QTTrack Class Reference

QuickTime > Cocoa

2009-03-04

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Simultaneously published in the United States and Canada.

Contents

QTTrack Class Reference

Inherits from	NSObject
Conforms to	NSObject (NSObject)
Framework	/System/Library/Frameworks/QTKit.framework
Availability	Available in Mac OS X v10.4 and later.
Declared in	QTTrack.h
Related sample code	CIVideoDemoGL MoviePlayer - C# QTAudioExtractionPanel QTKitTimeCode QTMetadataEditor

Overview

The `QTTrack` class represents a QuickTime track (of type `Track`). `QTTrack` objects are associated with `QTMovie` objects and support methods for getting and setting the track properties. If necessary, you can retrieve the track identifier associated with a `QTTrack` object by calling its `quickTimeTrack:` method. Note that a movie can have multiple tracks. A track has a single media.

Tasks

Creating a QTTrack

`+ trackWithQuickTimeTrack:error:` (page 7)
Creates a QTTrack object with data from the QuickTime track *track*.

Initializing a QTTrack

Initializes a newly created `QTTrack` object with data from the QuickTime track *track*.

`- initWithQuickTimeTrack:error:` (page 9)
If a `QTTrack` object cannot be created, an NSError object is returned in the location pointed to by *errorPtr*.

Getting Track Properties

- `movie` (page 11)
  Returns the movie that contains a `QTTrack` object.
- `media` (page 11)
  Returns the media associated with a `QTTrack` object.
- `isEnabled` (page 10)
  Returns `YES` if the `QTTrack` object is currently enabled, `NO` otherwise.
- `volume` (page 14)
  Returns the volume of a `QTTrack` object.
- `attributeForKey:` (page 8)
  Returns the current value of the track attribute *`attributeKey`*.
- `trackAttributes` (page 14)
  Returns a dictionary containing the current values of all defined track attributes.

Setting Track Properties

- `setEnabled:` (page 13)
  Sets the enabled state of a `QTTrack` to *`enabled`*.
- `setVolume:` (page 13)
  Sets the volume of a `QTTrack` to *`volume`*.
- `setAttribute:forKey:` (page 12)
  Set the track attribute *`attributeKey`* to the value specified by the *`value`* parameter.
- `setTrackAttributes:` (page 13)
  Set the track attributes using the key-value pairs specified in the dictionary *`attributes`*.

Editing Track Properties

- `addImage:forDuration:withAttributes:` (page 7)
  Adds an image for the specified duration to the receiver, using attributes specified in the attributes dictionary.
- `deleteSegment:` (page 8)
  Deletes from a `QTTrack` the segment delimited by *`segment`*.
- `insertEmptySegmentAt:` (page 9)
  Inserts into a QTTrack an empty segment delimited by the range *`range`*.
- `insertSegmentOfTrack:timeRange:atTime:` (page 10)
  Inserts into a QTTrack at time *`time`* the selection in movie delimited by the time range *`range`*.
- `insertSegmentOfTrack:fromRange:scaledToRange:` (page 10)
  Inserts the specified segment from the track into the receiver, scaled to the range *`dstRange`*.
- `scaleSegment:newDuration:` (page 12)
  Scales the `QTTrack` segment delimited by the segment *`segment`* so that it will have the new duration *`newDuration`*.

Getting QTTrack Primitives

- `quickTimeTrack` (page 11)
  Returns the QuickTime track associated with a `QTTrack` object.

Getting and Setting Aperture Mode Dimensions

- `apertureModeDimensionsForMode:` (page 8)
  Returns an NSSize value that indicates the dimensions of the target track for the specified movie aperture mode.
- `setApertureModeDimensions:forMode:` (page 12)
  Sets the dimensions of the target track for the specified movie aperture mode.
- `generateApertureModeDimensions` (page 9)
  Adds information to a QTTrack needed to support aperture modes for tracks created with applications and/or versions of QuickTime that did not support aperture mode dimensions.
- `removeApertureModeDimensions` (page 11)
  Removes aperture mode dimension information from the target track.

Class Methods

trackWithQuickTimeTrack:error:

Creates a QTTrack object with data from the QuickTime track *track*.

```
+ (id)trackWithQuickTimeTrack:(Track)track error:(NSError **)errorPtr
```

Discussion
If a `QTTrack` object cannot be created, an NSError object is returned in the location pointed to by *errorPtr*. Pass `NIL` if you do not want an NSError object returned.

Availability
Available in Mac OS X v10.3 and later.
Not available to 64-bit applications.

Declared In
`QTTrack.h`

Instance Methods

addImage:forDuration:withAttributes:

Adds an image for the specified duration to the receiver, using attributes specified in the attributes dictionary.

```
- (void)addImage:(NSImage *)image forDuration:(QTTime)duration
    withAttributes:(NSDictionary *)attributes
```

Discussion
Keys in the dictionary can be `QTAddImageCodecType` to select a codec type and `QTAddImageCodecQuality` to select a quality. Qualities are expected to be specified as NSNumbers, using the codec values like `codecNormalQuality`. (See `ImageCompression.h` for the complete list.)

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

apertureModeDimensionsForMode:

Returns an NSSize value that indicates the dimensions of the target track for the specified movie aperture mode.

```
- (NSSize)apertureModeDimensionsForMode:(NSString *)mode
```

Discussion
For instance, passing a mode of `QTMovieApertureModeClean` would cause `apertureModeDimensionsForMode:` to return the track dimensions to use in clean aperture mode.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

attributeForKey:

Returns the current value of the track attribute *`attributeKey`*.

```
-(id)attributeForKey:(NSString *)attributeKey
```

Discussion
A list of supported track attributes and their acceptable values can be found in the "Constants" (page 14) section.

Availability
Available in Mac OS X v10.3 and later.

Related Sample Code
QTKitPlayer
QTMetadataEditor
TrackFormatDemo

Declared In
`QTTrack.h`

deleteSegment:

Deletes from a `QTTrack` the segment delimited by *`segment`*.

```
- (void)deleteSegment:(QTTimeRange)segment
```

Discussion
If the track is not editable, this method raises an exception.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

generateApertureModeDimensions

Adds information to a QTTrack needed to support aperture modes for tracks created with applications and/or versions of QuickTime that did not support aperture mode dimensions.

```
- (void)generateApertureModeDimensions
```

Discussion
If the image descriptions in the track lack tags describing clean aperture and pixel aspect ratio information, the media data is scanned to see if the correct values can be divined and attached. Then the aperture mode dimensions are calculated and set. Afterwards, the `QTTrackHasApertureModeDimensionsAttribute` property will be set to `YES` for this track. Tracks that do not support aperture modes are not changed.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

initWithQuickTimeTrack:error:

If a `QTTrack` object cannot be created, an NSError object is returned in the location pointed to by *`errorPtr`*.

```
- (id)initWithQuickTimeTrack:(Track)track error:(NSError **)errorPtr
```

Discussion
Pass `NIL` if you do not want an NSError object returned.

Availability
Available in Mac OS X v10.3 and later.
Not available to 64-bit applications.

Declared In
`QTTrack.h`

insertEmptySegmentAt:

Inserts into a QTTrack an empty segment delimited by the range *`range`*.

```
- (void)insertEmptySegmentAt:(QTTimeRange)range
```

Discussion
If the track is not editable, this method raises an exception.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

insertSegmentOfTrack:fromRange:scaledToRange:

Inserts the specified segment from the track into the receiver, scaled to the range *`dstRange`*.

```
- (void)insertSegmentOfTrack:(QTTrack *)track fromRange:(QTTimeRange)srcRange
    scaledToRange:(QTTimeRange)dstRange
```

Discussion
This is essentially an Add Scaled operation on a track. If the track is not editable, this method raises an exception.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

insertSegmentOfTrack:timeRange:atTime:

Inserts into a QTTrack at time *`time`* the selection in movie delimited by the time range *`range`*.

```
- (void)insertSegmentOfTrack:(QTTrack *)track timeRange:(QTTimeRange)range
    atTime:(QTTime)time
```

Discussion
If the track is not editable, this method raises an exception.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

isEnabled

Returns `YES` if the `QTTrack` object is currently enabled, `NO` otherwise.

```
- (BOOL)isEnabled
```

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

media

Returns the media associated with a `QTTrack` object.

```
- (QTMedia *)media
```

Availability
Available in Mac OS X v10.3 and later.

Related Sample Code
QTKitTimeCode
QTMetadataEditor

Declared In
`QTTrack.h`

movie

Returns the movie that contains a `QTTrack` object.

```
- (QTMovie *)movie
```

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

quickTimeTrack

Returns the QuickTime track associated with a `QTTrack` object.

```
-(Track)quickTimeTrack
```

Availability
Available in Mac OS X v10.3 and later.
Not available to 64-bit applications.

Related Sample Code
QTAudioExtractionPanel
QTKitTimeCode

Declared In
`QTTrack.h`

removeApertureModeDimensions

Removes aperture mode dimension information from the target track.

```
- (void)removeApertureModeDimensions
```

Discussion
It does not attempt to modify sample descriptions, so it may not completely reverse the effects of `generateApertureModeDimensions`. It sets the `QTTrackHasApertureModeDimensionsAttribute` property to `NO`.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

scaleSegment:newDuration:

Scales the `QTTrack` segment delimited by the segment *`segment`* so that it will have the new duration *`newDuration`*.

```
- (void)scaleSegment:(QTTimeRange)segment newDuration:(QTTime)newDuration
```

Discussion
If the track is not editable, this method raises an exception.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

setApertureModeDimensions:forMode:

Sets the dimensions of the target track for the specified movie aperture mode.

```
- (void)setApertureModeDimensions:(NSSize)dimensions forMode:(NSString *)mode
```

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

setAttribute:forKey:

Set the track attribute *`attributeKey`* to the value specified by the *`value`* parameter.

```
-(void)setAttribute:(id)value forKey:(NSString *)attributeKey
```

Discussion
A list of supported track attributes and their acceptable values can be found in the "Constants" (page 14) section.

Availability
Available in Mac OS X v10.3 and later.

Declared In
QTTrack.h

setEnabled:

Sets the enabled state of a QTTrack to *enabled*.

```
- (void)setEnabled:(BOOL)enabled
```

Availability
Available in Mac OS X v10.3 and later.

Related Sample Code
QTKitTimeCode

Declared In
QTTrack.h

setTrackAttributes:

Set the track attributes using the key-value pairs specified in the dictionary *attributes*.

```
-(void)setTrackAttributes:(NSDictionary *)attributes
```

Discussion
A list of supported track attributes and their acceptable values can be found in the "Constants" (page 14) section.

Availability
Available in Mac OS X v10.3 and later.

Declared In
QTTrack.h

setVolume:

Sets the volume of a QTTrack to *volume*.

```
-(void)setVolume:(float)volume
```

Discussion
The valid range is 0.0 to 1.0.

Availability
Available in Mac OS X v10.3 and later.

Declared In
QTTrack.h

trackAttributes

Returns a dictionary containing the current values of all defined track attributes.

```
-(NSDictionary *)trackAttributes
```

Discussion
A list of supported track attributes and their acceptable values can be found in the "Constants" (page 14) section.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

volume

Returns the volume of a `QTTrack` object.

```
-(float)volume
```

Discussion
The valid range is 0.0 to 1.0.

Availability
Available in Mac OS X v10.3 and later.

Declared In
`QTTrack.h`

Constants

The following constants specify the track attributes that you can get and set using the `trackAttributes` and `setTrackAttributes` methods. To get or set a single attribute, use `attributeForKey` or `setAttribute`.

Constant	Description
`QTTrackBoundsAttribute`	The bounding rectangle of a QTTrack object; the value for this key is of type `NSValue`, interpreted as an `NSRect`.
`QTTrackCreationTimeAttribute`	The creation time of a QTTrack object; the value for this key is of type `NSDate`.
`QTTrackDimensionsAttribute`	The dimensions of a QTTrack object; the value for this key is of type `NSValue`, interpreted as an `NSSize`.
`QTTrackDisplayNameAttribute`	The display name of a QTTrack object; the value for this key is of type `NSString`.

Constant	Description
`QTTrackEnabledAttribute`	The track enabled state of a QTTrack object; the value for this key is of type `NSNumber`, interpreted as a `BOOL`.
`QTTrackFormatSummary-Attribute`	An `NSString` that is a localized, human-readable string that summarizes a track's format; for example, "16-bit Integer (Big Endian), Stereo (L R), 48.000 kHz". This attribute is gettable but not settable. Mac OS X v10.5 and later.
`QTTrackHasAperture-ModeDimensionsAttribute`	The value to determine whether aperture mode dimensions have been set on a track, even if they are all identical to the classic dimensions (as is the case for content with square pixels and no edge-processing region).
`QTTrackIDAttribute`	The track ID of a QTTrack object; the value for this key is of type `NSNumber`, interpreted as a `long`.
`QTTrackLayerAttribute`	The track layer of a QTTrack object; the value for this key is of type `NSNumber`, interpreted as a `short`.
`QTTrackMediaTypeAttribute`	The media type of a QTTrack object; the value for this key is of type `NSString`.
`QTTrackModification-TimeAttribute`	The modification time of a QTTrack object; the value for this key is of type `NSDate`.
`QTTrackRangeAttribute`	The range of time this track occupies; the value for this key is of type `NSValue`, interpreted as a `QTTimeRange`.
`QTTrackTimeScaleAttribute`	The track time scale; the value for this key is of type `NSNumber`, interpreted as a `long`.
`QTTrackUsageInMovieAttribute`	The movie usage setting; the value for this key is of type `NSNumber`, interpreted as a `BOOL`.
`QTTrackUsageInPoster-Attribute`	The poster usage setting; the value for this key is of type `NSNumber`, interpreted as a `BOOL`.
`QTTrackUsageIn-PreviewAttribute`	The preview usage setting; the value for this key is of type `NSNumber`, interpreted as a `BOOL`.
`QTTrackVolumeAttribute`	The volume of a QTTrack object; the value for this key is of type `NSNumber`, interpreted as a `float`.

Document Revision History

This table describes the changes to *QTTrack Class Reference*.

Date	Notes
2009-03-04	Fixed constants listings; minor edits.
2006-07-11	Updated with information about new methods and attributes available in QuickTime 7.1 and Mac OS X v10.5.

Document Revision History

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