



Promising Tools for HTML5 Development

By Judy Unrein

Both mature and new tools can help you deliver e-learning that works across devices—whether tablets or traditional computers.

Chances are, if you design and develop e-learning, you've at least heard of HTML5 within the last year. It's taking the web world by storm and is starting to light fires in the world of both e-learning and m-learning. This has been largely helped by Apple's refusal to allow Flash on its iOS devices (iPhone, iPod Touch, and iPad).

When I first presented on HTML5 at TechKnowledge 2011, there weren't many authoring tools available. But over the last nine months, several more have come onto the scene or increased their capabilities. In this article, we'll look at the authoring tools available now for HTML5 publishing.

But first, what is HTML5, and what are its advantages for e-learning development?

HTML5 refers to the latest version of the Hypertext Markup Language that has been used to create web content for the last couple of decades, but it also has come to include, at least in casual speech, assorted technologies that have become common on the web, such as CSS3 and JavaScript. Together, these technologies can provide a powerful, "app-like" experience similar to what you might see built by Flash, but with no need for plug-ins.

This is an advantage for m-learning as well as e-learning, particularly if you want your content to play on iOS devices. Some of the features that will matter most in e-learning development are "inline" video and audio, the Canvas element (which allows for Flash-like animations), drag and drop within the browser, geolocation, and video that can be synchronized with events happening on the rest of the page (such as text changes for closed captioning).

On the flipside, learners do need a modern browser to support some of the elements available in the HTML5 specification, and browsers may interpret some elements differently. However, an even bigger concern right now is that there are few e-learning authoring tools that utilize new HTML5 features, even in the larger

web and multimedia development market. Today's HTML5 authoring tools are largely about the tide shifting to offer HTML publishing rather than (or in addition to) Flash publishing, so that courses are playable on mobile devices.

As of this writing, tools for full course authoring fall into one of two categories, each with benefits and limitations:

- HTML publishing tools that have been around for years, even decades, that are slowly starting to incorporate new HTML5 features
- emerging tools built for modern and mobile browsers that aren't as feature-rich and powerful as their more mature counterparts.

HTML5 publishing from mature software

The major players are Trivantis's Lectora and SumTotal's Toolbook. Both have been on the e-learning development market for more than a decade. Both publish to versions of HTML and have the ability to include images, video, and audio. More impressively, both tools include the ability to embed web objects.

This is an often-overlooked feature in the rapid development world, but in today's environment of cobbling together output from different software to create something as impressive as Flash-based output, this allows you to integrate output from HTML5-based animation tools. Notably, both Lectora and ToolBook also have the ability to use variables and variable-based actions, giving them tremendous power over presentation-based tools.

Lectora. This is a very easy-to-learn tool considering the power it packs. Using a template to present content is turnkey. It's also very easy to use object-oriented learning development to level up the interactivity. You create the actions, store pretty much anything you want in variables, and all of the scripting is done for you on the back end.

On the downside, Trivantis hasn't done much yet to take advantage of the new parts of the HTML5 specification. One element that Trivantis has taken advantage of is video, which can now be published to play in HTML5-friendly formats or Flash player, depending on the learner's browser.

However, to be a more complete tool, Lectora needs to add animation, fades, and the ability to sync actions with non-Flash video. Lectora works only on Windows operating systems, though Trivantis also offers Lectora Online—a comparable online, subscription-based version of Lectora.

ToolBook. I haven't tried ToolBook for a few years, but with a returning interest in HTML publishing, I thought it was time to give it another look. Recent additions include the ability to integrate drag and drop and geolocation (for mobile courses and performance support) that works on iOS devices (such as the iPad), and browser-specific publishing. ToolBook also has some advantages in animation and higher-end scripting.

One disadvantage is that there is very little online community compared to most software today, and none that I could find that was driven by the publisher.

It was difficult to get SumTotal to answer questions about the software for

this review, which is something to take into consideration if you're more interested in getting up and running quickly than designing advanced interactivity. The operating system for ToolBook is also Windows only.

New players on the HTML5 scene

The second category of software has seen launches this year from dominKnow and Rapid Intake: Claro and mLearning Studio, respectively. Both of these tools are web-based and require subscriptions. Though authoring over the Internet is not my preference, it has allowed both mLearning Studio and Claro to build in easy reviewing systems in addition to enabling multiple developers to work on a course at once.

Both tend to follow a mostly linear model of e-learning; they make it easy to do the most e-learning-ish things we want to do in PowerPoint and publish to HTML5. Both include templates for easy course creation and allow you to upload images, video, and audio. Now let's examine some differences.

Claro. Claro is very easy to use. Anyone who uses PowerPoint will almost certainly have a fast learning curve. It also includes a few very distinctive and even surprising features, such as the ability to take and upload screen captures (both still images and videos), a charting tool, embedding of external webpages, assignable actions that can make objects appear and disappear, and the ability to link to other locations within the course, files, URLs, and email addresses.

True to its presentation-based structure, Claro allows PowerPoint import. However, since it doesn't have the same object-drawing capability as PowerPoint, many effects in PowerPoint aren't carried over, and users might end up with some objects (such as charts) converted to uneditable graphics, while others (such as rectangles with text in them) are converted to two separate objects. Embedded audio and video must be removed and imported separately.

The navigation is not editable at this time, making anything other than a linear course somewhat unrealistic,

but dominKnow does customize the navigation for clients. Claro works on all operating systems.

mLearning Studio. Essentially a new edition of Rapid Intake's Unison authoring software, mLearning Studio adds the ability to publish to HTML5 as well as course templates sized for mobile devices and previewing modes for tablets and smartphones.

Creating pages in mLearning Studio is extremely template-based, which will be a boon to some and too restrictive to others. The templates provide for mobile versions of the pages for the users who access courses on their mobile devices. Rapid Intake is working on making HTML5 versions of all of its existing Flash-based templates; happily for m-learning designers, the ones that are available to date tend to be geared toward performance support as well as courses.

Another distinctive feature is the ability to edit courses using XML integration. While not necessarily for the beginner, this method of storing the course data provides a powerful way to make changes without having to go back into the authoring tool. mLearning Studio also works on all operating systems.

While all of these tools have their strengths, there is plenty of room for an authoring tool (or two or three) that takes advantage of new HTML5 elements, is built for modern and mobile browsers, and also has the power of variables and actions. I expect the landscape to change rapidly, so stay tuned to the *Learning Circuits* blog on astd.org for more reviews in late 2011.

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