90%
TimeTest	10%	90%
Ramp Test	10%	90%

Based on the table above, an average percentage of 90% is obtained, so that the developed system has high *reliability.*

Testing Portability Characteristics

Portability testing is carried out by *cross browser testing* on different browsers such as Google Chrome , Mozilla Firefox, Microsoft Edge , Internet Explorer and one browser on *mobile phones* . The portability test results can be seen in the following table.

TABLE 11
PORTABILITY TESTING RESULTS

No	Web Browsers	Test Results	Information
1	Internet Explorer		Succeed
2	Google Chrome		Succeed
3	Mozilla Firefox		Succeed
4	Microsoft Edge		Succeed
5	Internet Browsers		Succeed

Based on the test results using *cross browser testing* for the job market information system , the test results can run well as with *Google Chrome* , *Mozilla Firefox* , *Microsoft Edge* , *Internet Explorer* and one *browser* on *a mobile phone* . The following is the result of the calculated analysis of the *portability test.*

$$Presentase\ Skor = \frac{BB}{B}\ x\ 100\%$$

percentage = 5/5*100%
Percentage score = 100%

Based on the calculation analysis above , it can be obtained a percentage of 100% with a very good category. This percentage shows that the *portability* test is appropriate.

IV. CONCLUSION

Based on the tests that have been carried out using ISO 25010 with the test characteristics of *Functional Suitability*, *Performance Efficiency*, *Usability*, *Reliability*, and *Portability* , *the Functional Suitability* test obtained from the job market information system with a percentage of 100% with the category accepted , *Performance Efficiency* Testing from the job market information system with a percentage of 99% in the fast category , *Usability* testing of the job market information system with a percentage of 96.70% in the very feasible category , *Reliability* Testing of the job market information system with a percentage of 90% in the successful category , and *Portability* testing of the job market information system with a percentage of 100% in the very good category.

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