

Comparison of SCORM-Compliant Training Development Software

caBIG Documentation and Training Workspace

March 29, 2007

In this brief report we compare seven tools for creating training materials that can be used in the context of a Learning Management System (LMS). Six are commercial, and the seventh is a simple Open-Source product. Some of the products are comprehensive; others focus on particular activities such as quizzes or simulations. All have the ability to operate through an LMS system using some version of the SCORM standard, defined below. With the exception of eXe, the products were evaluated only on the basis of their advertised features; they were not installed and tested. The products compared were:

- Knowledge Presenter 2006 Pro
- Lectora eLearning Authoring
- Macromedia/Adobe Authorware
- Adobe Captivate2
- Articulate Presenter Pro5
- Articulate Quizmaker2
- eLearning XHTML Editor (eXe)

SCORM is an acronym for “Shareable Courseware Object Reference Model”. It is an industry XML-based standard whose primary use is in allowing training modules developed using different products to interoperate with Learning Management Systems. Use of this standard allows learning content to be launched, progress tracked, and results recorded through a central LMS, independent of vendor. SCORM 2004 is the most current version of the specification, superseding SCORM 1.2. SCORM 2004 is not supported yet by all vendors. It provides additional flexibility in how tests can be structured within the LMS.

The six commercial packages are products of four companies: Knowledge Presenter, Lectora, Adobe/Macromedia, and Articulate. Two of these companies provided some of their functionality through separate products (Adobe and Articulate), while one provided extra functionality in a “Suite” version of the product (Lectora). Knowledge Presenter is sold only as a complete suite with all functionality. The open-source eXe product is primarily developed by a group in New Zealand.

All of the products compared feature modern graphical user interfaces allowing training material to be easily created. None of them require any special programming or scripting. Lectora mentions that it can use inheritance to make creating numerous similar objects easier, e.g. if one wanted a number of pull down menus to share common properties.

For training creation, most of the products run only on Microsoft Windows, but they are cross-platform for content playback. However, eXe runs within a web browser and can be used to create training on Windows, Linux, and Macintosh based platforms.

For playback, the products from Adobe and Articulate require plug-ins, either the special Authorware Web Player (Adobe Authorware) or Flash (Adobe Captivate, Articulate). Many of the products can create other types of content, such as executable files, video, or Word documents.

Creating training materials from PowerPoint presentations is a common requirement, and all of the commercial products except Quizmaker2 support this. Articulate PresenterPro 5 is based entirely on using PowerPoint as a starting point and requires it for training creation.

The products vary greatly in what kind of source material can be incorporated. Two of the products (Knowledge Presenter 2006 Pro and Lectora eLearning) can incorporate almost any type of external media file (e.g. Word, Excel, image, movie, audio) into a training module, whereas fewer are supported by Articulate Presenter Pro5. Captivate2 is geared especially towards capturing images from actual applications and using these as a basis for developing training.

The products are clearly differentiated by the complexity of the quizzes they can produce. Knowledge Presenter 2006 Pro and Lectora eLearning have very extensive quiz capabilities, exceeded only by Articulate Quizmaker2, which is a dedicated quiz-building product. Others such as Adobe Captivate have more limited capabilities in this regard. eXe supports only very simple quizzes, these being True/False and Multiple Choice.

One aspect not investigated in this comparison is the esthetics and sophistication of the training modules generated. It may be that those applications that can generate self-contained Flash modules (Knowledge Presenter 2006Pro, Adobe Captivate, Articulate Presenter Pro5 and Quizmaker2) will provide the most modern look and feel, as compared to the HTML-based web-page look of some of the products.

Several of the products offer special educational pricing. However, one should carefully examine the licensing restrictions. Content created under an educational license may in some cases only be used in a classroom situation (e.g. at an institution of higher education). Such a license would not be appropriate for creating material for general distribution, even if done at a higher-education institution.

Recommendations:

For a large organization creating many types of training, one of the full-featured products such as Knowledge Presenter 2006 Pro or Lectora eLearning Authoring may be most appropriate. For a smaller group, Adobe Captivate2 offers a number of useful features, especially with respect to creating training based on screenshots of actual applications or using constructed simulations. It appears to offer the most sophisticated package for the money. If extensive and complex testing is anticipated, Articulate Quizmaker2 offers the

most flexibility, and can be used with Articulate PresenterPro5 to embed the testing inside Flash-based training modules. eXe, developed for use in school settings, is suitable for very simple presentation of material and very simple testing.

For a small group creating training for computer applications, we suggest trying Adobe Captivate2 first.

Product Links:

<http://www.knowledgepresenter.com/>

http://www.trivantis.com/authoring_tools_lectora_authoring_tool_software_trivantis.html

<http://www.adobe.com/products/authorware/>

<http://www.adobe.com/products/captivate/>

<http://www.articulate.com/presenter.html>

<http://www.articulate.com/quizmaker.html>

For eXe:

<http://eduforge.org/projects/exe/>

<http://exelearning.org/>

caBIG Documentation and Training Workspace
SCORM-Compliant Tools Comparison

| | Knowledge Presenter 2006 Pro | Lectora eLearning Authoring | Macromedia / Adobe Authorware | Adobe Captivate 2 | Articulate Presenter Pro 5 | Articulate Quizmaker 2 | eLearning XHTML Editor (eXe) |
|--|---------------------------------|--------------------------------|----------------------------------|-------------------|-------------------------------|---------------------------|---------------------------------|
| Cost | | | | | | | |
| Commercial | \$1,999 | \$2185, \$3185 (Suite) | \$2,999 | \$599 | \$799 | \$399 | Open Source |
| Educational | | | \$499 | \$199 | call | call | free |
| Summary | | | | | | | |
| Flash-based output available | ✓ | | | ✓ | ✓ | ✓ | |
| Quiz capability | ✓ | ✓ | | ✓ | | ✓ | ✓ |
| Branching | ✓ | ✓ | | ✓ | ✓ | | |
| Screen capture/simulation | ✓ | Suite | | ✓ | | | |
| Requirements (content creation) | | | | | | | |
| Platforms supported | W | W | W | W | W | W | W,M,L |
| Windows Media Player | ✓ | | | | | | |
| Flash | | | | ✓ | ✓ | ✓ | |
| Internet Explorer | ✓ | | | ✓ | | | |
| PowerPoint | | | | | ✓ | | |
| (W=Windows, M=Macintosh, L=Linux) | | | | | | | |
| Browser Support (playback) | | | | | | | |
| Any Standard Browser | | | | ✓ | | ✓ | |
| Internet Explorer | W, M | ✓ | ✓ | | W, M | | ✓ |
| Netscape Navigator | W, M | ✓ | ✓ | | W, M | | |
| Firefox | W, M | ✓ | | | W, L | | ✓ |
| Mozilla | W,M,L | ✓ | | | M,L | | |
| Opera | W, M | | | | W, M | | |
| Safari | M | ✓ | ✓ | | M | | |
| Avant | W | | | | | | |
| Compuserve/AOL | | | | | ✓ | | |
| Platforms Supported (playback) | | | | | | | |
| Windows | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Linux | ✓ | ? | | ✓ | ✓ | ✓ | ✓ |
| Macintosh | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Requirements (playback) | | | | | | | |
| Flash Plug-in Required | | | | ✓ | ✓ | ✓ | |
| Flash as optional primary output | ✓ | | | | | | |
| Other Plug-in Required | | | Authorware | | | | |
| Other Plug-ins needed depending on imported content | ✓ | ✓ | | | | | |
| Rapid Development Environment | | | | | | | |
| Wizards | ✓ | ✓ | ✓ | ✓ | ✓ | Forms | ✓ |
| WYSIWYG | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Autonavigation available | ✓ | | ✓ | | | | |
| Clipart supplied | ✓ | ✓ | | | | | |
| Spell-check | ✓ | ✓ | ✓ | | | | |

caBIG Documentation and Training Workspace
SCORM-Compliant Tools Comparison

| | Knowledge Presenter 2006 Pro | Lectora eLearning Authoring | Macromedia / Adobe Authorware | Adobe Captivate 2 | Articulate Presenter Pro 5 | Articulate Quizmaker 2 | eLearning XHTML Editor (eXe) |
|---|---------------------------------|--------------------------------|----------------------------------|-------------------|-------------------------------|---------------------------|---------------------------------|
| Training Design | | | | | | | |
| User-Level Navigation Control | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| Branching | ✓ | ✓ | | ✓ | ✓ | | |
| Import | | | | | | | |
| PowerPoint | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Word | ✓ | ✓ | | | | | |
| Excel | ✓ | ✓ | | | | | |
| Image (JPEG, PNG, GIFF etc) | ✓ | ✓ | | ✓ | | | ✓ |
| Flash | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Real | ✓ | ✓ | | | | | |
| Quicktime | ✓ | ? | ✓ | | | | |
| Shockwave | ✓ | ✓ | | ? | | | |
| Video (AVI, MPEG, Windows Media etc.) | ✓ | ✓ | | ✓ | ✓ | | |
| Audio (WAV, MP3 etc) | ✓ | ✓ | ✓ | | ✓ | | |
| Clipboard | ✓ | ✓ | | | | | |
| Text | ✓ | ✓ | | | | | |
| RTF | | ✓ | ✓ | | | | |
| CSS, HTML | ✓ | ✓ | | | | | |
| XML | | ✓ | | | | | |
| Zip | | ✓ | | | | | |
| Direct audio, video, TWAIN capture (scanners etc) | ✓ | | | | | | |
| Java, Javascript, ASP, JSP, PHP etc | | ✓ | JS | | | | |
| Convert any format to Windows Media (req's separate encoder) | ✓ | | | | | | |
| Recording and Editing | | | | | | | |
| Screen Capture | ✓ | suite | | ✓ | | | |
| Application Recording/Simulation | ✓ | suite | | ✓ | | | |
| Edit timeline | ✓ | suite | ✓ | ✓ | ✓ | | |
| Edit Audio | ? | suite | | ✓ | ✓ | | |
| Edit via external application | ✓ | | | | | | |
| Export | | | | | | | |
| DHTML | ✓ | ✓ | | | | | |
| Flash | ✓ | | | ✓ | | ✓ | |
| HTML | ✓ | ✓ | | | | | ✓ |
| XML | ✓ | ✓ | ✓ | | | | |
| Word | ✓ | | | ✓ | ✓ | ✓ | |
| PowerPoint | ✓ | | | | | | |
| Animated GIF | ✓ | | | | | | |
| Video | ✓ | | | | | | |
| MSFT compiled help | ✓ | | | | | | |
| SMIL | ✓ | | | | | | |
| EXE | ✓ | ✓ | | | | | |
| streaming | ✓ | | | | | | |
| bitmap images | ✓ | | | | | | |
| Zip | | | | | ✓ | | |
| CD/DVD | ✓ | ✓ | ✓ | | ✓ | | ✓ |
| direct to website (FTP) | | | | ✓ | ✓ | ✓ | |

caBIG Documentation and Training Workspace
SCORM-Compliant Tools Comparison

| | Knowledge Presenter 2006 Pro | Lectora eLearning Authoring | Macromedia / Adobe Authorware | Adobe Captivate 2 | Articulate Presenter Pro 5 | Articulate Quizmaker 2 | eLearning XHTML Editor (eXe) |
|---------------------------------|---------------------------------|--------------------------------|----------------------------------|-------------------|-------------------------------|---------------------------|---------------------------------|
| publish to LMS Handouts | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Quiz Sophistication | | | | | | | |
| Multiple Choice | ✓ | ✓ | | ✓ | | ✓ | |
| True/False | ✓ | ✓ | | ✓ | | ✓ | ✓ |
| Matching | ✓ | ✓ | | ✓ | | ✓ | |
| Fill in the blank | ✓ | ✓ | | ✓ | | ✓ | |
| Free text | ✓ | ✓ | | ✓ | | ✓ | |
| Forced text entry | ✓ | ✓ | | | | | |
| Sequence | ✓ | | | | | ✓ | |
| Hotspot | ✓ | ✓ | | | | ✓ | |
| Likert (Survey) | | ✓ | | ✓ | | ✓ | |
| Polls, Surveys | ✓ | ✓ | | | | ✓ | |
| Quiz Settings (selected) | | | | | | | |
| Randomization | ✓ | ✓ | | | | ✓ | |
| Dynamic Random Subset | ✓ | | | | | ✓ | |
| Time Limit | ✓ | ✓ | | | | ✓ | |
| Question Point Value | ✓ | | | | | ✓ | |
| Detailed control of scoring | ✓ | ✓ | | | | ✓ | |
| Number of Attempts Allowed | ✓ | | | | | ✓ | |
| Restrict Progress till correct | ✓ | | | | ✓ | ✓ | |
| Results customization | | | | | | | |
| Question-by-question review | | | | | | ✓ | |
| E-Mail results | ✓ | ✓ | | ✓ | | ✓ | |
| Print results | ✓ | ✓ | | | | ✓ | |
| Reporting | | | | | | | |
| SCORM 1.2 | ✓ | ✓ | SCORM | ✓ | ✓ | ✓ | ✓ |
| SCORM 2004 | | ✓ | | ✓ | ✓ | ✓ | |
| AICC | | ✓ | ✓ | ✓ | ✓ | ✓ | |
| PENS | | | | ✓ | | | |
| E-Mail | ✓ | ✓ | | ✓ | | ✓ | |
| Certificate Generation | ✓ | | | | | | |
| Detailed quiz analytics | ✓ | | ✓ | ✓ | ✓ | | |
| Other | | | | | | | |
| Scriptable | | | ✓ | | | | |