API Collection

Media playback

Manage the playback of media assets and interstitial content, independent of how you present that content in your interface.

Overview

You use a player to manage the playback and timing of a media asset, for example starting and stopping playback, and seeking to a particular time. A player manages the playback of a single media asset at a time. The framework also provides a queue player that queues media assets to play sequentially.

> **Note**
>
> When you use AVFoundation, Apple may collect metrics to help improve the framework.

You create an instance of `AVPlayerItem` to play a media asset. A player item manages the timing and presentation state of an asset played by the player. A player item also contains player item tracks that correspond to the tracks in the asset. You direct the output of a player to a specialized Core Animation layer, a player layer, or a synchronized layer.

> **Important**
>
> You must call the `VTRegisterProfessionalVideoWorkflowVideoDecoders()` function if your app requires Afterburner accelerated playback and decoding of ProRes and ProRes RAW video files.

Topics

Essentials

🗎 Configuring your app for media playback

Configure apps to enable standard media playback behavior.

Playback control

🗎 Observing playback state in SwiftUI

Keep your user interface in sync with state changes from playback objects.

🗎 Controlling the transport behavior of a player

Play, pause, and seek through a media presentation.

`{}` Creating a seamless multiview playback experience

Build advanced multiview playback experiences with the AVFoundation and AVRouting frameworks.

`class AVPlayer`

An object that provides the interface to control the player's transport behavior.

`class AVPlayerItem`

An object that models the timing and presentation state of an asset during playback.

`class AVPlayerItemTrack`

An object that represents the presentation state of an asset track during playback.

`class AVQueuePlayer`

An object that plays a sequence of player items.

`class AVPlayerLooper`

An object that loops media content using a queue player.

SharePlay

`{}` Destination Video

Leverage SwiftUI to build an immersive media experience in a multiplatform app.

`{}` Supporting coordinated media playback

Create synchronized media experiences that enable users to watch and listen across devices.

`class AVPlaybackCoordinator`

An object that coordinates the playback of players in a connected group.

`class AVPlayerPlaybackCoordinator`

A playback coordinator subclass that coordinates the playback of player objects in a connected group.

`class AVDelegatingPlaybackCoordinator`

A playback coordinator subclass that coordinates the playback of custom player objects in a connected group.

`class AVPlaybackCoordinationMedium`

Presentation

Monitoring playback progress in your app

Observe the playback of a media asset to update your app's user-interface state.

`{}` Using HEVC video with alpha

Play, write, and export HEVC video with an alpha channel to add overlay effects to your video processing.

`class AVPlayerLayer`

An object that presents the visual contents of a player object.

`class AVSynchronizedLayer`

A Core Animation layer that derives its timing from a player item so that you can synchronize layer animations with media playback.

Media selection

Selecting subtitles and alternative audio tracks

Extend your app's appeal to users by adding subtitles and alternative audio tracks in their native language.

`class AVMediaSelection`

An object that represents a complete rendition of media selection options on an asset.

```
class AVMediaSelectionGroup
```

An object that represents a collection of mutually exclusive options for the presentation of media within an asset.

```
class AVMediaSelectionOption
```

An object that represents a specific option for the presentation of media within a group of options.

```
class AVMutableMediaSelection
```

A mutable object that represents a complete rendition of media selection options on an asset.

```
class AVPlayerMediaSelectionCriteria
```

An object that specifies the preferred languages and media characteristics for a player.

```
class AVCustomMediaSelectionScheme
```

For content that has been authored with the express intent of offering an alternative selection interface for AVMediaSelectionOptions, AVCustomMediaSelectionScheme provides a collection of custom settings for controlling the presentation of the media.

```
class AVMediaPresentationSelector
```

For content that has been authored with the express intent of offering an alternative selection interface for AVMediaSelectionOptions, AVMediaPresentationSelector represents a collection of mutually exclusive settings.

```
class AVMediaPresentationSetting
```

For content that has been authored with the express intent of offering an alternative selection interface for AVMediaSelectionOptions, AVMediaPresentationSetting represents a selectable setting for controlling the presentation of the media.

Interstitials

{} Providing an integrated view of your timeline when playing HLS interstitials

Go beyond simple ad insertion with point and fill occupancy HLS interstitials.

```
class AVPlayerInterstitialEvent
```

An object that provides instructions for how a player presents interstitial content.

```
class AVPlayerInterstitialEventController
```

An object that schedules interstitial events for items played by the primary player.

```
class AVPlayerInterstitialEventMonitor
```

An object that monitors the scheduling and progress of interstitial events.

class **AVPlayerItemIntegratedTimeline**

An object that models the timeline and playback sequence of a primary player item and scheduled interstitial events.

Metrics

struct **AVMetrics**

An asynchronous stream of metric information.

struct **AVMergedMetrics**

An asynchronous stream of metric information from different publishers.

class **AVVideoPerformanceMetrics**

An object that provides metrics related to video playback quality.

protocol **AVMetricEventStreamPublisher**

A type for objects that publish metric events to the event stream.

class **AVMetricEvent**

A base class that represents a metric event.

class **AVMetricErrorEvent**

An object that represents a metric event when an error occurs.

≔ Metric event types

Remote controls

{} Supporting remote interactions in tvOS

Set up your app to support remote commands and events in a variety of scenarios by using the relevant approach.

Timed metadata

📄 Presenting chapter markers

Add chapter markers to enable users to quickly navigate your content.

class **AVMetadataGroup**

A collection of metadata items associated with a timeline segment.

class **AVTimedMetadataGroup**

A collection of metadata items that are valid for use during a specific time range.

class `AVMutableTimedMetadataGroup`

A mutable collection of metadata items that are valid for use during a specific time range.

class `AVDateRangeMetadataGroup`

A collection of metadata items that are valid for use within a specific date range.

class `AVMutableDateRangeMetadataGroup`

A mutable collection of metadata items that are valid for use within a specific range of dates.

class `AVPlayerItemMediaDataCollector`

The abstract base for media data collectors.

class `AVPlayerItemMetadataCollector`

An object used to capture the date range metadata defined for an HTTP Live Streaming asset.

Media output

class `AVPlayerVideoOutput`

An object that receives video data from a player object.

class `AVVideoOutputSpecification`

An object that specifies the pixel buffer attributes and tag collections handled by a player video output.

class `AVPlayerItemOutput`

An abstract class that defines the common interface to output media data from a player item.

class `AVPlayerItemVideoOutput`

An object that outputs video frames from a player item.

class `AVPlayerItemLegibleOutput`

An object that vends attributed strings for media with a legible characteristic.

class `AVPlayerItemRenderedLegibleOutput`

A player item output that vends media with a legible characteristic as rendered pixel buffers.

class `AVRenderedCaptionImage`

An object that provides a rendered pixel buffer and its position in pixels.

class AVPlayerItemMetadataOutput

An object that vends collections of metadata items that a player item's tracks carry.

protocol AVPlayerItemOutputPushDelegate

A protocol that defines the methods to implement to respond to changes in the media data sequence.

Utilities

class AVAssetPlaybackAssistant

An object that provides playback information for an asset.

struct AVAssetPlaybackConfigurationOption

A structure that defines playback configuration options for an asset.

See Also

Playback

≔ Offline playback and storage

Download streamed content to disk to allow offline playback, and define policies to automatically remove downloaded assets.

≔ Streaming and AirPlay

Stream content wirelessly to other devices using AirPlay, and handle requests involving FairPlay-protected assets.

≔ Sample buffer playback

Create custom controllers to play and synchronize the timing of sample buffer streams.