

# AVFOUNDATION

Tomas Cejka, iOS dev at STRV

STRV



audio, video & more...



# WORKSHOP ROADMAP

Coding 🧑

- 4 tasks
- Theory ?! 🧑

Break

Working app

Summary

# CODING

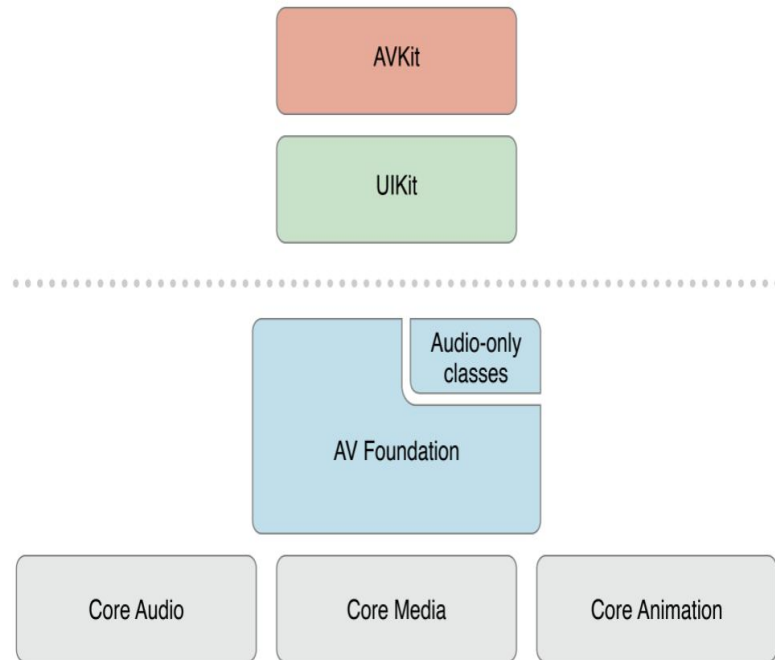
# PROJECT SOURCE

- Download app
  - <https://github.com/cejanen/AVFoundationWorkshop>
- Open project
- Run App - DO NOT use simulator for XS, XS Max, XR
- Allow all required features (mic, camera, photos)
- Look at readme file

# AVFOUNDATION

# AVFOUNDATION

- Framework for working with Audio/Video assets
- Processing
- Capturing
- Controlling
- Importing
- Exporting
- Editing



# BASE CLASSES

- CMTime
- AVAsset
- AVPlayerItem
- AVPlayer
- AVAssetImageGenerator
- AVMutableComposition
- AVCaptureDevice + AVCaptureSession

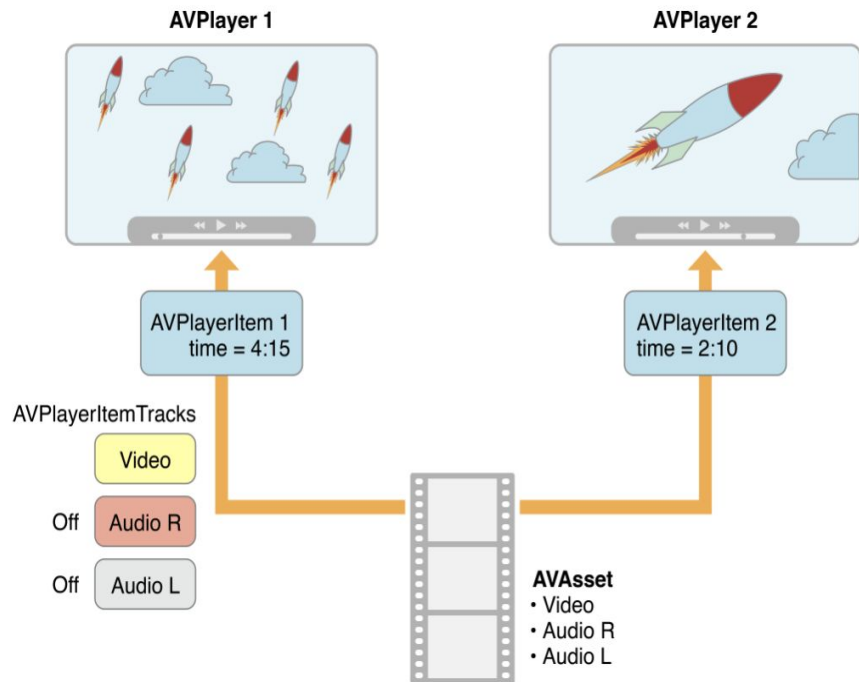


# CMTIME ALGEBRA

- Double is not precise enough
- CMTIME is structure with value and scale
- CMTIME is rational number
- $\text{value}/\text{scale} = \text{seconds}$
- $\text{CMTIME}(\text{value: } 100, \text{scale: } 10) = 10 \text{ seconds}$

# AVASSET

- Abstract class for media asset
- Not data itself
- KVO - duration, playable, tracks
- Async load keys



# PLAYERS

- AVAudioPlayer
- AVPlayer
- AVQueuePlayer
- AVPlayerLooper

# AVMUTABLECOMPOSITION

- Creating asset composition
- Mixing tracks, assets
- Adding transformations
- VideoComposing instructions
- AVMutableVideoComposition

# COMMON MISTAKES

- AVAsset x AVURLAsset x AVPlayerItem
- Observing wrong class (AVPlayerItem vs AVPlayer)
- Observation x Notification x Delegate
- Blocking thread
- Wrong order of calls

# SUMMARY

# AVFOUNDATION - SUMMARY

- Powerful tool
- Easy to play, export assets
- Tricky stuff
- Composing is alchemy
- Documentation is great but textual

# SOURCES

- [AVFoundation programming guide](#)
- [Understanding CMTime](#)
- <https://github.com/khoavd-dev/MergeVideos>



# QUESTIONS

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# THAT'S IT

Tomas Cejka @cejannen  
tomas.cejka@strv.com

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