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Web Based Education — A new Paradigm (Part 1) by Rick Saindon

The challenge of business only increases as turn around times on new products, techniques and technologies gets shorter with each cycle. Our professionals are asked to shed their current knowledge base and retrain in a matter of months rather than years.

It used to be that a person could go to school, get a degree in a chosen profession, and work until retirement within a single skill set. Today, most graduates are faced with the prospect that their profession may not exist in ten years. They will have to retrain in a new skill set and career at least once in their professional lives. This accelerating demand for continuing education has put a growing strain on traditional educational paradigms. Educational institutions and training providers cannot create and deliver new courses and curriculums at a rate to satisfy current growing demands. These times demand a fresh new perspective on the process of education. The time has come to consider a new approach to continuing education: web technology based or Just in Time training.

The pace of change and the explosion of knowledge in our industry are accelerating. Our ability to keep employees adequately trained to produce quality products is one of our greatest challenges. The demands of our industry have raised the bar on quality, while at the same time we are faced with a growing shortage of qualified and adequately trained laborers and professionals.

During the last five to six years, the computer industry has solved its need to accelerate knowledge dissemination by leveraging the very infrastructure that it built: the Internet. The capabilities of the Internet to deliver rich multi-media interactive content, with database driven intelligence, provide the foundation for Just in Time training. As an IT manager, the burden and cost to retrain a staff on a continuous basis motivated me to find a better way. I have been evaluating and researching web based training technologies for the last four years. With the introduction of media streaming technologies from Microsoft® and Real Networks®, we can now provide high-quality, low band-width video and audio to enrich the training experience.

During the last six months, WTCA has been developing a full-function, web-based, continuing education platform. It was opened to a controlled set of beta users on May 1, 2002 and plans are to expand the controlled release throughout this summer. The first major course offering is our Truss Technician Training Level I four-day classroom course. This will be followed with a series of Truss Technology Workshops in the next few months. The platform we developed is based on the latest technologies from Microsoft and will include the following key features:

- MS PowerPoint® base: We are able to create the base content for new courses from the existing PowerPoint presentations that the content experts were already using.
- Very Low Bandwidth Streaming Audio: Either the instructor's spoken words can be captured to synchronize with the web delivered slides, or the audio track can be used to script and

professionally record the web audio stream for subsequent slide synchronization. The transcript of the audio will be used to provide a closed caption alternative for the hearing impaired (in compliance with a recent federal mandate, Section 508).

- Higher Bandwidth Streaming Media: When the value-added benefit justifies the delivery of richer media types, and the bandwidth is available to provide a quality experience, a number of these media types may be included to enrich the learning experience. Our beta site includes a demonstration of the following streaming media: videos at various bandwidths, flash animations with streaming audio and full motion screen capture with streaming audio. Interactive animations are also being considered.
- Integrated Quizzes and Exams: Each course is divided into multiple sections. At any point during a section, a series of quiz questions will be interjected. The students' answers are retained in our database system for progress analysis and training effectiveness. An exam is also offered at the end of each section. Student progress is reported to a customer's training representative through a web based administrative function.
- Student Interactions, with Other Students and the Instructor: At predetermined times, the instructor will be available through a live chat interface. The student's progress will depend on their ability to participate in a dialog with the instructor on specific topics. A set of focused discussion forums, or threaded newsgroups, will also be offered for students to interact with each other. The instructor will moderate these forums and address common questions and issues.
- Student Support Functions: These will include an integrated glossary of section-specific terms and definitions, an accumulating list of Frequently Asked Questions (FAQ), a training section on how to use the training system, student feedback on (Percent Complete) and (Percent Correct) for each section, and online help. Comments or questions entered into the online help form are retained in our database for future entries into the FAQ system and to apply quality process improvements to our training system. Help entries are also emailed directly to support staff, to provide the quick response to each student.

The idea of providing training through the Internet is not new, but recent technologies now allow us to provide this training as an effective replacement for a traditional classroom. In the months to come, we will be able to validate the WTCA Board of Directors goal of implementing this new Just in Time training technology by analyzing the comparative results of the proctored certification exams for our Truss Technician Training Level I web students. Once we get this feedback, we can make any adjustments in strategy needed to enhance effectiveness. Once we arrive at this point, the following benefits will be available to resolve the training challenge for our entire industry:

- The rapid creation of course content through the use of existing PowerPoint presentations.
- The use of audio and video to ensure that the content is engaging the students' attention.
- A significant reduction in training cost by eliminating all travel expenses.
- Increased flexibility for students to train from anywhere, at any time.
- Extending the reach of the best instructors, to the entire world.
- Providing full student accountability with the instructor and the corporate trainer.
- Embracing diverse learning styles by providing various rich media types.

In subsequent articles, the features summarized above will be covered in greater detail. If you would like to view a publicly accessible demonstration of our new web training system, go to www.wtcatko.com.

SBC HOME PAGE

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