

# Rapid Development of E-learning Resources

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This poster will outline how instructors can use familiar tools to rapidly develop rich, interactive e-learning resources and will examine how these resources can be used to enhance teaching and learning.

The web is increasingly becoming the standard platform for the publication and delivery of educational resources. Recent advances in technology have made delivering high quality multimedia content a real possibility and a growing expectation amongst a technically literate student body. Traditionally, the development of this e-learning content has been a labour-intensive process, requiring a team of web designers and developers responsible for the technical development of these resources. However, it is now possible for instructors use tools that they are already familiar with to easily and rapidly develop interactive e-learning content and to publish it on the web with minimal technical assistance.

## PowerPoint as an Authoring Tool

PowerPoint is a powerful and ubiquitous tool for presenting visual information. It has been widely used in the classroom as a presentation tool to supplement instructor-led material. The slideshows developed using PowerPoint were initially used as a replacement to slides and overheads, however the robust feature set and ease of use led to widespread adoption and more visually rich presentations.

The features of PowerPoint that make it an ideal tool for presentations also make it well-suited for the development of e-learning resources. Text and images can easily be arranged on a slide using a graphical user interface, allowing authors to rapidly enter and layout information in a visually discrete format. Additional multimedia assets such as audio and video can be added with relative ease, and animations and transitions can be added with no additional programming skills required. This rich feature set consists of the basic tools that an instructor needs to begin authoring e-learning resources.

## Enhancing PowerPoint with Articulate Presenter

Although PowerPoint is a powerful authoring tool, it is lacking the publishing and interactivity capabilities needed to produce e-learning content. Articulate Presenter is a PowerPoint plug-in that provides these features in an easy to use manner. It is seamlessly integrated with PowerPoint, allowing users of all levels to easily enhance their presentations with audio and interactivity and to publish them to the web.

### Web Publishing

Files created in PowerPoint are stored in the native ".ppt" format, which poses challenges to sharing on the web. The large file size makes them difficult and time consuming to download, and the proprietary format requires the end user to have the software installed - which is especially problematic for non-PC users. Additionally, the distribution of native PowerPoint files means that users can easily copy or edit data from the slides.

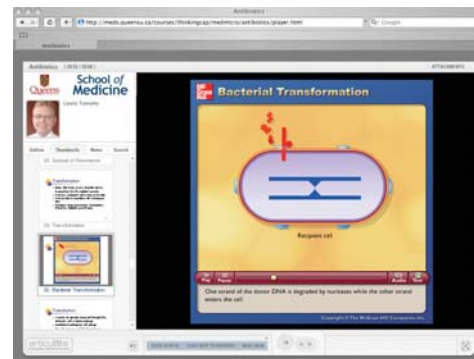
One of the most powerful features of Presenter is that it enables PowerPoint files to be published in a web-friendly format. Presenter converts PowerPoint presentations into Flash files, making them easier to download by greatly reducing the file size without compromising quality. Flash files can be viewed in the Flash Player, which is installed on 98% of all computers, so the vast

majority of web users will be able to access the presentation regardless of what web browser or operating system they are using. Files stored in the Flash format are secure and cannot be copied or edited by the end user. Access to these is confined to the browser window, which means that the end user cannot make changes to the source file.

	PowerPoint	Flash
File Type	PPT	HTML/SWF
File Size	Large (no compression)	Compressed
Download Type	All at once	Progressive
Requirements	PowerPoint	Browser and Flash Player
Saturation	Medium to High	High (98% of browsers)
Copy Source File	Yes	No
Edit Source File	Yes	No

Figure 1 illustrates the comparison of Flash vs. PowerPoint for Internet distribution.

Not only does Presenter convert PowerPoint files to a web-friendly format, but it also wraps presentations in a player so that users can easily navigate through the slides.



The user can navigate the slides using the outline view of the slide titles or the thumbnail view, which is especially useful for relocating visually-rich slides. The overall presentation is controlled by the interaction controls along the bottom where users can navigate the presentation. The slider at the bottom indicates the elapsed and total time of each slide so that users always know their location and can advance and review accordingly. The ability to control and navigate the presentation greatly supports the learners' ability to review the material at their own pace, whether they want to review a slide at once or return to a specific slide at a later date.

Another nice feature of the player is that the colour scheme and layout is customizable, allowing the interface to be tailored to fit in with the visual identity of the school or department. There is also the option to include the picture of the presenter along with their email and biographic information. Not only does this make the presenter appear more accessible to the audience, but it also helps to protect and promote material by linking individual identity with content.

An additional feature of web publishing is the ability to publish to a Learning Management System (LMS). Presenter allows users to specify additional information about a resource that is required a LMS such as how to track and record learner progress and completion. Simply enter in the desired information, and Presenter will output a resource that can be tracked by any standards-compliant LMS.

Converting existing PowerPoint presentations to a web-friendly format is the first step in creating e-learning content. Having presentations available on the web increases access to course material and supports pre and post session review, however, there is more to e-learning than just publishing content on the web. There are several easy-to-use features of Presenter, such as audio, narration, quizzes, and interactive games, which can be used to enhance presentations to create engaging e-learning resources.

### Audio and Narration

The use of audio is a great way to enhance a presentation. Audio samples can be added to illustrate a point or concept such as the sound of an irregular beating heart. Voice Narration can be added to expand upon the point-form contents of a slide or to reproduce the lecture experience.

Presenter has support for both of these forms of audio. Existing audio samples from the original presentation are preserved during the conversion to Flash, so that the web audience does not miss out. Presenter also supports audio narration which can be done using either the built-in PowerPoint capabilities or using Presenters custom narration feature. Narration can either be recorded all at once, on a per-slide basis, or it can be inserted as an audio file if the narration has been recorded using a separate device.

The addition of audio narration to a presentation benefits both the students and the instructor. Students benefit by having immediate access to expanded explanations of slides, which allows them to review material at their own pace, such as for pre and post session review. Instructors benefit by having an archive of their lecture that they can further distribute and even reuse.

### Interactivity

Quizzes and games are great ways to engage an audience and reinforce the material being presented. Presenter provides support for these types of interactions and allows for the insertion of previous developed games or the ability to create custom interactions.

Externally created interactions that are in Flash or HTML format can be imported and embedded using Presenter. Presenter has support for Flash objects and allows them to be inserted into



slides using a custom wizard. Web pages with online interactions can also be linked to using the embed Web Objects feature where the web page either appears within the slide or in a new window.

Presenter also has support from 3 built-in Learning Games: Multiple Choice, Word Quiz, and Sequence. These games are easily created from within PowerPoint and provide a great way to complement slide materials.

Regardless of how they are created, interactions are a great way to enhance your presentation by engaging the learner and by providing an opportunity for content reinforcement.

## Examples/Case Studies

### Medical Microbiology

For his Medical Microbiology course, Dr. Lewis Tomalty choose to pre-record his lectures using the built-in audio narration functionality of PowerPoint, and he published them to the web using Presenter. Students were then asked to view these presentations, ranging from 15-45 minutes in length, to prepare prior to the in-class session. During class Dr. Tomalty led an interactive discussion session based on the foundational material in the pre-session web presentation.



### Emergency Grand Rounds

In order to provide access to regionally distributed students and physicians, the weekly Emergency Grand Rounds presentations have been recorded and distributed on the web using PowerPoint and Presenter. The sessions are recorded live each week by an A/V technician who captures the speaker and audience audio and ensures that it is synced up with the PowerPoint slides. The PowerPoint file with the embedded audio narration is then converted to Flash using Presenter and published to the web. The link is made available on the Emergency Medicine web site for post-session review and regional viewing.

Providing access to these presentations supports distributed viewing, as the presentations can be accessed from remote locations in the region. The presentation files are streamed instead of downloaded all at once, which means that even users with slow connections can access these rich presentations. The security of these documents is preserved so that the files cannot be edited or copied, and the presenter can reach a wider audience thanks to the increased distribution.

## Summary

Using their existing PowerPoint skills and the Articulate Presenter plug-in, instructors can rapidly develop and distribute rich, interactive, and secure e-learning resources. Publishing to the web increases distribution and supports presentation re-use, and the addition of audio and interactive elements increases audience engagement and supports learning.

For more information about rapid e-learning development please visit the MEdTech website at <http://meds.queensu.ca/medtech>.