

QuickTime Sprite Movie Exporter for Macromedia Director 5.0

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Introduction

The QuickTime Sprite Movie Exporter is an Xtra written to work with Macromedia Director version 5.0. It uses the contents of the Director score to create a QuickTime movie using QuickTime sprite technology. It is similar in function to Director's built-in Export to QuickTime movie option. However, instead of creating a QuickTime movie with a video track containing the sprite images, it creates a QuickTime movie with a sprite track. For many kinds of animations, the sprite track provides a much more compact representation of the animation. The sprite track will often have better performance characteristics across a wider range of machines.

System Requirements

To run the QuickTime Sprite Movie Exporter you must have Director 5.0 for Macintosh installed. The exporter works on both PowerPC and 68k based Macintosh computers. You must also have QuickTime 2.1 or later installed. QuickTime 2.5 is currently recommended and is available at www.quicktime.apple.com.

To view the QuickTime movie's created with the QuickTime Sprite Movie Exporter, you must have QuickTime 2.1 or later for Macintosh or QuickTime 2.5 or later for Windows.

Installation

To install the QuickTime Sprite Movie Exporter, simply put the "QuickTime Sprite Exporter" file into the "Xtras" folder which is located in the same folder as the "Director 5.0" application.

Using the Exporter

When you have an open Director project, you can access the QuickTime Sprite Movie Exporter. It appears in the "Xtras" menu as "QuickTime Sprite Exporter". When you are ready to create a sprite movie, choose the "QuickTime Sprite Exporter" from the menu.

The QuickTime Sprite Movie Exporter displays the following dialog to allow you to configure the export operation.



The first line of options allows you to select which frames from the score will be exported. If you select “Export All” the entire score will be exported. If you select “Export Selection Only” just the frames currently selected in the score will be exported. If only one frame is currently selected in the score, the “Export Selection Only” option is disabled.

The second line of options lets you specify how audio should be handled. If you don’t want audio in the QuickTime movie, select “No sound”. If you want the audio to be exported into a QuickTime Sound track, select “Sound Track.” This will cause all the audio in the score to be mixed down into a single QuickTime Sound track. If you want the audio to be exported into a QuickTime Music track, select “Music Track.” A QuickTime Music track uses a MIDI-like note format to store sounds. For many kinds of audio, this is a more compact representation. If your score uses sound for many short sound effects, exporting to a music track is probably the best choice. However, because all the sounds to be played in the music are loaded into memory when the movie is opened, if your score has a very large number of sounds or very long sounds, it is best to select “Sound track”.

The third line of options lets you determine if markers should be exported. Markers are exported into a text track in the resulting movie. The markers are displayed in the movie controller as the movie is played. They may also be used as a navigation tool by the user. To have your markers exported, check the “Export markers” box. To ignore the markers from the score, uncheck the “Export markers” box.

The fourth line of options lets you work around a bug in the Director 5.0 Xtra support. In some cases, Director doesn’t correctly return the sizes of sprites on the stage. This causes the QuickTime Sprite Movie Exporter to generate movies with incorrectly sized sprites. Since many Director projects never use scaled sprites, this isn’t too big a problem. In general, you should be able to leave “Ignore Director Scaling” unchecked. However, if your sprites are incorrectly sized in your output movie, check the “Ignore Director Scaling” box and try re-exporting the movie.

The fifth line of options allows you to select the way in which the samples of the QuickTime sprite movie are stored. There are two formats, and each has its own advantages and disadvantages. Select “Override Samples” if you intend to use your movie on a CD-ROM or a hard disk and will be random accessing different parts of the animation. The “Override Samples” format uses more disk space, but provides extremely fast random access to any frame. Select “Difference Samples” if you are concerned about the size of the QuickTime movie. The “Difference Samples” option will create a significantly smaller movie file, but random access will also be much slower. If the movie is only going to be used to play from beginning to end, then “Difference Samples” is the best choice.

The sixth line of options lets you indicate which version of QuickTime this movie will be used with. QuickTime 2.1 and 2.5 do not support graphics modes (inks, in Director terms) for sprite movies. Later versions of QuickTime do provide support for graphics modes. If you are not using inks or you intend to deliver the movie to users who will be running older versions of QuickTime, you should check “QuickTime 2.1/2.5 compatible.” If you will be using inks, and your users will have a newer version of QuickTime, uncheck “QuickTime 2.1/2.5 compatible.”

The seventh line of options lets you enable a special feature of the QuickTime Sprite Movie Exporter. If you check “Use QuickTime Alpha Channel”, the exporter will automatically enable alpha channel based transparency for specially marked cast members. This is explained in detail in the “Using Alpha Channels” section.

Once you have configured the export options, click OK to begin the actual export. The export goes through several different phases as it exports the movie. Once all the progress dialogs go away, the export operation is complete and you can use MoviePlayer to view the exported QuickTime Sprite Movie.

Supported Features

Macromedia Director is a huge application with many features. The QuickTime Sprite Movie Exporter supports only a subset of these features.

Only bitmap and picture based cast members are supported for the sprite track. In particular, digital video cast members are not currently supported.

Both Sound Resources and AIFF files are supported for sound tracks.

Lingo is not supported in any way. If you use Lingo to animate your sprites, this will not be reflected in the exported sprite movie.

The frame rate specified in the score is supported. If it is not specified, the default frame rate for the project is used.

The background color of the score is used for the background color of the sprite movie.

If you change the background color of the score or the dimensions, you must save the project, close it, and reopen it for the QuickTime Sprite Exporter to be notified of the change. This is a bug in Director 5.0.

The registration point of cast members is respected.

Film loops are supported.

Hints

This section describes some details about how the QuickTime Sprite Movie Exporter works so you can make better decisions about how to use it.

The exporter creates a sprite track with a single key frame and a large number of override or different frames to describe the animation. This key frame contains all the images that are used in the score. This key frame is loaded into memory the entire time that the sprite movie is played. The images in the key frame are compressed, but the amount of memory can still be considerable. If you have more than one scene, it is probably best to break it up into multiple projects, export each one independently, and then paste the exported movies together using MoviePlayer. In this way, you will get a movie with multiple key frames, so it will take up less memory on playback.

Under QuickTime 2.1 and 2.5, sprite tracks get better performance if they are a multiple of 16 in width and height (and multiples of 32 if the dimensions exceed 512 pixels).

Under QuickTime 2.1 and 2.5, sprites will consume more processor cycles if they cross the edge of the stage. For best results, keep sprites away from the very edges of the stage.

The exporter stores all sprite images at 16 bits per pixel. Use this to your advantage. Don't dither your pictures down to 8 bits. QuickTime will do that automatically, if necessary, at play back time. 16 bit images look much better for users that have screens that support it.

The QuickTime sprite architecture supports a foreground and background plane. Director's score only really has a single plane. By default, all images are placed into QuickTime's foreground plane. If you want a static background picture, you can put a sprite into the first sprite layer in the score. If it is present for the entire duration of the score and doesn't move, it will automatically be placed into the background plane. If you have a large background image, use of the background plane will provide much better performance, although it will also consume more memory at runtime.

Only cast members that are used in the animation are included in the exported file. Others are ignored.

Markers can be exported. They will be stored in a separate text track. The text track is disabled by default, but is displayed in the movie controller with QuickTime 2.5 or better as a chapter list pop-up menu. The text track can be enabled using MoviePlayer.

Using Alpha Channels

Director 5.0 doesn't support sprites with alpha channels. This causes many developers working with Director to use very complex work arounds. While the QuickTime Sprite Movie exporter doesn't give Director the ability to display images with alpha channels, it does provide this capability within a QuickTime sprite movie authored with Director. To do this, you must create all cast members that will use alpha channels in a special way.

First, create your images with alpha channels and save them into a QuickDraw picture. Many applications let you do this, including Adobe Photoshop. Next, import this picture into the cast as a linked cast member. To do this, select "Import" from the "File" menu. Choose the picture you wish to import, check the "Linked" box, and click "Import." Finally, you must set the name of cast member to include the word "alpha". You can now use Director normally to create a score. The alpha channel information will not be displayed in Director, but if you export the movie with the "Use alpha channels" option selected, the alpha channels will be correctly displayed in the resulting QuickTime movie.

Support

Get yourself on the QuickTime developer mailing list. Details on how to sign up are at “www.quicktime.apple.com/dev”. Send your questions and comments there.

Document Revision History

1/26/97 - original

2/2/97 - add film loop and export selection only support

2/4/97 - add markers. update picture.