

PowerPoint to Flash Conversion Techniques

Turning Original PowerPoint Lectures into Web-accessible Flash Presentations

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Abstract:

This report outlines a methodology accessible to instructors at Mt. Hood Community College (MHCC) for converting Microsoft PowerPoint lectures into Flash movies. Flash movies are easily distributed with the web and/or CDs and DVDs, making them an exciting learning tool for technologically savvy instructors.

Two separate sections detail possible routes for the conversion of PowerPoint presentations into Flash movies. Section II outlines in detail a methodology open to everyone with access to both PowerPoint and Flash; presentations are converted into a slide show with common replay buttons. Section III provides a list of the commercial software titles available on the internet that convert PowerPoint presentations to Flash movies automatically, and a brief review of each program is included.

Examples of converted PowerPoint presentations have been created within the parameters of this project and shared with the community. The procedures used to create the Flash movies are provided along with a treatise on alternative methods to deliver classroom lectures online.

This document and all supplementary materials may be viewed on the World Wide Web:
<http://www.gst-d2L.com/TLC>

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If I can answer any additional questions you might have, please contact me. Thank you for your time,

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I. Introduction to PowerPoint and Flash, *or Why Would Anyone Wish to Convert a PowerPoint Presentation into a Flash Movie*

As an educator and web designer, I found myself needing a medium to recreate my lecture experience on the internet. I have taught a "**traditional**" chemistry course for many years, and I have also had the pleasure of teaching the same class in "**hybrid**" web-based fashion (meaning students have both online learning sessions as well as "face to face" portions.) In the hybrid chemistry class, students participate in one four hour lab session each week, and the "traditional" lectures were replaced by "learning the lecture material on your own" with augmented online study materials, handouts, etc. My goal being equanimity for all my students in all sections, I have tried to make the learning experience within my hybrid class as similar to my traditional class as much as possible.

The major disadvantage of my hybrid class quickly revealed itself. Students in the traditional class had constant motivation through my lectures which provided not only the intellectual kindling for their learning but also the emotional "pat on the back" needed by the non-motivated students. My hybrid students had no such advantage, and students in the hybrid classes fell into two groups: those who successfully acquired the chemistry knowledge using their own means to learn the material and those who failed to motivate themselves to learn the required chemical concepts. Those who did not master the concepts failed or withdrew from the class.

As a Microsoft PowerPoint lecturer, I reasoned that there must be some method by which the PowerPoint slides could be transferred to the web to simulate the lecture experience obtained by my "traditional" lecture students. If my hybrid students would avail themselves of the virtual lecture, they could obtain their motivation for learning and not succumb to academic and learning apathy (and thus fail.)



My first attempt at delivering a virtual lecture was to let students download my PowerPoint files directly to their computer from the web. Try this yourself by downloading a sample PowerPoint file here:

<http://gst-d2L.com/TLC/PP2FCT/TLC7PPTEExample.ppt>

I quickly ran into problems with this approach. Not everyone had PowerPoint (although a free PowerPoint viewer is available for both Macintosh and Windows), making viewing difficult. The layout of the slides looked different due to font differences between Macintosh computers (which I use) and Windows PCs. Finally, some of the multimedia did not play correctly (the movies did not transfer with the PowerPoint file.) This approach proved too cumbersome and unwieldy to use in the classroom.

In my second attempt, I used PowerPoint Outlines. A PowerPoint outline is a text-only outline of your presentation saved in RTF (i.e. Microsoft Word) format that looks pretty much the same on all platforms. You can view an example of a PowerPoint Outline here:

<http://gst-d2L.com/TLC/PP2FCT/TLC7PPTEExample.rtf>

Outlines worked ok, but the *spirit* of the presentation eluded this methodology. Notes added to the original text boxes are included in the outline, but additional text boxes added later are omitted. In addition, all animations, audio, graphics, video and color are excluded from the outline. Outlines provide a skeleton overview of the content within the lecture, but they do not provide the pizzazz and individuality that make lectures entertaining.

A third attempt at creating an online lecture utilized PowerPoint's "Make Movie" technique. This process converts your PowerPoint lecture into a viewable movie that attempts to recreate the lecture experience. You can view an example of a PowerPoint movie here:

<http://mhchem.org/221/media/TLC7PPTEExample.mov>

You will need QuickTime (<http://www.apple.com/quicktime>) to view this movie.

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The "Make Movie" protocol has the power to re-create the lecture experience, but its implementation almost always falls short of the desired goal. Transitions are flawed (often too fast or too slow), the colors are translated incorrectly, and it never feels like a real lecture. File sizes are quite large, making download times unacceptably large for slow internet connections. In addition, if the visitor does not have the required software plug-in (QuickTime, in this case), then they cannot view the movie at all.

A fourth approach that I investigated utilized the Tegrity system (<http://www.tegrity.com/>) Available on the MHCC campus (contact Mitch Klink for more information), Tegrity allows the user to take a PowerPoint lecture, augment it with a video recording and Whiteboard-like technology, then save it as a web-viewable document. Tegrity has great promise, but it offers no native Macintosh development software (it must be run on a Windows computer) and time to develop a class must be arranged with the Distance Learning community. I find that my class development occurs at all hours of the day or night, seven days a week, and having to schedule a time to prepare a lecture hinders my creative process. In addition, simply playing back the movies on many browsers has proven troublesome. For these reasons I have chosen not to pursue Tegrity as a learning tool. (However, I see great potential in another cross-platform Tegrity-like solution called Cast:Stream (<http://www.caststream.com/>), and if MHCC finds the resources to acquire a Cast:Stream system, I would be its most avid user!)

A fifth attempt at creating an online lecture involved the use of the "Save as Web Page" feature. PowerPoint will convert your presentation into a series of web (HTML) pages viewable on almost any web browser (Internet Explorer, Netscape, Firefox, Safari, etc.) An example of a PowerPoint file saved as a series of web pages can be found here:

<http://gst-d2L.com/TLC/PP2FCT/TLC7PPTEExample.htm>

The PowerPoint files saved as web pages proved to be a better option than the PowerPoint outline mentioned earlier, but it still had limitations. Students could scan the PowerPoint slides using the outline feature of the web pages and scroll to the respective slide. Also, students wishing simply an overview of important concepts from the lecture could quickly ascertain relevant material without having to scroll through endless series of notes. However, the process of viewing a lecture using static (i.e. non-moving or minimally interactive) web pages was far too boring for all but the most determined of students. In addition, multimedia playback hampered several student browsers, requiring a download and plug-in before the lecture material could be viewed. In addition, the "feel" of the lecture through the web pages did not correspond with the "traditional" lecture.

This being said, I still use the PowerPoint to web page conversion process in my classes. Because students can quickly ascertain important lecture concepts, I find this a helpful learning tool for some students.

A sixth approach that I tried used the power of Adobe Acrobat Professional to convert PowerPoint slides into PDF documents. Each slide in the PowerPoint presentation can be converted to a separate PDF file in a PDF document. You can view an example of this approach here:

<http://gst-d2L.com/TLC/PP2FCT/TLC7PPTEExample.pdf>

PDF documents from PowerPoint presentations experience the same drawback as the "Save as Web Page" feature outlined earlier: they are so boring to view! Viewing a web page or a PDF file is equally somnolent, and all but the most dedicated students failed to make it through an entire lecture. Also, the multimedia in PowerPoint rarely translated itself well into the Adobe PDF format. Adobe claims that multimedia conversion gets better in each version, but I have not seen a sufficient level of multimedia adhesion upon changing formats. The PDF format did not work well for virtual lecture creation.

None of the approaches listed so far provide an adequate virtual lecture experience for online students. What is needed is a graphics and multimedia savvy program that can take PowerPoint's rich media and preserve it in a web-accessible size and content that should not require additional downloadable software to experience. Hence, this is how I became acquainted with Macromedia Flash.

Macromedia Flash as a Compliment to PowerPoint

I had heard rumors about people converting PowerPoint lectures into Macromedia Flash lectures for years, but it took two "teaser" lectures by MHCC's Jeff Rouyer to crystallize my interest. During fall quarter 2004 and spring quarter 2005 Jeff gave two "introductory" lectures to Distance Learning (DL) faculty who might be interested in converting their PowerPoint lectures into Flash presentations. I attended both of Jeff's lectures, and regrettably the focus of both lectures blossomed into a general multimedia roundtable-like discussion (how do I make a movie, what is the difference between GIF and JPG, etc.) My curiosity was piqued, but hardly satiated.



Several introductory classes are available through MHCC for learning Flash, specifically:

- CIS125FLA - Flash Level 1 (Introduction to Flash)
- CIS125FLB - Flash Level 2 (Shape Tweening, Hints, etc.)
- CIS125FLC - Flash Level 3 (Macromedia Extensions, etc.)
- CIS125FLD - Flash Level 4 (ActionScript programming, etc.)

I had taken these four classes previously in my desire to become web savvy, so I was somewhat familiar with Flash. Macromedia Flash is touted as the "industry's most advanced authoring environment for creating interactive websites, digital experiences and mobile content" on the official Macromedia website, and this is a pretty decent explanation for the many capabilities of Flash. Unlike other web graphics programs (like Fireworks, Photoshop or Illustrator), Flash incorporates tools for (primarily) two-dimensional animation. Objects can be layered and manipulated in time, providing for a wealth of creative opportunities to the Flash designer.

Logic dictates that Flash would be an acceptable medium for converting PowerPoint presentations and preparing them for delivery on the web. Flash is heavily multimedia based, and its inherent vector graphics (which require less memory than the traditional raster graphics) create smaller file sizes that download quicker on the internet. This is important if your lectures are large or if you simply want to keep student attention directed at your presentation.

Better yet, more than 98% of all internet browsers come pre-configured with the Flash plug-in (according to Macromedia), and the software is available on more than one platform (including Windows, Macintosh, Linux, Solaris, PDAs, and many others). This means that students should not have to download any additional software to view a Flash presentation on their browser, and they can be using just about any internet accessible program on any platform and not experience viewing difficulties.

Flash can incorporate almost any multimedia type, from audio (.mp3, .au, .wav, etc.), graphics (.gif, .jpg, .png, etc.) and many types of video. Playback of Flash movies is supported at almost any screen resolution, so people with small screen sizes (PDAs, etc.) to large dual monitors can view the presentation easily. Streaming technology is also utilized, resulting in viewers being able to see the Flash video quicker (the entire file does not have to be downloaded first to begin playback.)

Flash files can contain simple user interaction controls that allow for stopping, rewinding, etc. of the presentation. If you missed the concept the first time, no worries; simply stop and rewind the movie to the appropriate section and play again. Flash movies can also be distributed on CD-ROMs, DVDs and over email in addition to the web, making them very versatile.

It was time to start thinking about methodologies used to convert PowerPoint files into Flash movies.

Versions of PowerPoint and Flash Utilized in This Report

Before I outline the project, I need to talk about versions of PowerPoint and Flash used in this report.

For Microsoft PowerPoint, I used PowerPoint 2004 (Version 11.1.1) which is the Macintosh-equivalent version of the PowerPoint 2003 for Windows.

For Macromedia Flash, I used Flash MX 2004 Professional (Version 7.2) exclusively. Flash MX 2004 Professional is cross-platform, and an equivalent version is available for the Windows platform. Flash 8, the next version of Macromedia Flash, will be available in about a month at the time of this writing, so any references to the current version of Flash might change when version 8 is released.

On occasion I used FutureCandy's Gordon 1.5, a Macintosh-only Flash decompiler, to view the results of the PowerPoint to Flash conversions. Many Windows-only Flash decompilers can be found on the web (such as <http://www.19.5degs.com/category/26.php>).

A Note on Flash Movie File Types

When a movie is saved in Macromedia Flash, the author can specify two different file formats.

The first format, sometimes called the "Flash file format" and given the extension **.fla**, can be edited and changed by anyone who has a copy of Macromedia Flash.

The second format, sometimes called the "Shockwave format" and given the extension **.swf**, cannot be edited or changed (at least not easily - see below.) Shockwave files can be viewed by anyone with a Shockwave plug-in or program, but the details of the file's construction are not observable to the viewer.

.fla files can be saved as .swf files once the program is ready for viewing by the public. Usually Flash movies on the internet are saved as .swf to keep people viewing the details of the file, etc. They run fine, but you cannot peer inside to see how they are made.

Most of the programs and techniques outlined in Section III export a Flash movie as .swf, meaning that the file cannot be altered at a later date unless you have the original PowerPoint file (followed by re-conversion to .swf, etc.) In Section II, the initial file format in Flash will be .fla (we are editing a file from scratch), and subsequent preparation for the web will involve conversion to .swf files.

If you have a .swf file that you'd like to see inside of (for details on its construction, etc.) you may need the use of a **Flash decompiler**. A Flash decompiler can open up .swf files and save them as .fla editable in Flash files. Decompilers are not Macromedia-supported programs, and decompiling success will vary depending on the program used. I utilized a Flash decompiler called Gordon to see how some .swf files were put together with a moderate amount of success.



It should also be noted that there are programs called Flash Obfuscators that attempt to prevent decompilers from accessing their contents. References and websites for both Decompilers and Obfuscators can be found in Section VI at the end of this paper.

An Overview of this Report

The "PowerPoint to Flash Conversion Techniques" TLC Innovation Grant Report will provide a brief overview of different methods used to convert PowerPoint presentations into Flash movies. A sample PowerPoint file has been created (see: <http://gst-d21.com/TLC/PP2FCT/TLC7PPTEExample.ppt>) and converted to Flash movies using both "manual" and "commercial" techniques.

The "manual" techniques require the user to have access to Microsoft PowerPoint and Macromedia Flash; also, a certain level of comfort in using Flash must be present in the user. The manual techniques are cross-platform (i.e. suitable for both Windows and Macintosh) and detailed instructions on these processes will be found in Section II.

The "commercial" techniques outlined in Section III will rely on software obtained from other developers. Some of the "commercial" techniques will be quite expensive; others will require a nominal fee and some are even free of charge.

Examples of the work created for this report, as well as additional tips and tricks, are available on the web at this address: <http://www.gst-d2L.com/TLC>

II. Converting PowerPoint Presentations to Flash Movies Manually

If you have access to both Microsoft PowerPoint and Macromedia Flash on your computer, and if you like to "fine tune" your projects for ultimate creative control, then you will probably wish to convert your PowerPoint presentations into Flash movies manually, and this section is for you. If you would rather have a "one click" software option for converting PowerPoint files into Flash movies, then Section III, "Converting PowerPoint Presentations into Flash Movies With Commercial Software" will be more to your liking.

Macintosh users will be particularly interested in this section of this report. As we shall see in Section III, almost all of the commercial options available today are geared towards Windows users, and only a handful of options exist for converting PowerPoint files to Flash movies on the Macintosh platform. This is unfortunate, but it is hardly a detriment: both PowerPoint and Flash exist in comparable versions on the Macintosh platform, so the same results can be obtained through the commercial versions as long as you are comfortable tweaking both PowerPoint and Flash files.

Many people are familiar with PowerPoint, but familiarity with Flash is less common. In this report I will try to give relatively detailed instructions on how to use Flash even for beginners. I recommend the books referenced at the end of this report to further your knowledge of Flash, or take the courses listed in Section I at Mt. Hood Community College to learn the intricacies of this powerful program.

A comment on Flash: at the time of this writing, Macromedia Flash MX 2004 Professional Edition is the current version, but Macromedia Flash 8 (a newer version) is expected within a month, so small discrepancies might arise between my printed instructions here and your version of Flash. Also, I am using the Macintosh version of Flash (and PowerPoint), so slight accommodations for Windows users will be necessary due to differences in keyboard layout and file management. If you have any questions, please contact me.

First, a couple of caveats about converting PowerPoint presentations into Flash movies:

- PowerPoint bullets may or may not convert correctly into Flash. The simpler the bullet used in PowerPoint, the higher the probability of it converting to Flash correctly.
- If you use text frames or graphical objects not within the slide area in PowerPoint, they will probably not be converted correctly to Flash. The "off slide" elements may be omitted or, maybe, positioned inappropriately.
- All fonts used in the PowerPoint presentation to be converted must be on the computer prior to the transformation into Flash. If the font is missing, a substitution will occur which may not be as aesthetically pleasing.
- If a graphic used in a PowerPoint presentation is not converting correctly to Flash, it may help to re-size the graphic in Adobe Photoshop. Large graphics which are re-sized in PowerPoint to fit a slide may or may not convert to Flash correctly.

If you can convert your PowerPoint presentation to meet these criteria before conversion to Flash, your conversion quality should be much better.

I found two primary methods to convert PowerPoint presentations into Flash movies that I shall outline separately.

Manual PowerPoint to Flash Conversion Technique #1

This method is the simplest manual process for converting PowerPoint presentations into Flash movies. Essentially your PowerPoint presentation slides are converted into a series of high resolution raster graphic

files, then imported into Flash using the "Photo Slideshow" template. The result is a series of pictures on a keyframe in Flash's timeline that can be exported to the .swf format for utilization on the web. The Flash files are quite nice with small file sizes, although some transitions and multimedia are lost.

Converting a PowerPoint Presentation to a Flash Movie manually:

- **Open** your PowerPoint Presentation in Microsoft PowerPoint.
- Save your PowerPoint presentation as a series of JPEG files (**File -> Save As -> JPEG**) in a folder of your choosing, then press **OK**. Each slide of your presentation will be saved as a JPEG graphic file with sequential names (Slide1.jpg, Slide2.jpg, etc.)
- **Quit** PowerPoint.
- **Open** Macromedia Flash.
- Select **File -> New -> Template (tab) -> Photo Slideshow -> Modern Photo Slideshow**, then press **OK**. You should now have a Flash template open.
- In the upper left corner you should see the Flash **Timeline**. Each horizontal line is called a **layer** in Flash, and a layer can be deleted by **ctrl-clicking** the layer and selecting **Delete Layer** from the popup menu. **Delete** the "**Old Photos**" layer as well as the "**instructions**" layer (if present).
- In the "picture layer" timeline you should see three or so black dots in three or so separate frames. Highlight the three black dots with your mouse and then select **Edit -> Timeline -> Clear Frames**. The black dots should disappear, and a clear dot should appear in Frame 1 (which is closest to the timeline layer list.)
- **Select** the empty circle in Frame 1 of the "picture" layer timeline. Select **File -> Import -> Import to Stage**, then select the first slide in your PowerPoint JPEG file sequence and press **OK**. Flash will ask if you would like to add the slides in a sequence; click on "Yes". When it is complete, you should see several frames of the "**picture**" layer filled in with black dots (called **keyframes**), and each dot represents one of your imported PNG files.
- Note the last frame filled in on the "picture" layer. Click on the frame immediately above this frame (which should be on the "transparent frame" layer) and select **Insert -> Timeline -> Frame**. Repeat this process for the other layers above it ("_overlay", "_controller", "_Captions" and "Title,Date")
- We will now save the presentation as a file capable of viewing on the internet. Select **File -> Save** to save your Flash file (as a .fla file) with a name provided by you, then press **Save**. Then select **File -> Publish** and your .swf file will be created with the same name as your .fla Flash file but with a different extension (.swf).
- As stated earlier, your .fla file is a file just for editing in Flash later; you probably should not post this file on the web. Instead, post your .swf file to the web (or send via email, etc.) Congratulations! You just created a Flash movie from your PowerPoint presentation!

Additionally, you can change the titles at the beginning and end of the Flash presentation by manipulating the "Captions" layer and your "Title,Date" layer. Select the frame to edit in the relevant layer and type a new message.

Files associated with Technique #1 can be found here:

The original PowerPoint file used in this example:

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<http://gst-d21.com/TLC/PP2FCT/TLC7PPTExample.ppt> (1.40 MB)

The editable Flash file (.fla) created in this example:

<http://gst-d2L.com/TLC/PP2FCT/TLCManEx1/TLC7ManEx1.fla> (680 KB)

The non-editable shockwave file (.swf) created here for use on the Internet:

<http://gst-d2L.com/TLC/PP2FCT/TLCManEx1/TLC7ManEx1.swf> (356 KB)

The HTML page generated by Flash which incorporates a Flash detection algorithm:

<http://gst-d2L.com/TLC/PP2FCT/TLCManEx1/TLC7ManEx1.html>

There are advantages and disadvantages of this process. The advantages are that the process is relatively easy to undertake, and the resulting file size is small (356 KB versus the 1.40 MB PowerPoint file.) You can alter the Publish settings by selecting **File -> Publish Settings...** to include a Flash plug-in detection script (to ensure that the viewer has the Flash plug-in installed on their computer) and much more.

The disadvantages are great: transitions are not converted with this process, and multimedia must be added in separately at a later time using the appropriate keyframe. (In a nutshell, you will have to **Import** the multimedia into the **Library**, then select the frame on the layer where you wish the multimedia and insert it.) I also find this procedure somewhat aesthetically displeasing, but it is very functional. However, this process will work on any computer system without knowing more about Flash.

Special note to Windows users: instead of JPEG files, you may have better luck importing .wmf (Windows metafiles, a special vector graphic files format rarely used in Microsoft Office programs) files from PowerPoint. Select Windows metafiles from the Save As menu in PowerPoint instead of JPEG to try this option. If your version of PowerPoint includes PNG (portable network graphics) output, you might try this option also.

Special notes to Macintosh users: instead of JPEG files, you might try using PICT (Macintosh Picture files) files instead of JPEG. As with the Windows' users .wmf files, above, select PICT instead of JPEG and follow the remaining instructions accordingly. If your version of PowerPoint includes PNG (portable network graphics) output, you might try this option also.

Manual PowerPoint to Flash Conversion Technique #2 (the Template method)

The previous method technique assumes a fairly thorough knowledge of Flash that can be perplexing to the novice. Flash professionals understood this dilemma, so they have created a Flash template that makes the process somewhat easier to fathom.

To explore this technique, please download the **PowerPoint to Flash template**, found here:

http://gst-d21.com/TLC/PP2FCT/ppt_fla fla (500 KB)

Here are the steps to use with this technique:

- **Open** your PowerPoint Presentation in Microsoft PowerPoint.
- Save your PowerPoint presentation as a series of PNG (Portable Network Graphics) files (**File -> Save As -> PNG**) in a folder of your choosing, then press **OK**. Each slide of your presentation will be saved as a PNG graphic file with sequential names (Slide1.png, Slide2.png, etc.)
- **Quit** PowerPoint.
- **Open** Macromedia Flash.
- Select **File -> Open**, navigate to the template (ppt_fla fla, download link listed above) then press **OK**. The template opens up. Select **File -> Save As...** and save the file under a new name to maintain your template. Your converted Flash movie will have the same name as your Flash file name, so choose appropriately (no unusual characters, spaces, etc.)
- In the upper left corner you should see the Flash **Timeline**. Each horizontal line is called a **layer** in Flash. Each layer in the timeline can hold a series of "rectangular boxes" called **frames** that hold the content of the Flash movie.
- In the Timeline, click on the first frame of the **Slides** layer. Select **File -> Import -> Import to Stage**, then select the first slide in your PowerPoint PNG file sequence and press **OK**. Flash will ask if you would like to add the slides in a sequence; click on "Yes". When it is complete, you should see several frames of the **Slides** layer filled in with black dots (called **keyframes**), and each dot represents one of your imported PNG files.
- Note the last frame filled in on the **Slides** layer. Click on the frame immediately above this frame (which should be on the **Slide Num** layer) and select **Insert -> Timeline -> Frame**.
- Note the last frame filled in on the **Slide Num** layer. Click on the frame immediately above this frame (which should be on the **Hot Area** layer) and select **Insert -> Timeline -> Frame**.
- Note the last frame filled in on the **Hot Area** layer. Click on the frame immediately above this frame (which should be on the **Buttons** layer) and select **Insert -> Timeline -> Frame**. **Save** your presentation (**File -> Save**).
- We will now save the presentation as a file (or set of files) capable of viewing on the internet. Select **File -> Publish Preview -> HTML** to preview your presentation. If it looks ok, select **File -> Publish** to save your Flash file as an internet viewable .swf file. Congratulations! You completed the process!

Alternatively, you can change the color of the buttons and slide numbers to be visible against your

background by unlocking the buttons and/or Slide Num layers, selecting all of the buttons, and changing the color using **Window -> Design Panels -> Color Swatches**.

Files associated with Technique #2 can be found here:

The original PowerPoint file used in this example:

<http://gst-d21.com/TLC/PP2FCT/TLC7PPTExample.ppt> (1.40 MB)

The editable Flash file (.fla) created in this example:

<http://gst-d2L.com/TLC/PP2FCT/TLC7ManEx2/TLCManEx2.fla> (1.96 MB)

The non-editable shockwave file (.swf) created here for use on the Internet:

<http://gst-d2L.com/TLC/PP2FCT/TLC7ManEx2/TLCManEx2.swf> (379 KB)

The HTML page generated by Flash which incorporates a Flash detection algorithm:

<http://gst-d2L.com/TLC/PP2FCT/TLC7ManEx2/TLCManEx2.html>

There are advantages and disadvantages of manual conversion process #2. The advantages are that the process is easier to accomplish than conversion process #1, and the resulting file size is still small (379 KB versus the 1.40 MB PowerPoint file.) In addition, I find the resulting product much more aesthetically pleasing than the .swf file created in conversion process #1.

The disadvantages are similar to those outlined in process #1: transitions are not converted, and multimedia must be added in separately at a later time using the appropriate keyframe. However, as before this process will work on any computer system without knowing more about Flash.

Special note to Windows users: instead of PNG files, you may have better luck importing .wmf (Windows metafiles, a special vector graphic files format rarely used in Microsoft Office programs) files from PowerPoint. Select Windows metafiles from the Save As menu in PowerPoint instead of PNG to try this option.

Special notes to Macintosh users: instead of JPEG files, you might try using PICT (Macintosh Picture files) files instead of PNG. As with the Windows' users .wmf files, above, select PICT instead of PNG and follow the remaining instructions accordingly.

III. Converting PowerPoint Presentations to Flash Movies With Commercial Software

If converting PowerPoint presentations into Flash movies using the manual methods in Section II do not appeal to you or if you do not own a copy of Macromedia Flash, then the programs outlined in this section should pique your curiosity.

Macromedia Flash can be a difficult program to learn, and the learning curve can be quite steep. Fortunately a number of savvy computer programmers have realized this fact, and they have created software specifically for the conversion of PowerPoint presentations into Flash movies.

Some of the programs listed in this section act as Microsoft PowerPoint plug-ins, allowing for a conversion to Flash using only one or two clicks of the mouse from within the PowerPoint program. Other programs in this section require you to save the PowerPoint file, and then import it into their program before being exported to a Flash movie.

The cost of these commercial programs runs the gamut of prices. Some are free, while others require hundreds of dollars to acquire. Most if not all of the program have a "trial version" for evaluating if the software is right for you and your presentations. I definitely recommend trying the software before buying any, especially since there are so many titles to choose from.

Almost all of the programs listed below work well on Windows XP or greater (except Keynote and NeoOffice.) Almost none of the programs work natively on the Macintosh platform (except Keynote, NeoOffice, OpenOffice and Impatica.) Macintosh users are definitely at a disadvantage when converting their PowerPoint files into Flash movies, and I cannot help but think that a great market exists for programmers willing to port code from a Windows-based PowerPoint to Flash converter into a Macintosh OS X version... but do not despair, Mac-users: the manual methods listed in Section II still apply to you as well as the Windows people.

On the Windows platform, if money is no object, I would strongly recommend considering **PowerConverter** (\$495) and **Presenter** (\$499 - \$699). I found nothing but glowing reviews for both programs in my searches, and I think I would start my investigations there.

On the Windows platform, if money is of concern, I would strongly recommend considering **iMediaConvert** (\$95), **OpenOffice** (free) and **PPT2SWF** (either version, free or about \$26). For under \$100, iMediaConvert received excellent marks on several of the websites I looked through, making it a low cost alternative to the more expensive PowerConverter and Presenter. OpenOffice requires a JAVA Runtime Environment (which is also free and can be set up on almost any computer) but it does the job quite adequately. Several people reported good results using PPT2SWF.

On the Apple platform, **Keynote 2** is the hands-down favorite for converting PowerPoint presentations into Flash movies, although some users reported trouble in their conversions. The above-mentioned **NeoOffice** also runs well on the Macintosh with a Java Runtime Environment. Impatica is an intriguing option.

I have cataloged the various PowerPoint to Flash converters available commercially through the internet below. A reference website is provided along with some notes on each program (including the platforms supported). The price as of September 2005 is given, but these are obviously subject to change at any time.

PowerPoint to Flash Conversion Programs

AuthorGEN

- <http://authorgen.com/> - **AuthorGEN** by Sikhya Solutions LLC, Windows only, \$249 for the Flash option (AuthorGEN Plus).
- AuthorGEN is designed to capture audio and video with PowerPoint presentations while they are

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being delivered; you could essentially "record" your class PowerPoint lectures using the AuthorGEN system. AuthorGEN Plus for PowerPoint allows the user to output the final file to a Flash file. A trial version is available.

Breeze

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PowerPoint to EXE

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- PowerPoint to EXE converts PowerPoint presentations into Windows executable files. No plug-ins or PowerPoint program is required to view the presentation (which looks much like a Flash presentation), but you must be running a Windows computer to view the presentation. A demo version is available.

Examples of PowerPoint Presentations Converted to Flash Movies Using Commercial Software

I have used two of the commercial products to convert a sample PowerPoint presentation into a Flash movie. You can view them here:

The Original PowerPoint Presentation:

<http://gst-d2L.com/TLC/PP2FCT/TLC7PPTExample.ppt> (1.40 MB)

PowerPoint to Flash Conversion Using Keynote 2:

<http://gst-d2L.com/TLC/PP2FCT/TLC7KeyNote2Flash.swf> (1.41 MB)

PowerPoint to Flash Conversion Using OpenOffice:

<http://gst-d2L.com/TLC/PP2FCT/TLC7OpenOffice2Flash.swf> (222 KB)

Converting the PowerPoint presentation into a Flash movie was much nicer using Keynote 2 and OpenOffice than it was using the "manual" methods in Section II, and the results with Keynote 2 are of much higher quality. Both programs converted the presentation effortlessly, but Keynote 2 accomplished the task with higher quality. OpenOffice did not convert some of the graphic colors correctly, nor was the multimedia element included in the text; in addition, unexpectedly one of the fonts did not translate into the final .swf Flash movie.

Between these two programs, Keynote 2 does a much nicer job than OpenOffice. However, OpenOffice is a free program while Keynote costs just under \$100; in addition, the file size of the OpenOffice .swf file was much smaller than the Keynote converted .swf file.

If nothing else, one should try many different commercial PowerPoint to Flash conversion programs before purchasing any software!

IV. Final Thoughts

In the age of the internet, the speed of life shows little signs of slowing down anytime soon. Deadlines come quicker due to easier information acquisition strategies, and life is thrust upon us at an increasing velocity. Ah! To be a teacher at the turn of the twentieth century! ☺

As instructors we must realize these velocity shifts within our students' lives as well as our own. Many of my students work forty hours each week and attempt to keep some sort of family structure in addition to their classes at Mt. Hood Community College. The line between chaos and order narrows almost to the point of oblivion, but miraculously order still reigns in the majority of cases.

Having a structured three hours per week lecture system is still the ideal method for delivering academic content to students in my opinion; however, for some people in some situations, this medium may not apply anymore. This is why it is up to us as instructors to find new learning paradigms so these struggling members of the student body remain competitive and current with their peers at other institutions.

The goal of the *perfect* online lecture is probably a dream, but I believe that we can aspire to a learning methodology that incorporates as many of the desired "face to face" lecture elements as possible. As you can see from this report, I have experimented with many such methods, some of them being more successful than others, and I believe that the best of the methodologies incorporates Flash to deliver lecture content.

Is Flash a perfect medium for delivering lecture content to online learners? No. A real face-to-face lecture has student-student and student-teacher interactions, and Flash movies have yet to conquer this realm. But through discussion boards, live iChat-like video conferencing office hours and related technologies, maybe we can get closer to the desired result than we had thought possible initially.

Good luck with your PowerPoint to Flash conversions! I look forward to hearing of your creative endeavors, and please let me know if I can help you to attain your teaching goals. To the future!

V. Acknowledgements

I would like to thank several people for their assistance on this project:

- **Jill Russell** - my wife, favorite colleague and patient friend while I explore the nuances of PowerPoint to Flash conversion techniques
- My son **Grayson** for keeping me company while writing this report
- **Dr. Ron & Bev Russell** - my parents for their enthusiasm for all my varied technological endeavors
- **Gordon & Jean Russell** - my grandparents for purchasing my first college computer
- My colleagues **Walter Shriner** and **Jack Schommer** for the many enlightening discussions, support and inspiration
- **Dr. Jim Arnold** - my very supportive Dean
- The entire **TLC Team** - Sharon, Naomi, David, Sally and all those who helped support this project

I would also like to thank you, the reader, for taking the time to read this report. Thanks!

All of the materials in this report can be found on the Web at <http://www.gst-d2L.com/TLC>

Feel free to contact me if you have any questions. Peace, and I look forward to PowerPoint converted Flash movies!

VI. Resources For Additional Information

Printed Material on Microsoft PowerPoint:

- Schwartz, Steve "Microsoft Office 2004 for Mac OS X: Visual QuickStart Guide," Peachpit Press (Berkeley, CA), 2004.
- Altman, Rebecca and Altman, Rick "Microsoft Office 2003 for Windows (Visual QuickStart Guide)," Peachpit Press (Berkeley, CA), 2003.

Printed Material on Macromedia Flash:

- Ulrich, Katherine "Macromedia Flash MX 2004 for Windows and Macintosh: Visual QuickStart Guide," Peachpit Press (Berkeley, CA), 2003.
- Chun, Russell and Garraffo, Joe "Macromedia Flash MX 2004 Advanced for Windows and Macintosh: Visual QuickStart Guide," Peachpit Press (Berkeley, CA), 2003.
- Watrall, Ethan and Herber, Norbert "Flash MX 2004 Savvy", Sybex (Alameda, CA), 2004.

PowerPoint to Flash Conversion Techniques Web Addresses: (all sites accessed September 2005)

- <http://web-1.sgc.peachnet.edu/~rreiman/page/howtodo.htm> - "How to convert a PowerPoint slide show into a Macromedia Flash file"
- http://dmc.umn.edu/objects/ppt_fla/ppt_fla.shtml - "U of M Digital Media Center: PowerPoint to Flash converter"
- http://www.tc.umn.edu/~kurtis/flash/ppt_fla/ - "PowerPoint to Flash Learning Object"
- http://www.flashgeek.com/tutorials/09_ppttofla_01.htm - ".flashgeek... Getting PowerPoint Into Flash"
- <http://www.indezine.com/articles/flashppt2.html> - "Giving PowerPoint Pizzazz with Macromedia Flash"

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Miscellaneous PowerPoint and Flash Websites: (all sites accessed September 2005)

- <http://www.gst-d2L.com/TLC> - Russell, Michael and Shriner, Walter "Maximizing the Power of PowerPoint in the Classroom", Teaching and Learning Cooperative Grant (2001)
- http://www.masternewmedia.org/2004/04/14/powerpoint_to_flash_conversion_tools.htm - "PowerPoint to Flash Conversion Tools - the PPT2Flash Top20 - Robin Good's Sharewood Tidings"
- <http://www.futurecandy.com/> - "FutureCandy Flash" - Home of FutureCandy's Gordon Flash decompiler (Macintosh only)

- <http://www.19.5degs.com/category/26.php> - "SWF Decompilers / SWF Extractors" - a list of popular Flash decompilers and media extractors for a variety of computer platforms
- <http://www.bestflashanimationsite.com/resources/decompilers/> - "SWF Decompilers - Obfuscators - Best Flash Animation Site.com V2" - a list of helpful Flash decompilers and obfuscators
- http://www.kolabora.com/news/2005/02/18/how_to_deliver_a_mac.htm - "How to Deliver a Mac Presentation to Distant Viewers? Lawrence Lessig Finds Out - Online Collaboration and Web Conferencing Breaking News - Kolabora.com" - nice blog outlining presentation options for Macintosh and Windows users
- <http://www.tegrity.com/> - "Tegrity - Lead with Learning Technology - Serve More Students with the Best-In-Class Learning Experience - Tegrity, Web Learner, Learning Technology, eLearning, distance education, streaming powerpoint, streaming video, streaming video production, Tablet PC, electronic whiteboard capture" - a Windows-only online lecture delivery system currently in use at MHCC
- <http://www.caststream.com/> - "c a s t : s t r e a m" - a wonderful cross-platform online lecture delivery system which holds great promise, especially when compared to the Tegrity system