QTCaptureVideoPreviewOutput Class Reference

QuickTime > Cocoa

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Contents

QTCaptureVideoPreviewOutput Class Reference 5

Overview 5
Tasks 5
  Previewing Output 5
  Capturing Output 6
Instance Methods 6
  delegate 6
  outputVideoFrame:withSampleBuffer:fromConnection: 6
  setDelegate: 7
  setVisualContext:forConnection: 7
  visualContextForConnection: 8
Delegate Methods 8
  captureOutput:didOutputVideoFrame:withSampleBuffer:fromConnection: 8

Document Revision History 11

Index 13

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QTCaptureVideoPreviewOutput Class Reference

Inherits from	QTCaptureOutput : NSObject
Conforms to	NSObject (NSObject)
Framework	/System/Library/Frameworks/QTKit.framework
Availability	Available in QuickTime 7.2.1 and later.
Declared in	QTCaptureDecompressedVideoOutput.h QTCaptureVideoPreviewOutput.h
Related sample code	LiveVideoMixer3

Overview

This class represents an output destination for a `QTCaptureSession` that can be used to preview the video being captured. Instances of `QTCaptureVideoPreviewOutput` produce decompressed video frames suitable for preview. Because the output video is intended for preview only, instances may drop frames or reduce output quality in order to improve overall performance of the capture session. Applications that need to process full-quality frames without dropping them should use `QTCaptureDecompressedVideoOutput` instead. Applications can access the decompressed frames from a QuickTime visual context for each output connection, or via the `captureOutput:didOutputVideoFrame:withSampleBuffer:fromConnection:` delegate method. In addition, clients can create subclasses of `QTCaptureVideoPreviewOutput` to add custom capturing behavior. Application Kit clients wishing to preview video do not normally need to use `QTCaptureVideoPreviewOutput` instances directly, as they are created and managed by instances of `QTCaptureView`. Clients should use `QTCaptureVideoPreviewOutput` directly only when they require preview functionality not provided by `QTCaptureView` or when they need to process decompressed frames directly.

Tasks

Previewing Output

- `delegate` (page 6)
  Returns the receiver's delegate.
- `visualContextForConnection:` (page 8)
  Returns the QuickTime visual context used to preview the video for the given connection.

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- outputVideoFrame:withSampleBuffer:fromConnection: (page 6)
Called whenever the receiver outputs a new video frame.
- setDelegate: (page 7)
Sets the receiver's delegate.
- setVisualContext:forConnection: (page 7)
Sets the QuickTime visual context used to preview the video for the described connection.

Capturing Output

- captureOutput:didOutputVideoFrame:withSampleBuffer:fromConnection: (page 8) *delegate method*
Called whenever the video preview output outputs a new video frame.

Instance Methods

delegate

Returns the receiver's delegate.

```
- (id)delegate
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
QTCaptureVideoPreviewOutput.h

outputVideoFrame:withSampleBuffer:fromConnection:

Called whenever the receiver outputs a new video frame.

```
- (void)outputVideoFrame:(CVImageBufferRef)videoFrame
    withSampleBuffer:(QTSampleBuffer *)sampleBuffer
    fromConnection:(QTCaptureConnection *)connection
```

Parameters

videoFrame
A buffer containing the decompressed frame.

sampleBuffer
A sample buffer containing additional information about the frame, such as its presentation time.

connection
The connection from which the video was received.

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Discussion
This method should not be invoked directly. Subclasses can override this method to provide custom processing behavior for each frame. The default implementation calls the delegate's `captureOutput:didOutputVideoFrame:withSampleBuffer:fromConnection:` method. Subclasses should not assume that this method will be called on the main thread. In addition, this method is called periodically, so it must be efficient to prevent capture performance problems.

Availability
Mac OS X v10.5 and later.
Not available to 64-bit applications.

Declared In
`QTCaptureVideoPreviewOutput.h`

setDelegate:

Sets the receiver's delegate.

```
- (void)setDelegate:(id)delegate
```

Availability
Available in Mac OS X v10.5 and later.

Declared In
`QTCaptureVideoPreviewOutput.h`

setVisualContext:forConnection:

Sets the QuickTime visual context used to preview the video for the described connection.

```
- (void)setVisualContext:(QTVisualContextRef)visualContext
    forConnection:(QTCaptureConnection *)connection
```

Parameters

visualContext
A QTVisualContextRef to be used for the preview of the given connection.

connection
The connection to be previewed by the given visual context.

Discussion
If the application has an existing visual context being used to display video, this method can be used to set the visual context for the preview.

Availability
Mac OS X v10.5 and later.
Not available to 64-bit applications.

Declared In
`QTCaptureVideoPreviewOutput.h`

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visualContextForConnection:

Returns the QuickTime visual context used to preview the video for the given connection.

```
- (QTVisualContextRef)visualContextForConnection:(QTCaptureConnection *)connection
```

Parameters

connection

The connection previewed by the returned visual context.

Return Value

A `QTVisualContextRef` that provides access to a video preview for the given connection.

Discussion

The returned visual context can be used to obtain frames that can be used to display a video preview of the capture session. By default this method returns `NULL`, until a visual context is set using `setVisualContext:forConnection:`.

Availability

Mac OS X v10.5 and later.

Not available to 64-bit applications.

Declared In

`QTCaptureVideoPreviewOutput.h`

Delegate Methods

captureOutput:didOutputVideoFrame:withSampleBuffer:fromConnection:

Called whenever the video preview output outputs a new video frame.

```
- (void)captureOutput:(QTCaptureOutput *)captureOutput
  didOutputVideoFrame:(CVImageBufferRef)videoFrame
  withSampleBuffer:(QTSampleBuffer *)sampleBuffer
  fromConnection:(QTCaptureConnection *)connection
```

Parameters

captureOutput

The `QTCaptureVideoPreviewOutput` instance that output the frame.

videoFrame

A `CVImageBufferRef` containing the decompressed frame.

sampleBuffer

A `QTSampleBuffer` object containing additional information about the frame, such as its presentation time.

connection

The connection from which the video was received.

Discussion

Delegates receive this method whenever the output decompresses and outputs a new video frame. Delegates can use the provided video frame for a custom preview or for further image processing. Delegates should not assume that this method will be called on the main thread. In addition, this method is called periodically, so it must be efficient to prevent capture performance problems.

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Availability
Mac OS X v10.5 and later.

Declared In
`QTCaptureDecompressedVideoOutput.h`

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Document Revision History

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

Date	Notes
2009-03-04	Minor edit fixes.
2007-07-19	Added new methods; removed video field mode and previewed output methods; changed type of delegate method's parameters.
2006-08-07	New document that describes the Objective-C class for an output destination used to preview the video being captured.

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Document Revision History

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Index

C

`captureOutput:didOutputVideoFrame:withSampleBuffer:fromConnection:` <NSObject> delegate method 8

D

`delegate` instance method 6

O

`outputVideoFrame:withSampleBuffer:fromConnection:` instance method 6

S

`setDelegate:` instance method 7
`setVisualContext:forConnection:` instance method 7

V

`visualContextForConnection:` instance method 8

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