

Customization of an Online Course Examination as LMS or Learning Management System

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Abstract- *Online course exams is very useful in any academic institution. It is called a facility to generate a test result without manual interface. It is a system which is more secure for admin user records and more reliable to work at any circumstances. LMS or learning management system, is a system that can track and monitor the test takers' progress. It gives automated grades and attendance records of the student. The aimed of the study were the following: (1) to come-up an unsupervised course exams; (2) to eradicate checking of test paper and paper-pencil based scoring; and (3) to evaluate the customized online test using ISO characteristics. The researcher customized an online course exams as LMS using testmoz. Testmoz test generator, a free software online test maker, features four type of test; multiple choice, true or false, fill in the blank, and multiple response. Testmoz test generator is favorable online exams for those cannot memorize of their email address, and the proctor or admin was provided a report with necessary information of the test taker which would determine the integrity of the taker.*

Index Terms: Attributes, Customized, ISO 9126, LMS, Online Exams, Proctor, Test Taker, testmoz,tracking, unsupervised

1. INTRODUCTION

Strategies that employ the Web as the repository for instructional information are known as Web-Based Instruction (WBI). WBI can be employed in a distance education model or as an adjunct to teacher-led classrooms. WBI can be used to meet the needs of a more diverse student group. Typical classes consist of students with varying abilities and previous knowledge, and WBI can help a teacher address these differences. WBI also allows students to work a pace that is more comfortable - some students work faster than their peers while others may wish to take longer. In addition, the use of WBI provides the opportunity for multiple grade levels to be accommodated in the same classroom at the same time, Matthew (2000).

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The statement of El Saide (2010) attributes about online exams. (1) Immediate results and solutions; when the student finishes his exam, the system checks her answers and compared with the correct answer. And the system saves the incorrect and correct answers and calculates the mark of correct answers. Then give the total mark. (2) Easy to store and retrieve information; rather to save the information on a papers or in separate sheets. There are a data base management to store and retrieve the information needed by the administrator or Faculty member or student according to a report generated by the system.

An LMS or learning management system, is a system that can track and monitor the test takers' progress. It gives automated grades and attendance records of the student.

2. FREWARE EMPLOYED

Testmoz test generator, a free software online test maker, features four type of test; multiple choice, true or false, fill in the blank, and multiple response. The freeware tool limits 50 questions and 100 takers per exams, but it has an unlimited test.

ISO SOFTWARE METRICS	Requirements Complied?	
	Yes	No
Mandatory Parameters		
Functionality		
The system protects information and data so that unauthorized persons or systems cannot modify and authorized persons or systems are not denied access to them.		
The system provides an appropriate set of functions for specified tasks and user objectives		
The system provides the right or agreed results or effects with the needed degree of precision.		
System as Instruction Applicability		
System is applicable to all instruction in the College.		

Direction: In all the identified software quality metrics below, please check the appropriate column stating your approval or disapproval on the degree of accomplishment per requirements identified.

Legend: 5-Strongly Agree, 4 – Agree, 3 - Slightly Agree, 2 – Slightly Disagree, 1-Strongly Disagree

Questions and answers can be reshuffle. A URL and a proctor’s password given are the entries to take the test. No username nor email add is required. The proctor is the admin user, the only authorize user who can customize the test. The exam taker would take the test in one attempt, one test. Test report is available to admin user right after the test conducted. A pay subscription of \$20/year has a variety of features offered by testmoz.

3. OBJECTIVES

The aimed of the study were the following: (1) to come-up an unsupervised course exams; (2) to eradicate checking of test paper and paper-pencil based scoring; and (3) to evaluate the customized online test using ISO characteristics.

4. METHODS

4.1 Respondents

The study was conducted in Eastern Samar State University, Main Campus in Borongan City, Eastern Samar. Alpha test was conducted by 15 faculty members in the College of Computer Studies.

4.1 Instrument

SOFTWARE QUALITY EVALUATION TOOL
(BASED ON ISO 9126 SOFTWARE QUALITY
STANDARD)

Title of System: CUSTOMIZATION OF AN
ONLINE COURSE EXAMS AS LMS or
LEARNING MANAGEMENT SYSTEM

4.3 Statistical Treatment

Customization of the online exams using testmoz, frequency percentage distribution was applied on functionality of the system and applicability as instruction. Average weighted mean was used on determining the extent of applicability of ISO software characteristics.

The mean values and qualitative descriptions were employed to determine its extent of applicability of ISO 9126 software characteristics:

Mean Value	Qualitative Description
4.10 – 5.00	Strongly Agree
3.10 - 4.00	Agree
2.10 – 3.00	Slightly Agree
1.10 – 2.00	Slightly Disagree
0.00-1.01.1.1	Strongly Disagree

5. PRESENTATION OF RESULT

Table -1: Frequency Distribution of Respondents' Perception on the Quality of the Software Based on ISO 9126

Characteristic	Level of Agreement					Weighted Mean	Interpretation
	(S A) 5	(A) 4	(S L A) 3	(S L D) 2	(S D) 1		
Reliability							
The system is free from errors.	13	2	0	0	0	4.86	Strongly Agreed
The system validates user inputs.	13	1	1	0	0	4.8	Strongly Agreed
Data is recoverable after system network failures with minimal operator assistance.	10	3	1	1	0	4.8	Strongly Agreed

ISO SOFTWARE METRICS	Rating						
	5	4	3	2	1		
Reliability							
The system is free from errors.							
The system validates user inputs.							
Data is recoverable after system network failures with minimal operator assistance.							
Usability							
The system is user-friendly (texts are visible; buttons and textboxes are of exact size)							
The system is easy to learn and operate.							
The system works at all workstations available at the CCS.							
Efficiency							
The system displays all requested data promptly.							
The system processes the test results and print at a reasonable time.							
The system adhere to standards or conventions relating to efficiency							
Maintainability							
The system can enable a specified modification to be implemented							
Minor system modifications is possible at a minimal effort and time.							
Portability							
The system can be adapted for different specified environments without applying actions or means other than those provided for this purpose for the software considered.							
The system is easy to install and configure.							
The system can be used in place of another specified software product for the same purpose in the same environment.							
Usability							
The system is user-friendly (texts are visible; buttons and textboxes are of exact size)	13	2	0	0	0	4.86	Strongly Agreed

of exact size)							
The system is easy to learn and operate.	15	0	0	0	0	5	Strongly Agreed
The system works at all workstations available at the CCS.	9	2	2	2	0	4.2	Strongly Agreed
Efficiency							
The system displays all requested data promptly.	10	5	0	0	0	4.66	Strongly Agreed
The system processes the test results and print at a reasonable time.	12	3	0	0	0	4.8	Strongly Agreed
The system adhere to standards or conventions relating to efficiency	11	2	2	0	0	4.6	Strongly Agreed
Maintainability							
The system can enable a specified modification to be implemented	9	5	1	0	0	4.53	Strongly Agreed
Minor system modifications is possible at a minimal effort and time.	8	5	1	1	0	4.33	Strongly Agreed
Portability							
The system can be adapted for different specified environments without applying actions or means other than those provided for this purpose for the software considered.	13	2	0	0	0	4.86	Strongly Agreed
The system is easy to install and configure.	5	3	3	4	0	3.6	Agree

The system can be used in place of another specified software product for the same purpose in the same environment.	8	2	3	1	1	4.0	Agree
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Legend: (SA)=Strongly Agree; (A)=Agree; (SLA)=Slightly Agree; (SLN)=Slightly Disagree; (SD))=Strongly Disagree

Table -2: Average Weighted Mean of Respondent's Perception on the Attributes of the Simplified Theorem Based on the Attributes

Theorem Attributes	Average Weighted Mean	Interpretation
Reliability	4.82	Strongly Agreed
Usability	4.68	Strongly Agreed
Efficiency	4.68	Strongly Agreed
Maintainability	4.40	Strongly Agreed
Portability	4.15	Strongly Agreed

The reliability of the test using testmoz gleaned the highest average weighted mean among the five attributes employed. Its usability and efficiency had the same average weighted mean, viewed by the respondents that they strongly agreed that the customized online exams is strongly usable and strongly efficient web-based instruction. The portability characteristic of the customized online exams was in the border of the average weighted mean on "strongly agreed" interpretation.

Table -3: Percentage Distribution of Respondents' on the functionality and instruction applicability of the System

Mandatory Parameters	Yes	No	Interpretation
Functionality			
The system protects information and data so that unauthorized persons or systems cannot be modify and authorized persons or systems are not denied access to them.	93%	7%	Functional
The system provides	90%	10%	Functional

an appropriate set of functions for specified tasks and user objectives			
The system provides the right or agreed results or effects with the needed degree of precision.	80%	20%	Functional
System as Instruction Applicability			
System is applicable to all instruction in the College.	100%	0%	Applicable

The functionality of the customized online course exams for a specific tasks and objectives got an average of 87% or 13 from the 15 respondents. In the applicability as tool for instruction to the College, all respondents agreed as applicable.

6. CONCLUSION

Based on the results presented, it was concluded that:

1. testmoz is easy to operate and to customized;
2. the customized online course is usable and functional tool in content course assessment;
3. the LMS adheres reliability on online course exams;
4. testmoz test generator is favorable online exams for those cannot memorize of their email address;
5. the LMS is portable, no data required except the name of the taker and the password to be able to take the test;
6. proctor or admin was provided a report from the test, and provided necessary information of the test taker which would determine the integrity of the test taker.

7. RECOMMENDATIONS

In view of the findings inferred the following are recommended:

1. Acquire the subscribe plan; to increase the number of questions in every test, and more features in the test like timer and tracking of the test taker.
2. Find more quiz maker and LMS that is highly intense on its reliability.

8. REFERENCES

[1] Norman Matthew. "First Monday". 2000. <http://www.firstmonday.org/ojs/index.php/fm/article/view/732/641>.

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[3] Corporate Learning Management System in the cloud. https://www.pageuppeople.com/learning-landing-page-philippines/?gclid=CKHYvLCHm9ECFQ0JvAodo_UOEQ.

[4] What is an LMS. <https://www.talentlms.com/what-is-an-lms/>

9. APPENDICES

Screenshots of testmoz as LMS

A. Test Constructed



Midterm Exams in CS111

Question #1 (5 points)

Expand: PC
Answer:

Question #2 (2 points)

A volatile memory

Hardware
 Secondary storage
 RAM
 ROM

Question #3 (2 points)

Technology has also unaffected humans in classroom education.

True
 False

Question #4 (5 points)

Expand: WYSIWYG
Answer:

Question #5 (2 points)

Technology implementation can also be timeless consuming.

True
 False

B. Test taken

Student Login | **Admin Login**

Midterm Exams in CS111

Your Name

Testmoz
Test Generator

Home Settings Questions Publish Reports Logout

Question 11 of 11 [Previous](#) [Next](#)

Elements/Components of computer(3 answers)

Type: Points:

Enter the answer choices, and mark which answers are correct

input
 hardware
 software
 peopleware
 output

[Add / Remove answer choice](#)

Shuffle answers
Uncheck if you have an "all of the above" answer

9/student

Question #20 (5 points)

Expand: LCD
Answer:

Question #21 (2 points)

Technology often needs not frequent maintenance to keep it in good condition for use

True
 False

Question #22 (5 points)

Expand: URL
Answer:

Question #23 (2 points)

Software allows you to create, edit, and save documents.

Hardware
 Secondary storage
 Word processing
 Application software

[Logout](#)

/list?question_id=11926413

Testmoz
Test Generator

Home Settings Questions Publish Reports Logout

#	Delete	Question	Point(s)
1.	<input type="checkbox"/>	Expand: GUI	5
2.	<input type="checkbox"/>	Expand: MIPS	5
3.	<input type="checkbox"/>	Expand: LCD	5
4.	<input type="checkbox"/>	Expand: USB	5
5.	<input type="checkbox"/>	Expand: URL	5
6.	<input type="checkbox"/>	Expand: wifi	5
7.	<input type="checkbox"/>	Expand: PC	5
8.	<input type="checkbox"/>	Expand: OS	5
9.	<input type="checkbox"/>	Expand: WYSIWYG	5
10.	<input type="checkbox"/>	Expand: ROM	5
11.	<input type="checkbox"/>	Elements/Components of computer(3...	6
12.	<input type="checkbox"/>	Classes of secondary storage.(2...	4
13.	<input type="checkbox"/>	Technology implementation can also...	2
14.	<input type="checkbox"/>	There are various types of...	2
15.	<input type="checkbox"/>	Technology often needs not...	2
16.	<input type="checkbox"/>	Technology has also unaffected...	2
17.	<input type="checkbox"/>	Since technology is moving...	2
18.	<input type="checkbox"/>	Technology can sometimes hinder...	2

C. Corrected test and test result

59/student/review

Midterm Exams in CS111 Leah Maureen B. Basa, BSCS1A

Your score: 77% (63 points out of 82)

Question #1 (5 points)

Expand: GUI
Your answer: graphical user interface **Correct**

Question #2 (5 points)

Expand: MIPS
Your answer: million of instructions per second **Correct**

Question #3 (5 points)

Expand: LCD
Your answer: liquid crystal display **Correct**

Question #4 (5 points)

Expand: USB
Your answer: universal serial bus **Correct**

Question #5 (5 points)

Expand: URL

D. Score sheet

