

#WWDC19

Mastering the Living Room with tvOS

Tommy Payne, Designer

Caleb Davenport, Engineer

Felipe Cypriano, Engineer

Dale Taylor, Engineer

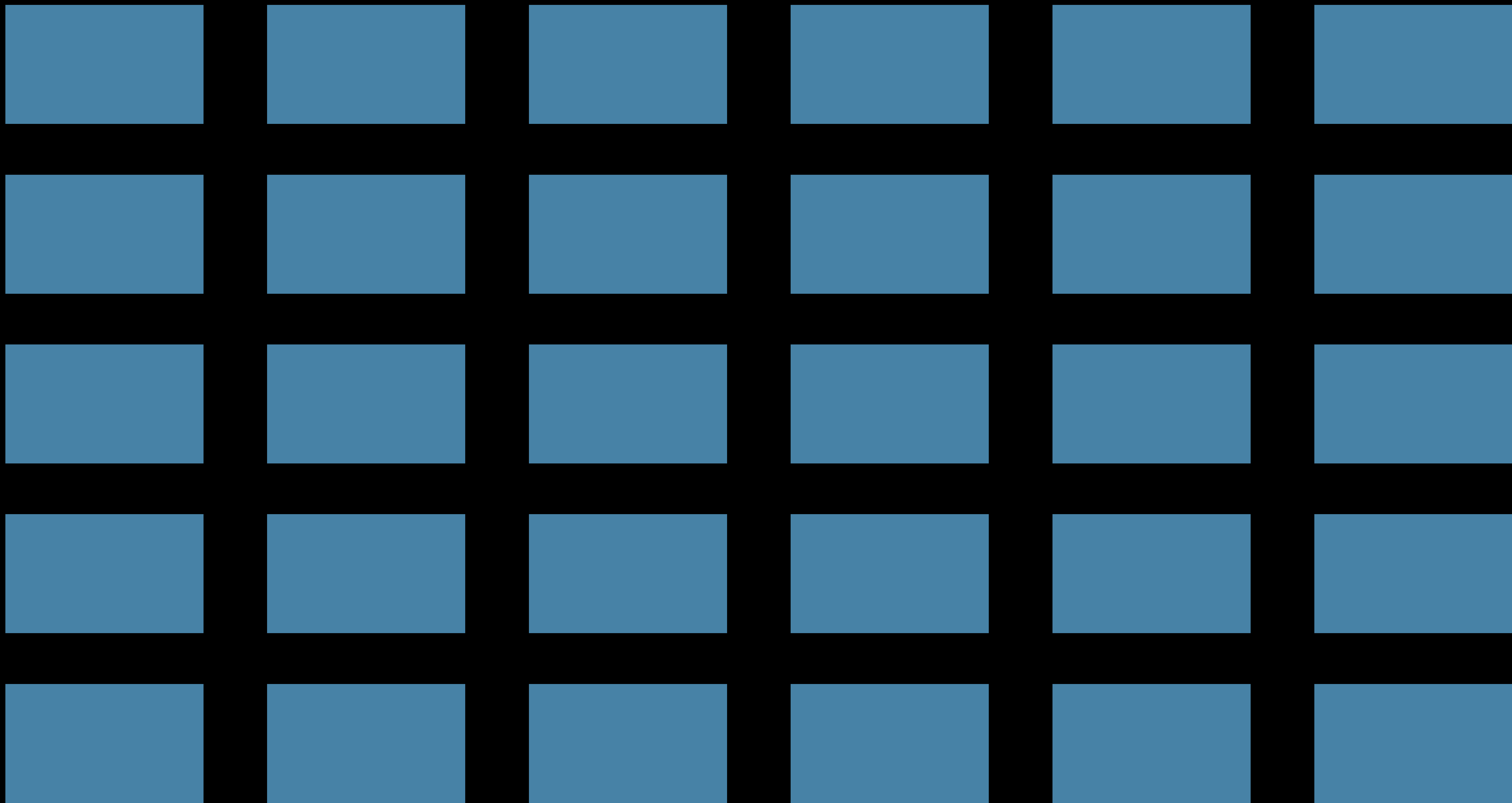
Browsing 🧐

Connecting People Thoughtfully





Joy of Discovery



Content First

Best Practices

Remove Barriers

Simplify Interactions

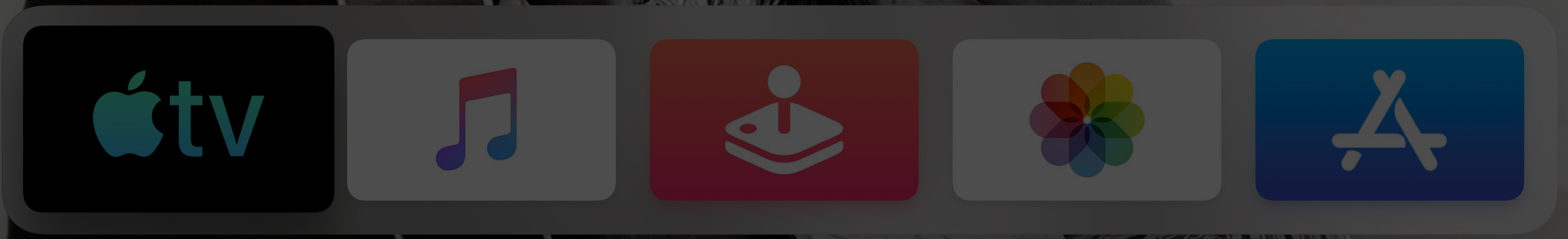
Swipe up for fullscreen

A STAR IS BORN

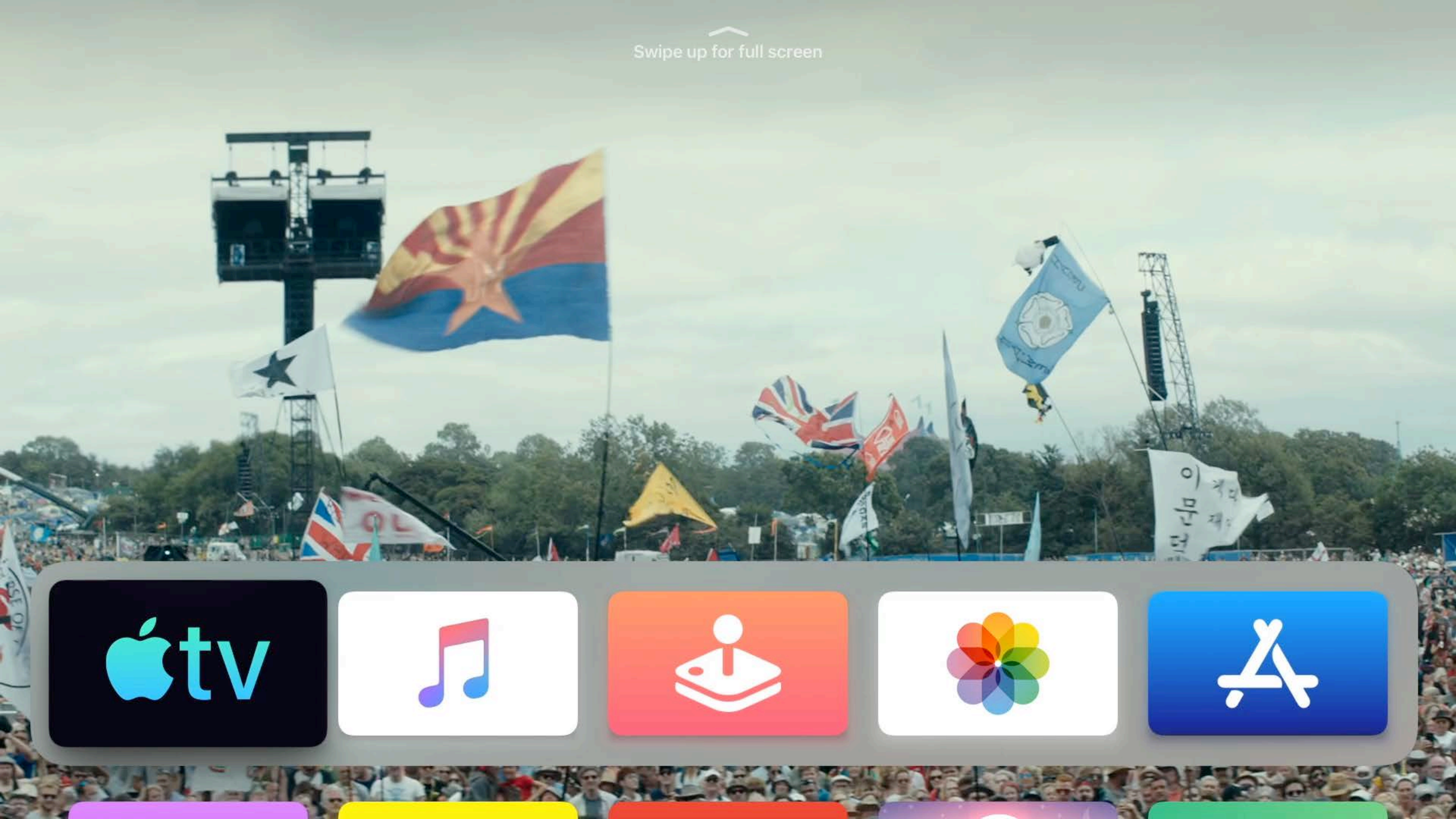


Swipe up for fullscreen

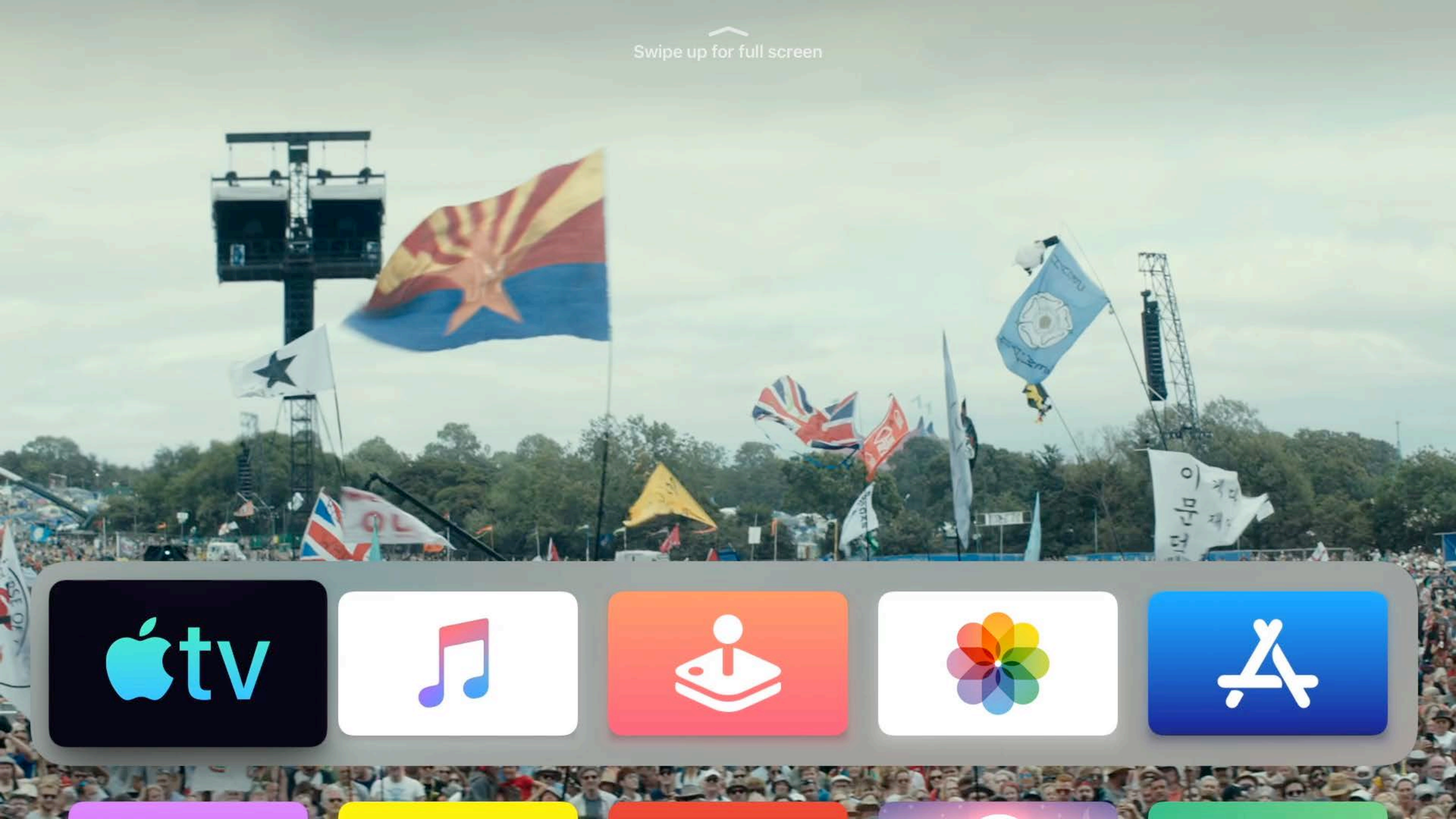
A STAR IS BORN



Swipe up for full screen



Swipe up for full screen



Speed & Pacing

Watch Now

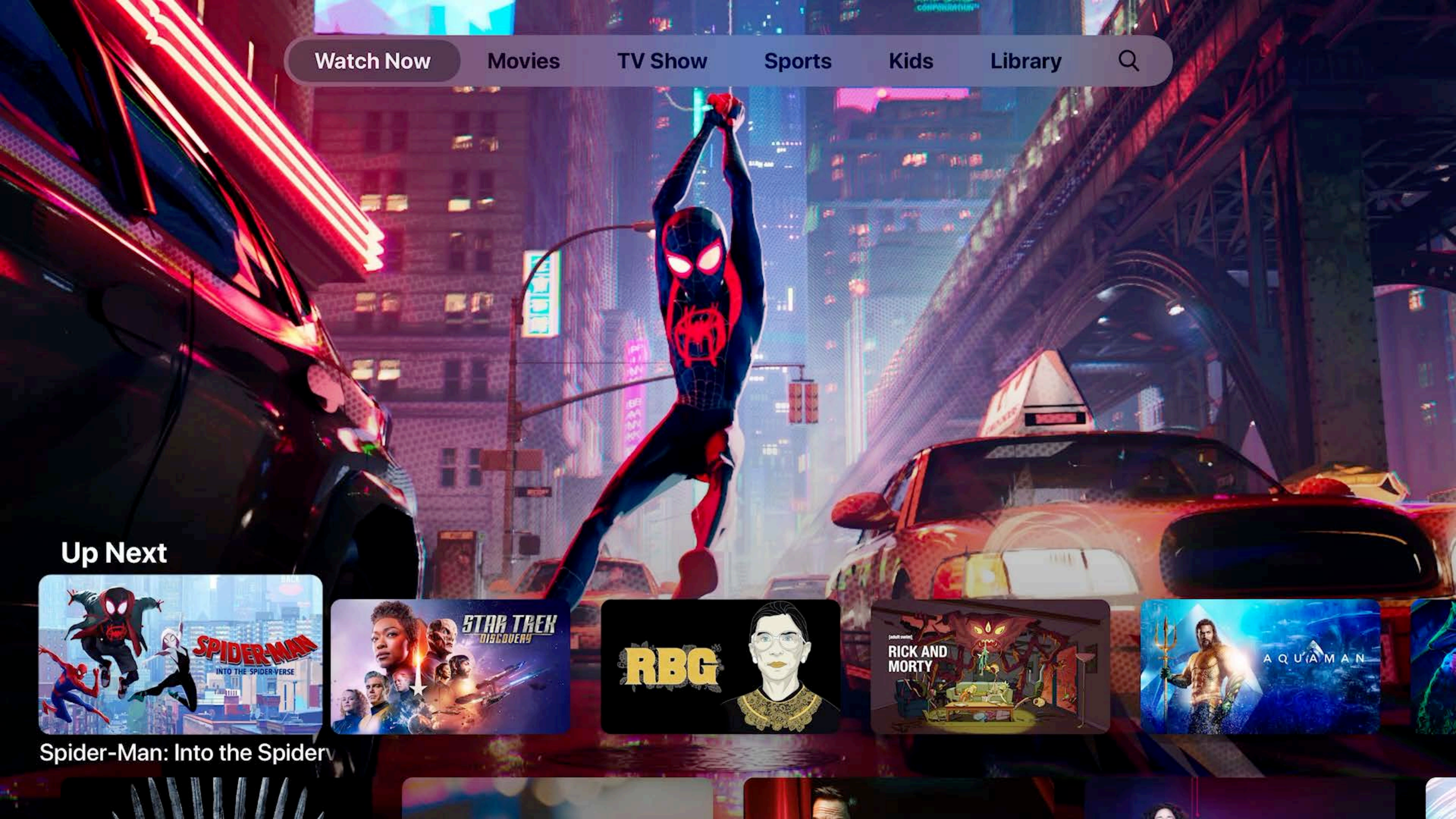
Movies

TV Show

Sports

Kids

Library



Up Next



Spider-Man: Into the Spider-Verse



Watch Now

Movies

TV Show

Sports

Kids

Library



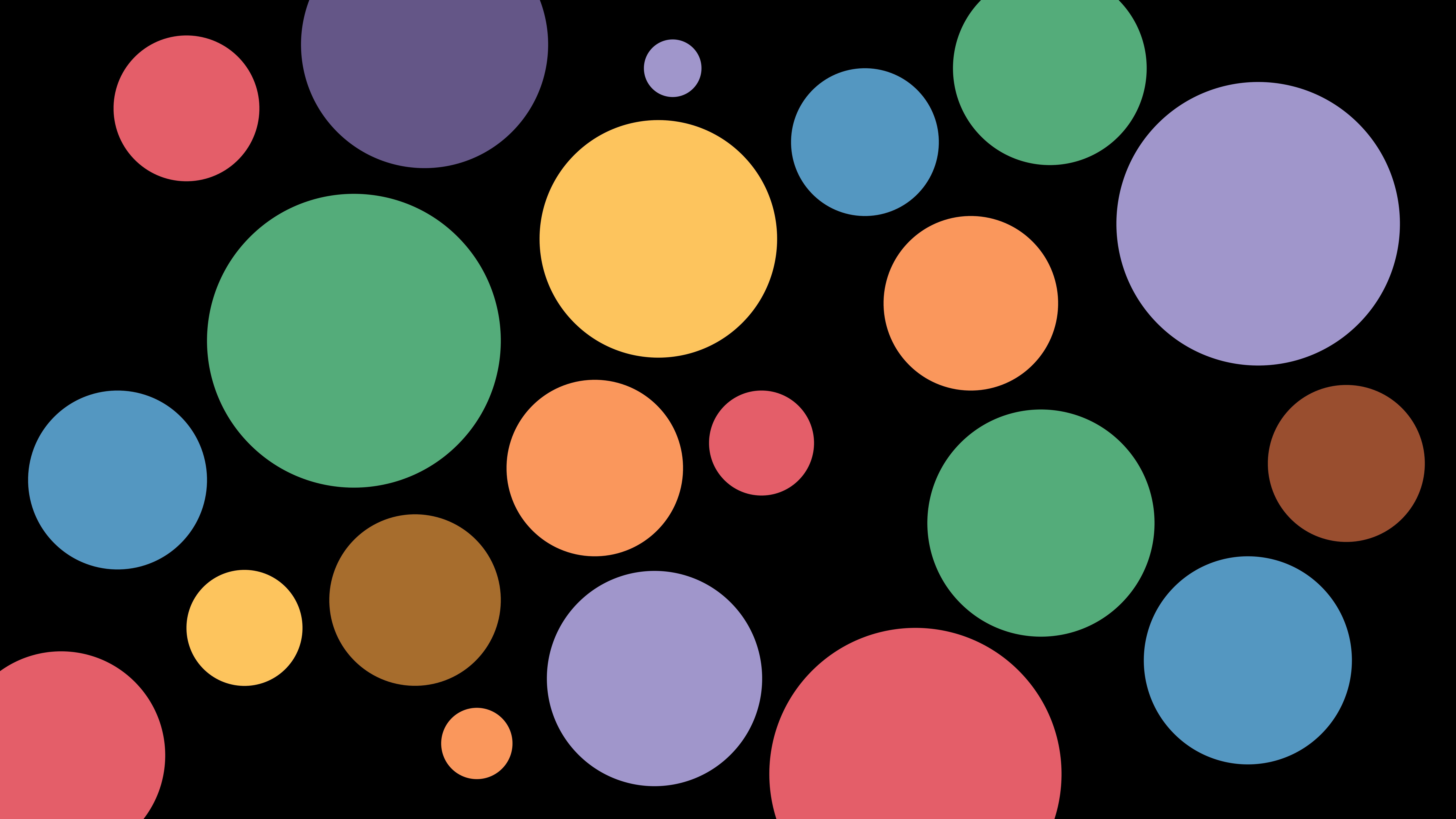
Up Next

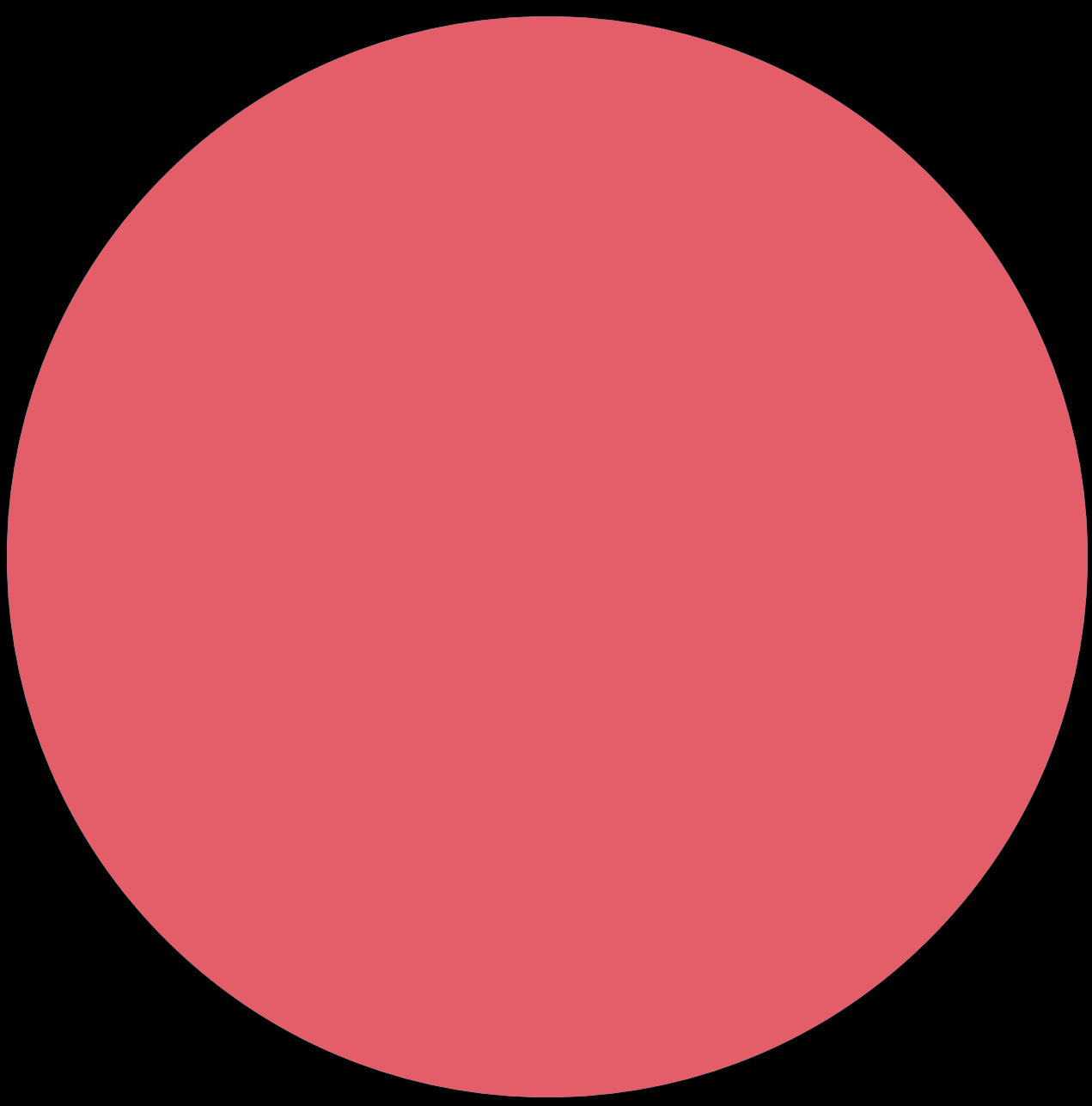


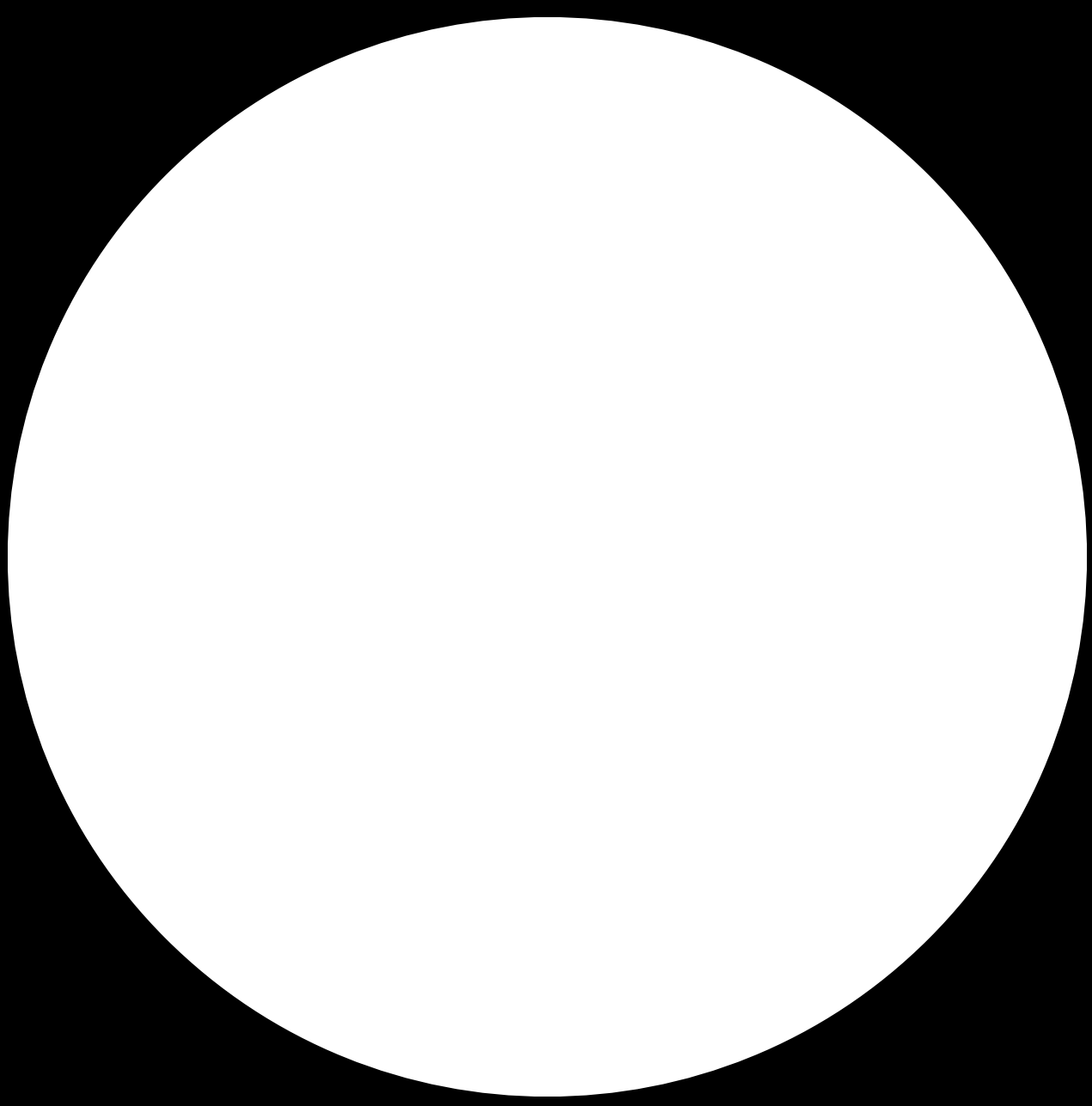
Spider-Man: Into the Spider-Verse



Overstimulation

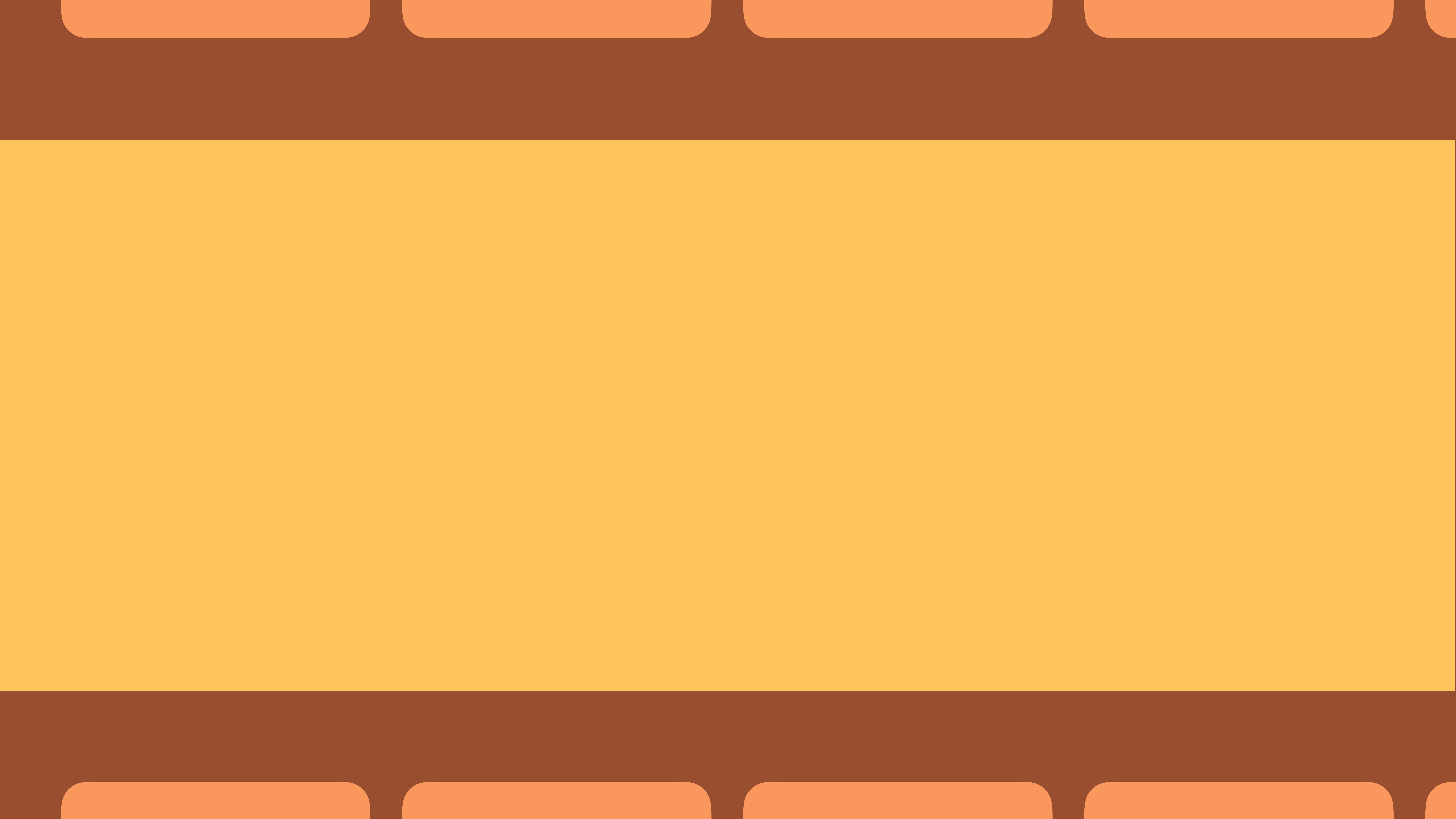






Diversify the UI





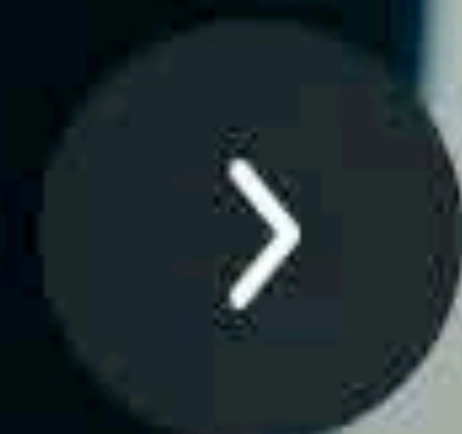
Reduce Number of Elements



Meta-data

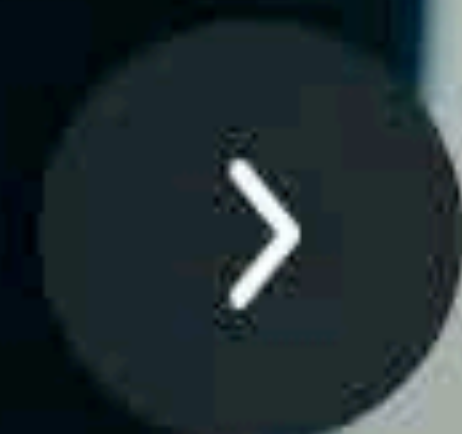
FEATURED MOVIE

A Star is Born



FEATURED MOVIE

A Star is Born



Use Pagination

FEATURED MOVIE

Spider-Man: Into the Spider-Verse



[▶ Play](#)

[More Info](#)

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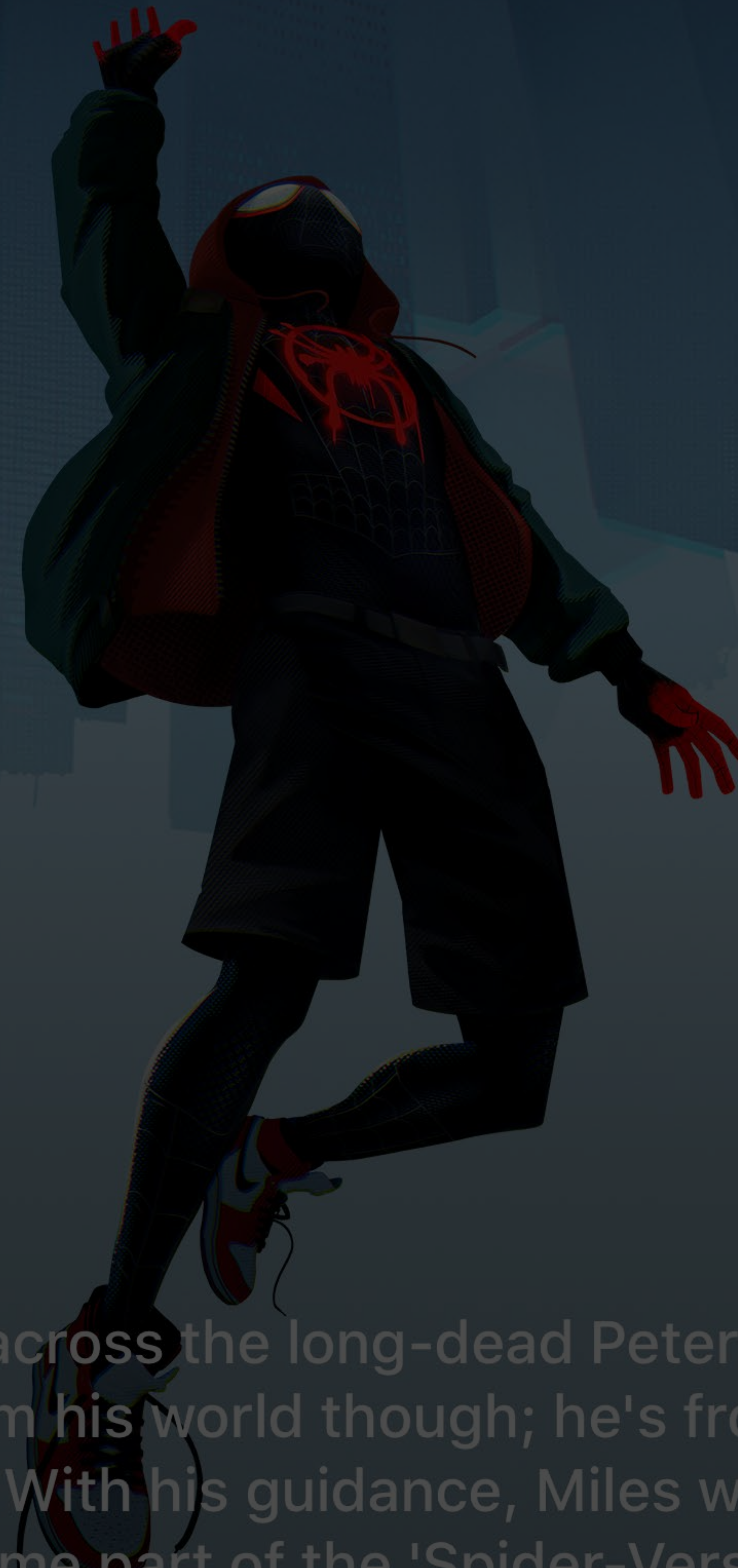
Starring Shameik Moore, Jake Johnson, Hailee Steinfeld, Mahershala Ali
Director Bob Persichetti

Action 2018 1 hr 52 min    



FEATURED MOVIE

Spider-Man: Into the Spider-Verse



[▶ Play](#)

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Use Chevrons

FEATURED MOVIE

Spider-Man: Into the Spider-Verse



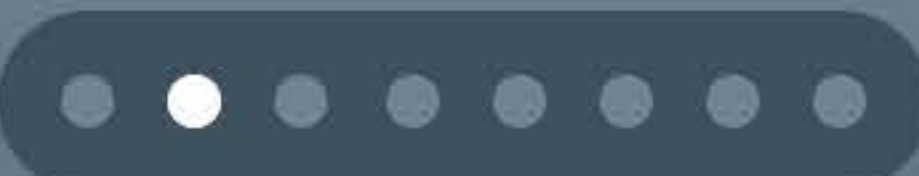
[▶ Play](#)

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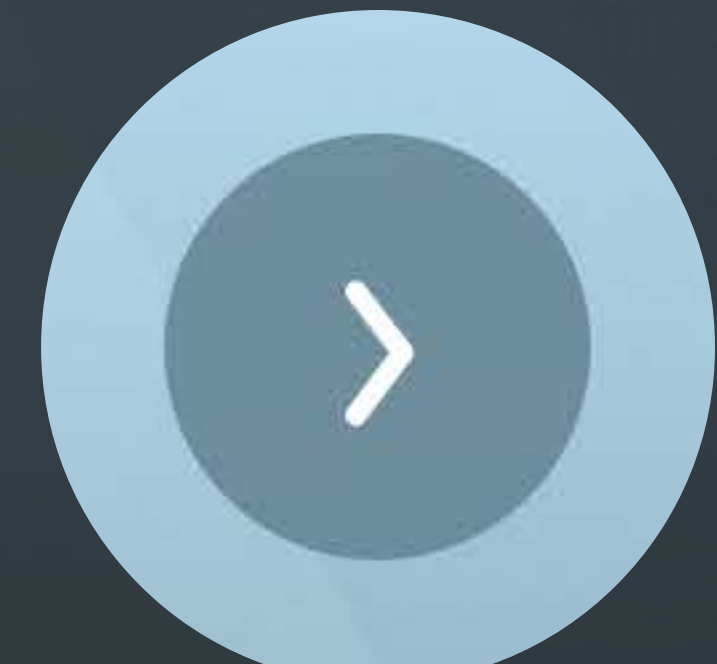
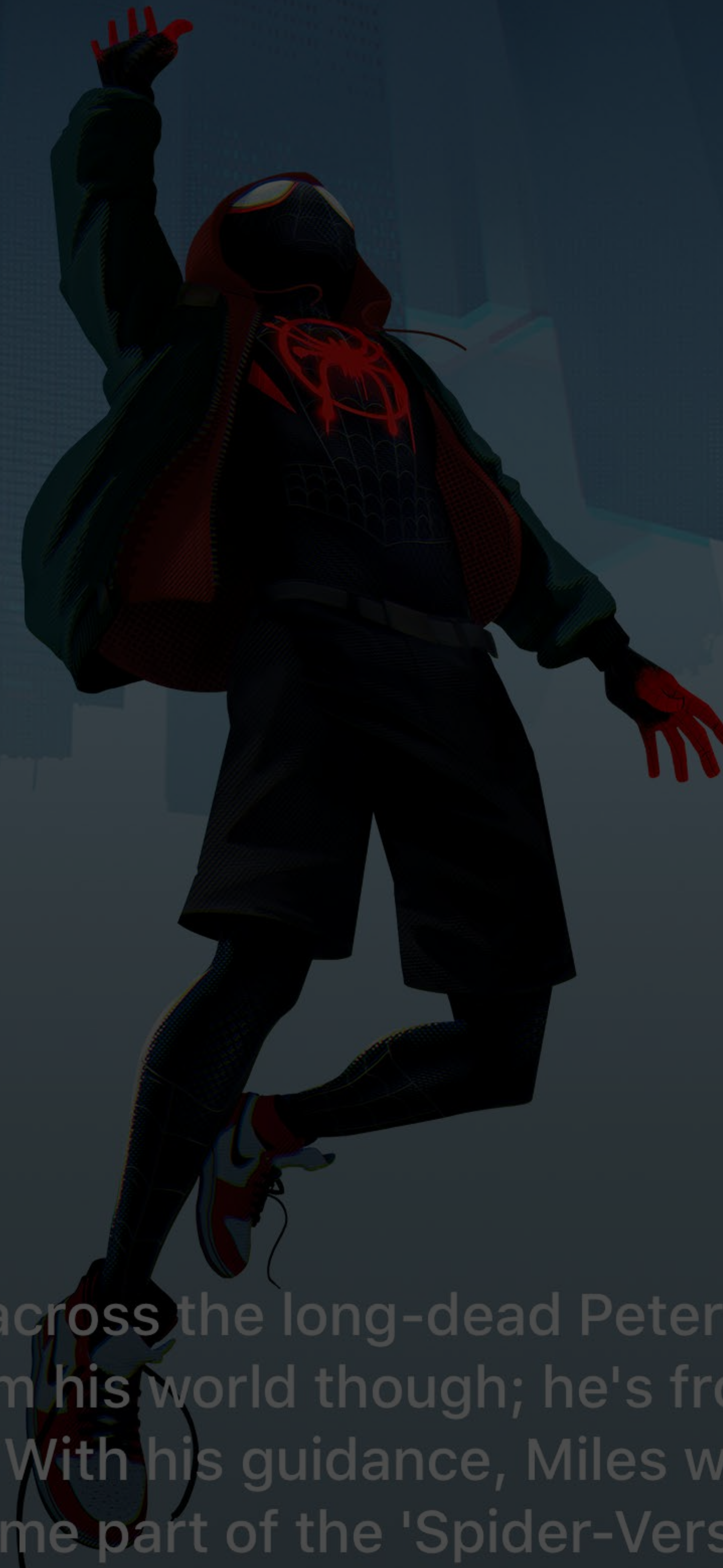
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Director Bob Persichetti

Action 2018 1 hr 52 min



FEATURED MOVIE

Spider-Man: Into the Spider-Verse



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Action 2018 1 hr 52 min    



Better Ways to Browse 🧐

FEATURED MOVIE


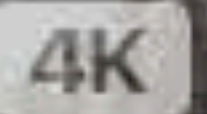


A Star is Born

▶ Play

More Info

Seasoned musician Jackson Maine (Bradley Cooper) discovers—and fall in love with—struggling artist Ally (Lady Gaga). She has just about given up on her dream to make it big as a singer... until Jack coaxes her into the spotlight.

Starring Bradley Cooper,
Lady Gaga, Sam Elliott,
Andrew Dice Clay
Director Bradley Cooper

Drama 2018 2 hr 15 min    



FEATURED MOVIE


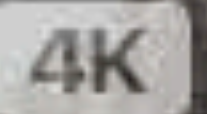


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Drama 2018 2 hr 15 min    



Simplify Interactions

Use Chevrons

Create Hierarchy

Avoid Overstimulation

Diversify the UI

Better Ways to Browse

Remove Barriers

Speed and Pacing

Show Metadata

Use Pagination

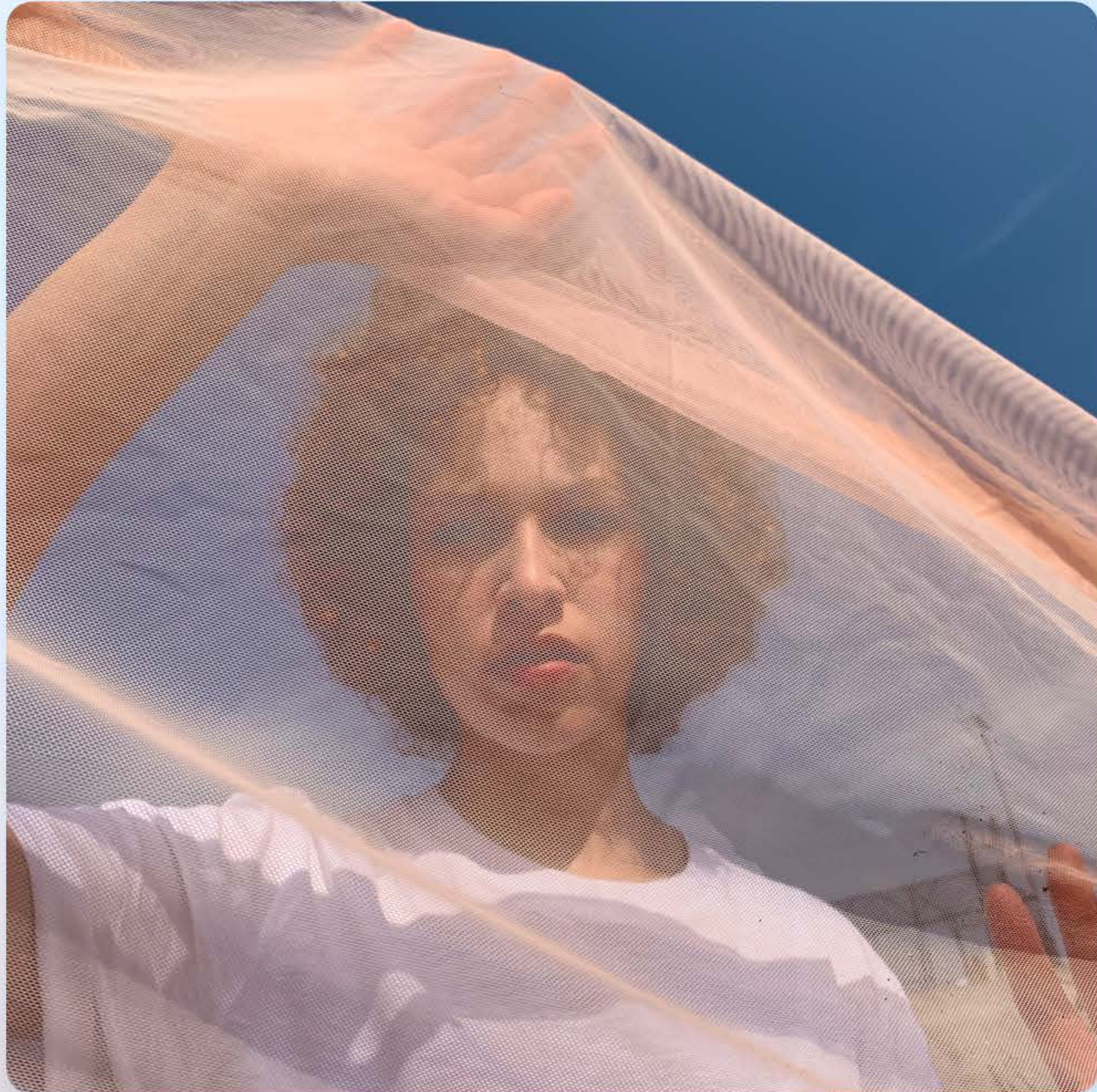
Content First

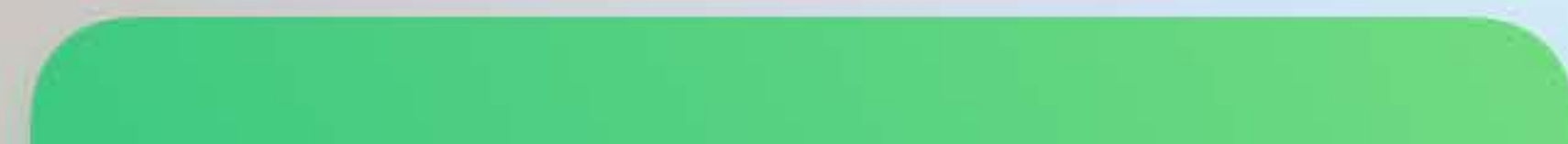


Top Shelf

Caleb Davenport, Engineer

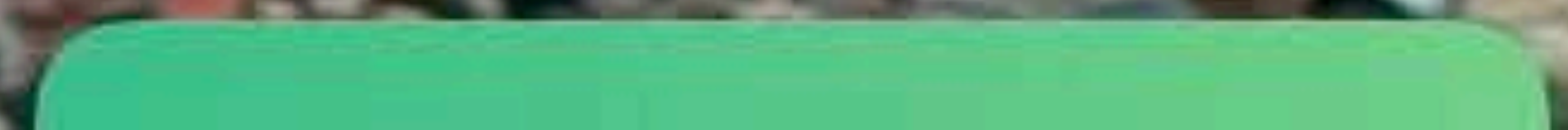
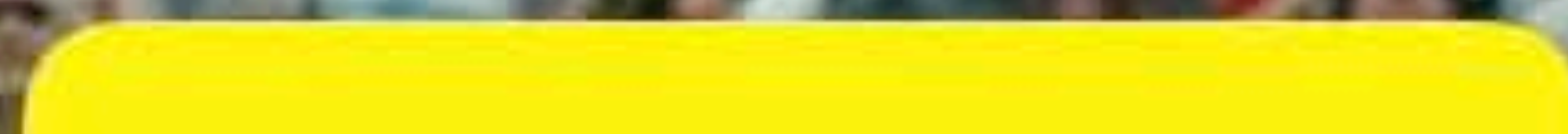
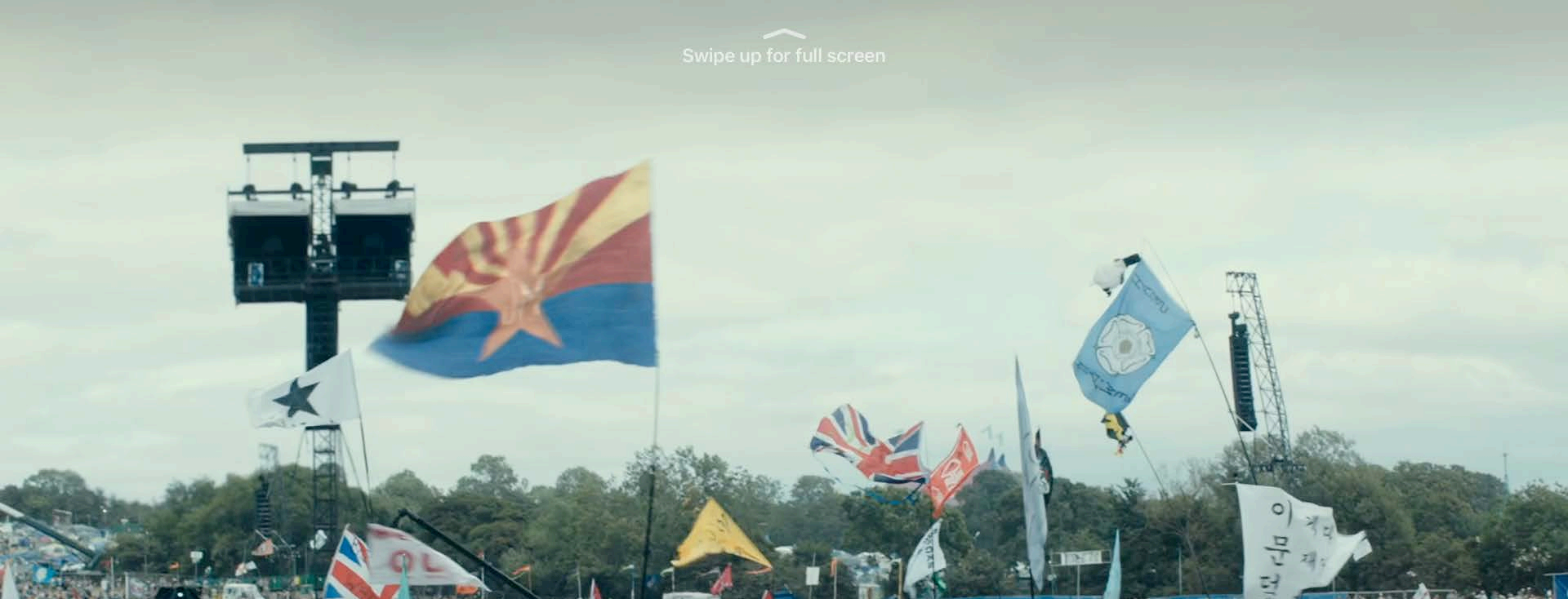
Featured Movies



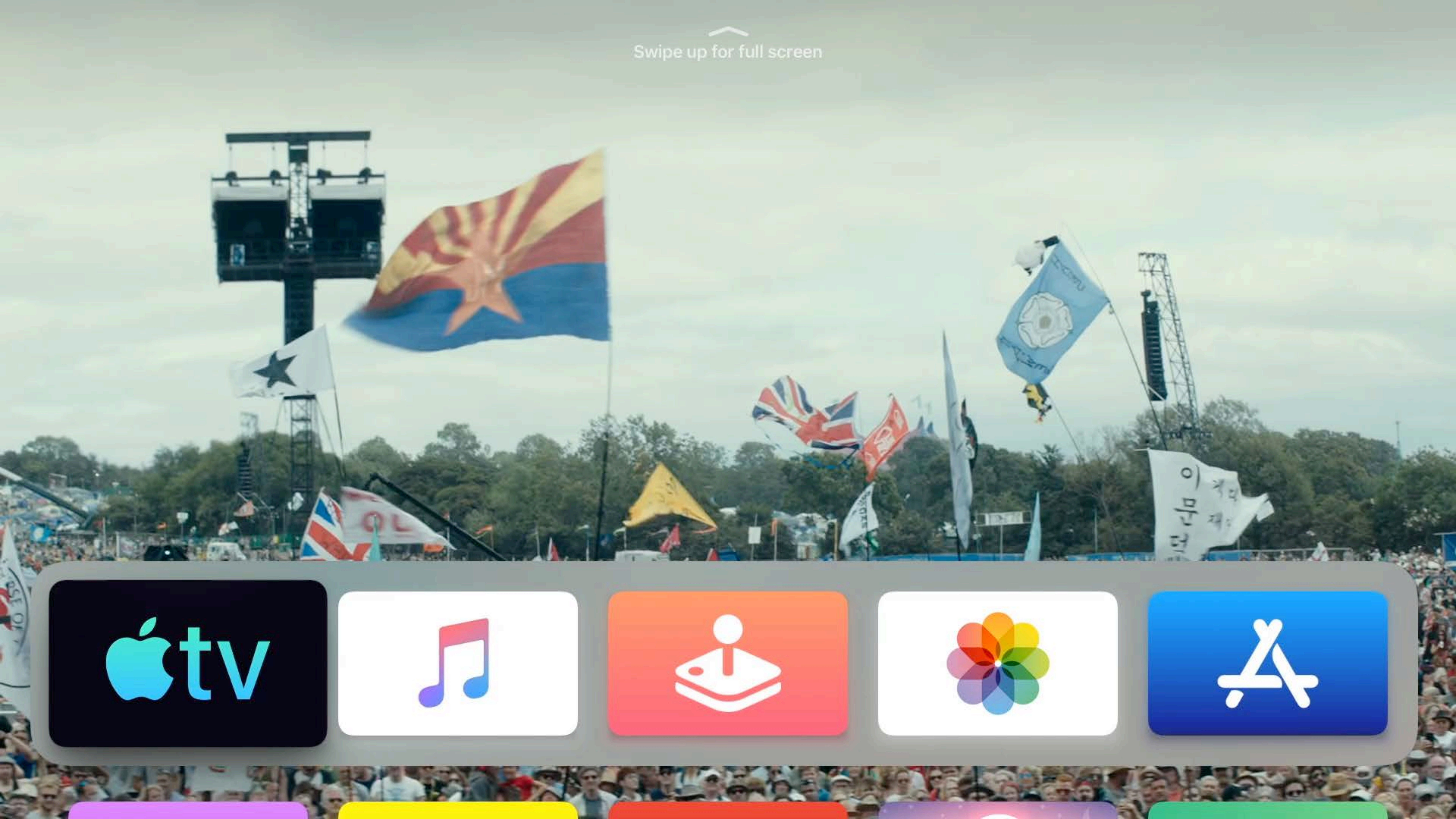


Top Shelf Carousel

Swipe up for full screen



Swipe up for full screen



FEATURED MOVIE


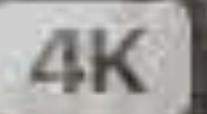


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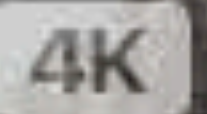


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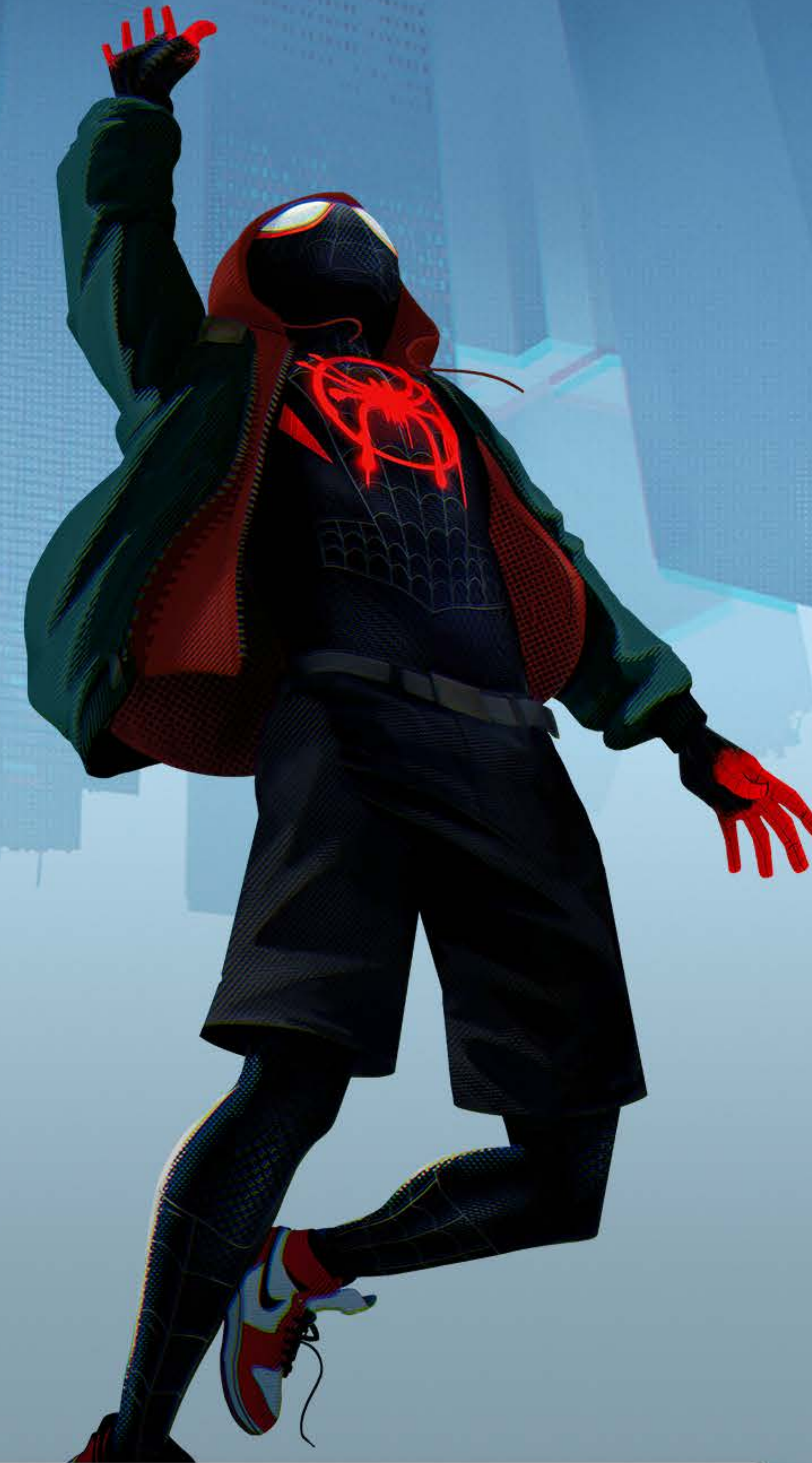
Drama 2018 2 hr 15 min    



Actions Carousel

FEATURED MOVIE

Spider-Man: Into the Spider-Verse



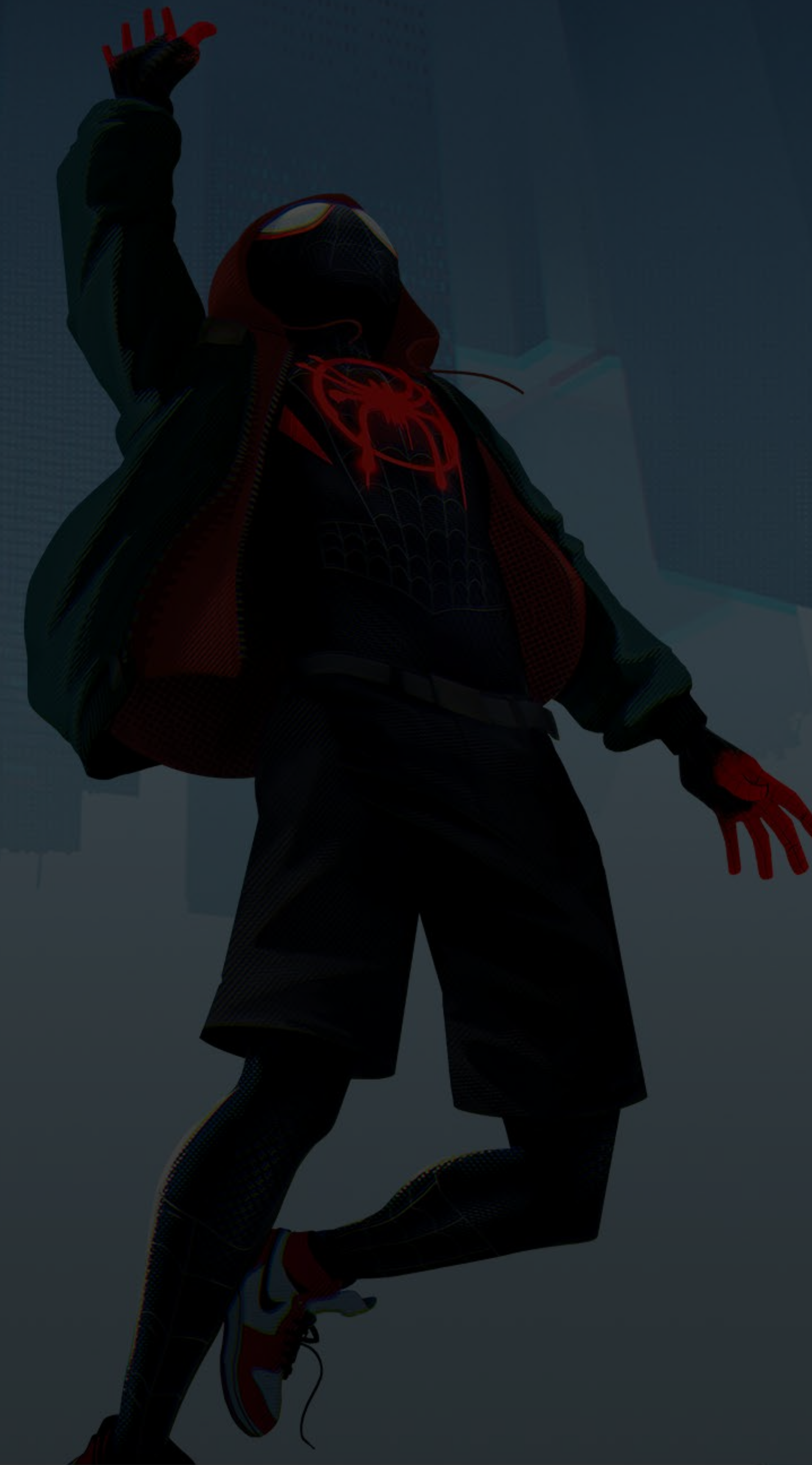
▶ Play

More Info



FEATURED MOVIE

Spider-Man: Into the Spider-Verse



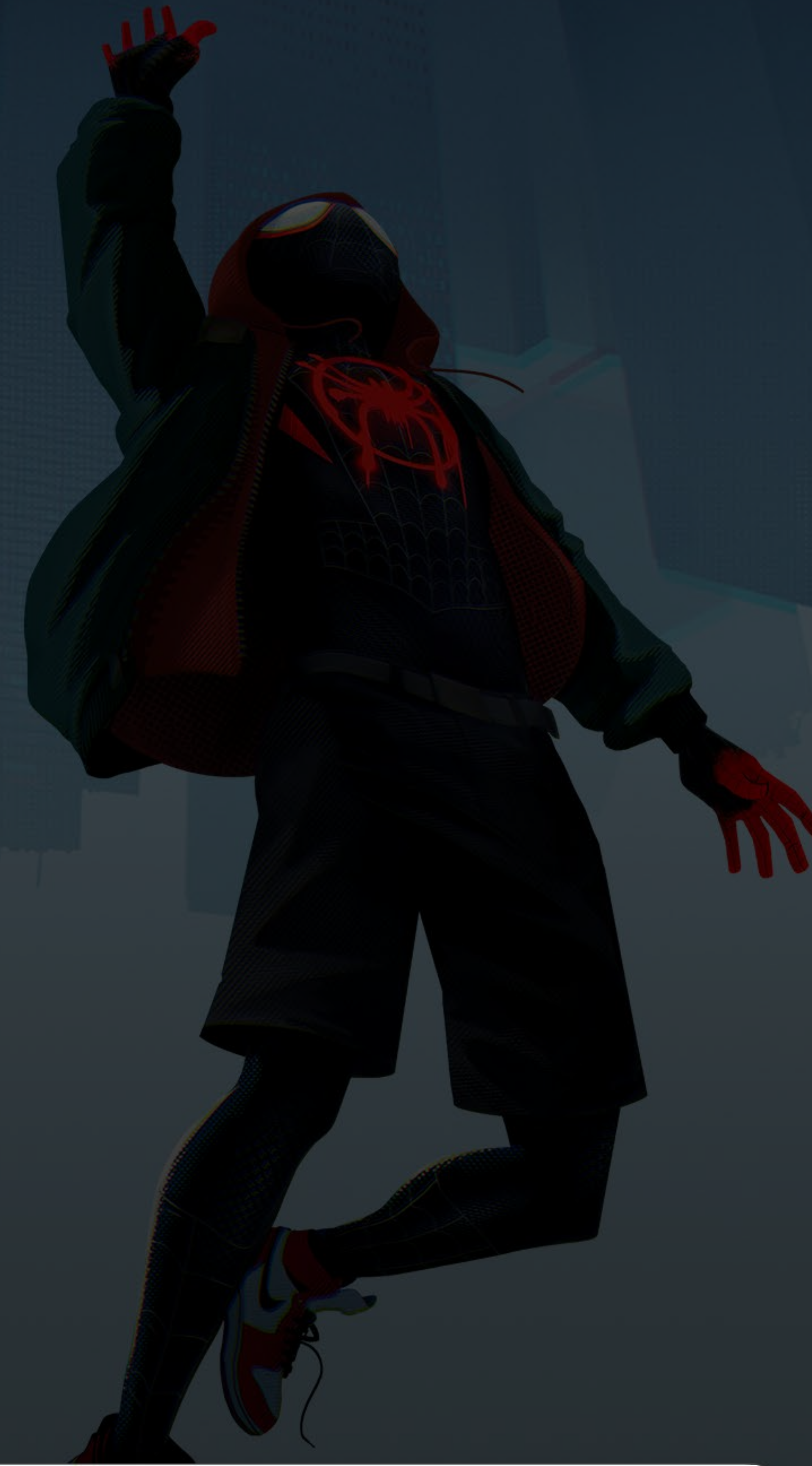
▶ Play

More Info



FEATURED MOVIE

Spider-Man: Into the Spider-Verse



▶ Play

More Info



Details Carousel

FEATURED MOVIE

Spider-Man: Into the Spider-Verse



[▶ Play](#)

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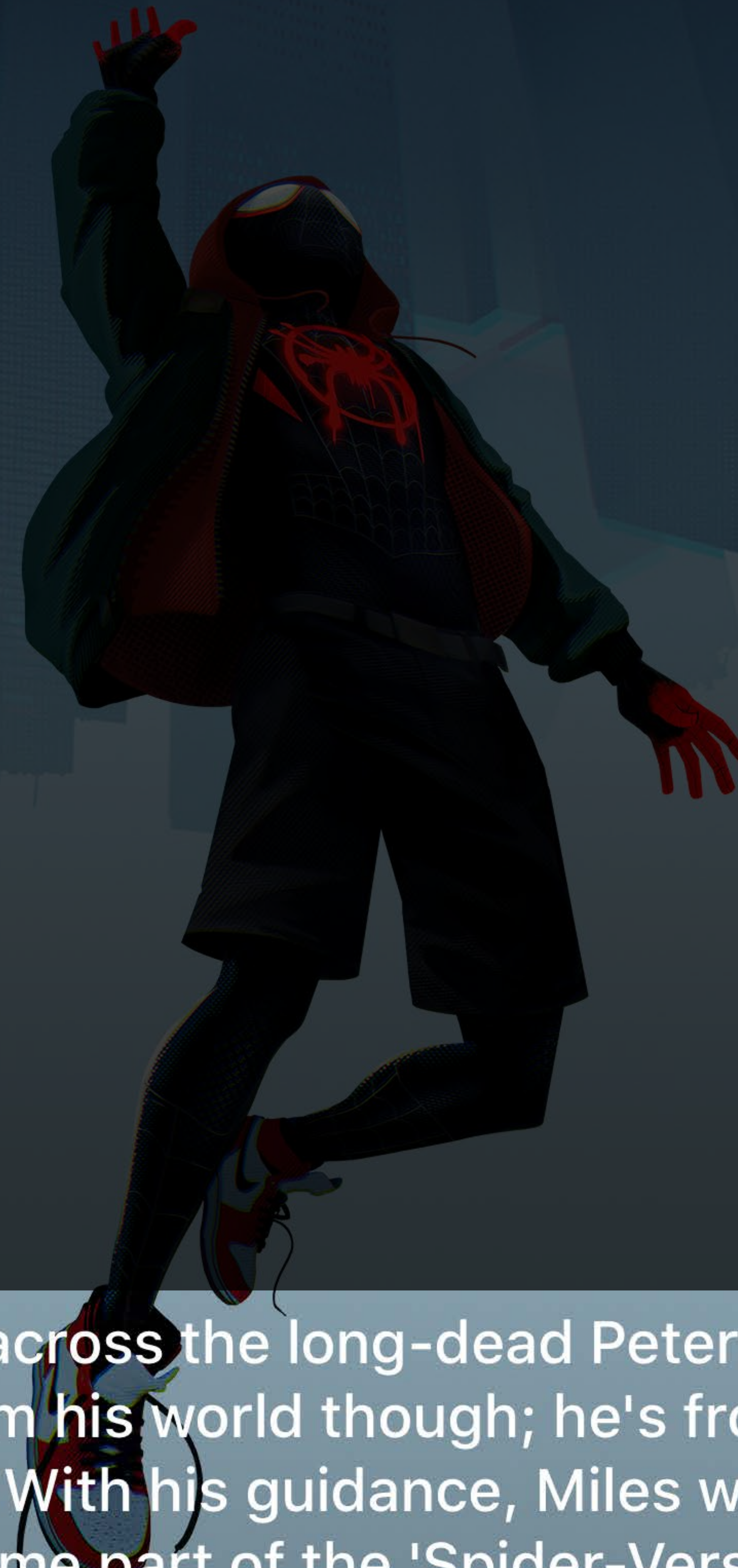
Starring Shameik Moore, Jake Johnson, Hailee Steinfeld, Mahershala Ali
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Action 2018 1 hr 52 min



FEATURED MOVIE




Spider-Man: Into the Spider-Verse



▶ Play

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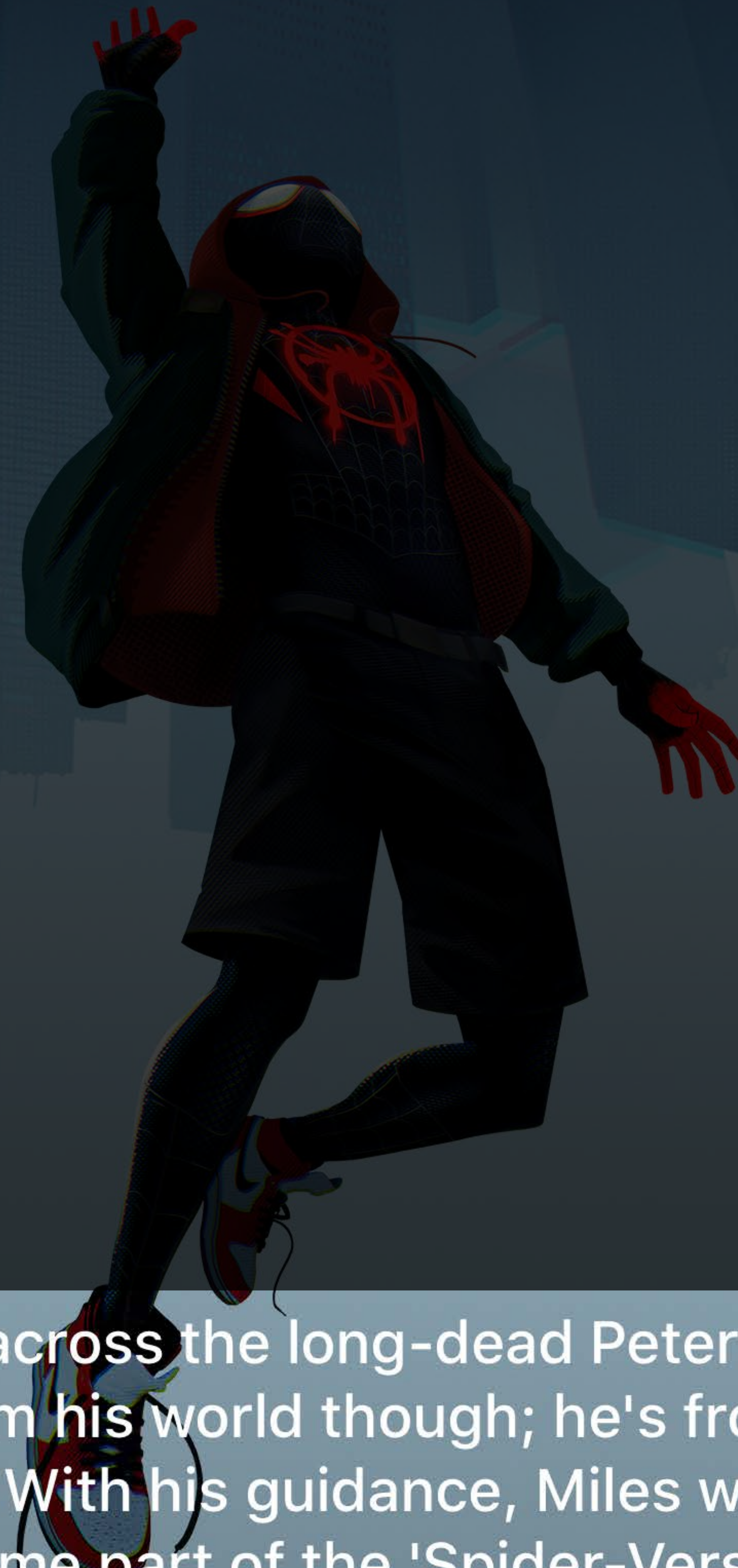
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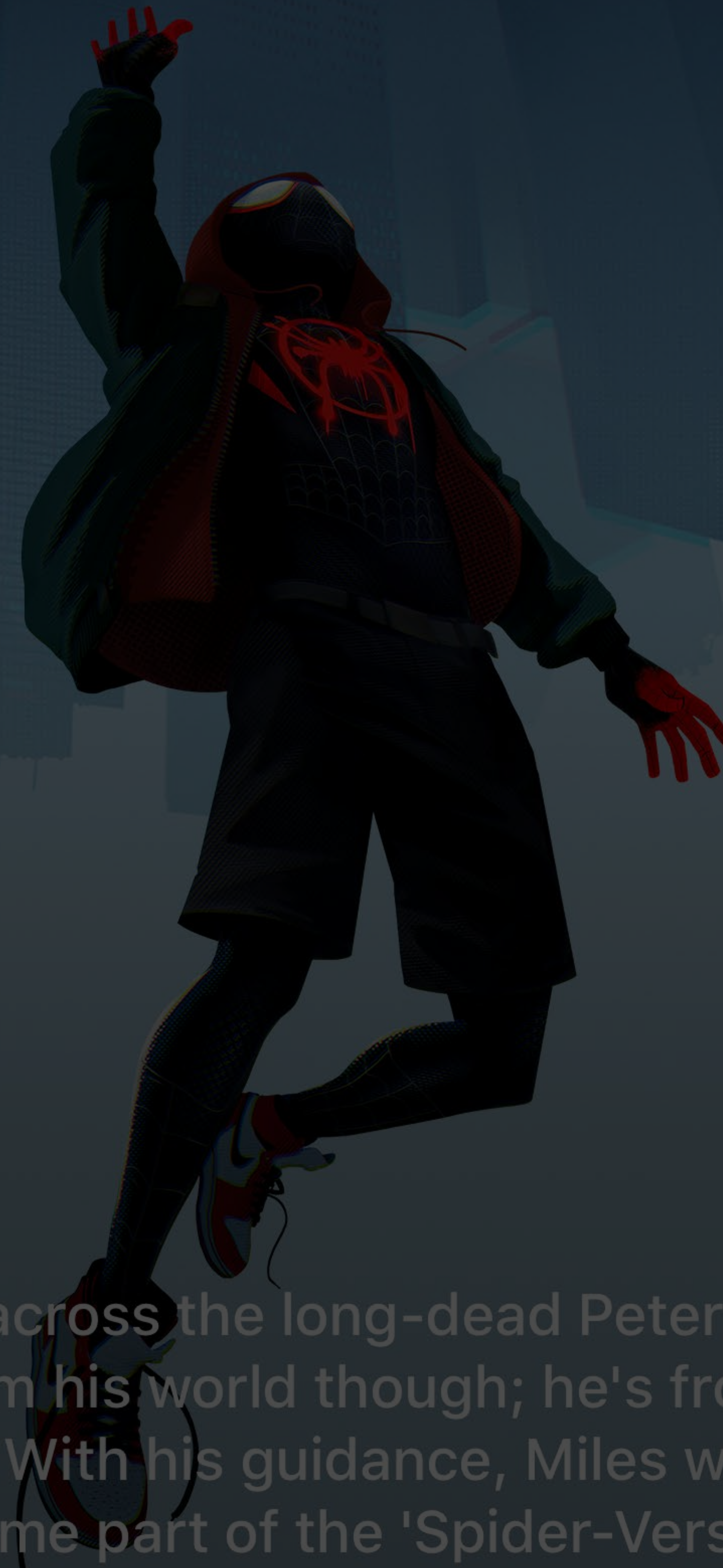
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Spider-Man: Into the Spider-Verse



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Carousel Best Practices

Content Best Practices

Content discovery

Content Best Practices

Content discovery

Updated regularly

Content Best Practices

Content discovery

Updated regularly

5 to 10 items

Image Best Practices

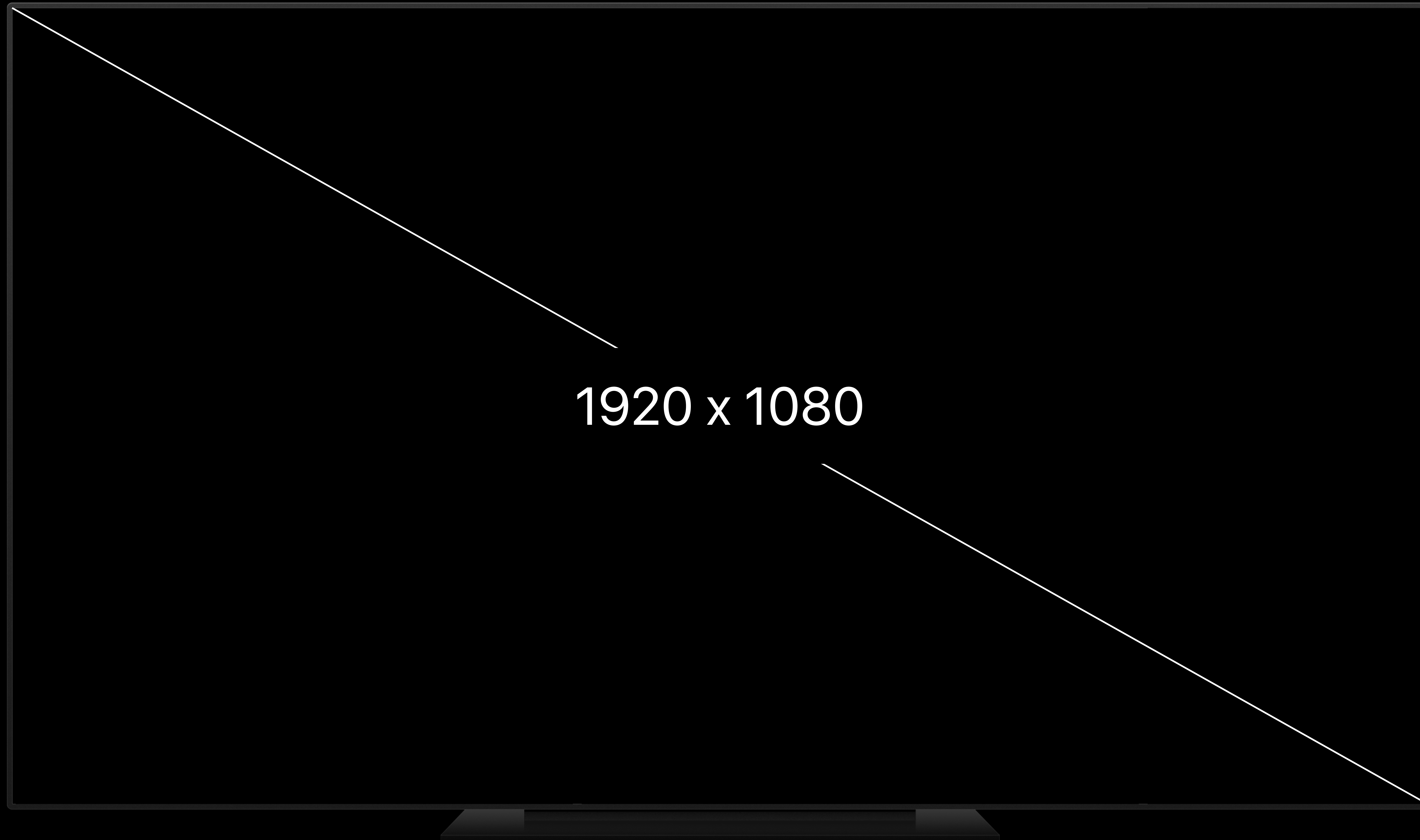
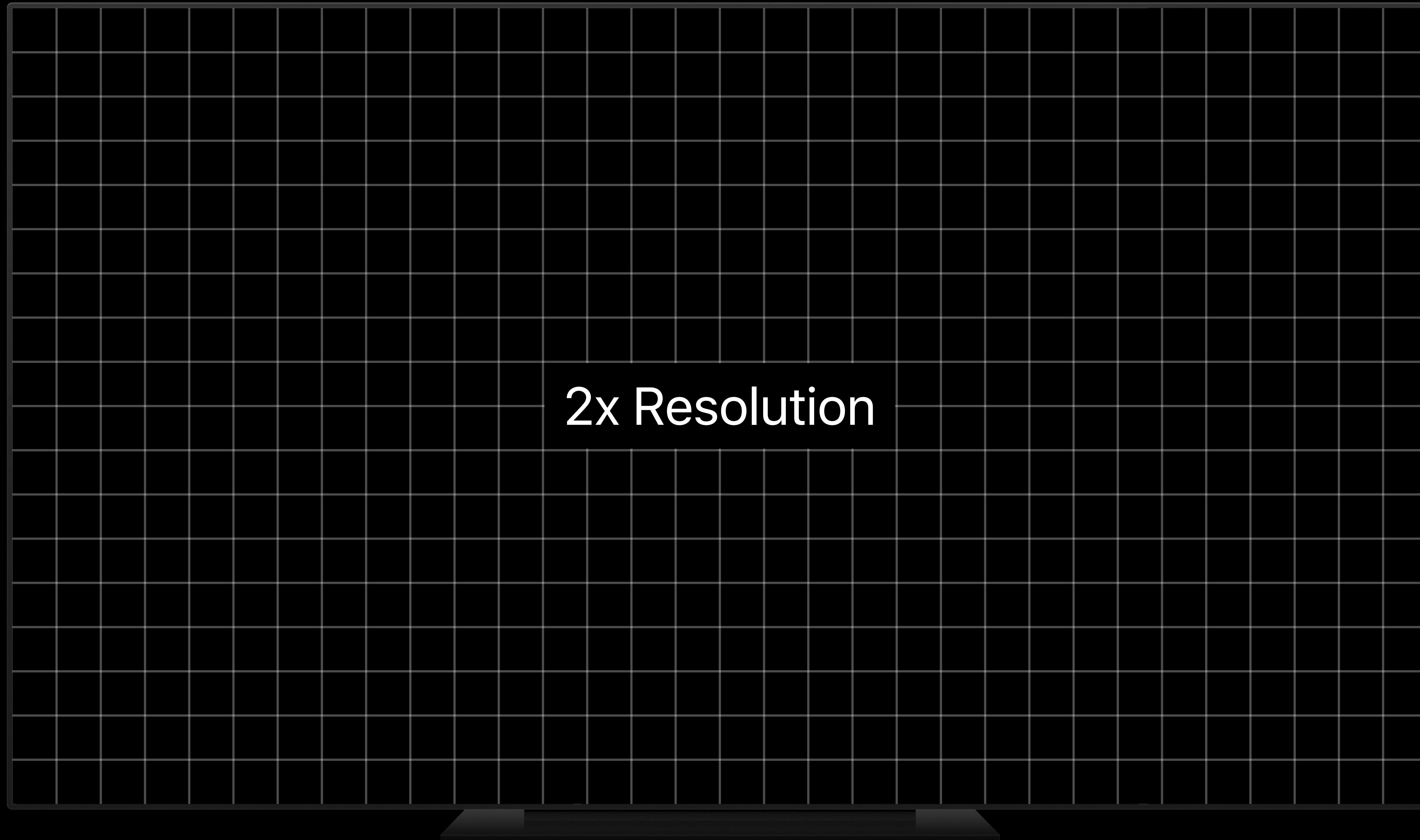


Image Best Practices



2x Resolution

Image Best Practices

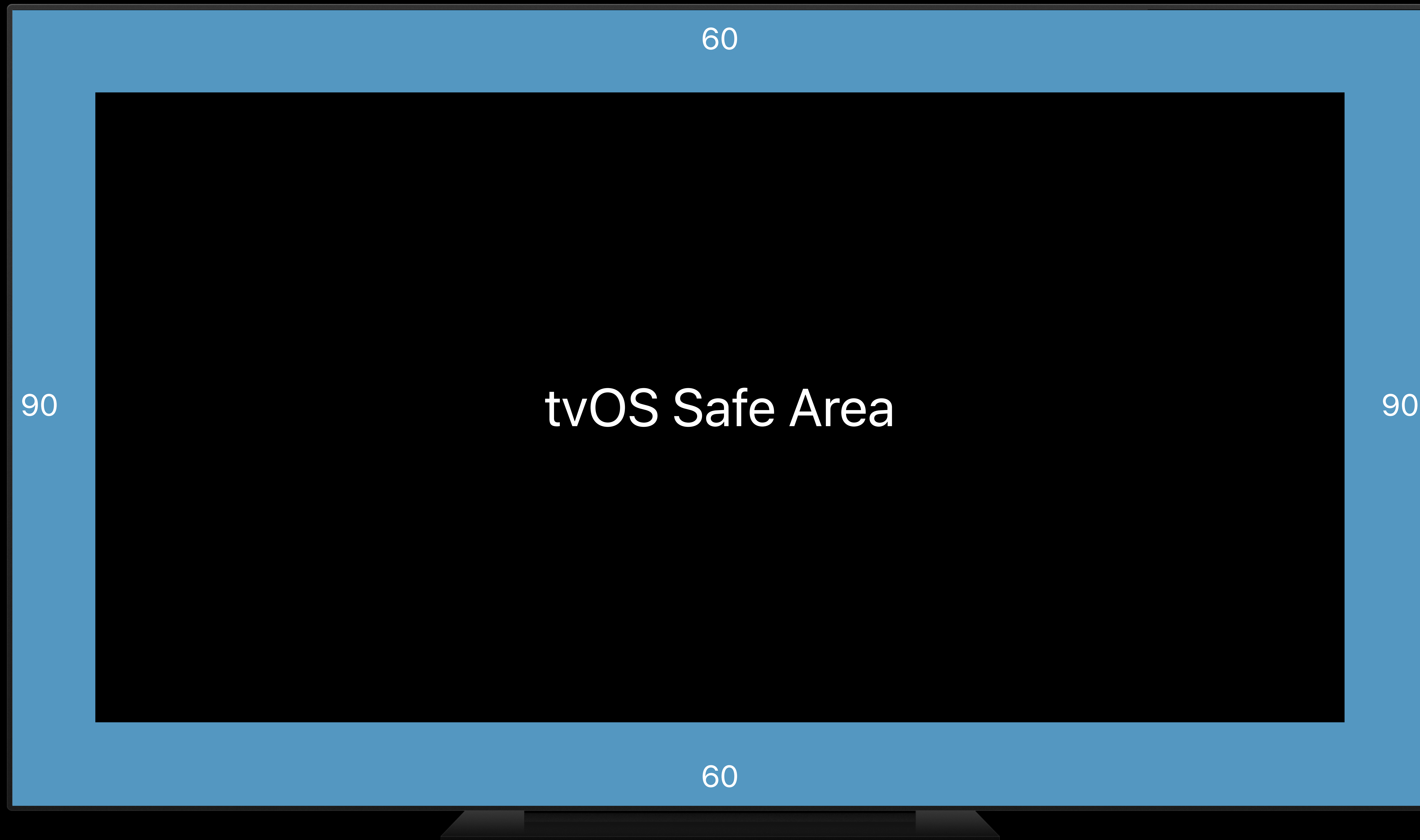
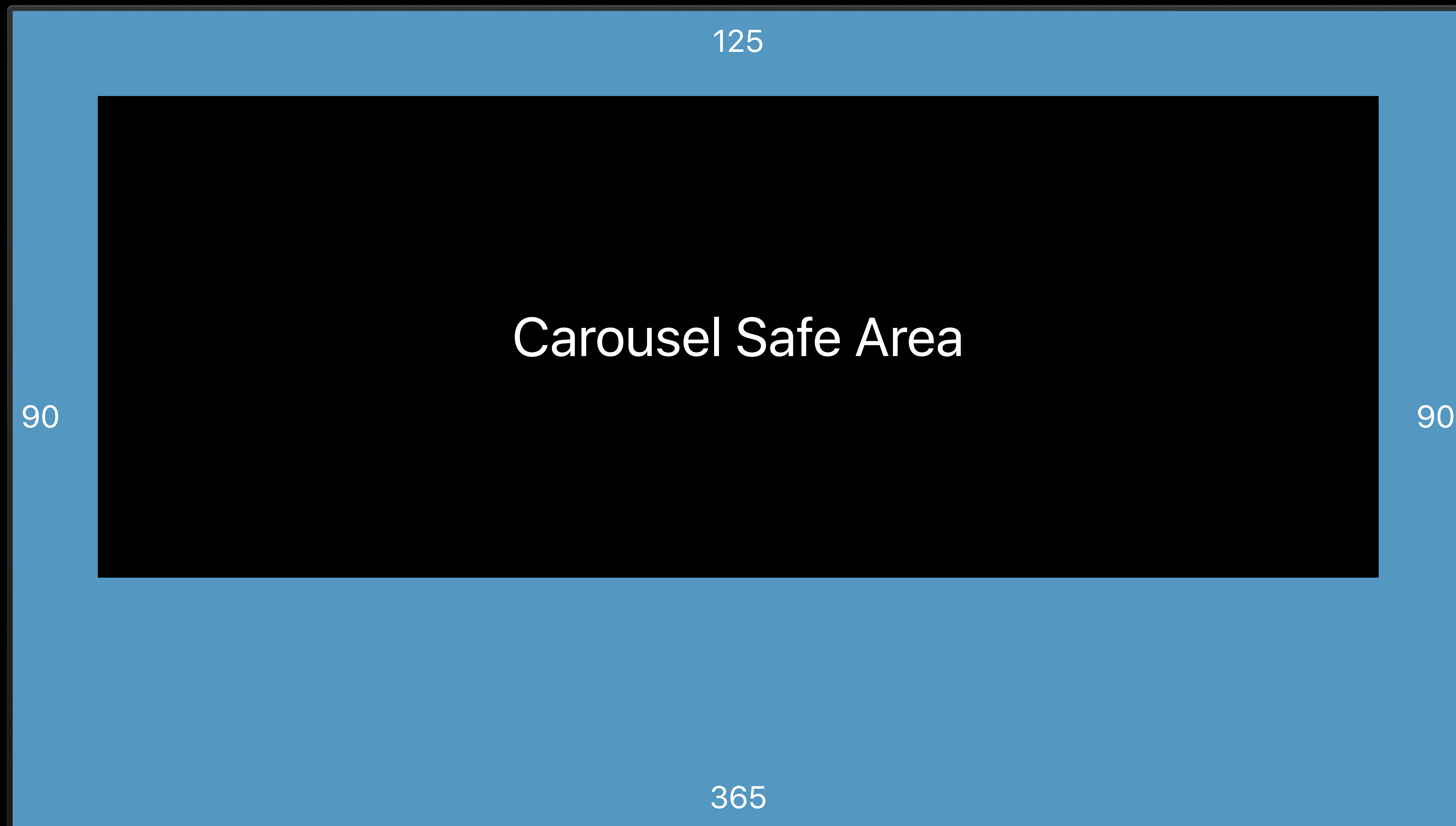


Image Best Practices



Video Best Practices

1080p

Video Best Practices

1080p

HTTP Live Streaming

Video Best Practices

1080p

HTTP Live Streaming

Two to five minutes

Video Best Practices

1080p

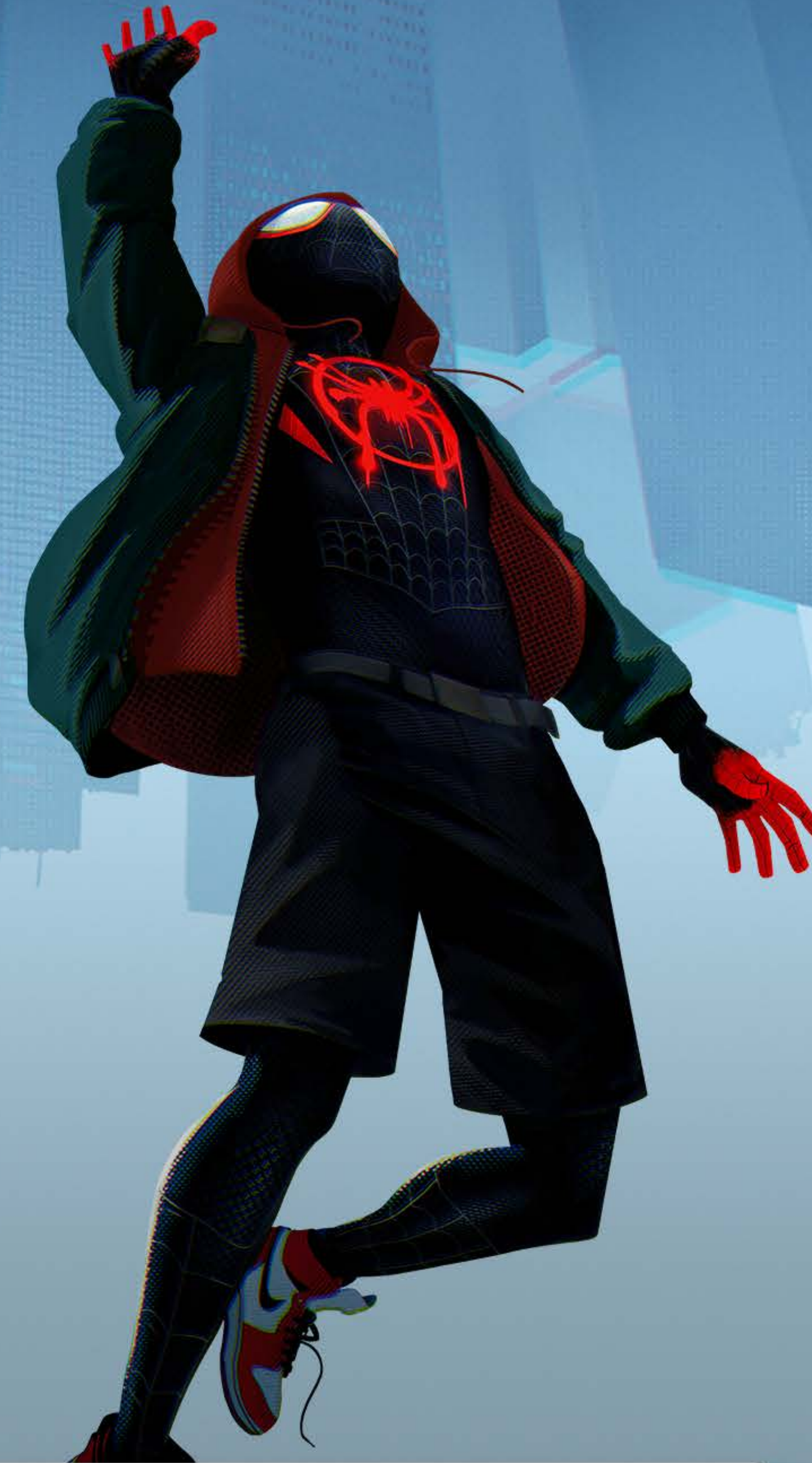
HTTP Live Streaming

Two to five minutes

Audio

FEATURED MOVIE

Spider-Man: Into the Spider-Verse



▶ Play

More Info



FEATURED MOVIE

Spider-Man: Into the Spider-Verse



[▶ Play](#)

[More Info](#)

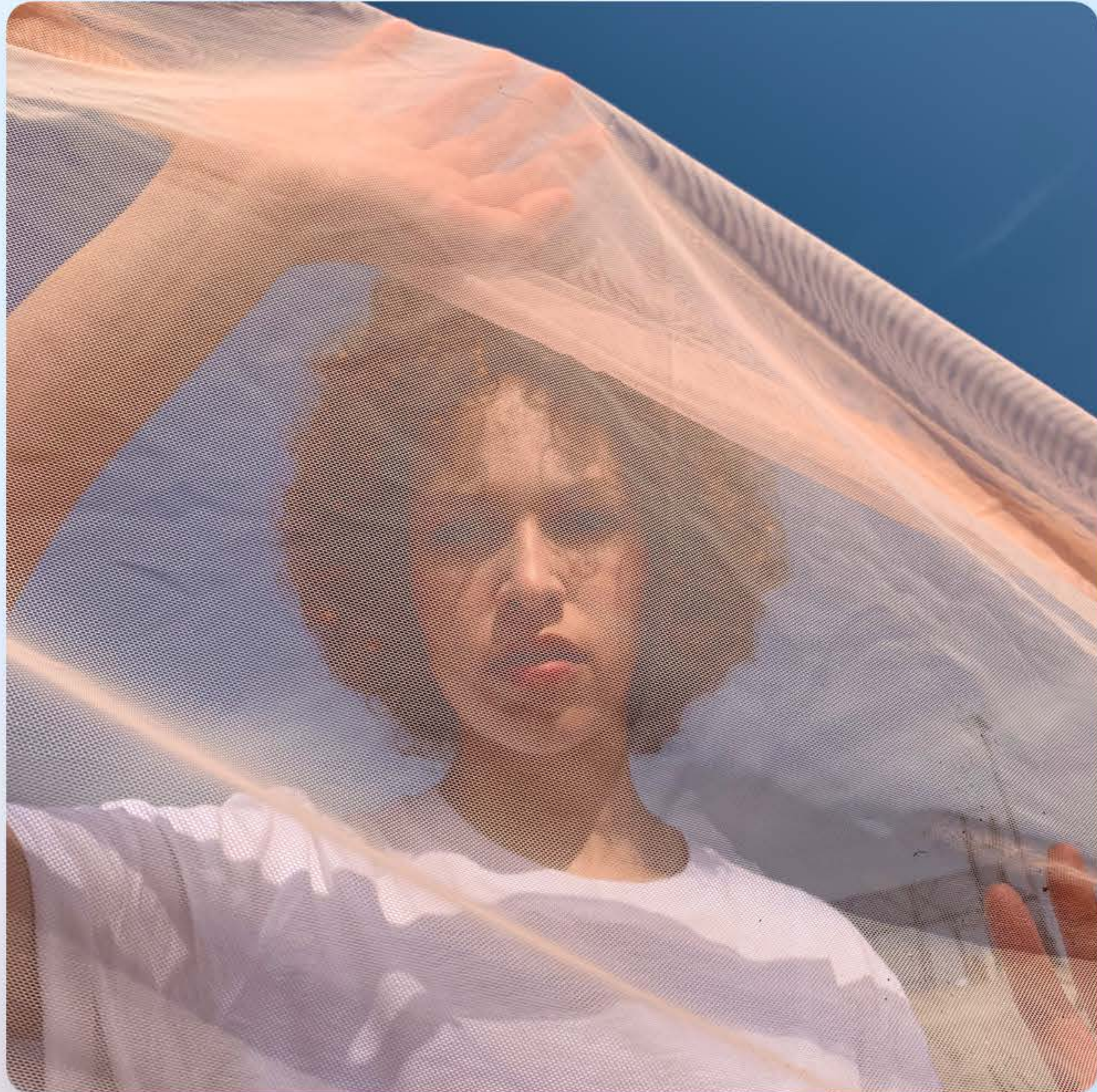
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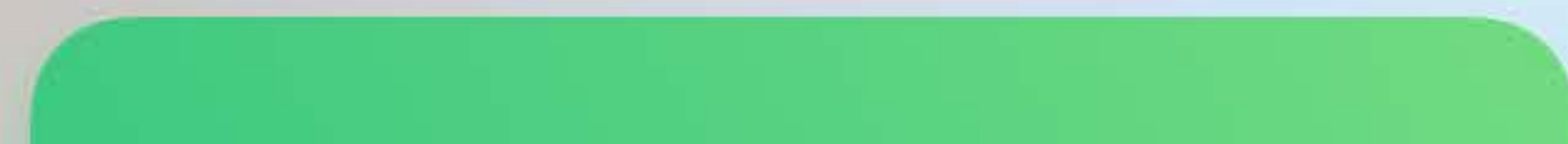
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Action 2018 1 hr 52 min



Featured Movies





Top Shelf Extension

FullScreenTopShelf

- README.md
- FullScreenTopShelf
- Frameworks
- Products

Choose a template for your new target:

iOS watchOS **tvOS** macOS Cross-platform Filter

Application Extension



Broadcast Setup UI Extension



Broadcast Upload Extension



TV Top Shelf Extension

Test



tvOS UI Testing Bundle



tvOS Unit Testing Bundle

Application



Single View App



Game



Tabbed App



TVML App

Cancel

Previous

Next

FullScreenTopShelf

- README.md
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Application Extension



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TV Top Shelf Extension

Test



tvOS UI Testing Bundle



tvOS Unit Testing Bundle

Application



Single View App



Game



Tabbed App



TVML App

Cancel

Previous

Next

Top Shelf Content Provider

TVTopShelfContentProvider



Content Provider

Carousel Content

Sectioned Content

Inset Content

Carousel Item

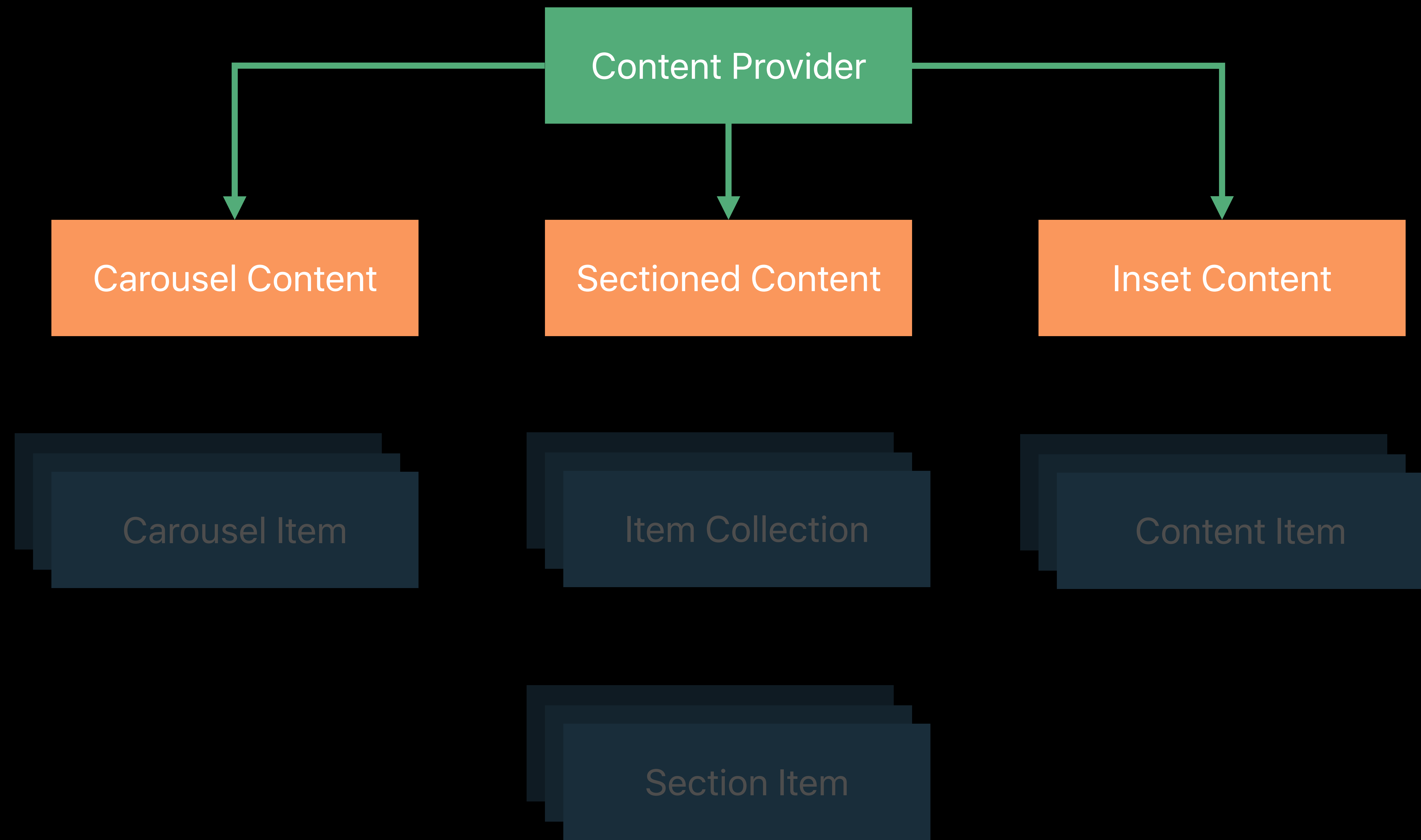
Item Collection

Content Item

Section Item

Top Shelf Content

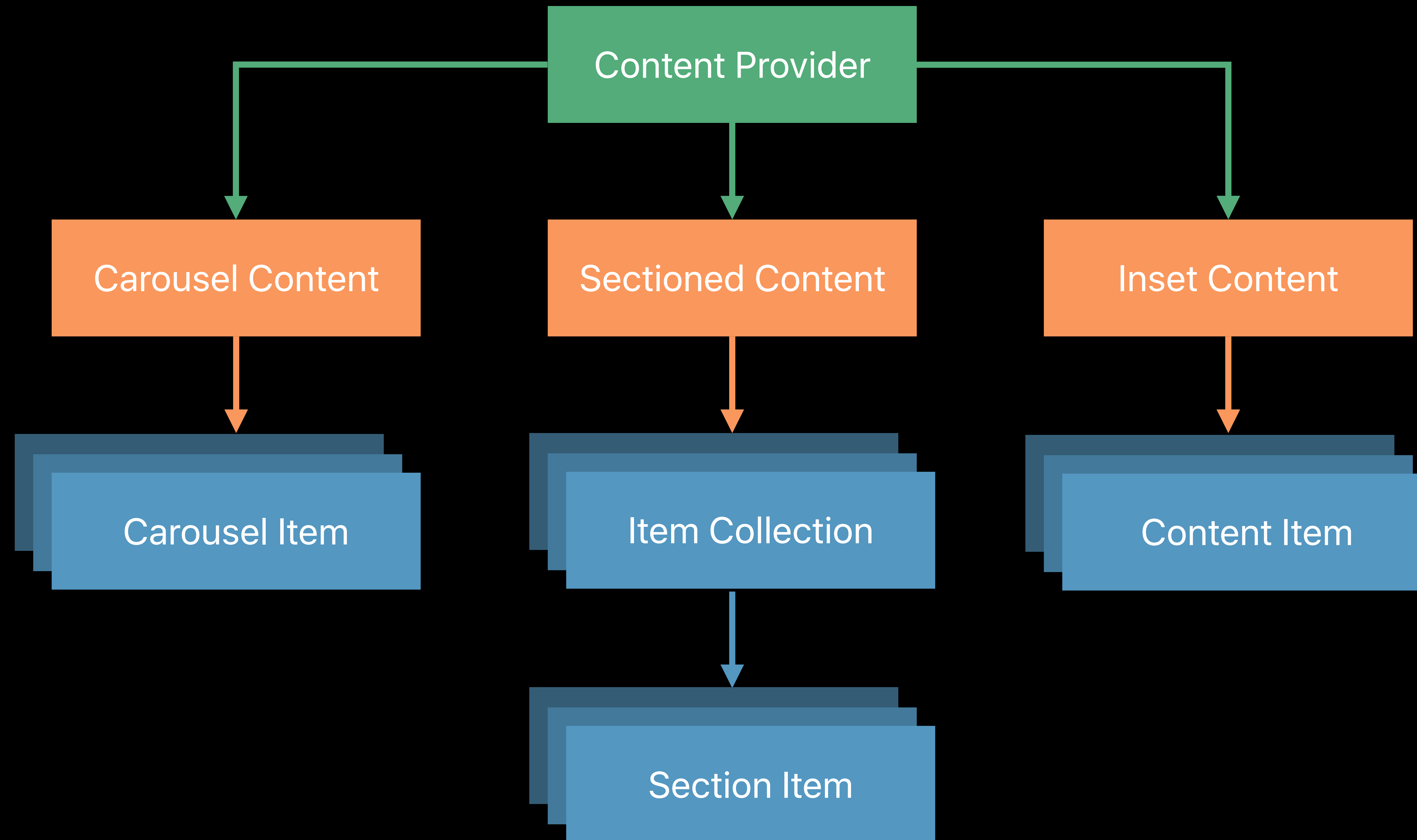
TVTopShelfContent



Top Shelf Items

TVTopShelfItem

NEW



Demo

Felipe Cypriano, Engineer

Summary

Top Shelf

Summary

Top Shelf

Carousel

Summary

Top Shelf

Carousel

New extension and API

User Profiles

Dale Taylor, Engineer



9:41

Monday, June 3



✓ Tommy



Caleb



Dale

 Sleep

 Not Playing





Choose a Profile

Tommy

Caleb

Dale

TVUserManager

tvOS 13



NEW

TVUserManager

tvOS 13



NEW

What we do

- Supply current user identifier
- Notify when user identifier changes
- Provide system UI for mapping user identifiers to profiles

TVUserManager

tvOS 13



NEW

TVUserManager

tvOS 13



NEW

What you do

- Store user identifier to profile mapping
- Handle user identifier change
- Invoke system UI in your workflow

Before Profile Selection

Check for a profile mapped to the current user identifier

- `TVUserManager.currentUserIdentifier`

Let them watch 📺!

Choose a Profile

Tommy

Caleb

Dale

Prefer this Profile?

<App Name> will remember to use profile "Tommy" for the Apple TV user "Tommy Payne". You can edit this later.

Prefer this Profile

Not Now

After Profile Selection

After Profile Selection

If no mapping exists

- `TVUserManager.shouldStorePreferenceForCurrentUser(to:completion:)`

After Profile Selection

If no mapping exists

- `TVUserManager.shouldStorePreferenceForCurrentUser(to:completion:)`

To modify mappings

- `TVUserManager.presentProfilePreferencePanel(currentSettings:
availableProfiles:
completion:)`

Preferred <App Name> Profiles

For each Apple TV user, these are the preferred profiles in <App Name>.

Tommy Payne	"Tommy" >
Caleb Davenport	"Caleb" >
Felipe Cypriano	No Profile >
Dale Taylor	"Dale" >

Done

Handling Updates

Handling Updates

User identifier change

- `TVUserManager.currentUserIdentifierDidChangeNotification`

Handling Updates

User identifier change

- `TVUserManager.currentUserIdentifierDidChangeNotification`

Profile change

- `TVUserManager.userIdentifiersForCurrentProfile`

Best Practices

Best Practices

Save the current state before switching profiles

Best Practices

Save the current state before switching profiles

Make the change clear and meaningful

User Profiles

User Profiles

If you have an app with profiles, take advantage of multiuser

User Profiles

If you have an app with profiles, take advantage of multiuser

Use TVUserManager to build a content first experience

Tab Bar

Watch Now

Movies

TV Show

Sports

Kids

Library



Up Next



Watch Now

Movies

TV Show

Sports

Kids

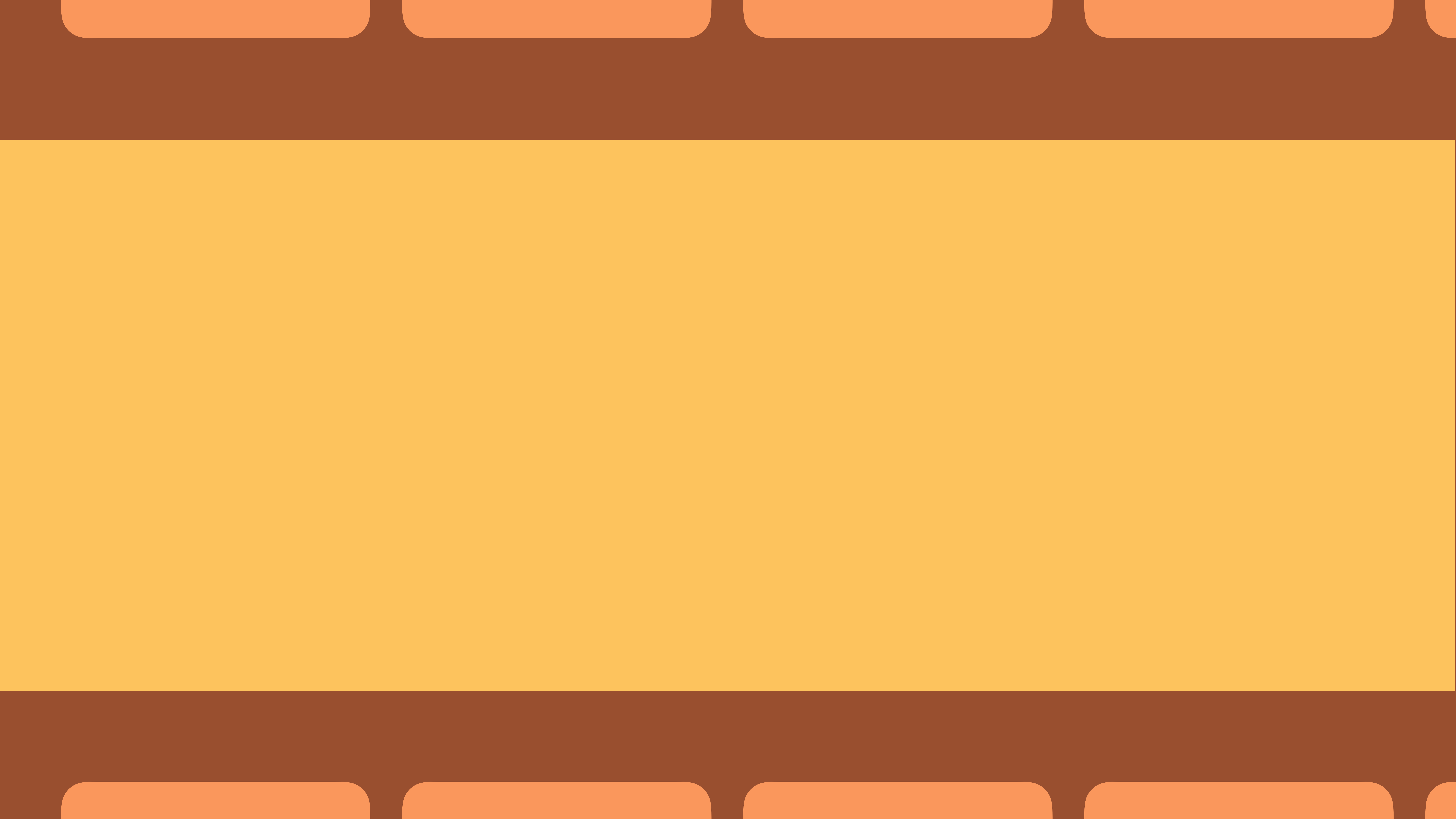
Library



Up Next









UITabBarController

tvOS 13



NEW

UITabBarController

tvOS 13



NEW

Scroll with content

- `UIViewController.tabBarObservedScrollView = scrollView`

UITabBarController

tvOS 13



NEW

Scroll with content

- `UIViewController.tabBarObservedScrollView = scrollView`

Fixed at top

- `UIViewController.tabBarObservedScrollView = nil`

UITabBarController

tvOS 13



NEW

Scroll with content

- `UIViewController.tabBarObservedScrollView = scrollView`

Fixed at top

- `UIViewController.tabBarObservedScrollView = nil`

Mind the safe area

- `UIScrollView.contentInsetAdjustmentBehavior = .automatic`
- `UIView.safeAreaLayoutGuide`

UITabBar

tvOS 13

NEW

UITabBar

tvOS 13



NEW

Accessory views

- `UITabBar.leadingAccessoryView`
- `UITabBar.trailingAccessoryView`

UITabBar

tvOS 13

NEW

Accessory views

- `UITabBar.leadingAccessoryView`
- `UITabBar.trailingAccessoryView`

Colors and fonts

- `UITabBar.standardAppearance`

Tab Bar

Tab Bar

New UITabBar for tvOS 13

Tab Bar

New UITabBar for tvOS 13

Appearance customization options

Full Screen Browse

Rainbow



Rainbow



TVCollectionViewFullScreenLayout

tvOS 13



NEW

TVCollectionViewFullScreenLayout

tvOS 13



NEW

Designed to take advantage of the full screen

TVCollectionViewFullScreenLayout

tvOS 13



NEW

Designed to take advantage of the full screen

Easy to make layouts that feel familiar

TVCollectionViewFullScreenLayout

tvOS 13



NEW

Designed to take advantage of the full screen

Easy to make layouts that feel familiar

Highly flexible

TVCollectionViewFullScreenCell

tvOS 13

NEW

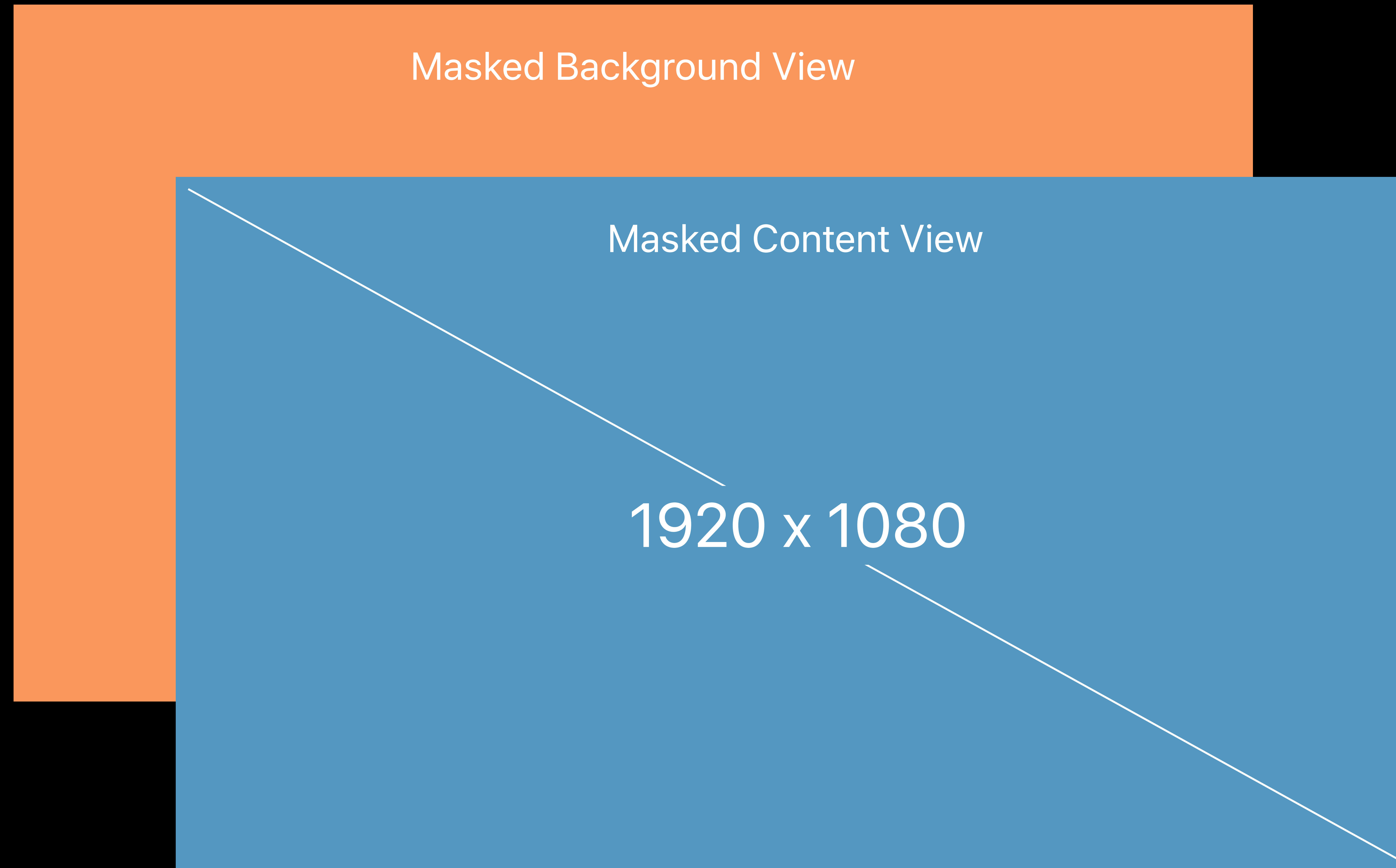
Masked Background View

Masked Content View

TVCollectionViewFullScreenCell

tvOS 13

NEW



Demo

TVCollectionViewFullScreenCell

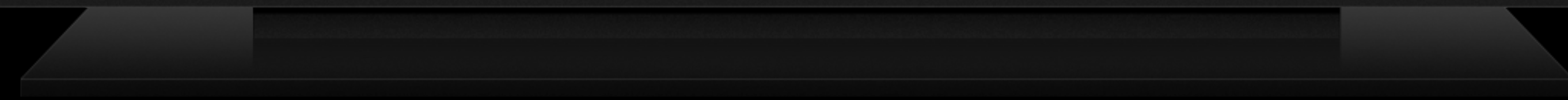
tvOS 13

NEW

Masked Background View

Masked Content View

Masking



Masking



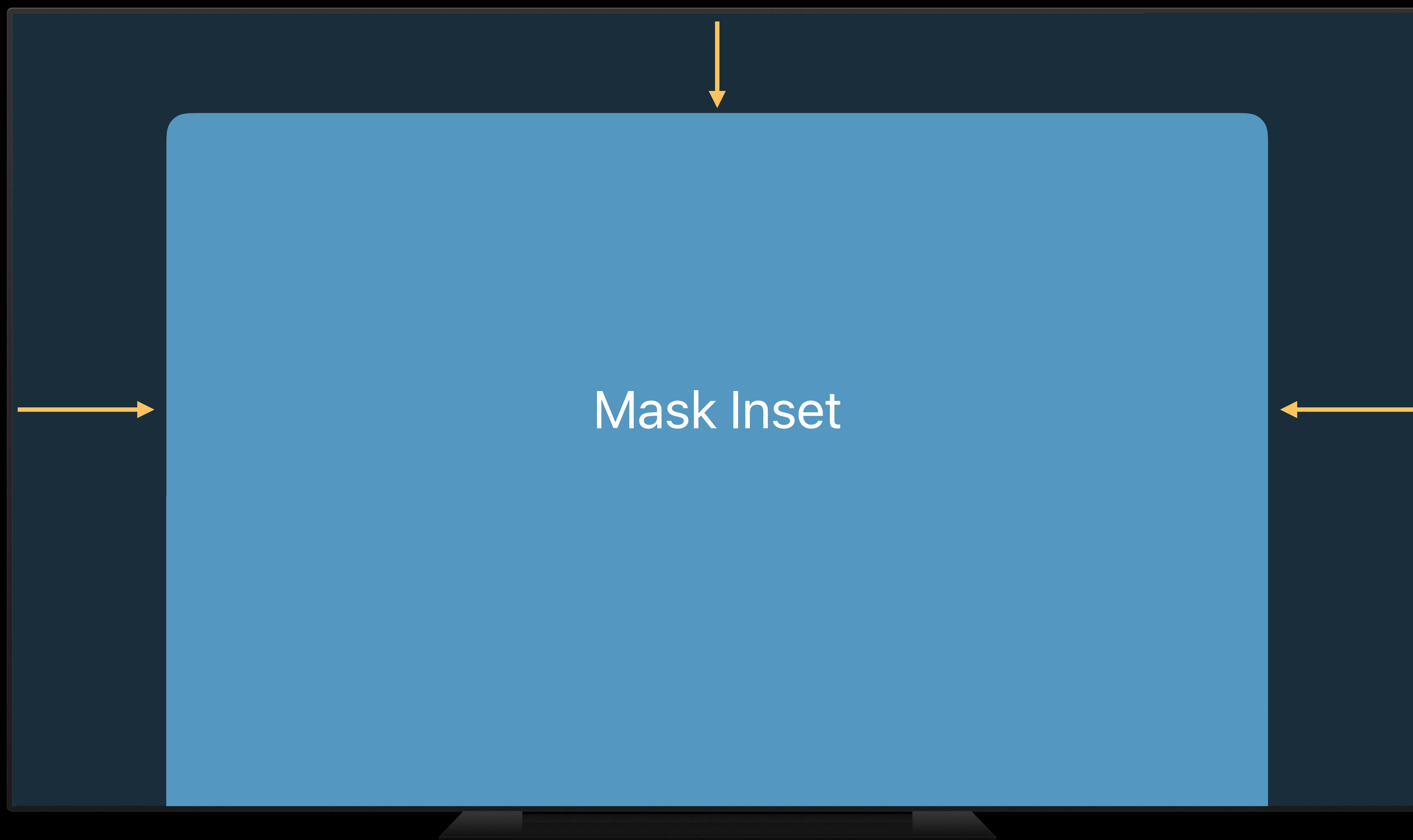
Masking

Mask Amount = 0.0

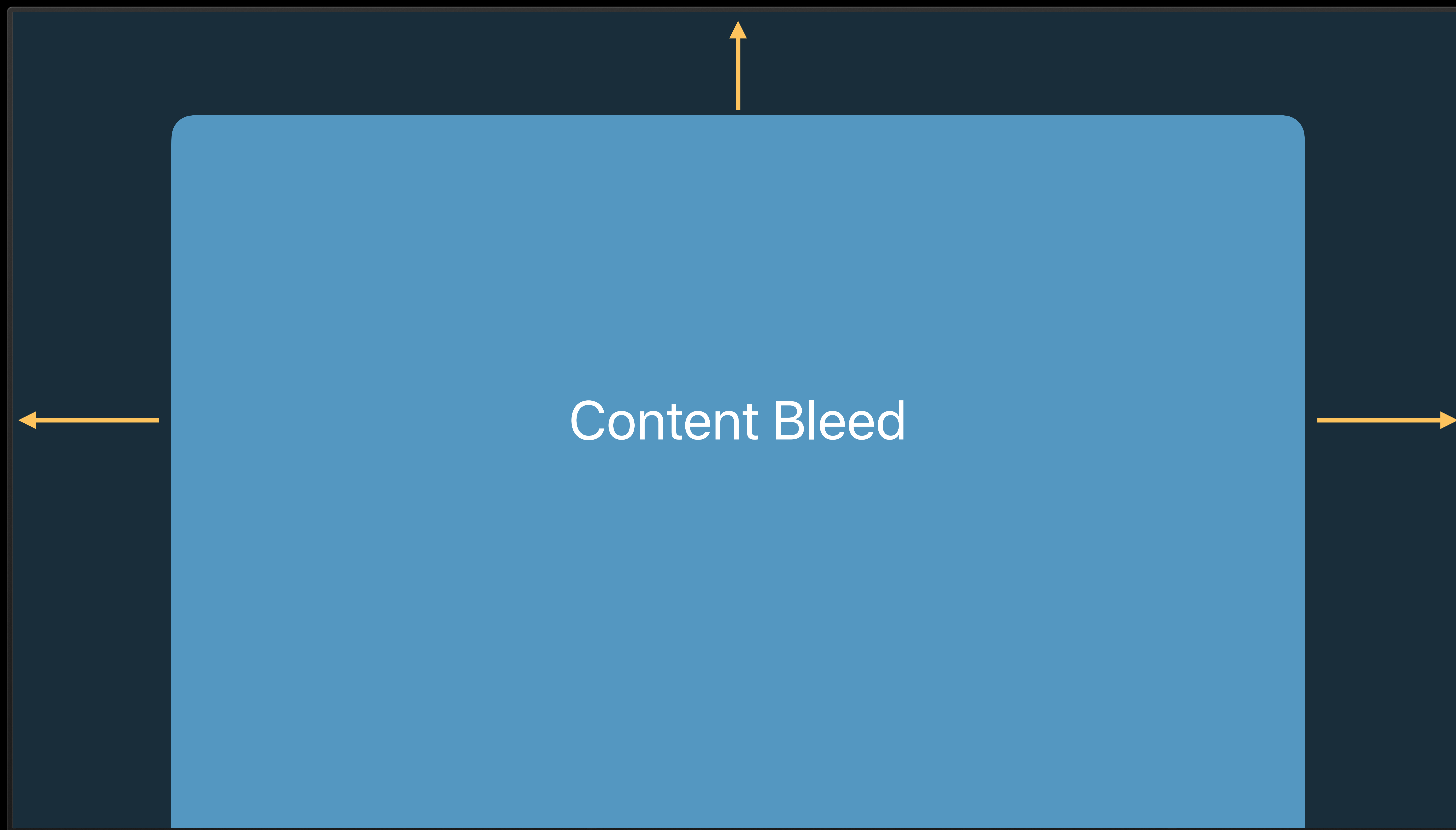
Masking

Mask Amount = 1.0

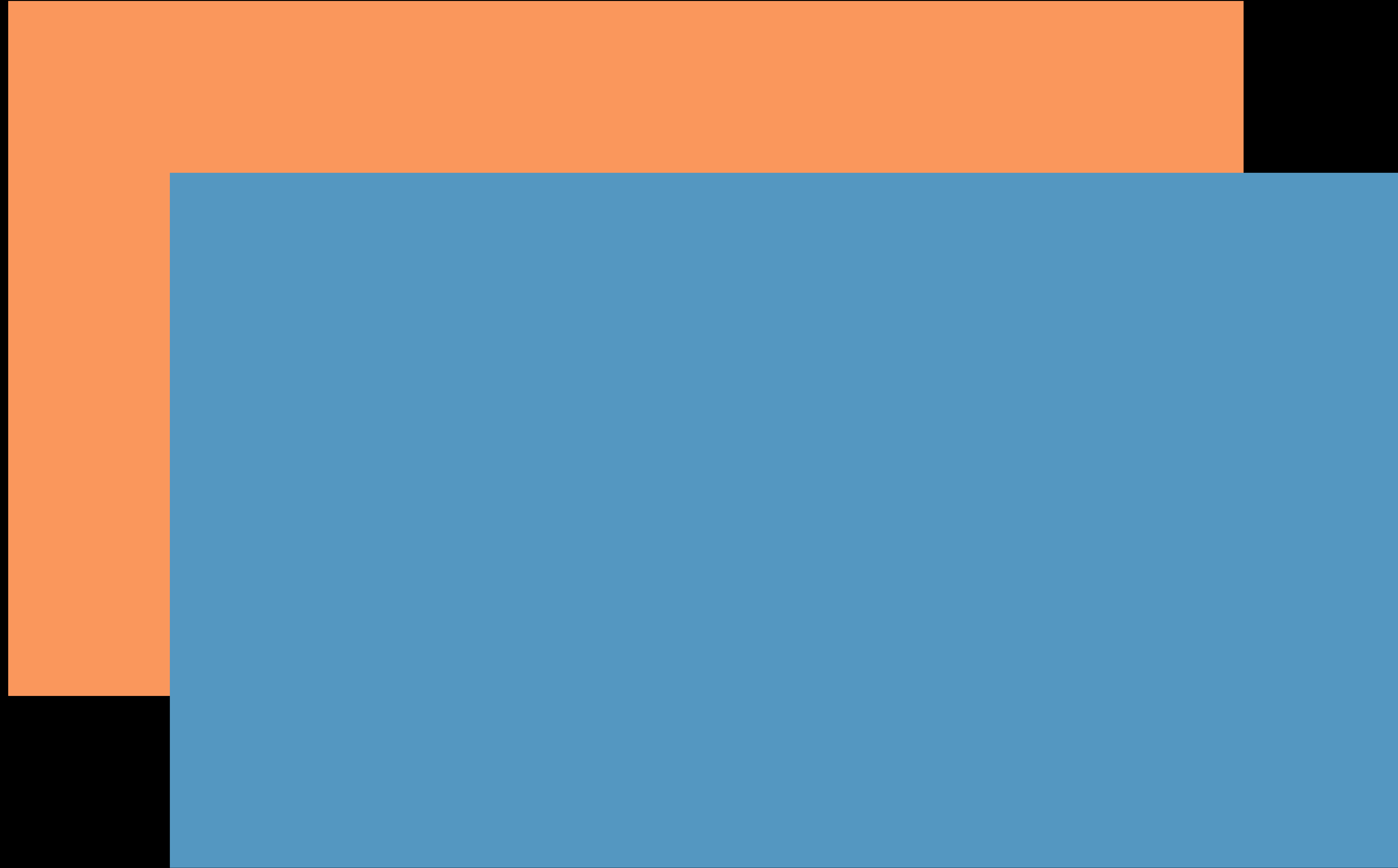
Masking: Layout



Masking: Cell

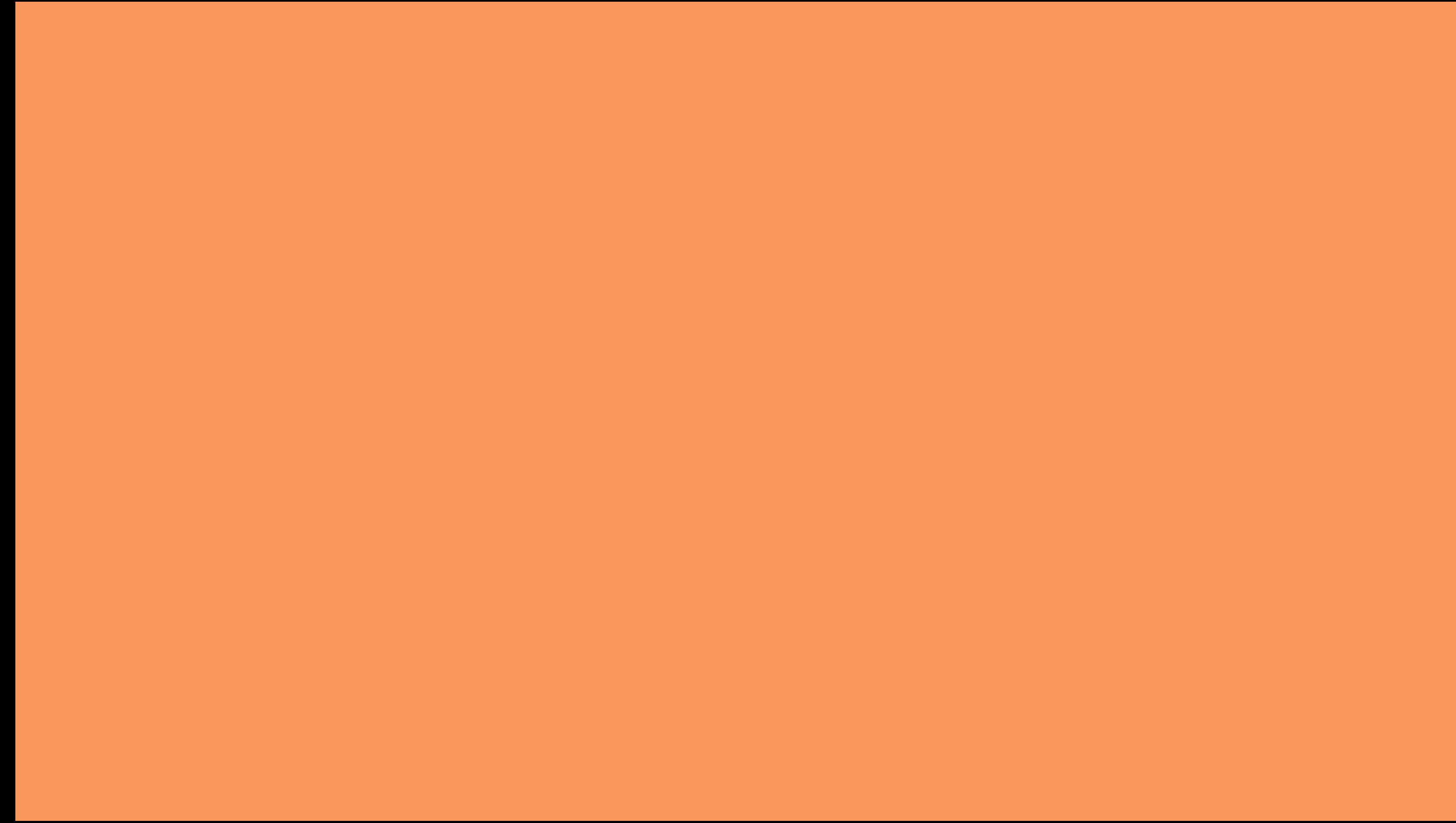


Parallax



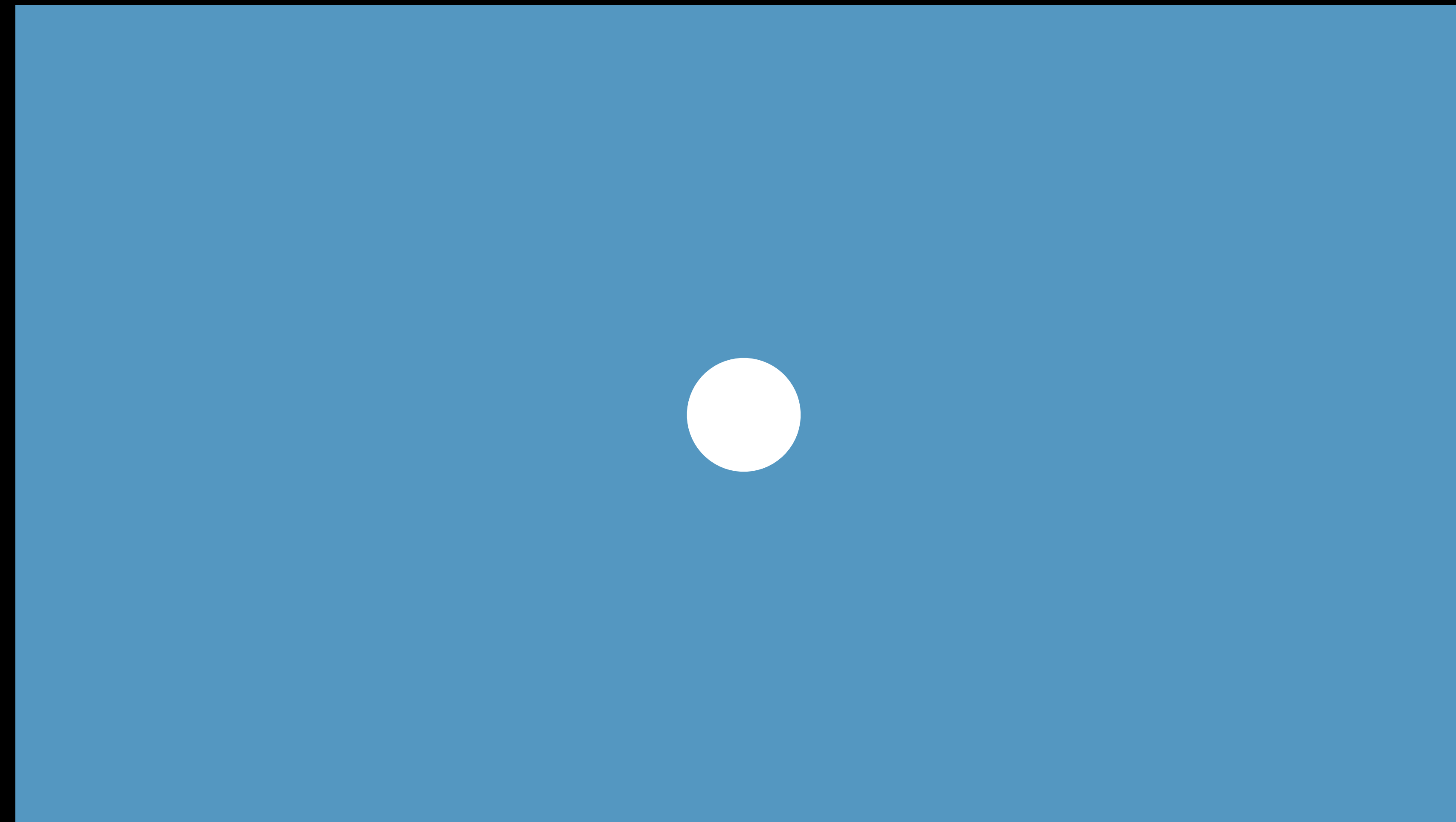
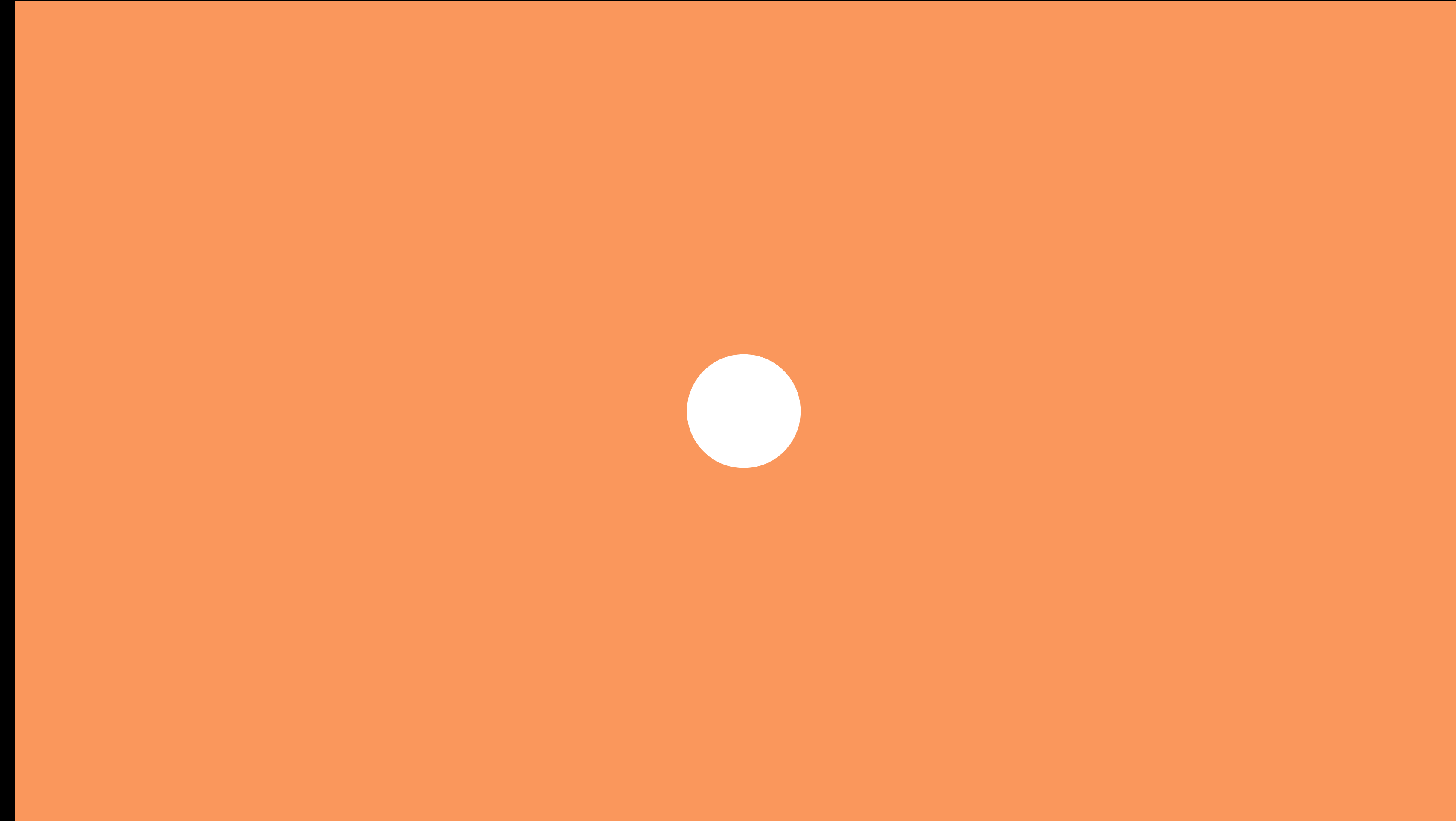
Parallax: Layout

Parallax Factor



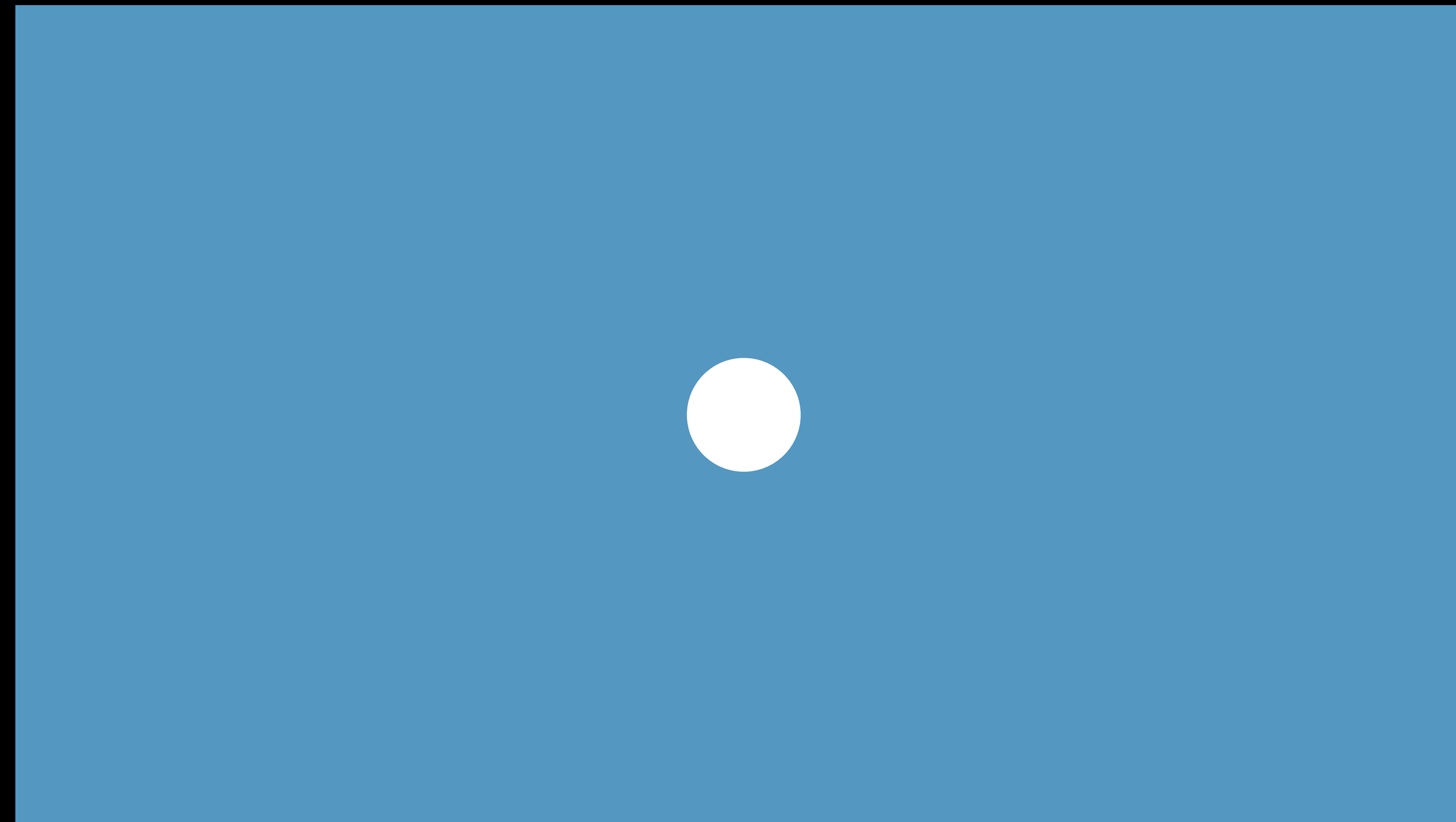
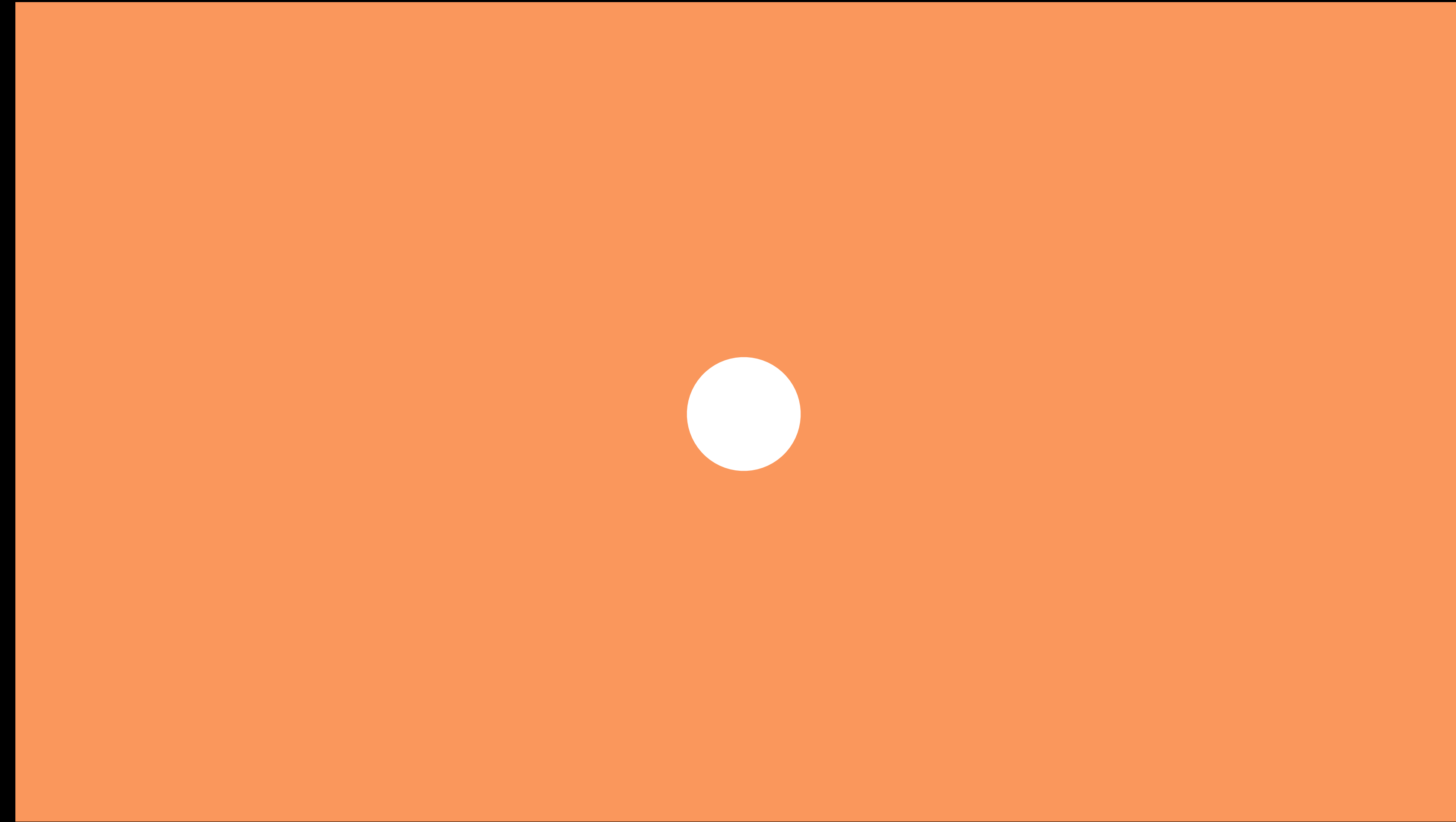
Parallax: Cell

Parallax Offset



Parallax: Cell

Parallax Offset



Mask + Parallax



Mask + Parallax



Best Practices

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Avoid starting animations or video until cell reaches center

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Avoid starting animations or video until cell reaches center

Watch your offscreen passes

Best Practices

Avoid starting animations or video until cell reaches center

Watch your offscreen passes

Be mindful of memory usage

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TVMLKit
tvOS 13

NEW

TVMLKit

tvOS 13



NEW

Also available in TVMLKit

- `TVBrowserViewController`

TVMLKit

tvOS 13



NEW

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- `TVBrowserViewController`

Easy to handle transition to and from shelf

Summary

Summary

Feature your content in top shelf

Summary

Feature your content in top shelf

Content first

Summary

Feature your content in top shelf

Content first

Make browsing easy

More Information

developer.apple.com/wwdc19/211

tvOS Lab

Wednesday, 4:00

tvOS Lab

Friday, 9:00

