

# Play a video

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# As an introduction

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## Facility provided by AVKit

## Many classes

### Presented ones

- ▶ AVPlayerViewController (control an AVPlayerView)
- ▶ AVPlayerView
- ▶ AVPlayer (the player itself)
- ▶ AVAudioSession (how to use the player)

### Their protocols

- ▶ AVPlayerViewControllerDelegate

### Others

- ▶ AVPictureInPictureController (fine control on picture-in-picture)
- ▶ AVNavigationMarkersGroup (markers for navigation in video)
- ▶ AVCaptureView (display of controls)
- ▶ AVContentProposal (handling the next video)

### Other protocols

- ▶ AVCaptureViewDelegate, AVPictureInPictureControllerDelegate



# As an introduction

## Features provided by AVKit

### Media

Only the basics...

Simple things



## Picture in Picture

Introduced in iOS9  
(large devices only)

### Presentations

- ▶ AVPlayerViewController
- ▶ AVPlayer (the player itself)
- ▶ AVAudioSession (how to use the player)

### Their protocols

- ▶ AVPlayerViewControllerDelegate

### Others

- ▶ AVPictureInPictureController (fine control over picture)
- ▶ AVNavigationMarkersGroup (markers for navigation video)
- ▶ AVCaptureView (display of camera)
- ▶ AVContentProposal (handling content proposals)

### Other protocols

- ▶ AVCaptureViewDelegate, AVPictureInPictureControllerDelegate

**RTFM!**





# AVAudioSession

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## Only one object per Application

### Getting this object

```
class func sharedInstance() -> AVAudioSession
```

### Configuration

```
func setCategory(_ category: AVAudioSession.Category,  
                mode: AVAudioSession.Mode,  
                options: AVAudioSession.CategoryOption = []) throws
```

#### ▶ Problems reported via exceptions

### Configuration modes

- ▶ default
- ▶ gameChat
- ▶ measurement
- ▶ moviePlayback
- ▶ spokenAudio
- ▶ videoChat
- ▶ videoRecording
- ▶ voiceChat
- ▶ voicePrompt



# AVPlayerView

## May be associated with an AVPlayer

- Property player

## Customisation

- controlsStyle (AVPlayerViewControlsStyle)
    - ▶ none, inline (default), floating, minimal
  - showsFrameSteppingButtons
  - showsSharingServiceButton
  - showsFullScreenToggleButton
  - updatesNowPlayingInfoCenter
  - etc.
- 
- and also information you can fetch from the controller
    - ▶ current time, videoBounds , etc.





# AVPlayerViewController

## Controller embedding an AVPlayerView

-  Embeds an AVPlayer too

## What's inside?

-  Customisation
  - ▶ `showsPlaybackControls`
  - ▶ `allowsPictureInPicturePlayback`
  - ▶ `isReadyForDisplay`
  - ▶ `videoBounds`
  - ▶ `etc.`
-  Call-backs, AVPlayerViewControllerDelegate protocol
  - ▶ `Picture-in-Picture`
  - ▶ `Navigation (current position, etc.)`
  - ▶ `Option management (subtitles, etc.)`
  - ▶ `Etc.`



**Carefull!!!**

Never subclass a  
UIPlayerViewController...



# AVPlayer

## Handle one video at a time

- For multiple videos, see AVQueuePlayer

  - ▶ Includes a media queue

- Creation

  - ▶ With an URL or an AVPlayerItem

  - ▶ You may reuse it (replace the AVPlayerItem)

```
func replaceCurrentItem(with item: AVPlayerItem?)
```

## Customisation

- Behaviour when «lagging», rate, etc

## Functions

- Time (elapsed, remaining, duration)

- Fast forward and backward

- Volume

- etc.



# Managing playback



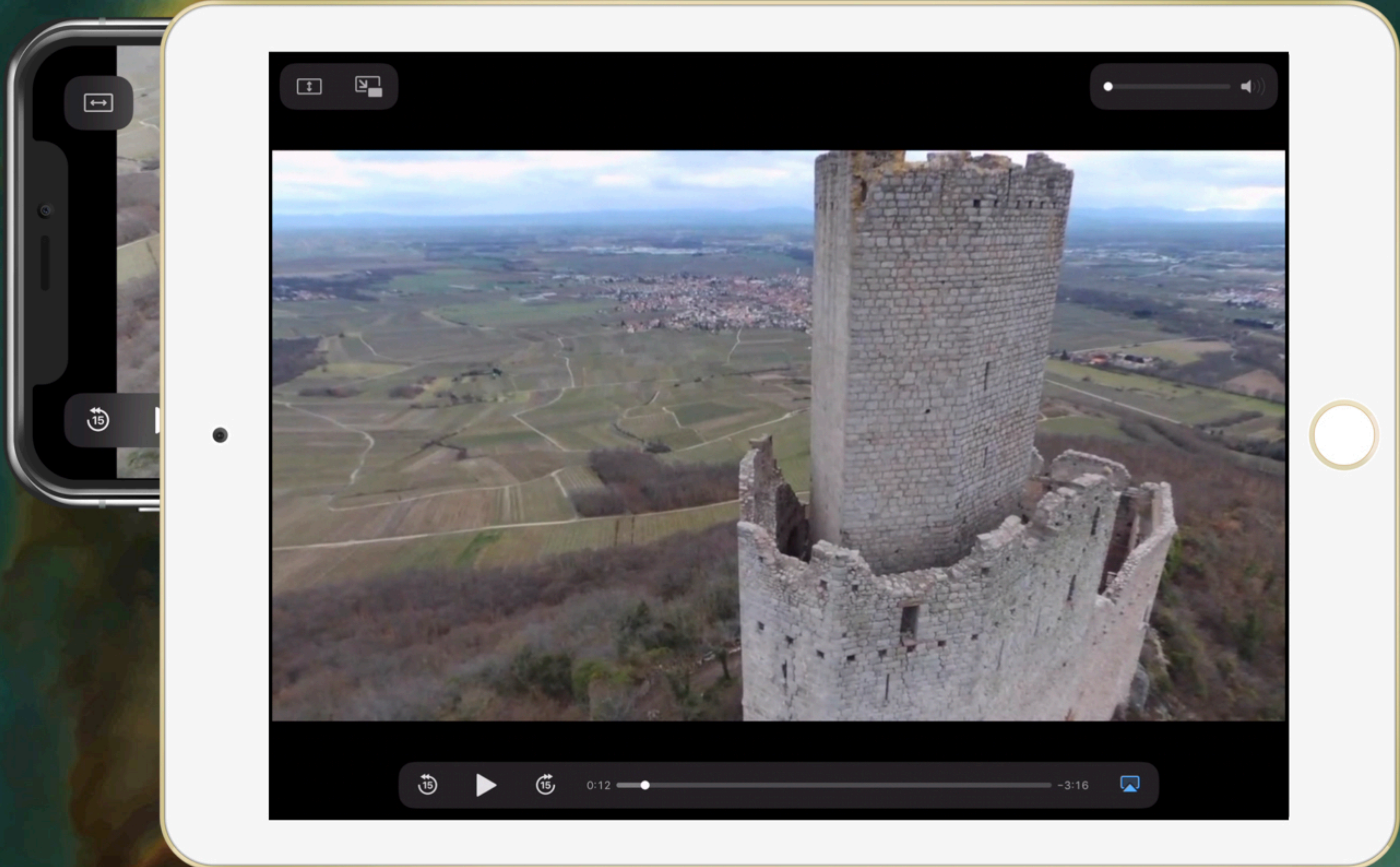
All is included...





# Managing playback

All is included...





# Managing playback

All is included...

The screenshot shows a mobile browser interface on a tablet. The address bar displays 'pagesperso.lip6.fr'. The page content includes a navigation menu with 'Accueil', 'Semaine 1', 'Semaine 2', and 'Semaine 3'. A main heading reads 'LXIII - Les vues, zoom & dé'. Below this is a 'Résumé de la séquence' section, followed by 'Mots clefs : UIView, UIScrollView.' and 'Accéder à la séquence'. A video player is overlaid on the right side of the page, showing a landscape with a stone tower. The video player has standard playback controls: a play button, a close button (X), and a full-screen button. Below the video player is a YouTube video thumbnail with the title '060 Views, zoom & scroll' and the text 'PROGRAMMATION SUR PLATEFORMES MOBILES' and 'PROGRAMMING MOBILE DEVICES'. At the bottom of the page, there is a 'Liens utiles' section with a list of references.

00:09 Tue 20 Nov

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companion web site (2017/2018) - Semaine 2

Impossible d'ouvrir la page

web site (20178/2019) - semaine 05, séquence 02

Accueil Semaine 1 Semaine 2 Semaine 3

Programmation sur Plateforme Mobile - site comp

**LXIII - Les vues, zoom & dé**

Résumé de la séquence

Cette séquence présente la class `UIScrollView` qui permet d'afficher des vues (images, etc) de grande t

**Mots clefs :** UIView, UIScrollView.

Accéder à la séquence

Si la séquence ne s'affiche pas dans le cadre ci-dessous, vous pouvez y accéder via le lien dans le cartouche

060 Views, zoom & scroll

PROGRAMMATION SUR PLATEFORMES MOBILES

PROGRAMMING MOBILE DEVICES

Liens utiles

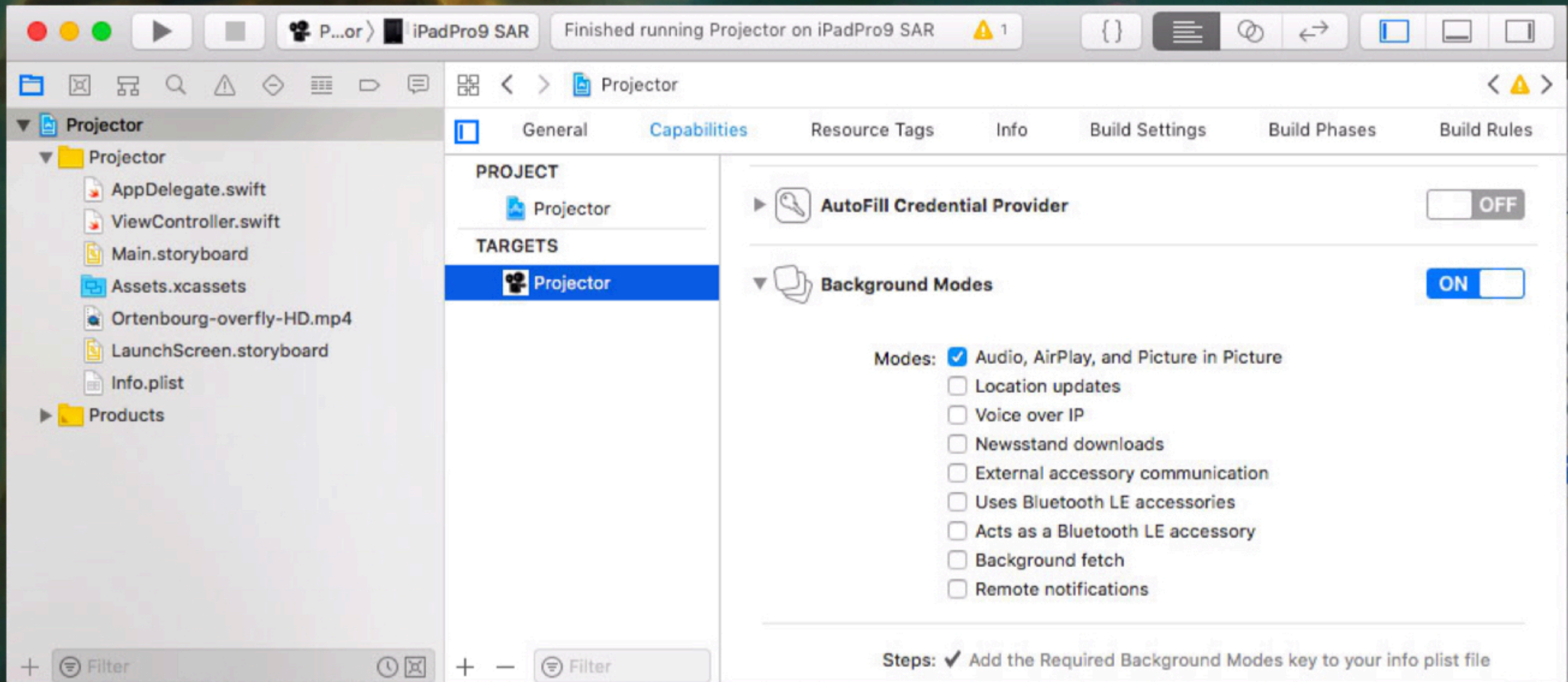
Voici quelques références pour les auditeurs souhaitant approfondir certains points:

- UIScrollView Class Reference (Apple).



# Activating picture-in-picture

- 📱 **Do not forget it!**
- 🕒 **Otherwise you may spoil time...**



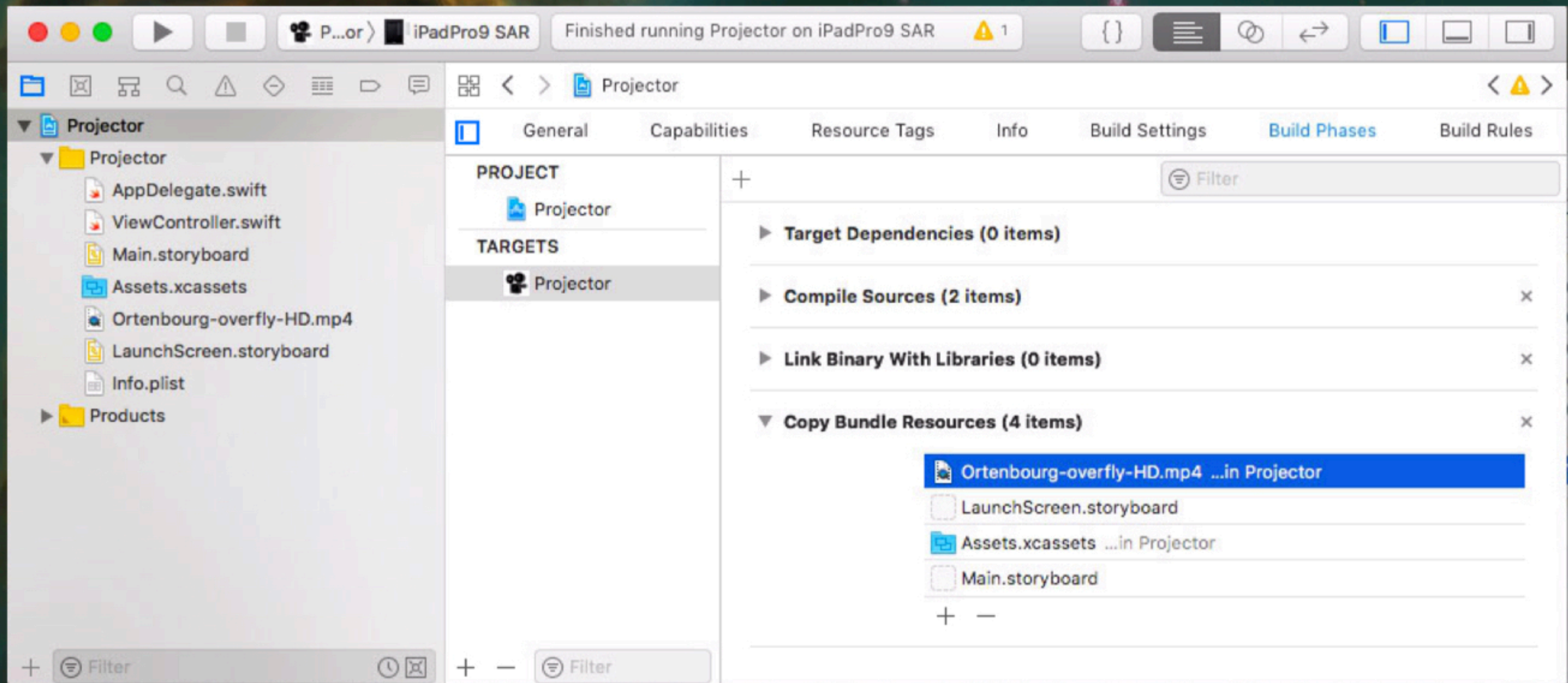


# If you embed video



## Be careful with the bundle management

• Large files?





# Video editing & recording?

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## Editing

- AVVideoComposition/AVMutableVideoComposition
  - ▶ Assembling & composing video
  - ▶ Protocol AVVideoCompositing
- AVASSET
  - ▶ Representation of an audio/video track
- AVAssetExportSession
  - ▶ Transcoding the contents of an asset source object

## Recording

- Via UIImagePickerController
- Can be set too in an AVAudioSession



# Video editing & recording?

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## Editing

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# As a conclusion...

## Simple for simple use

- Embedded videos
- Videos from the web
- Already covers many usages

## User control integrated

- Customisation possible... but complex
  - ▶ Dedicated protocols

## AVFoundation is quite rich

- You may do what you want...
  - ▶ Be ready to read **RTFM!**

