Enhanced Podcasts for All

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Disclaimer: the views expressed in this document are solely based on my personal observations and aren't necessarily those of my employers.

This document can be downloaded from this URL:
`http://www.gorissen.info/Pierre/files/enhanced-podcasts-for-all.pdf`

A Dutch version of this document is available for download here:
`http://www.gorissen.info/Pierre/item/2005/10/25/enhanced-podcasts-voor-iedereen`

The release of the new Apple iPod Video hasn't just shaken up the world of the videobloggers. Podcasters too have to answer the question: do I stick to just creating an audio version of my podcast, or do I also create versions that make use of the enhanced possibilities of platforms like the PSP or iPod Video. This document gives an overview of the possibilities a Windows user that doesn't have access to an Apple-machine has to create "enhanced podcasts".

Enhanced Podcast vs. Videoblog

An enhanced podcast is not the same as a videoblog. Main feature of a videoblog is the combination of moving images and audio. Though you can listen to a videoblog without looking at the video, it is not a requirement that it is possible. Depending on the type of videoblog the images are a (very) important integral part of the message the blogger want to get across.
With an enhanced podcast, the audio still is the most important part of the mix. It has still to be possible to listen to the enhanced podcast without looking at the images/video. That means you can't use references to the images from within the audio.

An enhanced podcast is not a trimmed down version of a videoblog. And a "normal/plain" podcast hasn't become obsolete overnight. They can both exist side by side. And you don't have to be either 'podcaster' or 'videoblogger', you can be both. A good example of a videoblog created by a podcaster is of course the Daily Source Code Video for Sunday October 23d 2005 (`http://mp3.dailysourcecode.podshow.com/DSCV-01-2005-10-23.m4v`), created by the Podfather Adam Curry. You can listen to that one without watching the video, but you'll loose a huge part of the message.
You can find examples of enhanced podcasts at Wessel van Diepens Dance Department (`http://www.radio538.nl/538/programmas/dancedepartment/podcast.jsp`). A longer list with examples is available at this wiki page:
`http://www.voxmedia.org/wiki/PodcastChapterTool#Known_Enhanced_Podcasts` and I absolutely have to mention the enhanced podcast used most to create screenshots: HOW TO make Enhanced Podcasts:
`http://www.makezine.com/blog/archive/2005/07/how_to_make_enh.html`.
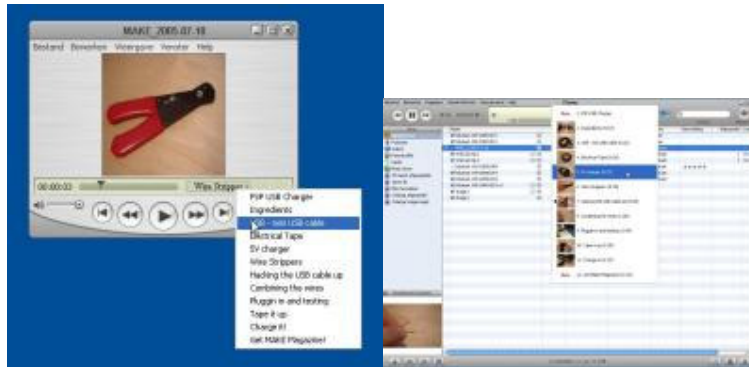
These podcasts work perfectly without images, but the images and navigation options contribute to the audio message.

The examples I created below have been created using an episode of the EduKast podcast of October 23rd. The audio (in Dutch) has been produced and made available without images. The enhanced versions offer extra navigation options, show logos, screen shots and (in this case) pictures of my podcast setup. That means you don't have to go to the shownotes for them!

Why create Enhanced Podcasts?

The fact that you should be able to use an enhanced podcast without watching the images/videos automatically raises the question about the reason why to create one in the first place. After all, if you don't need it, why create it? The answer to that is easy: it offers an extra layer of functionality. If for example, you mention a website in the podcast, you could make sure you spell out the URL so that the listener can write it down or point the listener to your shownotes on your website. But if you create an enhanced version of your podcast, you can show the URL on the screen at the moment you talk about the website in your podcast. Saves the listener a trip to your website to find the correct spelling of the URL!

Criteria for a format

Before looking at the different options, I formulated a number of criteria for the format that I was going to choose and recommend for enhanced podcasts:
1. it should be possible to play the result on Windows, Apple and (at least) the iPod Video (and preferably Linux)
2. it should be possible to produce the enhanced podcast on Windows and Apple (and preferably Linux)
3. it should be possible to add images to the audio, preferably also video.
4. the format should enable you to navigate within the podcast
5. the format should consist of a single file since it otherwise is not possible to reference it from within an enclosure element.

These criteria are all knock out criteria, so if a format fails one of them, it isn't considered good enough for the task.

Existing options for enhanced podcasts

AAC/M4A/M4B-files

At the moment, the production of enhanced podcasts is mainly an Apple specific matter. If you do a Google search for "enhanced podcasts" you'll find a number of tutorials about how to create AAC-files that can be played using Apple iTunes (Apple and Windows version) or on an Apple iPod

Most important problem here is that at the moment there are no tools available to create these files on a Windows PC. It is unclear how long it is going to be before this changes. On forums a lot of the Apple users laugh at those few Windows users that dare ask if they know about a Windows version of the tools needed. The best advice they have to give is "buy a real computer". Personally I think it is absolutely crucial for a format that it can be played **and** created on as many platforms and operating systems as possible.

Advantages:
- The format is playable on both Windows and Apple in either iTunes or the freely available QuickTime player.
- The format is playable on an Apple iPod Video.

Disadvantage:
- At the moment it can only be produced on an Apple.

- ✔ The disadvantage for me is an absolute show stopper since I don't own an Apple and don't intend to buy one just for this.

WMV scripting

The only alternative to the Apple-only method that I could find online was the use of the Windows Media File Editor to add scripting commands to a WMV-file that can be played in the Windows Mediaplayer. You can find a short tutorial online:
`www.jakeludington.com/project_studio/20051004_windows_media_enhanced_podcast.html`
and examples of podcasts that are provided that way are available here in this RSS feed:
`http://feeds.feedburner.com/MajorNelsonblogcast-wma`
Make sure you enable scripting in the Mediaplayer, otherwise nothing will happen!

I have two rather significant problems with this approach:

1) Scripting is disabled by default in the Mediaplayer; so users will have to enable this setting. They might be reluctant to do that when they do not understand the exact security complications related to that.
2) The external links aren't displayed in the Mediaplayer but in the internet browser. This is very annoying since it causes the browser window to pop open en display the page.

Advantage:
• You can produce it on a Windows PC using free software only.

Disadvantages;
• See above.
• An extra disadvantage is the fact that you can create this on a Windows PC only,

✔ Given the disadvantages and in particular the fact that watching the examples annoyed me as a viewer means I don't think this is the way to go.

Other options for Windows (and Apple)

So, no workable options available online for this Windows user. That meant I had to check out possible alternatives.
My first decision is rather an important one: I decided to use Camtasia Studio 3 (http://www.techsmith.com/products/studio/) to produce the enhanced podcast. It is not a free tool and it makes the rest of this story less easy to reproduce for others. But since my employer paid for a license (and with 139,40 euro for universities it isn't that expensive to buy one) it would be a bit strange if I would spend a lot of time looking for alternatives.

Main advantage of Camtasia is that it enables me to create one project file and from that file export to WMV (for the Windows Mediaplayer), MOV (QuickTime) and SWF (Flash). Camtasia additionally has an export to SCORM 1.2 (useful if you want to import the end

result in a VLE that has SCORM support) and it can also export to HTML pages with navigation options. I had some problems using the results of the HTML export in Firefox, only the Flash export works in both Internet Explorer and Firefox.

You don't have to use Camtasia however to produce the results shown below. You can use your own tools to create them!
I'll discuss three types of enhanced podcasts that can be produced an viewed on a Windows PC. Of course I also checked to see if it is possible to view them on an Apple computer or an iPod Video. The fact that I don't have either an Apple of iPod Video makes extensive testing difficult.

Enhanced podcast using WMV

An example of the end result using just the WMV format can be found here:
`http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-wmv/Edukast-105-wmv_media/Edukast-105-wmv.wmv` (9.300 kB)
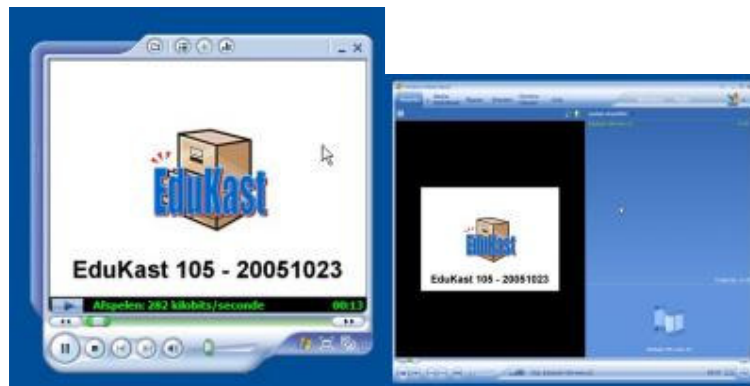
You can download this file, use it offline and play it in the Mediaplayer. There is no navigation available in the file so listeners can't easily skip to specific locations in the file..

✔ Nice, but I was looking for just a bit more functionality.

Enhanced podcast using WVX

Biggest disadvantage that I noticed in using WMV lies in the fact that, as far as I was able to determine, it is not possible to store an index inside the actual WMV file itself. You'll have to resort to the use of a WVX or ASX file for that. An WVX file is an XML file containing the needed information for the index and the links to the files that you want to be displayed. But unless the WMV file is stored on a streaming video server, it isn't possible to link to time markers within the file itself. So you'll have to split up the WMV file in to the different 'chapters'. And that means that, in this case, instead of one WMV file you end up with 24 files!
An example of the end result in WVX looks like this:
`http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-wmv-v2/Edukast-105-wmv-v2_media/Edukast-105-wmv-v2.wvx` (9 kB)

This file plays in the Windows Mediaplayer. If you set the player to full view you'll notice the index on the right hand side of the player. Below the pictures there is a banner that links to the relevant post about the topic being discussed.

Disadvantage of this approach is that you can download the WVX file, but that file doesn't contain the actual video, it just contains the references to the actual video files. You can download the individual files, but that means you end up with 25 files in total for a single enhanced podcast. And enclosure element in an RSS feed can reference a single file, meaning you would have to package the files in a Zip-file.

An additional problem is that because the player has to switch between files there is a noticeable delay between files during playback.

✔ Would be good in combination with a streaming video server, but not for offline use.

Enhanced podcast using m4v

The QuickTime file generated by Camtasia was big (more than 100MB). This probably was caused by suboptimal export settings. Luckily I was able to import the file into QuickTime Pro and then export it again to an m4v file using the export to iPod Video export. This file was just 16MB in size.

The Apple website contains a tutorial about how to add "chapter markers" to a QuickTime file (`http://www.apple.com/quicktime/tutorials/chaptertracks.html`). These markers then become part of the MOV file and are visible when you open the file in the QuickTime player. This enables the listener to quickly jump to specific locations in the podcast.
It apparently isn't possible to add these markers in a M4V-file and they are not displayed/available when the file is uploaded to an iPod Video.

✔ QuickTime version with markers:
   `http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-mov/Edukast-105_media/Edukast-105-20051023.v2.mov` (16.155 kB)

✔ iPod-version without markers:
   `http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-mov/Edukast-105_media/Edukast-105-20051023.m4v` (14.961 kB)

iTunes doesn't recognize the markers in the same way as the markers in the ACC fide markers les, but the build in player does display them.
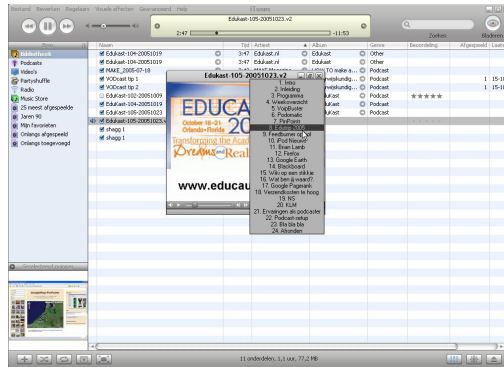
- ✔ The M4V version doesn't have markers, compared to the WMV file it adds the availability of playback on the iPod Video.
- ✔ The MOV version has markers (navigation) and can be played and produced an both Windows and Apple and can played on the iPod Video.

Enhanced podcast using SWF

The SWF (Flash) version of the enhanced podcast has, when used outside of an HTML page, no navigation/markers. The file is the smallest of the three (less than 3MB) and cannot be played on the iPod Video. This version only really shows its power when displayed from within a HTML page.

- ✔ Without HTML no navigation.
- ✔ The file cannot be played back on the iPod Video.

Enhanced podcasts using HTML-pages

I've talked about three file formats being used in their stand-alone appearance. Camtasia Studio can also generate HTML pages containing the three formats. Disadvantage of course is that this is a format that cannot be displayed on an iPod Video.
Since production of these version only costs some extra hard disc space and a couple of computer cycles during the conversion process it was worthwhile to have a brief look at the options.

1) WMV-version, one file:
http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-wmv/
The navigation options only function when viewed using Internet Explorer.
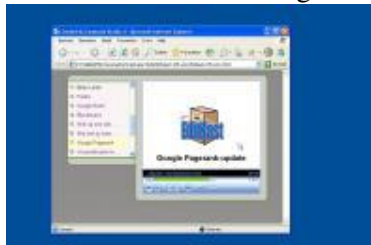
2) WMX version, one WMX file and 24 WMV files::
http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-wmv/
The navigation options only function when viewed using Internet Explorer.

3) QuickTime version, one file:
`http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-mov/`
The navigation options only function when viewed using Internet Explorer.

4) Flash version, one file:
`http://www.gorissen.info/Pierre/podcasts/edukast/Edukast-105-swf/`
The navigation options function when viewed using both Firefox and Internet Explorer.
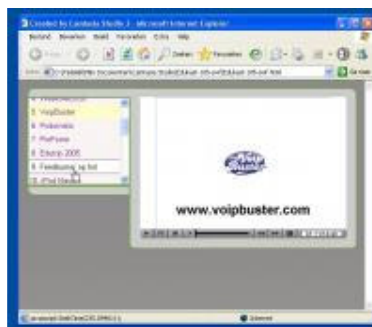
- ✔ A nice and interesting extra. The Flash version is the prefered one since it is cross-browser and cross-platform.

Summary

Based on the results of this small test I would recommend the following formats:
- ✔ For standalone use the QuickTime (MOV) version with the chapter markers is the preferred option. It can be created and viewed on both Windows and Apple systems and can be viewed on the iPod Video although without the extra navigation options. Additional advantage compared to the AAC files is that you can also use video as part of the enhanced podcast. So if you play a track of a band, you could show the video clip of that band in the enhanced version!
- ✔ For use in a browser, Flash is the preferred format. It is cross-browser and cross-platform.

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