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## **Accessible Podcasting Schedule:**

10:00 - Intro

10:15 - History and Overview of Podcasting

11:15 - Using iTunes to Gather Podcasts

11:45 - Lunch

1:00 - File Management and Playlists

1:30 - Captioned Video Podcasts

2:00 - Break

2:15 - DAISY to Audiobook

4:30 - End

## Overview of Podcasting

The growing popularity of distributing information over the internet via RSS feeds, commonly known as “Podcasting”, has been around for many years, under different names and accompanied by a few specialized terms. Whether discussing the details of how one creates the content of the podcast, or how one accesses the content itself, you may have heard terms being thrown around such as “aggregator”, “validator”, “browser”, “reader”, “feeder”, “iTunes”, “iTunes Store”, “iUniversity”, and of course “iPod” with all of the variations therein, “Shuffle”, “Photo”, “Nano”, “5<sup>th</sup> Generation” or “Video”... the list goes on with many competing brand names of both software and hardware.

No matter what you call the tools and processes, the act of podcasting can be reduced to three very simple categories: creation of digital content, distributing digital content over the internet, and accessing this digital content. The following information and exercises will provide the basic information you need to know for using iTunes to create and enhance digital content to maximize the accessibility of this digital content by people with disabilities.

### Creating (and enhancing) Content for Podcasts

The process of creating digital content is varied and can be equally simple or complex. While you may be engaged in creating original content, it is equally likely that you will find yourself enhancing somebody else’s podcast to increase the accessibility of the content.

The simplicity of creating an RSS feed and the popularity of Podcasting has led to many different software applications featuring some sort of “export to Podcast” functionality. This means that you will probably be dealing with podcasts from a growing number of people, and podcasts that were created with a wide range of applications. Fortunately, iTunes offers the ability to manage many types of digital media files and podcasts, allowing you to more easily deal with all of these digital files regardless of how they were made.

Although iTunes serves well as a manager of media files, you will still need to use other applications in the process of making podcasts accessible. At the core of the issue is the fact that podcasts are really just text, audio, and video files placed on a website. The same tools used to make accessible video and audio files will be a core part of your accessible podcasting toolset.

### Distributing Digital Content as a Podcast

At the most basic level, a podcast is simply digital content you place on your website. The differentiating factor between a podcast and any other digital content you link to is the RSS Feed. The RSS Feed is XML code that describes the digital content of your podcast, and makes it available to “aggregators” programs that will check for updated content and download it.

The RSS feed includes basic information about your digital content such as Title, Description, and the link to the file, but an RSS Feed can also include other more detailed information. Together with the digital content being linked to, this information makes up the actual “podcast” and is used by people to organize and distribute the digital content over the internet.

## **Accessing the Podcast**

By design, accessing podcasts is a simple thing to do, and there are several applications that incorporate the ability to collect, or “aggregate” podcasts and display their contents. There are many specialized software applications used to organize and download different kinds of podcasts. Known as “aggregators”, “readers”, “gatherers”, and a variety of other terms, these applications are sometimes dedicated to gathering and playing specific types of digital content, such as news, blogs, music, stock prices, and weather information, just to name a few. Others are able to gather and display a wide range of digital content.

With the growing popularity of the iPod devices and the free availability of the iTunes application, we will be focusing on the iTunes application as a tool to access and organize podcasts and other digital content. Even if you don’t distribute digital content over the internet, you can use iTunes to package information with your digital content and load this information onto an iPod.

## **Accessibility of Audio and Video Formats**

There are some features of the iTunes application that lend themselves to enhancing audio and video files for increased accessibility. However, it is important to remember that both iTunes and iPods are inaccessible by their design. Fortunately, the features built into iTunes that allow for the easy editing of information for greater usability also lend themselves to creating greater accessibility, even if it is an unintended use.

## **iPod Overview**

There are many models of iPods, and some are more accessible than others. If you have requests to put alt media on an iPod, it is very important to know what model of iPod the student has before you begin.

## **Current iPod Models**

Currently, there are three base models of the iPod available from Apple. They are the iPod (5<sup>th</sup> generation or Video), the iPod Nano, and the iPod Shuffle. All of these models are available with differing amounts of storage capacity. It is important to note that the iPod Shuffle has no LCD screen.

You can find detailed information about different iPod models currently available from Apple at [www.apple.com](http://www.apple.com). There is also an excellent iPod Comparison of all the iPod models ever made, at Wikipedia: <http://en.wikipedia.org/wiki/iPod>

## Format Considerations for iTunes

It is possible to play many media formats in iTunes and on the various iPod devices, but which ones are the most accessible? It turns out that when dealing with media formats in iTunes, most of them will allow you to enhance the content for greater accessibility. Of course, there are exceptions and some subtle differences between the different file types.

In order to better understand the format issues within iTunes, we need to first look at the world of media file formats outside of iTunes. As you know, there are many applications used to create digital content, and while these tools deliver media formatted to specific standards and specifications, the companies that manufacture these tools inevitably want to add optional elements and slight variations in their interpretation of the standard specification. Recognizing this inevitable fact, the consortiums of people who develop and specify the “standards” have allowed for extensibility in the media formats by providing ways to embed extra information without compromising the core content of the media file.

Using this extra information, manufacturers of hardware and software players are able to include extra functionality into their products for playing these “enhanced” media files. So it is that you may face several files created with different authoring tools- all of which are supposedly of the same format or “type”, but they can offer different functionality when you try to play them in different players.

Keeping track of which applications will deliver the format types best suited for your needs can be a never ending task, considering the pace at which new versions of authoring tools are released, and the ever-evolving media format standards and specifications. One of the reasons iTunes has become a popular tool is that it offers the ability to easily organize and manage many different file types, as well as the fact that it is the only way to put music on the very popular iPod devices.

### Know What You’re Working With

Due to the wide variability of media players, it is important to know as much as possible about the format of your podcast files as well as the media player that will be used by the student needing to access the files.

While most file formats can be imported and played with iTunes, there can be some variation in how different applications will export information to a given format. This means that you can have several different files in the same format, and they can all still be slightly different. This is especially true when dealing with video files. Audio files are generally easier to deal with, and you can use iTunes to transfer the embedded “extra” content when converting across file formats.

## Audio File Formats

There are three general ways to import audio files into iTunes:

- 1) directly from an audio CD
- 2) Directly from your hard disk
- 3) Download from the iTunes store or as a Podcast.

When you import an audio file from a CD into iTunes, you are actually designating a file format (type) at that point and time. iTunes will read the audio information from the CD and convert it into a compressed file format. iTunes allows you to import audio files from a CD in the following formats: AAC, AIFF, Apple Lossless, MP3, and WAV. With the exception of the WAV and Quicktime audio file formats, all of these audio formats allow you to embed a text file within iTunes.

It is more likely, however, that you will be importing digital audio files that were created for distribution over the web. You may receive these files as an email attachment, via a podcast, a thumbdrive, or directly across a network.

Regardless of the method of delivery, audio files are usually in a format that can be directly added into iTunes. In this case, the file format remains unchanged when you import the file into iTunes- so if you import an MP3 or WAV file, it will show up in iTunes as the same file type.

In the iTunes “File” menu there are commands to both “import...” and “add file”. The difference between the two is that adding a file leaves the format the same, where importing a file uses the importing settings from your iTunes Preferences to convert the file(s).

Once you have the file imported into iTunes, it is possible to easily convert the file into a different format by right-clicking the file and selecting the “convert file to” option. The file format you convert to is determined within the “Importing” tab of the “Advanced” tab within the “Preferences” dialogue for iTunes.

## Video File Formats

It is possible to import Quicktime MOV, MPEG4, and h264 format video into iTunes. However, if the files are going to be used on an iPod, the files need to be sized to 320 x 240. iTunes will allow you to embed the same information about artist, album, genre, etc., as is possible with audio files. In addition to this information, you can specify whether or not the video file is a music video, a television show, or a movie. Music videos will appear in the Music Library, whereas television shows and movies will be displayed under those same headings in the Library.

# RSS Feeds and Aggregators

## RSS - What's in a name?

RSS (Really Simple Syndication, Rich Site Summary, RDF<resource description framework> Site Summary)

**RSS Feed:** A convenient and simple method for delivering digital content via the internet. Using XML to specify the media format, RSS allows for the delivery of a wide range of digital content into a common viewer, known as an aggregator. An aggregator allows you to select RSS feeds to monitor and specify how frequently they should check for new content and how they should proceed with downloading it. One powerful aspect of using RSS technology is the ability to stop receiving content whenever you want, unlike email and Instant Messaging.

**RSS Aggregator:** Software that manages content delivered via an RSS feed. Sometimes called a news aggregator, feed reader, search aggregator, and news reader, an aggregator is simply a tool that allows you to gather and manage content distributed via RSS feeds.

## Essential elements of an RSS feed

An RSS feed is basically a container for some sort of digital content, but in addition to the content itself, information can be added that describes the digital content, the website it came from, and the people who maintain the content and website.

Every RSS feed contains at least one “item” (digital content) associated with three primary pieces of information:

- Title
- Description
- Link

There are many other types of information that can be associated with items in an RSS feed, but the above three elements are required in every item of an RSS feed.

There can be up to 15 items in any particular feed, and these items are contained in a “channel”, which also contains at least three primary pieces of information:

- Title
- Description
- Link

In addition to the items contained in a channel, the RSS feed must contain information about which version of XML and RSS is being used.

It is possible to create a very simple RSS feed with only these basic elements. Just the same, it is also possible to create much more complex RSS feeds that contain a wealth of extra information. Since the primary feature of XML is its extensibility, the possibilities for expanding the content of your RSS feed are primarily limited by your own imagination.

## Making an RSS Feed

If you're not using an RSS Feed Creation Application or service, making an RSS feed requires some ability with html coding. If you are not comfortable with editing the html code of your website, please designate this task to the appropriate individual or department.

Creating an RSS feed by hand is often described as an easy task by people who are comfortable with entering HTML or XML code directly, but it may prove to be more of a challenge for those who are not comfortable editing their own code. If you are not comfortable entering and editing your own code, you may want to explore some RSS management applications. See the end of this section for more information on these resources.

For those of you who are comfortable with entering and editing your own code, here is a sample of the simplest RSS feed:

```
<?xml version="1.0" ?>
<rss version="2.0">

<channel>

<title>Jayme's Podcast</title>
<description>Jayme creates a podcast with no theme or purpose, and
updates it with dead air every week.</description>
<link>http://www.htctu.net/ACT/podcasts.html</link>

<item>
<title>Dead Air for February 19, 2007</title>
<description>The latest installment of nothing</description>
<link> http://www.htctu.net/ACT/podcasts/02192007.html </link>
</item>

</channel>

</rss>
```

NOTE: When embedding images to represent an RSS feed, the **<title>** tag contents will be converted into the **ALT attribute** of the **<img>** tag when rendered into HTML.

While it is true that you can potentially increase the accessibility of your podcast by including extra information with the optional tags allowed in the RSS specification, keep in mind that not all aggregators recognize or harvest all of the optional tags.

## Aggregators

Aggregators are tools that do exactly what their name implies: they aggregate RSS feeds. Some of the earliest uses of aggregators were in collecting news posts and email communications through tools called News Readers. Today the use of RSS has grown to include every type of content imaginable, and many browsers and email clients also offer some form of aggregator functionality.

### More RSS Information:

#### RSS Feed Creation

List Garden: Free RSS Feed Generator - <http://www.softwaregarden.com/products/listgarden/index.html>

RSS specifications and other information from the RSS advisory board - <http://www.rssboard.org/>

The RSS feed validator from World Wide Web Consortium - <http://validator.w3.org>

#### Windows XP Aggregators

Opera – This free web browser offers RSS aggregator tools in addition to other tools for accessibility, web development, and other customization. <http://www.opera.com/>

SharpReader – An RSS feed aggregator that uses Microsoft's .NET technology. <http://www.sharpreader.net/>

#### Mac OS Aggregators

News Reader – A dashboard widget that allows you to view unlimited RSS feeds. <http://www.benkazez.com/newsreader.php>

MuleNewz.dock – A “dockling” that allows convenient access to RSS feeds via your preferred web browser. <http://www.mulle-kybernetik.com/software/MulleNewz/>

iBlog – An application that allows you to create RSS-enhanced blogs as well as subscribe to other RSS-enabled blogs and newsfeeds. <http://www.lifli.com/Products/iBlog/main.htm>

#### Linux Aggregators

rss2email - Get an email notification when there is updated content available. <http://packages.debian.org/unstable/mail/rss2email>

Akregator – An RSS aggregator for the KDE desktop, and works with the Konqueror web browser. <http://akregator.kde.org/>

Straw 0.26 – For the GNOME desktop, an aggregator that manages multiple types of feeds. <http://www.gnome.org/projects/straw/>

Sage – An extension for the Mozilla Firefox browser that allows for customization of results through style sheets. <http://sage.mozdev.org/>

Liferea – An online news feed aggregator for the GTK\Gnome Desktop. <http://liferea.sourceforge.net/>

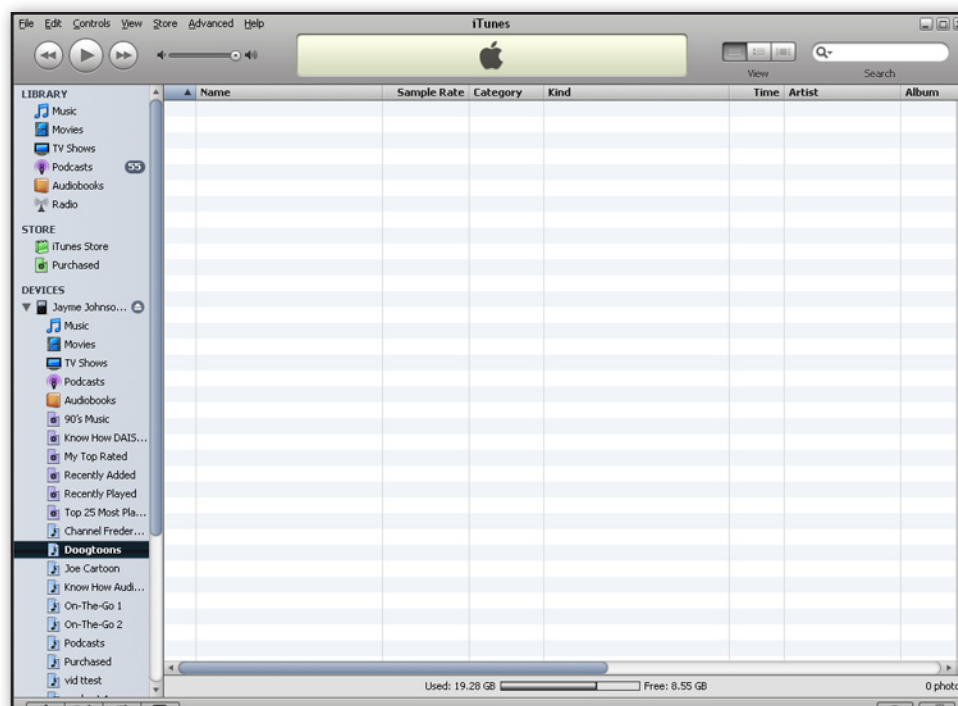
## iTunes as an Alt Media Tool

Despite its inherent accessibility issues for people with visual disabilities, iTunes offers some interesting features as an Alt Media tool. With the ability to organize and enhance a variety of digital formats in one application, the ability to create customized organization schemes to better organize your production files, allowing students greater flexibility in how they use the alt media you produce, and being a free download, iTunes is a tool worth having and knowing how to use.

### Overview of iTunes Application

iTunes is a free application that can be downloaded from the Apple website ([www.apple.com/itunes](http://www.apple.com/itunes)), and it allows you to enhance audio and video files in ways that make them easier to organize and manage, as well as making them more accessible for people with certain disabilities. Unfortunately, iTunes is not a very useful or accessible program for people who are blind or have low vision. While this inaccessibility for people who are blind or have low vision is a major issue, iTunes remains a popular application with many people seeking a tool for organizing and accessing digital media.

The iTunes interface is very graphically based, with redundant icon controls for many of the menu options. There are some keyboard commands available, but not for every function. It is possible to customize the iTunes interface to display specific information, and you can create custom genres to help organize your information.



iTunes Main Interface

## Getting Files into iTunes

There are two primary ways to get files into iTunes. You can import files from a standard audio CD, or you can import files via direct digital transfer (moving files that are already digitized and available through your computer's hard drive, USB, network, or internet connection).

**NOTE: You can import an entire file folder into iTunes, by selecting “File” and then choosing “Add Folder to Library...”**

## Organizing Files in iTunes

iTunes offers several ways for you to organize media files. Once you have a file imported into iTunes, it will be displayed in the iTunes main window. The library media selector is located in the upper part of the left-side control frame:



iTunes Library Media Selector

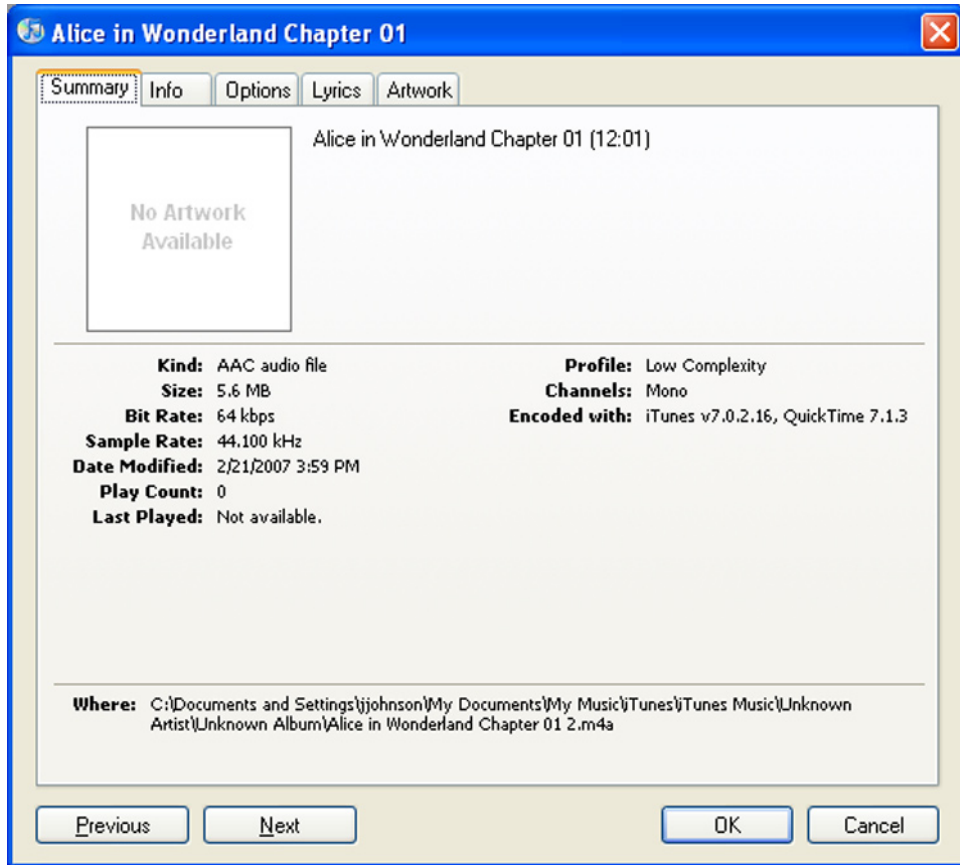
When you select a type of media file in the library, the corresponding files are displayed in the main content window. You can quickly switch the main window view between a detailed list and combinations of a detailed list and album art. Selecting a media file from the main content window will allow you to play that file by using the control buttons from the top frame or from the menu bar (or you can double click the file). When you play a media file in iTunes, information about the song is displayed in the center of the top frame (the iTunes Status Display), or alternately, you can display the audio frequency levels of the file in real time, via the iTunes stereo graphical equalizer display.

**NOTE: You can determine which icons will be displayed under the Library in the “General” tab of the iTunes Preferences dialogue.**

## Getting File Information

To access and change the file information within iTunes, use the “Get Info” dialogue. To bring up the “Get Info” dialogue for a file (or group of files), select the file(s) within iTunes, and either select “Get Info” from the “Files” menu (Files\Get Info), press CTRL+I, or right-click on the file(s) and select “Get Info” from the available options. This will bring up the “Get Info” dialogue for iTunes

(if you have multiple files selected, you will be prompted to determine if you really want to set information for multiple files). It is important to remember that you will be able to access more types of information for single files than you can with multiple files selected.



iTunes Information Dialogue

### Summary

The Summary tab displays the basic information about the file, including its size, location, file format, and other useful information.

### Info

The Info tab contains information such as Name, Album, Artist, Genre, and others, including a comments field.

### Options

The Options tab provides the tools for creating custom volume and equalizer settings, as well as controls for different timing settings.

### Lyrics

The Lyrics tab features a text field where you can insert Lyrics or Text Transcripts for the audio file. This information can then be viewed during playback on iPods.

## Artwork

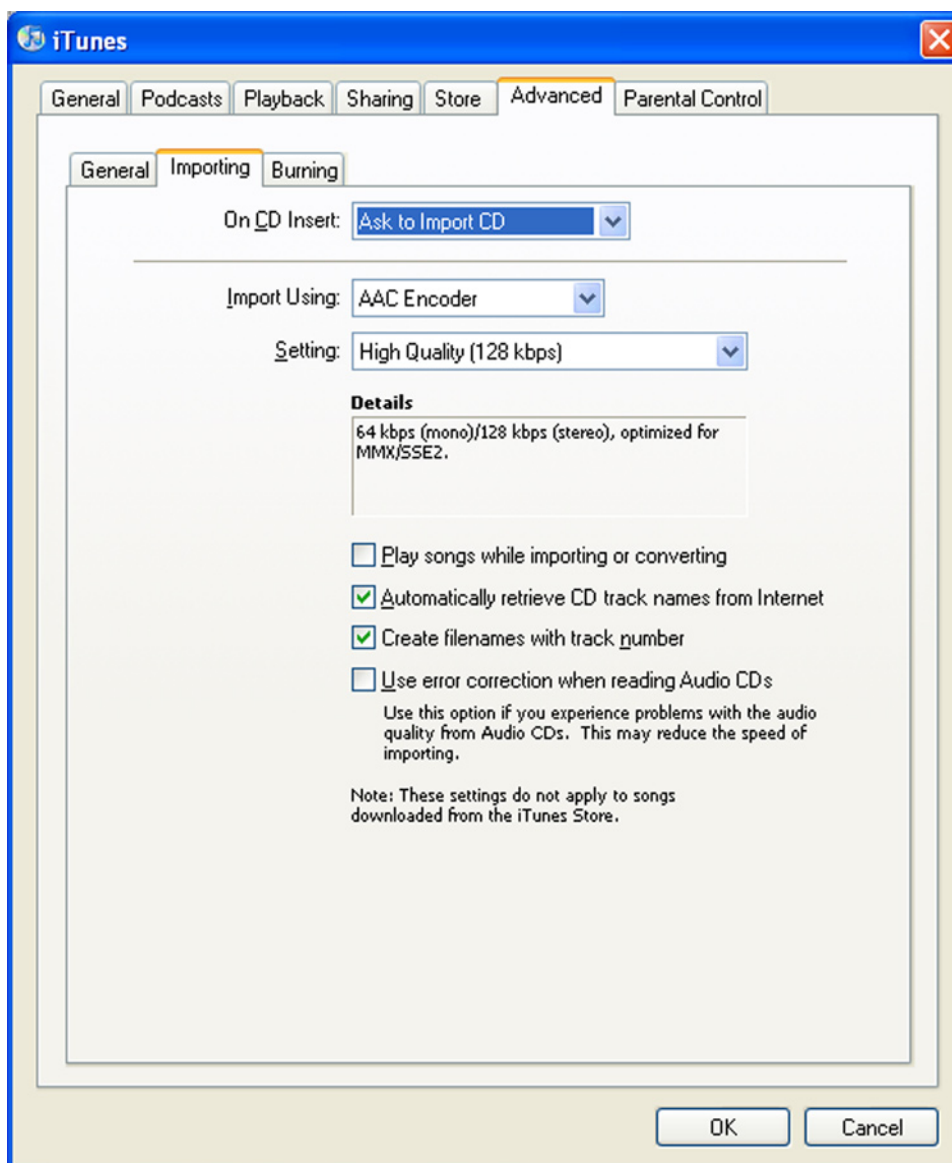
The Artwork tab allows you to embed artwork for the file.

## Searching for Files

You can search all information displayed in the iTunes library, by using the Search window in the upper right corner of the iTunes main interface.

## Converting File Formats

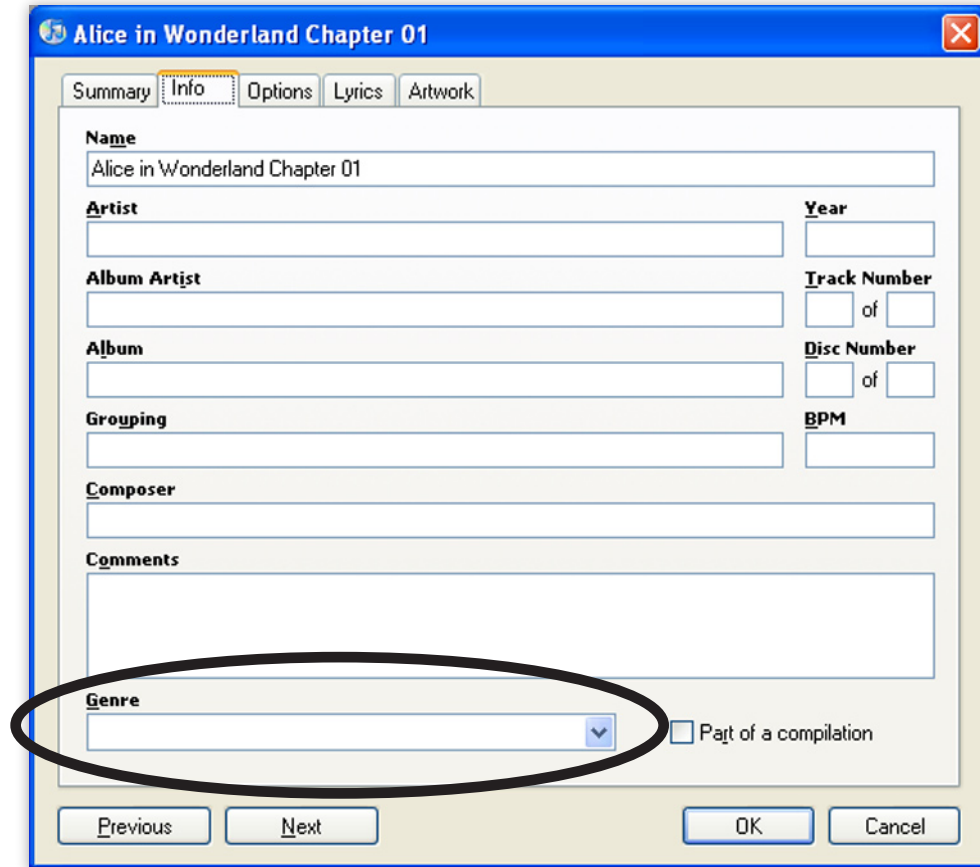
When you convert a file format in iTunes, you are actually creating a copy of that file in another format. In order to convert a file format, you must first specify the format you want to convert to by using the iTunes Preferences dialogue. You can access the import settings by opening the iTunes Preferences dialogue and selecting the “Advanced” tab, and then selecting the “Importing” tab.



Import Options in iTunes Preferences Dialogue

## Genres

One of the useful features of iTunes is the ability to create custom genres. You can specify a custom genre through the “Info” tab of the iTunes “Info” dialogue, by simply typing in the name you want to use directly into the Genre field. This gives you the ability to create your own indexing system for the files you create.



Genre Selection/Specification field in iTunes Info dialogue

## Enhancing Audio Files for Accessibility

iTunes offers some helpful features for making audio files more accessible as well as more user-friendly. Audio files can contain a text transcript that can be viewed during playback, and they can be converted to an audiobook format. The audiobook format allows iPod users to control the playback rate of the file, and it remembers your place if you have to stop listening to the file part way through.

### Embedding text transcripts in audio files using iTunes

Using iTunes, it is possible to add a text transcript to most audio files that can be viewed with the iTunes application as well as the newer iPods with digital displays. There are two audio formats that do not support this capability in iTunes: WAV and Quicktime Audio. Unfortunately, iTunes limits the amount of text you can insert in the Lyrics field to about 64 KB, so arrange your media accordingly.

**To insert a text transcript into an audio file:**

First copy the text transcript to your clipboard, using your word processor of choice.

Next, open the iTunes application.

Locate the audio file in the iTunes library.

Select the audio file by clicking it with your mouse.

Open the Information dialogue, either through the File menu (File\Get Info), by pressing Ctrl+I, or right-clicking the file and selecting “Get Info” from the available options.

Once the Information dialogue is open, select the “Lyrics” tab.

Click inside the text window and press CTRL+V to paste the text transcript into the window.

Click “OK” at the bottom of the Information dialogue.

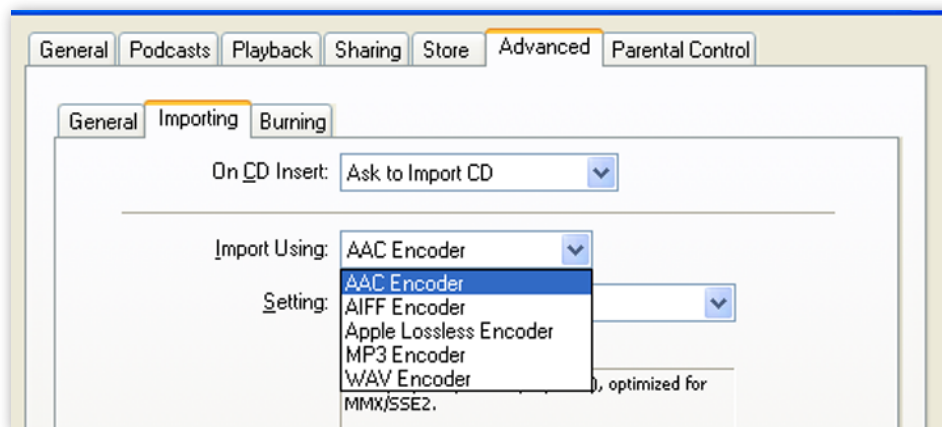
**Creating Audiobooks in iTunes**

The audiobook format is built on the ACC format, which means you must begin the process with an audio file in AAC format. If your audio files aren’t AAC, use iTunes to convert them to AAC.

In order to convert the files to AAC, you will first need to select AAC as the import format from your iTunes Preferences dialogue.

From the “Advanced” tab of your iTunes Preferences dialogue, select the sub-tab labeled “Importing”.

Select “AAC” from the “Import Using:” pull-down menu, and click “OK”.



Setting the Import Options to AAC

In the main window of iTunes, select all of the files you are converting to AAC. Right click on any of the selected files, and choose “Convert to AAC”. iTunes will begin the conversion process, and you can view the progress in the iTunes status window.

Once all of the files have been converted to the AAC file format, right click on one of the files and select the option “Show in Windows Explorer”. A window will open, displaying the directory on your hard drive that contains the AAC file.

Notice that the AAC files end with an .m4a extension. This extension must be changed to .m4b to convert the files into the Audiobook format. You can do this one file at a time through Windows Explorer, or you can use the command line to process them all at once.

## Using the Command Line

To use the command line for changing the file extensions of the .m4a files, Click on the Windows START button and select “Run...”. In the window that appears, enter “cmd” in the text field labeled “Open:” and then click “OK”. A command line window will open.

### Navigate to the Folder

Type “cd” followed by a space and then the complete directory path to the file as displayed in Microsoft Windows, and press <ENTER>. You should now be in the directory where your AAC files are stored. To verify this, type the command “dir”. If a listing of your AAC files is displayed, then you have successfully navigated to the correct directory.

### Changing the Extension

To change the extensions of all your AAC files from .m4a to .m4b, enter the following command: “ren \*.m4a \*.m4b” (There is a space after “ren” and after “\*.m4a”). This will change all of the .m4a file extensions to .m4b extensions. Enter the “dir” command again to verify that the .m4a files are now .m4b files, and then type “exit” to close the command line window.

### Cleaning Up

Now you must clean up the leftover files in iTunes. Because we made the changes to the file extensions outside of iTunes, it still expects to see the .m4a files. iTunes will still display the files, but if you try to play them you will get an error message. These .m4a files in the iTunes Music library are now just broken placeholders. To clean out the old .m4a files, select them and press the delete key.

## Getting the Audiobook into iTunes

In order to get the .m4b files to display in iTunes, you have to add them to your library through iTunes.

Go to the “File” menu of iTunes and select “Add Folder to Library...”.

Navigate to the folder that contains the .m4b files, and select “OK”.

iTunes will process the files in that folder and add them to your Audiobooks Library.

Now that you have the files in Audiobook format, you will want to make sure that they can be easily accessed. iPods don’t offer the ability to manage the audiobook files by album or artist, which means all of the files will be listed by song name first, and then the artist. Consider making each chapter title begin with the name of the book for more convenient use on the iPod devices. Entering the correct data in the “Track #” fields will also help keep the files properly organized.

## Enhancing Video Files for Accessibility

iTunes will allow you to play Quicktime MOV format videos as well as MPEG4 format videos. Once you have these video files in your iTunes library, you can add the same sorts of information to them that you can add to audio files. However, if you want to add synchronized captions, you’re going to have to do it outside of iTunes.

A popular option for creating captioned video files for iTunes and iPods is Quicktime Pro, though you can use a variety of other tools to perform digital captioning. When using Quicktime Pro, choose to export as MPEG4 in order to retain the captions, exporting as iPod movie strips out the captions.

No matter what tool you use to perform your digital captioning, remember that some people may choose to watch the video on their iPod, so be sure to use a font size that is easily readable. Size 18 to 20 font on a 48 pt background generally works well.

## Using Playlists

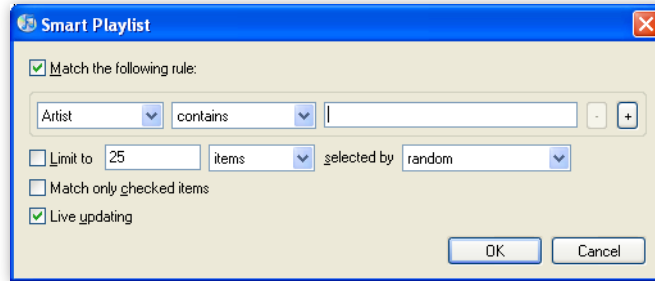
Playlists are a powerful tool for organizing audio and video files within iTunes and on the iPod devices. There are two basic types of playlists, “Smart” playlists and regular playlists. The primary difference between a Smart Playlist and any other playlist is that Smart Playlists can be automated to keep themselves up to date and otherwise properly managed whereas regular playlists require manual intervention in order to be changed or updated.

**NOTE: When using “Smart Playlists” having the “Live updating” option will cause any copies you make of the source files to be added to the playlist automatically.**

## Creating Playlists

To create a regular Playlist in iTunes, go to the File menu and select “New Playlist”. A new playlist will appear at the bottom of the Library, with the text “untitled playlist” highlighted in blue. Type the name for the playlist and press <ENTER>.

To create a Smart Playlist, go to the File menu and select “New Smart Playlist”. A dialogue box will open with options for configuring the smart playlist.



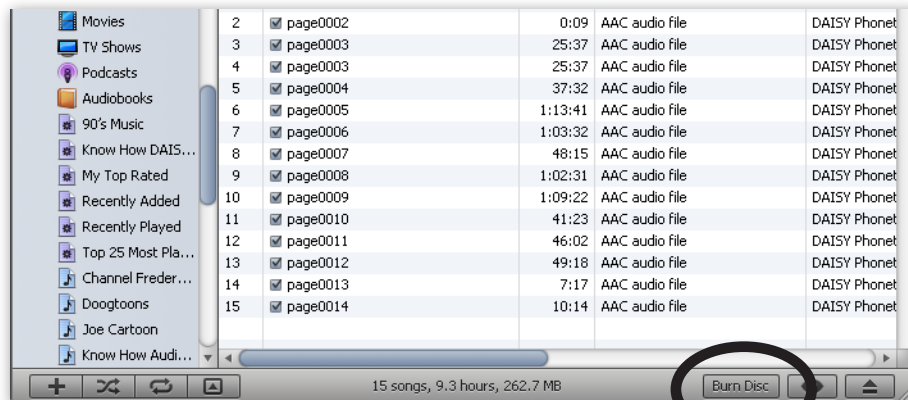
Creating a Smart Playlist in iTunes

## Using Genres and Smart Playlists

Smart Playlists can be used to organize information by using Genres to selectively filter out or selectively include different criteria. You can use multiple selection criteria to create a variety of different playlists that will keep themselves updated with any new media you add to the library matching their specifications.

## Burning Files to a CD

You can use iTunes to burn media to a CD if your computer has a recordable CD drive. To do this, first create a playlist and add the files you want to burn to CD. Next, select the playlist and then select “Burn to Disc” from the File menu. Alternatively, you can click the “Burn to Disc” icon that appears in the lower right corner of iTunes when you insert a blank disc into the recordable CD drive.



Burn to Disc Icon

## DAISY to iPod

It is possible to use digital text to create audio files by using the Phoneticom DAISY Generator. Using the DAISY file, you can convert the text and audio into enhanced MP3 files for students, and for those students with iPods, you can even make Audiobooks that allow you to adjust the playback rate in addition to keeping your place when you stop in the middle of a file. Because iTunes will only allow you to insert about 64 KB of text in the Lyrics field, you must create the DAISY book with sufficiently sized sections.

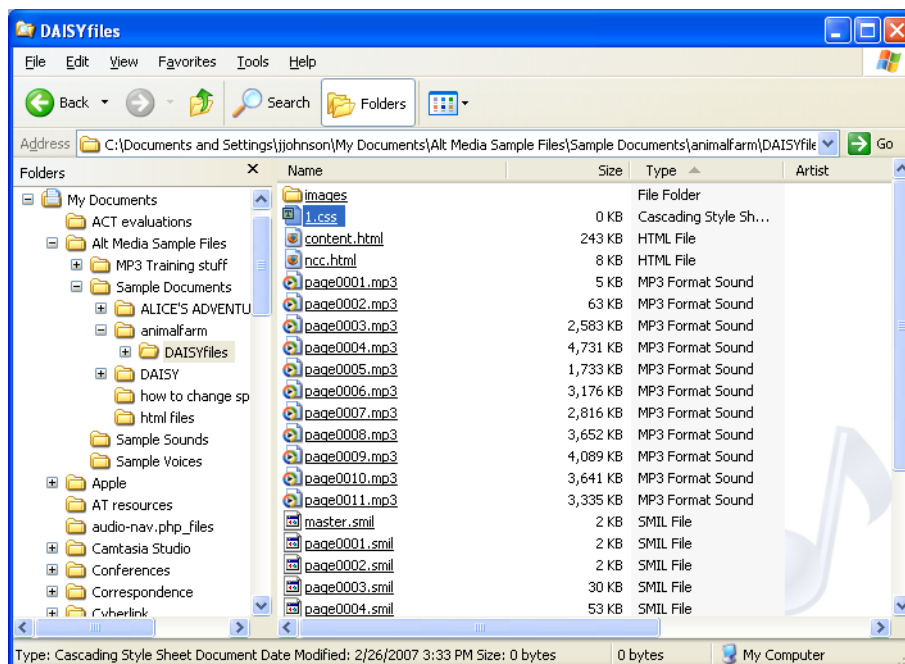
To convert the DAISY file, you will need to use Windows Explorer, an HTML browser such as Firefox or Internet Explorer, and iTunes. You will obtain the text for each MP3 file by copying the appropriate text from the .html files in the DAISY book. Then you will insert that text into the Lyrics field of the MP3 file.

**NOTE: You can only insert 64 KB of data in the Lyrics field within iTunes.**

### Extracting text and matching it to sound:

In Windows Explorer, open the folder with your DAISY files, and select “View Details” from the “View” menu.

Next, organize the files by “Type”. There will be a collection of .MP3 files, .SMIL files, and two .html files, “content.html” and “ncc.html”. Open the files “content.html” and “ncc.html”.



DAISY Files by Type

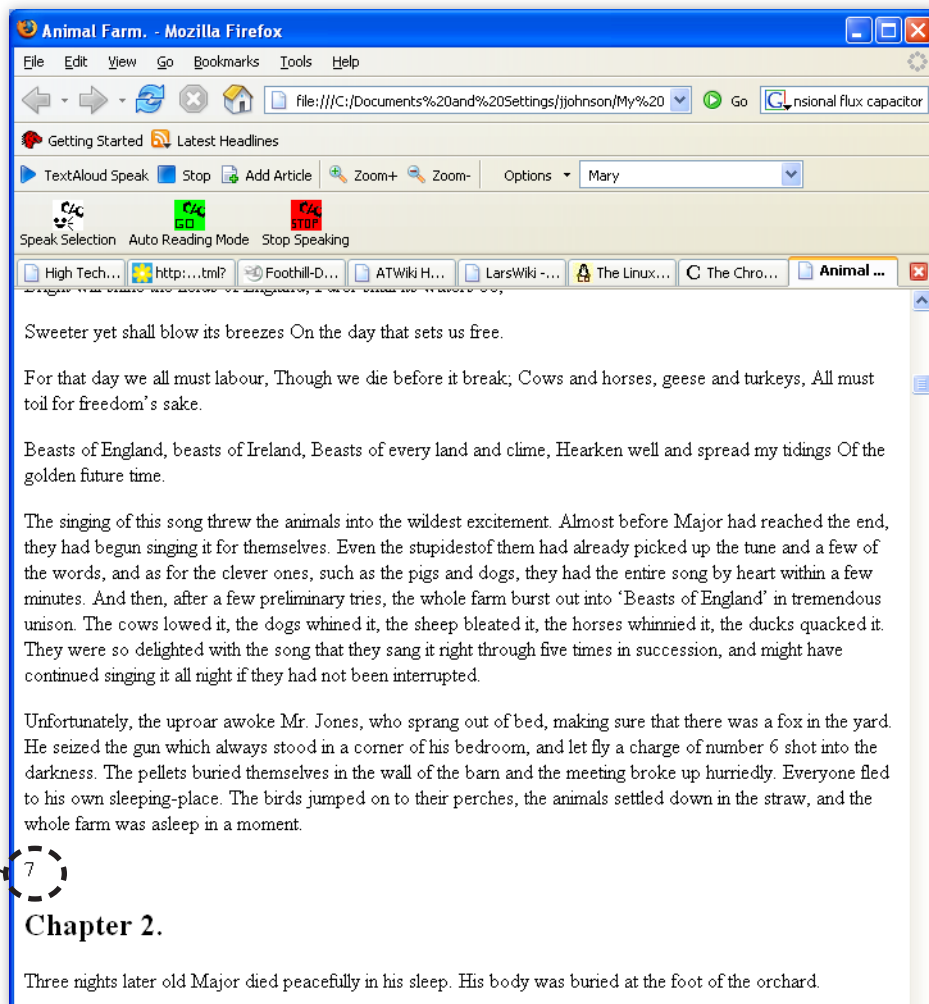
**content.html**

The content.html file contains exactly what it says it does, the contents of the DAISY book, in one continuous file. You will extract the text from the content.html file to embed in the appropriate audio files within iTunes.

The data in content.html is separated into sections that begin with text formatted as Heading Level 1. These portions of text correspond to the MP3 files in the DAISY book, named “pageXXXX.MP3”, where “XXXX” represents a number. The first section of the content.html file corresponds to the MP3 file “page0001.MP3”, and the second section corresponds to “page0002.MP3”, and so on till the end of the DAISY book.

**Page Numbers**

You will notice that occasionally a single number will appear with a blank line above and below it. These numbers that are separated from the rest of the text with blank lines are the page numbers, corresponding to the page numbers of the original print book. There is no special marker to identify them that you can see in your html browser, but the pattern of blank lines is distinctive enough to



DAISY file “content.html”

allow for quick selection of data by page(s).

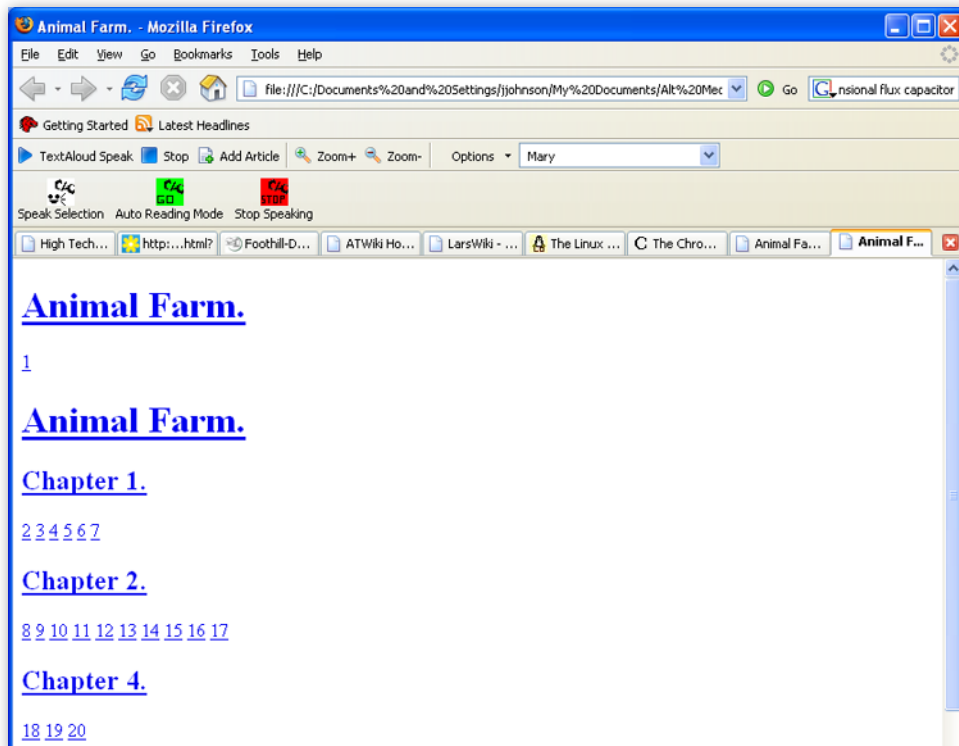
## Parsing the Pattern of content.html

The very first item in content.html will be the title of the DAISY book formatted in heading level 1, followed by any text that might be on the first page, and then a blank line, and the number 1 followed by another blank line. The next line of text begins page 2, which will end with a blank line and a number 2 followed by another blank line, and then page 3 begins and continue on to a number 4 separated by blank lines, and it continues on in this fashion.

Occasionally you will find a selection of text formatted as a heading level, and this indicates the beginning of a new section of the DAISY book, meaning a new MP3 file and corresponding set of text pages. In this manner you can identify which sections of text correspond to each MP3 file.

If you are comfortable examining the html code, there is a unique tag that identifies the page numbers, a <span> tag with a class designation of “page-normal”. This can be helpful in situations where there are several numbers together and it is unclear which number is the actual page number of the DAISY book.

You can also use the NCC.html file to assist in the process of aligning specific sections of text with the corresponding MP3 files. The NCC.html file contains only the headings of each section, followed by a list of the page numbers for that section. Using the NCC.html file allows you to quickly see the title text of



DAISY file “NCC.html”

each section, and verify the last page number of text content for that section.

## Preparing the Files for Text

Now that you can identify the separate sections of the DAISY book, you will bring the audio files into iTunes and then embed the corresponding text.

Using iTunes, select “File” and then “add folder to library...”.

Browse to the folder that contains your DAISY files, and select “OK”.

iTunes will proceed to import the MP3 files into your library, and will ignore the other files. You can monitor the progress of this process in the status window of iTunes.

When iTunes has completed importing the files, you will want to enter information about the DAISY book to allow you to differentiate and manage the files.

First, arrange the music files according to “Name”, and then scroll down to the “P” section and find the file named “Page0001”.

All of the MP3 files from your DAISY book should be listed, from Page0001 to the end.

Notice that the Album, Artist, and Genre columns are blank for these files. Before proceeding, you must first enter data into these fields in able to better manage the files. Without entering at least an Album name or Artist information, your DAISY files would quickly become lost in a sea of files all named



Freshly Imported DAISY Files

“Page0001”, “Page0002”, “Page0003”, etc.

Select the block of MP3 files and bring up the “Get Info” dialogue to enter the basic information of the DAISY book. You may be asked if you really want to change the information of many files at once, say yes.

When the Get Info dialogue appears, you can fill in the proper information from the DAISY book to identify the files. Enter student and book information where appropriate, and adapt every field to contain whatever organizational information you want to use to sort and search the information. When you are finished, click “OK” and the information will be added into the MP3 files.

## Matching text to the sound files

Using your .html browser, open the file “content.html” from your DAISY book. Select the first heading and any following text, down to and including the last page number before the next heading. Copy this text to the clipboard, and switch back to iTunes.

### In iTunes:

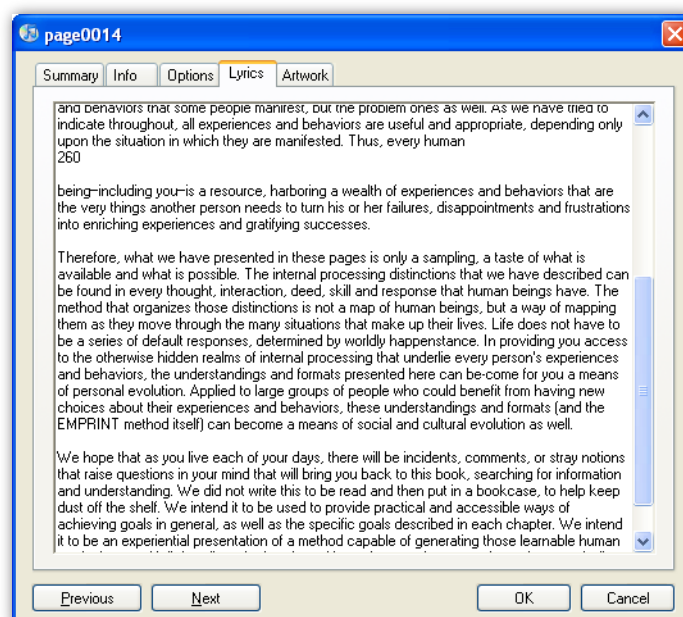
Select the first MP3 file from your DAISY book

Open the “Get Info” dialogue (CTRL+I)

Select the “Lyrics” tab

Click inside the blank text field of the Lyrics tab

Paste the contents (CTRL+V) of the clipboard into the text field of the Lyrics tab



Pasted Text in the Lyrics Field

Check the last line of the text to verify all text was copied over.

Using the NCC.html file as a guide, select the next set of pages to be inserted in the next MP3 file.

Copy and paste the information into the Lyrics tab of the next MP3 file and click “OK”.

Repeat the process for each of the remaining audio files.

When you have finished, you will have MP3 files with embedded text that can be accessed by a variety of portable MP3 players and software applications.

**NOTE: When selecting text in your internet browser: If you’re unsure whether a particular number is a DAISY page number or not, you can find the answer in the html code. The DAISY page numbers are identified in the .html source file by a specific tag that precedes the number: `<span class=“page-normal”>`.**

## Converting to Audiobook Format

There are two distinct advantages to using the audiobook format over the general audio format of iTunes, the ability to keep your place in a song, as well as the ability to decrease or increase the playback rate.

In order to take advantages of these features, you must first convert your MP3 files into AAC files.

**NOTE: Some of the following steps may be easier to perform if you set Windows Explorer to display file extensions (Tools\Folder Options\”View” Tab).**

In order to convert the files from MP3 to AAC, you will first need to select AAC as the import format from your iTunes Preferences dialogue.

From the “Advanced” tab of your iTunes Preferences dialogue, select the sub tab labeled “Importing”, and select “AAC” from the “Import Using:” pull-down menu.

In iTunes, select all of the MP3 files that make up the DAISY book.

Right click on any of the selected files, and choose “Convert to AAC”.

iTunes will begin the conversion process, and you can view the progress in the iTunes status window.

Once all of the files have been converted to the AAC file format, right click on

one of the files and select the option “Show in Windows Explorer”. A window will open, displaying the directory on your hard drive that contains the AAC file. Select the “Details” view, and notice that the original MP3 files are in the same folder, and that they are intermixed with the AAC files. Click the column titled “Type” to sort the information by file type.

Notice that the AAC files end with an .m4a extension. This extension must be changed to .m4b to convert the files into the Audiobook format. You can do this one file at a time through Windows Explorer, or you can use the command line to process them all in one batch.

## Using the Command Line

To use the command line for changing the file extensions of the .m4a files, Click on the Windows START button and select “Run...”. In the window that appears, enter “cmd” in the text field labeled “Open:” and then click “OK”. A command line window will open.

### Navigate to the Folder

Type “cd” followed by a space and then the complete directory path to the file as displayed in Microsoft Windows, and press <ENTER>. You should now be in the directory where your AAC files are stored. To verify this, type the command “dir”. If a listing of your AAC files is displayed, then you have successfully navigated to the correct directory.

### Changing the Extension

To change the extensions of all your AAC files from .m4a to .m4b, enter the following command: “ren \*.m4a \*.m4b” (There is a space after “ren” and after “\*.m4a”). This will change all of the .m4a file extensions to .m4b extensions. Enter the “dir” command again to verify that the .m4a files are now .m4b files, and then type “exit” to close the command line window.

### Cleaning Up

Now you must clean up the leftover files in iTunes. Because we made the changes to the file extensions outside of iTunes, it still expects to see the .m4a files. iTunes will still display the files, but if you try to play them you will get an error message. These .m4a files in the iTunes Music library are now just broken placeholders. To clean out the old .m4a files, select them and press the delete key.

## Getting the Audiobook into iTunes

In order to get the .m4b files to display in iTunes, you have to add them to your library through iTunes. Go to the “File” menu of iTunes and select “Add Folder to Library...”. Navigate to the folder that contains the .m4b files, and select “OK”. iTunes will process the files in that folder and add them to your Audiobooks Library.

Now that you have the files in Audiobook format, you will want to make sure that they can be easily accessed. iPods don't offer the ability to manage the audiobook files by album or artist, which means all of the files will be listed by song name first, and then the artist.

You might want to make each chapter title begin with the name of the book for more convenient use on the iPod devices. Entering the correct data in the "Track #" fields will also help keep the files properly organized.

## Using Notes

When you find that there is more text for an audio file than will fit in the Lyrics field, you can either try to break the file into smaller chunks or use the Notes functionality of iTunes and iPods.

Notes are located in a folder marked "Notes" on the iPod. When an iPod is connected to your computer the Notes folder can be viewed through Windows Explorer (Disk Use must be enabled). Select the name of the iPod that appears when you connect the iPod to your computer, and you will find the Notes folder in addition to a few other folders. Notes can be up to 4 kb, and there can be up to 1000 notes on the iPod.

Not all iPod models support Notes files, so be sure to specify that the material must be displayed on a compatible iPod model.

### **iPod models that support the Notes functionality:**

- iPod mini
- iPod with color display (iPod photo)
- iPod (Click Wheel)
- iPod (with Dock Connector)
- iPod nano
- iPod with video

## Notes Tags

There is a very limited tag set available for marking up your Notes files, and the tags don't follow the strict rules of html, so beware! Some of the available tags include:

`<p>` - paragraph tags

`<br>` - line break tags

`<Title> </Title>` - title element tag

`<A HREF="/main.linx" POPALL> Exit </A>` - the anchor tag.

There are other tags available, as well as more information on using the Notes feature included in the "iPod Notes Feature Guide" from Apple, which is attached to the end of this manual.

## Linking to a Song

To link to the DAISY audio file, insert the following link in your Note file, with the appropriate songname for the text: `<a href="song=Page0001">Chapter 1</a>`.

## Linking to a Playlist

You can insert a link to a playlist in a Notes file with the following query: `<a href="ipod:music?playlist=DAISY Chapters">Play All DAISY Chapters</a>`.

## Linking to a Folder

You can link to a folder within your Note file, which when followed will display a list of all the folders and note files in that folder.

## Using Queries to Filter Notes

If you are listening to more than one audio book at a time on your iPod, chances are pretty good that you'll have more than one file labeled "Chapter 1". In order to keep your iPod from playing the first Chapter 1 it finds, use queries to specify from which Album Chapter 1 will be playing.

Here's a sample link for files in the Music Library: `<a href="ipod:music?album=Sociology108!!&song=Chapter 1">Chapter 1</a>`

Here's a sample link for files in the Audiobooks Library:

`<a href="ipod:audiobooks?album= Sociology108!!&song=Chapter 1">Chapter 1</a>`

## Using images in Notes

You can link to image files in your Notes, provided they are jpeg files and stored in the Notes folder hierarchy.

## Special Notes

There are four special types of Note files used to perform advanced functions, they are:

- Preferences note: Holds global settings for your presentation.
- .link note: A note used as an alias to a note or media file.
- .linx note: A note used to specify a menu.
- ERRORS note: A note used for debugging purposes.

More information about the Notes features of iTunes and iPods: <http://developer.apple.com/hardwaredrivers/ipod/iPodNotesFeatureGuideCB.pdf>