

## Overview

The following internship summary outlines the instructional technologies performed by John O'Laughlin for work done for the Emergency Operations Training Academy.

The organization creates training materials for online and classroom use. EOTA currently offers more than 90 courses to more than 100,000 students around the World.

## Highlights

The main accomplishments from the internship included:

- Learning Content Management System evaluation and deployment
- Learning Management System evaluation and deployment
- Interactive course development using Flash, XML, ActionScript, Premiere and Dreamweaver
- Attending the Society for Applied Learning Technology conference
- Research and development of SharePoint content management tools

## Internship Workplace, Starting and End Dates

Emergency Operations Training Academy

2201 Buena Vista Dr SE,

Albuquerque, NM 87106

<http://eota.doeal.gov/eota/>

505 842-7111

May 1, 2008 - September 5, 2008

# Contact Information

## Student Contact Information

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## **Purpose**

The purpose of the internship was to apply organizational learning and instructional technology techniques to real world training development needs.

## **Objectives**

The following objectives were completed during the internship:

- Creation of multimedia instructional courses for online and classroom delivery
- Research and development of a SharePoint knowledge collaboration system
- Research and development of a Learning Management System
- Evaluation of instructional design strategies for course development
- Evaluation of knowledge collaboration tools for course development

## **Products**

The tools and products used for work during the internship include:

- Adobe Flash for interactive content development
- Adobe Premiere for video editing
- Adobe Photoshop for image manipulation and visual content creation
- Adobe Dreamweaver for Internet based content development
- Microsoft Office Software tools for writing, editing and presenting content
- ActionScript for interactive content development
- Javascript for interactive content development
- SharePoint for collaborative learning and content sharing
- UNM organizational learning strategies for course development and evaluation
- Multiple computers including laptops and desktop machines
- Projectors for group presentations
- Web 2.0 resources for creating wikis and collaborative learning tools
- Adobe Captivate for testing and branching tools
- TechSmith Camtasia for testing and branching tools
- Articulate for creating interactive quiz, test and survey content
- Plateau System and other Learning Management Systems
- Shared Content Objects and SCORM conformance
- 508 conformance and usability requirements
- Adobe Air for SCORM content playback

## Requisite Skills

Through years of multimedia content development, and problem solving, I used the requisite skills to perform the objectives outlined.

## Task Outline and Summary of Hours Applied

Demonstrations of work performed are included as additional attachments and incorporated into this document.

Here is a summary of the areas of work performed during the internship:

Description	Hours Proposed	Hours Worked
Minimum of three completed courses	100	350
SharePoint evaluation and deployment	50	50
Learning Management System evaluation and deployment	50	250
SALT conference attendance	0	60
Summary of experience	10	10
<b>Totals</b>	<b>210 hours</b>	<b>720 hours</b>

# Development and Programming of Interactive Courses

During the Internship I worked on a variety of courses using Flash, Dreamweaver, XML, Premiere and ActionScript for the Emergency Operations Training Academy.

Here is a list of courses and projects that I worked on:

COO 101DW

ERA 131DW

NA21 DNDO/GTRI

HAS 102DW

ECA 101DW

ETR 101DW

RAP 150DW

RAP 190DW

EFE 101DW

RAP 160DW

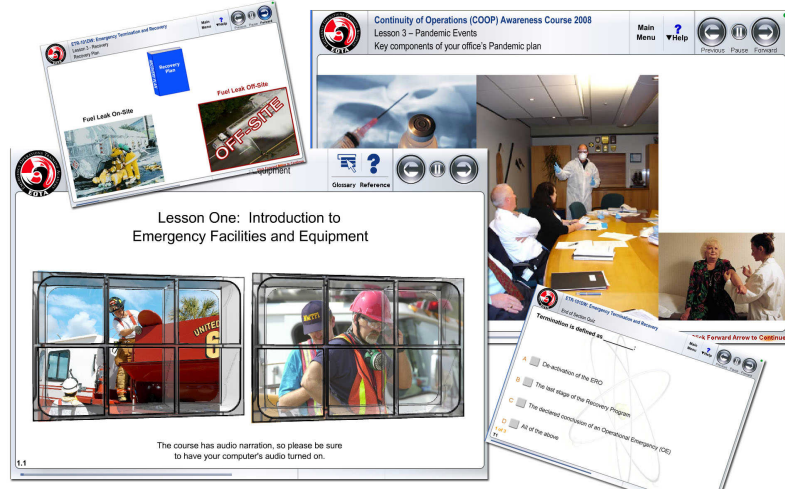
OER 430DW

ERO 132DW

RAP Interactive Game - 9 assets

SEO 2008 Video

SEO 2008 Americium



In addition, I also served as a mentor to the Art Director and other Multimedia Specialists to teach skills with the software. Here are links to video tutorials for Premiere...

This is a tutorial to organize and start a project, add text pages, and create transitions for the sequence. (Running time 13 minutes. It takes a bit to load.)

<http://www.johnolaughlin.com/classtools/GD252/3titles/3titles/3titles.html>



This tutorial builds on the same concept, but it is now done with images.

It also includes a demonstration on the keyframing technique.

(Running time 4 minutes)

<http://www.johnolaughlin.com/classtools/GD252/3images/3images/3images.html>

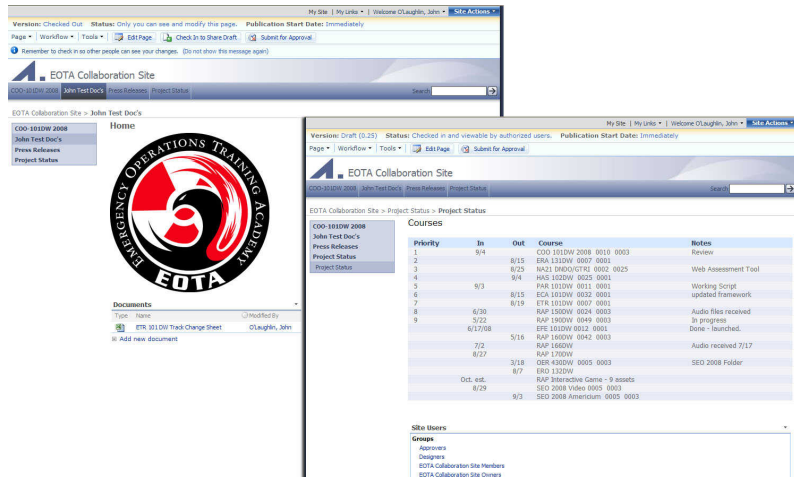
EOTA courses are available online at

<http://eota.doeal.gov/eota/>

# SharePoint Evaluation and Deployment

Because of my experience in working with SharePoint through UNM coursework, I was able to lead an initiative to explore the use of the tool at the Emergency Operations Training Academy.

The reasons for the exploration included communications among the members of the EOTA team and version tracking of key documents.



Since SharePoint is a collaboration tool, one of the first things that I did was work the IT specialist to set up a shared access area to the tool. Then I invited members of the team to try it out.

During a staff meeting, I presented a demonstration on some of the basics and then invited the other members of the team to update a document, save the new version and create an original content area.

Another initiative related to exploring the use of the tool was a communication session with the instructional designers. During that session, the need for an understanding of course status in programming was identified.

To respond to the need, I created a SharePoint document with a summary of projects in programming. This allowed all the members of the instructional design team to see updates on courses in programming.

# Learning Management System Evaluation and Deployment



Due to new requirements for courses, the Emergency Operations Training Academy needed to evaluate and deploy solutions to conform with learning initiatives and Department of Energy mandates.

## Requirements

- Comply with the Department of Energy initiative for Federal employees to take courses using the OLC2 learning management system
- Provide courses that are SCORM and 508 conformant
- Improve the instructional design process

The Emergency Operations Training Academy is a division of the Department of Energy creating custom training courses using rich media content for emergency response personnel. During the search for solutions, it became clear that many options were not adequate for the unique rich media content needs of EOTA.

During the process Stan Day and John O'Laughlin refined the criteria and then evaluated solutions based on needs.

More than a dozen vendors were sought out to present solutions based on criteria outlined and confirmed with the EOTA team.

In the end, a clear solution evolved and the deployment process is underway.

**For a complete summary, please see  
Addendum 1 - LCMS / LMS Evaluation and Deployment**

# SALT Conference Attendance

Attending the Society for Applied Learning Technology from August 19th - August 23rd provided perspective and confirmed research regarding learning management strategies.

Goals for the attending the conference were:

- Confirm EOTA strategies for LCMS / LMS / ISD database needs
- Sample and explore training technologies and applications
- Network with industry professionals for future problem solving needs

For more details about the experience, please see Addendum 2 - SALT Conference Summary



## Summary of Experience

The experience of hands on use of learning tools and exploring distribution platforms for online training are among the most valuable experiences that I'll take with me. Working with the Emergency Operations Training Academy as a multimedia specialist has been a very good fit for my career goals of **teaching and developing instructional technology solutions**.

Mentoring was an important part of the process. As a multimedia specialist, I've been able to work with a variety of people in development roles for programming, production, instructional design and evaluation.

Of particular note, Senior Multimedia Specialist Stan Day served as a mentor to me as we shared notes in the process of evaluating learning management systems, updating programming code strategies for course frameworks and evaluating best practices for course development and distribution.

Because of my pursuit of a master of arts degree in education with an emphasis on organizational learning and instructional technology at the University of New Mexico, I've been able to help the Emergency Operations Training Academy solve some immediate goals.

The need to address SCORM and 508 conformance was something discussed when I was hired. The objectives had to be met or resolved. In addition, the need to evaluate the course development system and distribution platform was also a need.

I'm pleased to have been a part of working with a team of instructional designers, project and Federal management personnel, programmers and multimedia specialists to accomplish the listed goals in less than six months.

The experience of day to day course development combined with longer term strategic planning in the field of education and training distribution are good additions to my background. My next plans are to update my portfolio on my website <http://www.johnolaughlin.com> to better demonstrate the new depth of experience and understanding I have to offer learners, instructors and organizations.

Life is learning.

# Acknowledgements

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Dr. Fengfeng Ke, Assistant Professor, UNM      Date

 9/5/08

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Stan Day, Senior Multimedia Specialist, EOTA      Date

 9/3/08

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John O'Laughlin, Multimedia Specialist, EOTA      Date

# Addendum 1 - LCMS / LMS Evaluation and Deployment

Emergency Operations Training Academy  
Learning Management System Evaluation  
Stan Day and John O'Laughlin  
8/12/2008

## Overview

Due to new requirements for courses, the Emergency Operations Training Academy has researched solutions to conform with learning initiatives and Department of Energy mandates.

The Emergency Operations Training Academy is a division of the Department of Energy creating custom training courses using rich media content for emergency response personnel.

## Requirements

- Comply with the Department of Energy initiative for Federal employees to take courses using the OLC2 learning management system
- Provide courses that are SCORM and 508 conformant
- Improve the instructional design process

## Three Priorities

This evaluation addresses three priorities for the Emergency Operations Training Academy:

- Evaluation and recommendations for a **learning management system** (LMS) for student registration and reports which includes use of the OLC2/Plateau system for Federal employees and a similar tool for contractors and other non-federal employees
- Evaluation and recommendations for a **learning content management system** (LCMS) for rich media playback with SCORM and 508 conformance
- Evaluation of an **instructional design database tool** (ISD) for tracking learning objectives

# Executive Summary

The Emergency Operations Training Academy needs to address best options for the following objectives:

- Enabling SCORM and 508 conformance
- Interfacing with the mandated OLC2 learning management system
- Providing non Federal employees course access through a learning management system
- Hosting rich media content with a built in navigation system
- Tracking and evaluating learning objectives from analysis through course testing

Due to the nature of EOTA's customized rich media courses, the choices for an effective LCMS/LMS have been narrowed based on capacity and functionality. Absorb and Evolution are the two primary contenders following research of more than a dozen top vendors.

The LCMS/LMS will interface with the mandated OLC2 (Plateau database system) which is a learning management system for Federal employees. Exploration of the OLC2 tool for additional use provided comparatively expensive options in addition to a less user friendly interface for deploying and updating courses.

## Value and Results

Resources are evaluated on the need to conform to the outlined objectives and the process of updating existing courses and deploying new courses.

# Learning Management System (LMS)

The learning management system functions as a connection point for students to register for and access courses. Data available to the students and to the administrative users of the LMS includes student learning plan information, course availability and pass/fail information.

## **Initial Strategy:**

Our initial exploration of the OLC2 LMS revealed that it would not serve as a single point of contact for all EOTA students. Reasons for this conclusion came from researching the process to upload and update SCORM conformant courses. Findings include limitations on the size of lesson content, the lack of ability to update content in the course in a time effective manner, and a high cost per student of 75 cents each.

## **Modified Strategy:**

With the mandate for Federal employees to take courses using the OLC2, Stan Day tested and solved issues with the ability to use the OLC2 as a SCORM conformant system for the COO 101DW lesson. Additionally, we are limiting the size of the course down to 50MB to comply with an imposed size limitation outlined by General Physics.

Additionally we have researched and found LCMS/LMS solutions that do not limit the size of courses and have a much lower cost per student.

# Learning Content Management System (LCMS)

The learning content management system hosts the course content.

## **Strategy**

Our needs include a hosted solution for rich media content with an ability to deploy and update course content, provide customized reports, communicate with the OLC2 LMS and to serve as an additional learning management system for all non-Federal employees.

We provided multiple vendors an opportunity to demonstrate the functions of their system by playing existing EOTA courses similar to those that we were testing on the OLC2 Plateau system.

Two vendors stood out in the ability to host rich media content and to provide a customer management system to address course deployment, updating and reporting needs.

## **Absorb**

The company was able to go live with the designated course in less than one hour. The user friendly interface provides a customer friendly tool for uploading and editing rich media courses.

## **Evolution**

The company was able to go live with the designated course in two weeks. The company recently was acquired by EEDO, possibly because of the user interface and more contemporary customer management system.

## **Both Companies**

The companies have options for duplicating courses and uploading and updating SCORM wrapped content.

# Instructional Design Database Solution (ISD)

Instructional design needs for the Emergency Operations Training Academy includes:

- Outlining jobs
- Identifying tasks
- Compiling and validating tasks into a short list
- Matching qualifications to the tasks
- Qualifications include - skills, knowledge, attitude and aptitude descriptions
- The data is then inter-related and matched to availability of training and job descriptions

## **Vision**

Closely following the ADDIE model, Vision uses a taxonomy and structured approach to identifying jobs, tasks and sub-tasks.

## **Approach Background**

Due to the nature of EOTA online courses, the approach taken is from the perspective of a director of online learning.

Stan Day's background includes more than 17 years of programming for instructional design.

John O'Laughlin's background includes instructional design, course development and multimedia.

The process for evaluating solutions and options has involved individual and group presentations to the EOTA team.

# Resources Evaluated

OLC2 - Plateau Learning Management System  
<https://olc2.energy.gov/elms/learner/login.jsp>

ZIIVA  
<http://www.ziiva.com>

OnPointLearning  
<http://www.onpointlearning.com>

Avilar  
<http://www.avilar.com>

EchoEleven  
<http://www.echoeleven.com/>

Mzinga  
<http://mzinga.com>

Blatant  
<http://www.absorbtraining.com/user>

Plateau  
<http://www.plateau.com>

Intellum  
<http://www.intellum.com/>

Focus Learning (Vision)  
<http://www.focuslearning.com/>

eLearning  
<http://www.elearning.com>

EEDO / Force10  
<http://eedo.com/>

# Addendum 2 - SALT Conference Summary

SALT Summary  
Society of Applied Learning Technology  
Conference 8/19 - 8/23, 2008  
John O'Laughlin  
8/25/2008

## Overview

Here's a summary of experiences and learning from the conference for the Society of Advanced Learning Technology.

### Goals for attending the conference

- Confirm EOTA strategies for LCMS / LMS / ISD database needs
- Sample and explore training technologies and applications
- Network with industry professionals for future problem solving needs

To aid in the transfer of knowledge for key learning concepts, the following summary includes a headlined reminder of important ideas. The details provide supporting information related to the concepts and session materials.

### Flash Cards and Learning Communities

The Keynote Session opened the conference with a presentation by Shirish Nadkarni, CEO of <http://www.livemocha.com/>

The website leverages the community of learners to also teach others. One example is the Flash Card concept of allowing users to upload an image and definition for a word in the language being learned.

This demonstrates leveraging learners by allowing them to complete lessons and then immediately have the opportunity to put learning to work.

### Keys to leverage learning communities

- Develop strategies for surfacing the best content
- Create structure for the learners to participate in teaching (small chunks, not whole lessons, reward participants.)
- Reputation system - eBay uses this to establish credibility for the user group reviews
- Iteration based on community feedback. (Deploy and expand popular content areas)

### **Targeting Mobile Learning Devices**

I asked the first question of the conference about deploying learning content for cell phone delivery. The answer is to make sure content is simplified to allow for greater potential for access and use. The example from the presented material included the idea of adapting the Flash cards to mobile delivery content to compliment the rich media content online.

This is a good strategy, since the phone screen is small, but this can have use for practicing and recalling chunks of content, not the whole course. (Mobile device distribution is large, but platforms are not consistent across devices)

### **Building Expert Knowledge Through Simulated Decision Making**

- Perform Competency Analysis for Individuals, Teams and Organizations
- Separate what can be trained
- Simulation is a technique, not a technology
- Progressive Performance GAP Analysis - not just slice in time

### **Learning Takes Place in Reflection**

Experts - They are highly critical top performers. How do you transfer their tacit knowledge to new recruits. Find ways to simulate real world settings where they can interact. Let them work through the simulation, then reflect and draw out the understanding. Put competencies in context.

The engine and interface should address:

GAPS -> Likely Scenarios -> Potential Outcomes

### **Huh? Oh!**

The goal is to see people go from the discovery about a challenge they were unaware of, and then advance to new insight. This process is recognized in the simulation as people first reach the "Huh?" stage, and then work in a collaborative way to discover a solution with the "Oh!" stage.

### **Web 2.0**

Plenty of sessions demonstrated techniques for using and applying Web 2.0 technologies.

<http://www.google.com/docs> - create and produce spreadsheets, presentations and text documents collaboratively

<http://www.buzzword.com> - create and produce text documents collaboratively

<http://delicious.com/> - web bookmarking site

<http://www.ning.com/> - create your own social networking site

## **Story Telling**

The Frozen Suit and the Little League Team are two stories that demonstrate the power of teaching values. The presentations from Booz, Allen & Hamilton included these two stories from their company as a way to share values to new employees.

**The Frozen Suit** story was presented to show the value of promptness and dedication to customer needs. It was presented in video form, manga (comic book), and audio. Call 703 342-4680 and then press 4# to hear the Frozen Suit story.

**The Little League** story was presented as an audio presentation with an image of the little league player. The story was used to show the importance of teamwork and on balancing work and family life.

<http://delicious.com/Learning2007/storytelling>

## **Learning in 3D**

1st Dimension - Content Delivery

2nd Dimension - Mental Iteration (Mental Struggle)

3rd Dimension - Learner Motivation

Practice Games - over and over

(Games and simulations provide a way for learners to encounter the information an average of 7x more than a traditional exam. This is a 700% in exposure to the information.)

Assessment Games - once

Simulations were a hot topic at the conference because of the ability to engage learners and transfer knowledge in an interactive way. The more mental struggle, the more transfer of knowledge.

Here's a link to Qube.com and their practice games page -

<http://www.qube.com/qgameframeOver.asp?PageFlag=7&SubSec=3&QgmSubSec=1&PracSubSec=0>

The practice games are designed to create iterative practice with the subject matter.

Here's a direct link to Hangman -

<http://www.qube.com/pracGamesHangman.asp?PageFlag=7&SubSec=3&QgmSubSec=2&PracSubSec=4>

Here's a direct link to phrase mix up game -

<http://www.qube.com/pracGameschunks.asp?PageFlag=7&SubSec=3&QgmSubSec=2&PracSubSec=3>

Here's a direct link to a slot machine interface -

<http://www.qube.com/slotMachCategories.asp?PageFlag=7&SubSec=3&QgmSubSec=2&PracSubSec=15>

### **Put Your Game Face On Boring Content**

Apply the technique of creating mental struggle in a game like way to quizzes or tests.

An example: To test the knowledge of the capitol of India, most people will write the question:

"What is the capitol of India"

Another way to approach this is to create a more game like way for the learner to engage in the subject matter.

Consider this phrasing.

"The name of capitol of the south Asian country of India rhymes with a place in New York where you would go to order a hot pastrami sandwich."

Now with the smell of mustard and pastrami on the mind the learner can work their way to

"New Delhi"

Lesson - Write your questions in a way to engage the learner, not just test recall of data.

Deming - You get what you measure.

Skill Transfer - multi instance learning.

How do you get to Carngie Hall?.... Yes... Practice.

That's the key to skill transfer - Practice and Feedback.

### **Instructional Jolt - 9/10 vs 9/12.**

Up until 9/11 when a plane was hijacked, people generally responded passively and recognized it as an inconvenience.

After 9/11 the instructional jolt - shifted attitudes and beliefs.

People then responded by fighting back.

**Contacts From Attending the SALT Conference:**

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