Optimizing e-learning platform for interactive training methods in nuclear domain

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Overview

This work presents the educational means provided by IFIN-HH for training to acquire knowledge and skills specific to research requirements, especially in the nuclear field. It is essential for trainees to be able to use the new education and training systems.

Introduction

- Background and Objectives
- Selecting the e-Learning Platform
- Optimizing e-Learning Platform

Conclusions

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Introduction

Nuclear Training Center (CPSDN)

has been developing post-secondary and post-graduate training for personnel involved in nuclear domain since 1970,

has designed and implemented more and more training programs, constantly updated,

mainly provides training programs for radiation protection and radiation safety for medical, industrial and research practices.

Background and objectives

Development of modern nuclear training systems within IFIN-HH is a component of a complex strategy which involves a systematic integration of classical and modern methods

Competitiveness and quality of training, both at national level and in European initiatives

All this through a process of modernization and use of new digital technologies in our activities

Selecting the e-Learning Platform

Analysis of the weaknesses and strengths of the Coffee LMS and ILIAS e-learning platforms

Coffee LMS (Easy Class)

- an old version installed, specially parameterized to meet the CPSDN e-learning needs
- incompatibilities with the programs used to create e-learning courses
- statistics, graphs and reports on the evolution of the learning process can not be obtained

ILIAS

- Open Source software
- being created for general use, it has to be parameterized to meet the center's e-learning needs
- compatibility with Articulate software
- ability to obtain statistics, graphs and evolution reports

Selecting the e-Learning Platform

Coffee LMS

	Performance (grade) %	Total time	Accessed
terageneia cignala el raciología de diagenatio el reactogía coer rectorara	0	1m:25s	2018-04-18 14:03:39.0

ILIAS

<u>Title</u> ↑	<u>∑ Access</u> <u>Number</u>	<u>Ø Time Spent /</u> <u>User</u>	<u>Ø Percentage /</u> <u>User</u>	<u>Status</u>	<u>Mark</u>
Maria 18	9	27 Minutes 6 Seconds	25.00%	 : 3 (75%) : 0 (0%) : 1 (25%) : 0 (0%) 	• None: 4 (100%)

Platform's administrator

has the ability to configure the menus and permissions of each user

set how to create new users and join them in a course to follow



Trainer

has the opportunity to create new courses directly in the platform

Content	Info	Settings	Questions	Learning Progr	ess l	Metadata B	Export Pe	missions	Presentation View >	
<u>Chapters</u>	All Pages	Short Titles	Internal Links	Weblink Check	History	Maintenance	Media Subtit	es Import		
ILIAS Lea	rning Moo	lule added								
₽ De	elete (Cut Cop	У							Save Titles
	New Chapte	er				+				Edit
Ļ D∈	elete (Cut Cop	y							Save Titles
+) clia	ck on place Drag	holders to add and drop icol	i new elements. ns on placeholde	ers to move eleme	nts.					

or to load previously prepared material

Option 1: Import SCORM Package			
Туре	SCORM 2004 3rd/4th Edition		
Select File *	Select File		
	Maximum upload size: 128.0 MB		
Validate File			
Authoring Mode			
	The SCORM ZIP package must have been created with the ILIAS SCORM editor and it must have been exported as SCORM 1.2/2004 package.		
* Required		Import	Cancel

Articulate Storyline 2 – a program for instructional designers, which provides an improved user interface and interactive learning elements

		Untitled1* - Articulate Sto	oryline 2	
Insert Slides	VIEW HELP			×
Templates	Graded Survey Freefo	rm Draw From Bank R	Result Slides	
Basic Layouts	T/F	0 0	⊠ ⊠	
Quizzing	True/False	Multiple Choice	Multiple Response	
Screen Recordings	ab	CHOICE R		Matching Drag-and-Drop
Import	Fill-in-the-Blank	Word Bank	Matching Drag-and	Matching Drag-and-Drop is a graded question that requires the user to drag and drop items in the second column
	CHOICE A MATCH A V CHOICE MATCH B V CHOICE C MATCH C V	FIRST	FIRST V SECOND V THIRD V	to match items in the first column. There is a maximum of 10 matching pairs. All items in the match column must correctly correspond to all items in the choice column for the question to be graded as correct.
	Matching Drop-down	Sequence Drag-and	Sequence Drop-down	
	123 🔹	Hotspot		
				INSERT CANCEL

Simple pages, with texts and images;

Quizzes inside the course, with or without tracking the results;

> Interactive pages, created with triggers and separate layers.

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To create a test, ILIAS offers several possibilities:

Fixed question test

Quiz with randomly chosen questions from a pool of questions. This is a more advantageous method because the interfaces may vary from one trial to another and from one user to another. Thus, the test result will indeed show the knowledge gained from the course.

The test can be performed in one or more rounds, depending on what we are tracking. Also, the modification of the already selected answers can or can not be changed.

If a course is structured on multiple learning modules completed with an assessment test, such as the pyramid, accessing them can be conditioned by successfully passing the materials at the pyramid's basic levels to advance to the top of the pyramid.

When the course participant finalizes all the learning modules and passes the final test, a certificate that can be downloaded is generated.

The certificate is created based on a template that can be customized with various information.

[USER LOGIN]: Login [USER FULLNAME]: Full name of the user (title, first name and last name) [USER_FIRSTNAME]: First name of the user [USER LASTNAME]: Last name of the user [USER TITLE]: Title of the user [USER SALUTATION]: Salutation [USER BIRTHDAY]: Birthday of the user [USER_INSTITUTION]: Institution of the user [USER DEPARTMENT]: Department of the user [USER STREET]: Street of the user's address [USER CITY]: City of the user's address [USER ZIPCODE]: ZIP code of the user's address [USER COUNTRY]: Country of the user's address [USER MATRICULATION]: Matriculation number of the user [DATE]: Actual date [DATETIME]: Actual date and time [DATE COMPLETED]: Date of completion [DATETIME COMPLETED]: Date and time of completion [RESULT PASSED]: 'passed' or 'failed', depending on the test results [RESULT POINTS]: Score of user [RESULT PERCENT]: Reached percentage of the user [MAX_POINTS]: Maximum available points [RESULT_MARK_SHORT]: Users mark (short version) [RESULT MARK LONG]: Users mark (official version) [TEST TITLE]: Title of the test

DETAILED EVALUATION FOR

Optimizing e-Learning Platform

		DEIA		
			Test Results in Points	60 of 60 (100.00 %)
			Test Results in Marks	passed
	Statistics are very important for the feedback of	а	Time of Work	00:04:35
	, i		Average Time of Work	00:01:31
	learning program		First Visit	18. Sep 2018, 12:47
			Last Visit	26. Sep 2018, 09:38
			Number of Test Passes	12
			Scored Pass	12
			Mark of Median	passed
			Rank of Participant	1
			Rank of Median	1.5
AGGREGATED TEST RE (1 - 6 of 6)	SULIS		Total Number of Participants	2
Result		Value	Median of Test Result in Points	30
Total number of participants	s who started the test	2		
Total finished tests (Participa	ants that used up all possible passes.)	1		
Average test processing time	e	00:02:32		
Total passed tests		1		
Average points of passed tes	sts	60.00 of 60.00		
Average processing time of a	all passed tests	00:04:35		

(1 - 6 of 6)

AGGRE (1 - 6 of 6) Result

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Conclusions

At this moment, CPSDN organizes more than 20 training programs each year for 400

- 500 participants from different institutions, including IFIN-HH. Each training program is dedicated to specific practices and domains.

It is difficult to organize training programs, especially for foreign participants, in our classrooms. So, e-learning is the best solution we've found so far.

A specific effort is needed to ensure a longer and lasting impact on digital content development (e-learning or blended e-learning) to make scientific knowledge available to people who want to update their knowledge, skills or just to refresh them.

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