STREAMING MEDIA PROTOTYPE PROJECT PLAN
Aug 10, 2005

WBT Team Members and Roles:
Wayne Hodges – Project Lead, Instructional Design & Development
Cheryl McCraw – LSC/Instructor/SME
David Booker– Delivery review (Website team rep for project team meetings)
Linda McCarthy – FA, Asst. Dir. Library Services (Training Coordinator)

Other Resources:
John Ridgway – Server maintenance & network integration
Emily Earp – Editorial review
Barry – QA/Technology review
Service Desk – Support review
Website Team – Technology review
LSCs – Training effectiveness review

I.   Executive Summary

As CCLA moves forward in instructional development, we must explore other systems and technology to advance our LINCCLearn services to the community colleges. Upgrades for CCLA LINCCLearn development and delivery need to be constantly evaluated as the technology markets and standards evolve. This prototype project is an exploratory effort and demonstration of applying current industry and educational accepted and proven Internet streaming media technology to CCLA's LINCCLearn products and services.

This project will serve as a proof of concept for delivering streaming media (video format) and other presentation enhancements in Web-Based Training (WBT) courses or tutorials. This method of training delivery is expected to increase the effectiveness of LINCCLearn's instructional offerings. This project also serves to examine alternative methods and processes to develop WBT. The present system has proven not to be efficient.

II.   Product Definition

The primary objective of this WBT enhancement prototype is to use streaming media to demonstrate Aleph screen activity. This development will work to interleave selected parts of previously captured live training camera video into Aleph screen tasks lesson demonstrations also captured "live" with software. Camera Video Snippets will be strategically and seamlessly integrated into the Aleph demonstrations.

As early as possible the project will test the viability of integrating streaming media to the prototype course and/or future courses. There will be two phases to this project. In phase 1, the major milestone will be a proof of concept demonstration enabling us to determine the key success criterion for this project.

Discovering the bandwidth limitations, requirements and effects on CCLA and our client network, in relationship to product quality, is the most important criteria. This milestone will be a Go/No Go decision to determine if further necessary development, modifications, or research must be done to implement this technology. If there is a team and management approval, a second phase "of this prototype" will be the final work to complete the development to implement the enhanced technology track to the selected WBT course.

A concurrent Aleph Acquisitions WBT tutorial is being developed in our traditional manner. The "Creating Orders" tutorial will be used as the instructional content resource for this prototype exercise, and therefore, provides a companion alternative instructional delivery mode to display the proposed WBT enhancements.

The traditionally developed WBT tutorial will serve as the primary instructional track for the LINCCLearn WBT course and provide a road map for key learning objectives and tasks to focus on for developing the "video" version. The "live" material (video) will become the "alternate" instructional track.

Research has proven that instruction supported by multimedia is more engaging to the learner. Video is everywhere; people take it for granted and utilize it more than realized for our educational information needs everyday. CCLA needs to realize the potential of a positive impact that incorporating video could have on our WBT products. Strategic implementation of video into instructional courseware reinforces learning objectives.

When this alternative-learning and delivery mode is implemented, the following attributes will serve as measures for success of the streaming media delivery mode. CCLA and its LINCCLearn clients will formally evaluate their impact. Feedback will be gathered and reported throughout the development and delivery of this instructional product offering. The development and delivery of this streaming media can: (order changed)

- Provide more rapid WBT development. Most of the LSC conducted training is an asset that must be captured, repurposed and repackaged to improve WBT development efficiencies. This could provide a delivery of more "Just in Time" training to CCLA clients. Also, other media distribution (CD/DVD) would be possible.
- Add the "live" touch to the Web delivery
  1. Personalization—identifying with an instructor can help learners feel more connected and supported through out the educational process.
  2. A conversational mode of instruction brings more contexts to the learning objectives. Often gets a point across more effectively.
  3. Bring more of the classroom experience to the Web. Learner/librarian experiences and classroom interactivity can be shared through WBT. This provides useful elaborations of more subject depth to WBT
- Improve learner attention, and retention. Appeal to learners with visual and auditory learning styles. The use of video mirrors the habits and abilities of modern learners; we are all increasingly visual learners.

III. Method of Delivery

The D2L course management system will be configured to CCLA's requirements to be used as host the enhanced WBT tutorial. All streamed media associated with this prototype course will be delivered from within the D2L CMS environment via the Macromedia Flash plug-in for the Web browser. The use of the latest version (7) of the Flash plug-in is already common practice on our user's workstations. The necessary links within the course will be provided to activate media files in the Flash Communication Server (FCS) at our site.

The appointed Sys Admin and Service Desk personnel will manually maintain user authentication and system access in the usual manner. The Online Registration System is the gateway to register for D2L (WBT) courses.

There are several technical approaches and solutions that could be implemented to stream video to CCLA WBT learners. This prototype project will focus on Macromedia Flash as the preferred streaming technology to best fit our applications. It is the most ubiquitous Internet media player, and it has excellent video capabilities and community support. Since CCLA is already using the Flash player to deliver much of our WBT subject content, it is a logical choice to utilize more of its capabilities. The technical challenges and development encompass both client side software and a software and hardware video server. If for some reason the Macromedia streaming technology proves ineffective, the Microsoft Windows streaming technology will be utilized.

IV. Assumptions and Prerequisites

- Current CCLA hardware, software and staff resources are sufficient for this prototype project.
- CCLA and community colleges have adequate computers and network bandwidth capacity.
- It will be possible to test course delivery across varying network configurations using the model site and other network monitoring setups.

V. Budget

At this time, for the prototype effort, no additional CCLA Website development budget is required. A cost breakdown of hardware and software used for this project is as follows:

Macintosh computer (hardware) $3000
Mac software $1000
PC software $500
Wireless Mic $250

VI. Service/Product Development Process

The primary development activity for this prototype is focused on the utilization and integration of technology into existing courseware.

To facilitate effective development a WBT team is assembled, drawing from several subject content and technical experts to guide the overall project development process. When major milestones are met, team meetings are held to review progress and deal with any problems or concerns. Meetings are comprised of the appropriate membership to provide development guidance. Weekly status reports are provided in association with each milestone under development.

Phase 1: Proof of Concept

The objective of this phase would be to construct only samples of the course material into an Internet streamed (video) format. To build a proof of concept, there are also minimal servers and network infrastructure requirements to be meet.

The prototype exercise will require research and experimentation to determine the best methods for capture, editing and compiling, most efficient tool set, server configuration, and network requirements to deliver the end product.

At present, some preliminary research and exploration work has already been accomplished. CCLA already has all the software required for this prototype effort. Several pieces of software both on the Macintosh and PC comprise the tool set for developing the WBT learning objects (video demonstrations).

The project requires working with both client and server side software development.

- Live LSC training at HCC was captured to with the video camera. Concurrently, the Instructor's live Aleph screen activity was captured in a video format to the computer running the Aleph application. These captures must be edited, synchronized, and segmented (appropriate capture) to useful individual 5-10 minute learning objects.

- These learning objects must be developed into streaming media elements. Streaming formats and parameters must be determined.

- Flash programming is necessary to integrate and encode for final learning object delivery. Flash MX 2004 and its video components will be the final compiling agent to create the required files.

- The Flash Communication Server (FCS) software is vital to the successful delivery of prepared Flash files. This system must be studied and implemented. Hardware server solutions for this prototype (and an eventual production mode) solution must be determined.

During the development of courses, the project team utilizes a "toolbox" of course and platform development and delivery software, including:

- TechSmith Camtasia Studio (capture screens)
- Adobe Premiere? (video)
- Sorensen Squeeze (video compression)
- Media Cleaner
- Sony SoundForge (Audio editing)
- Macromedia Flash Communication Server
- Macromedia Flash MX 2004 pro
- imovie & Final Cut (Mac video transfer/editing/compiling)
- Desire to Learn (D2L)
- Windows 2000/2003 server

First Evaluation process (Go/no Go decision)

At the end of phase 1 (initial development) the prototype will be evaluated on two primary qualifications:

1. Determine if anticipated gained efficiencies in WBT course development are realized.
2. Determine if the product can be efficiently and effectively delivered with existing computer and network capacity (internal & external).

This evaluation will be conducted with demonstrations and discussions with several CCLA teams to include WBT team, Website team, LSC's, and Implementation Core team.

It is important to note that the delivery of this technology is scalable. This means that it is not necessarily an "all or nothing" proposition. Finding the right "formula" is the key to our endeavor.

Phase 2: Prototype Implementation

Upon a "Go" decision, the course development would be completed. An additional (final) evaluation phase would be used to conduct a final integrated product Quality Assurance (QA). This includes courseware flow and functionality, platform and software performance under stress, and general system usability performance. CCLA's Software Test group conducts the WBT course performance testing. An approved CCLA test plan for WBT courses has been developed and will be utilized during the Evaluation phase of the project. The CCLA Website team is also overseeing WBT product design.

The final evaluation phase would be a combined look at both proposed instructional tracks with the traditional Alpha and Beta product release testing. Final comments and corrections are applied before the final course product is presented to CCLA management for approved public release.

IV.   Training Requirements

No formal training should be necessary to develop or implement this streaming technology. However, there is a learning curve associated with informal study of the varied software tools and their documentation. The project leader will provide informal information transfer to others as needed during product development.

The end user training product utilizes a familiar distance learning software platform that uses common web-based interfaces and technology. The community college library staff should not require additional training to utilize any enhancements to CCLA WBT products.

V.   Documentation

There are companion documents associated with this project that supply detail for WBT development processes and procedures. These documents are located on the drive O:\Projects\Web-based Training\Aleph courses. They will be continually updated as the project proceeds.

- Streaming Media Prototype project master schedule (MS Project file)
- WBT Course Development Guide_r2.doc (processes & procedures, software user guide briefs)
- All development files (textual, graphics, demonstrations, guided practices, Final practice script, encoded streaming files)

D2L server installation, upgrades, and maintenance unique to CCLA's implementation during this project will be documented and kept on file. A final report will be generated at the end of this project period to reveal lessons learned and recommendations for future improvements or changes needed for other WBT projects.

VI.   User Support

The CCLA service desk will continue to be the primary point of contact for support of our client user base in regards to WBT courseware problems. The associated SME LSC will assist the Service Desk.

VII.   Statistics

A variety of course-utilization statistics are available through D2L. We will monitor the user's activity and performance with the enhanced WBT course elements. Available statistics will be compiled on a determined periodic basis. WBT activity will be provided to management and the LSC's. We will also add a question into this year's learning needs assessment about the streaming video element of WBT.

VIII.   Communication and Publications

Announcements (pre and post), electronic and print should continue to be used to announce and promote "enhanced" WBT offerings from CCLA.

IX.   Resource Projections

Wayne Hodges	300 hrs.
Cheryl McCraw	24 hrs.
John Ridgway	40 hrs.
Website Team members (Final review)	4x4=16 hrs.
Emily Earp (final review)	4 hrs.
D. Booker (Website rep for meetings)	6 hrs.
Linda McCarthy (meetings & reviews)	6 hrs.
LSCs	2 hrs.
Barry	2 hrs.
Service Desk	4 hrs.
Total man-hours	**404**

X.   Key Tasks and Timetable
(**) Denotes Decision/Approval Milestones.

Task	Duration	Start	Finish	Resource
Streaming Video Prototype Project	*100 days*	*5/1/05*	*9/13/05*	
Analysis Phase (Instructional strategy, Technology research & exploration)	**20 days**	**6/1/05**	**7/15/05**	Wayne
**Prepare & Submit Project Plan to Imp. Team*		7/6/05	7/20/05	Wayne, Core Imp Team
**Meeting: Kick-off project –Analysis Phase complete*		8/22/05		*WBT Team*
Design Phase – determine processes and tool set and video overlay points.	**5 days**	**7/19/05**	**8/05/05**	Wayne
Phase 1. Development Phase – subject matter editing, encode & compile segments, build D2L menu system and links to server files. Install FCS server.	**10 days**	**8/06/05**	**9/16/05**	Wayne, Cherie, John R.
Integration to CMS - Sample video test article	**3 days**	**9/17/04**	**9/20/05**	Wayne
**Meeting: Preliminary Development completion, Review and Approval, Go/No Go for enhanced WBT course*		9/21/05		*WBT Team, Website Team, LSCs, Emily*
(IF Go) Phase 2. Development Phase – subject matter editing, encode & compile segments, build D2L menu system and links to server files. Install FCS to production platform	**20 days**	**9/25/04**	**10/17/05**	Wayne, Cherie, John R.
Final Integration – whole course	**3 days**	**10/18/05**	**10/21/05**	Wayne
Final Evaluation Phase (Review period)	**5 days**	**10/22/05**	**10/27/05**	*WBT Team, FA, Website, LSCs, Emily, John R., Cstaff*
**Meeting: Final Evaluation Phase Completion-- review and approval for release*		10/28/04		*WBT Team, FA Website Team*
Implementation Phase: Final Product release & support in place	**2 days**	**10/29/05**	**10/30/05**	Wayne, Mark, Cherie, service desk