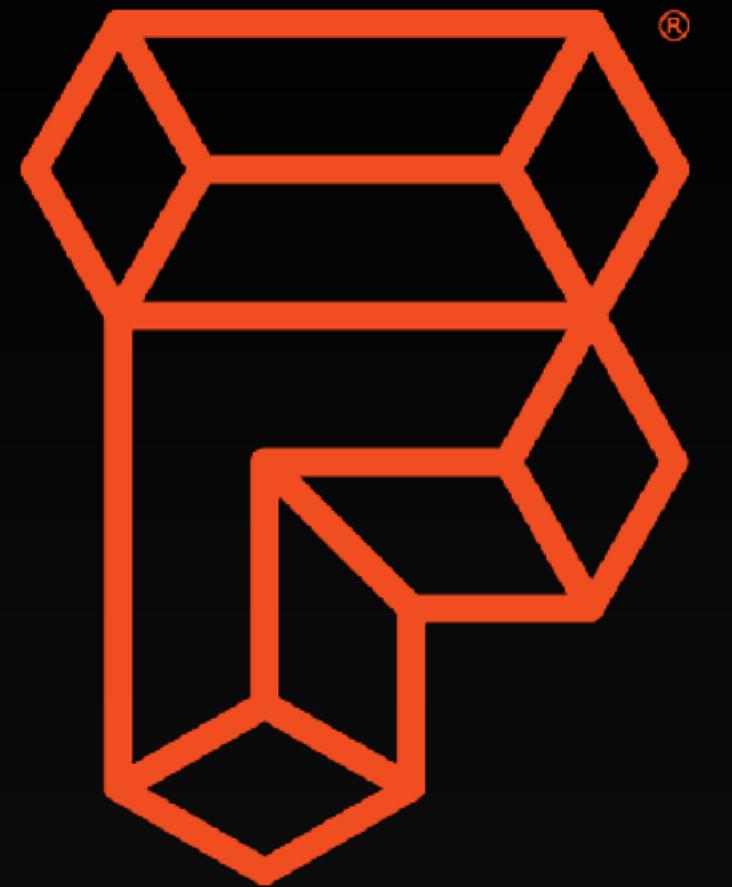




0 to 1
(Million Downloads)

PUMAs Mobile Success Story



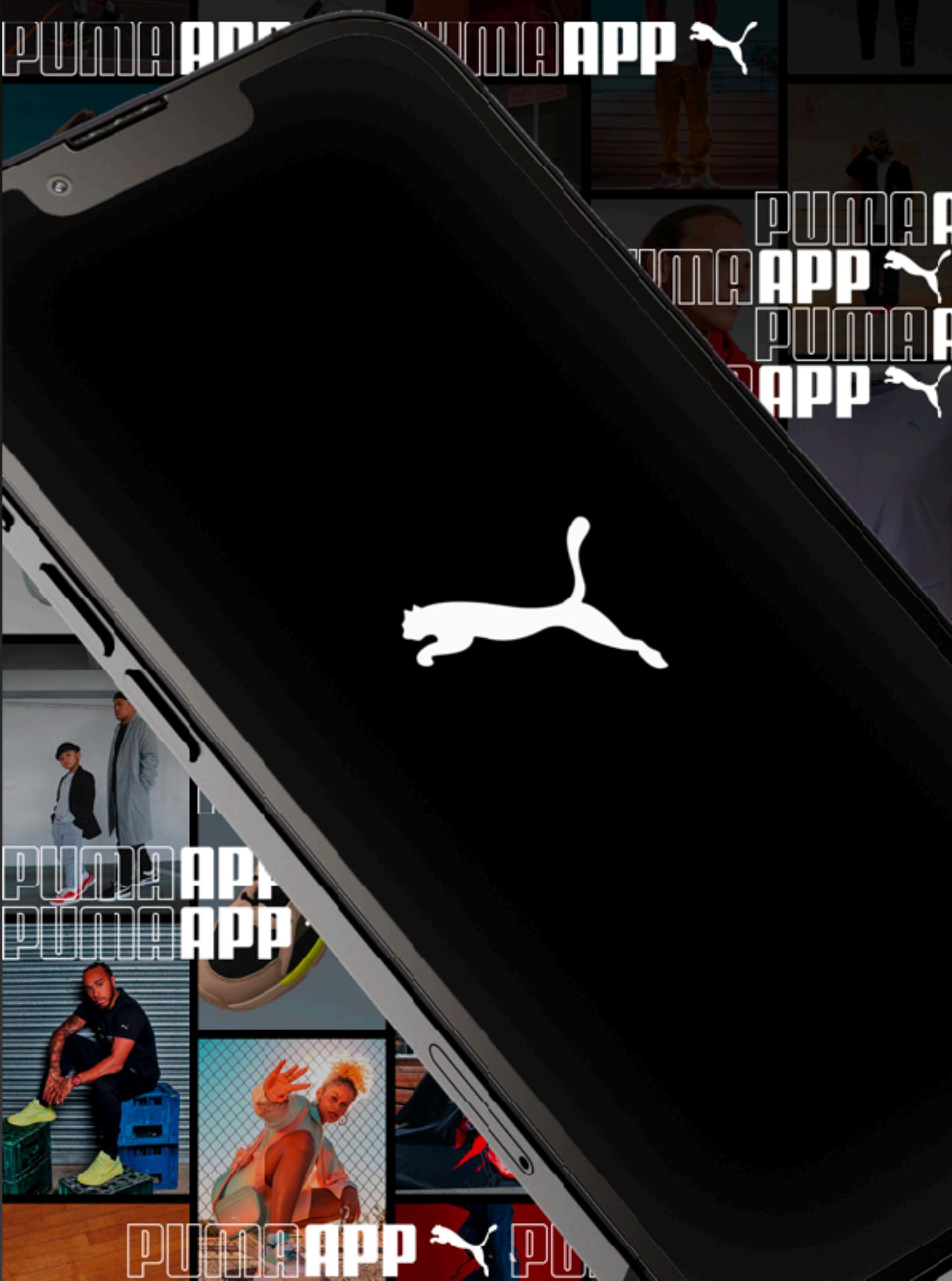
Rob Walker
Engineering Manager at
Formidable
@robwalkerco





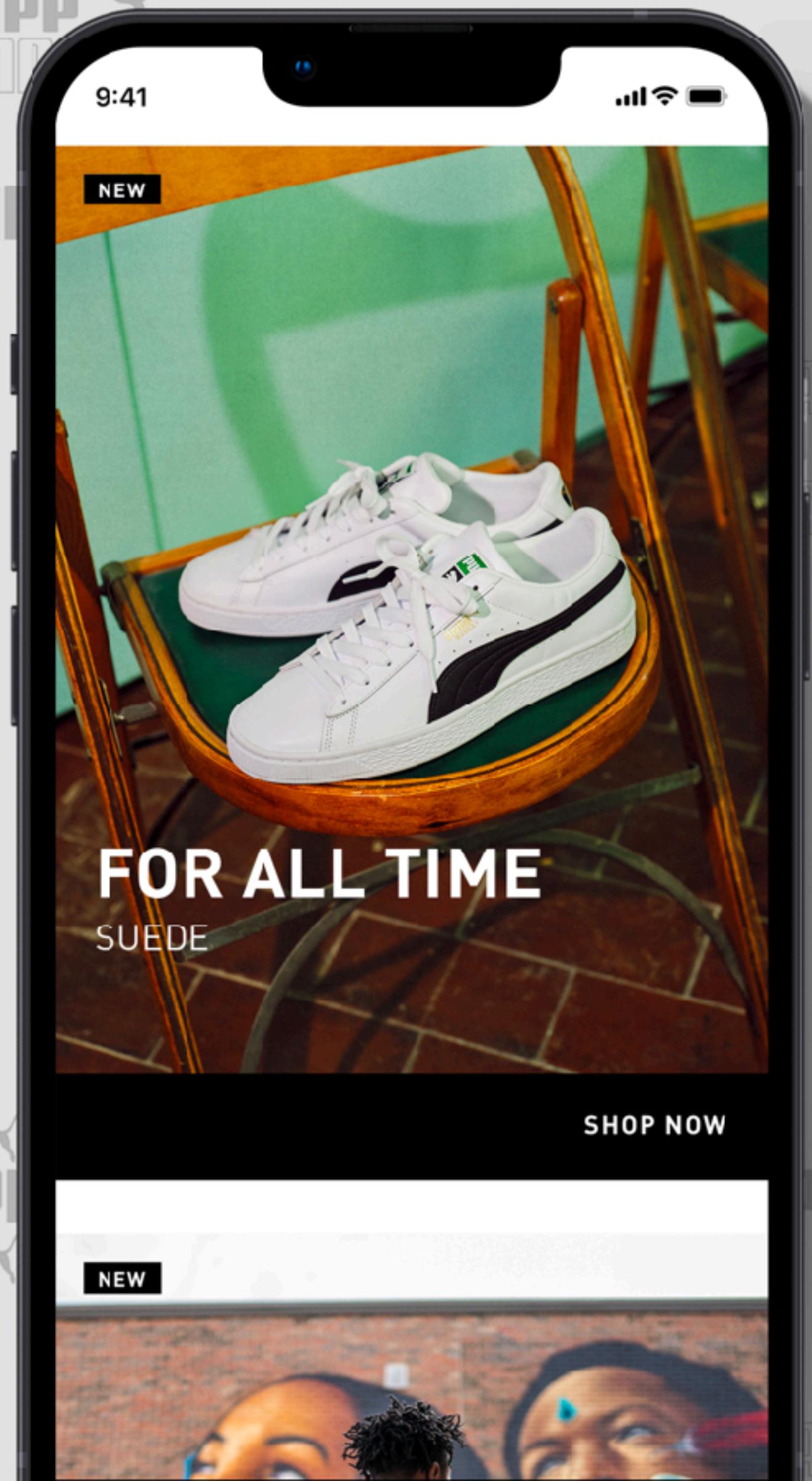
PUMA APP

Maximize your shopping experience
with the latest tech features
and exclusive content on the PUMA APP



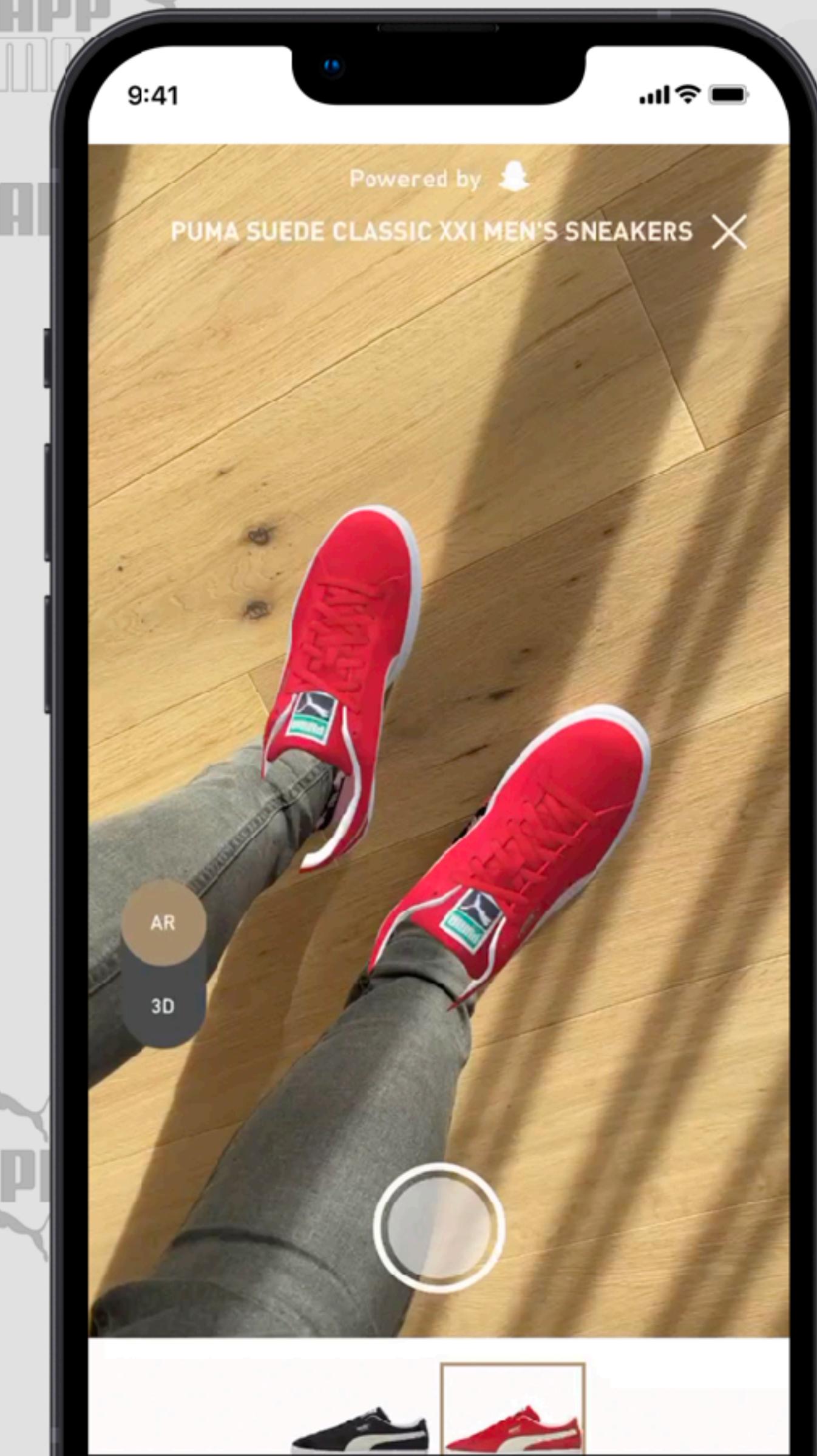
SHOP. FASTER.

Get access to sporting style, street culture,
with iconic collaborations, designers and brands.



VIRTUAL TRY ON

Find anything... Faster.
Step in, slip in, share & purchase



react-native init

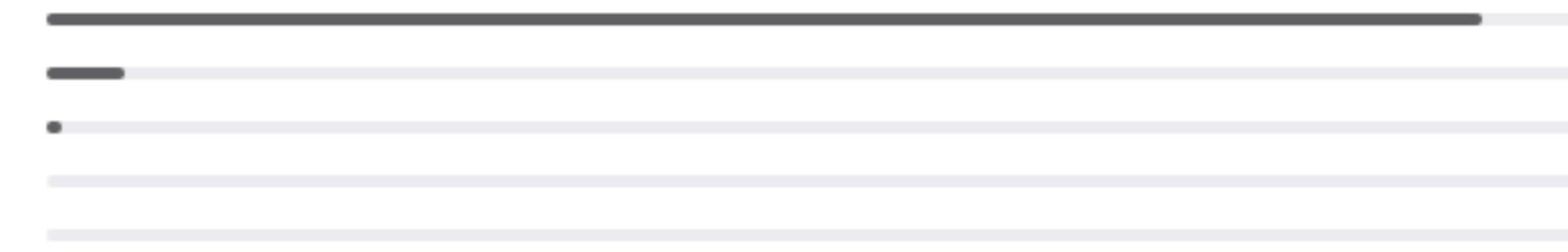
31st March 2021

App Store Reviews

Ratings and Reviews

4.9 out of 5

20.4K Ratings



Play Store Reviews





Kadi Kraman

Director of Mobile Application Services

Rob Walker

Engineering Manager



Alessandro Senese

Senior Software Engineer

Joe Hobson

Software Engineer



Justin Mathew

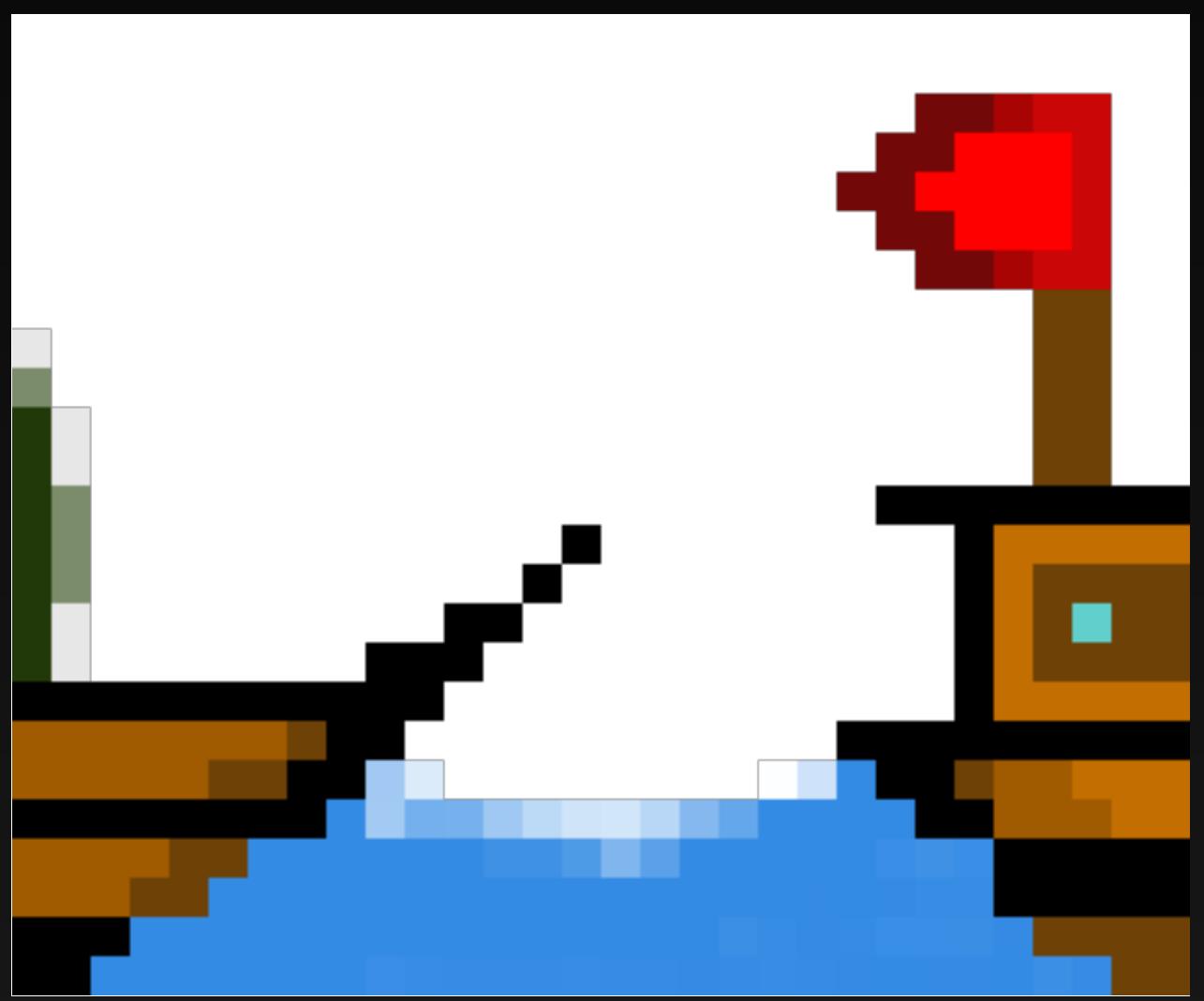
Software Engineer





Mo Bhojani

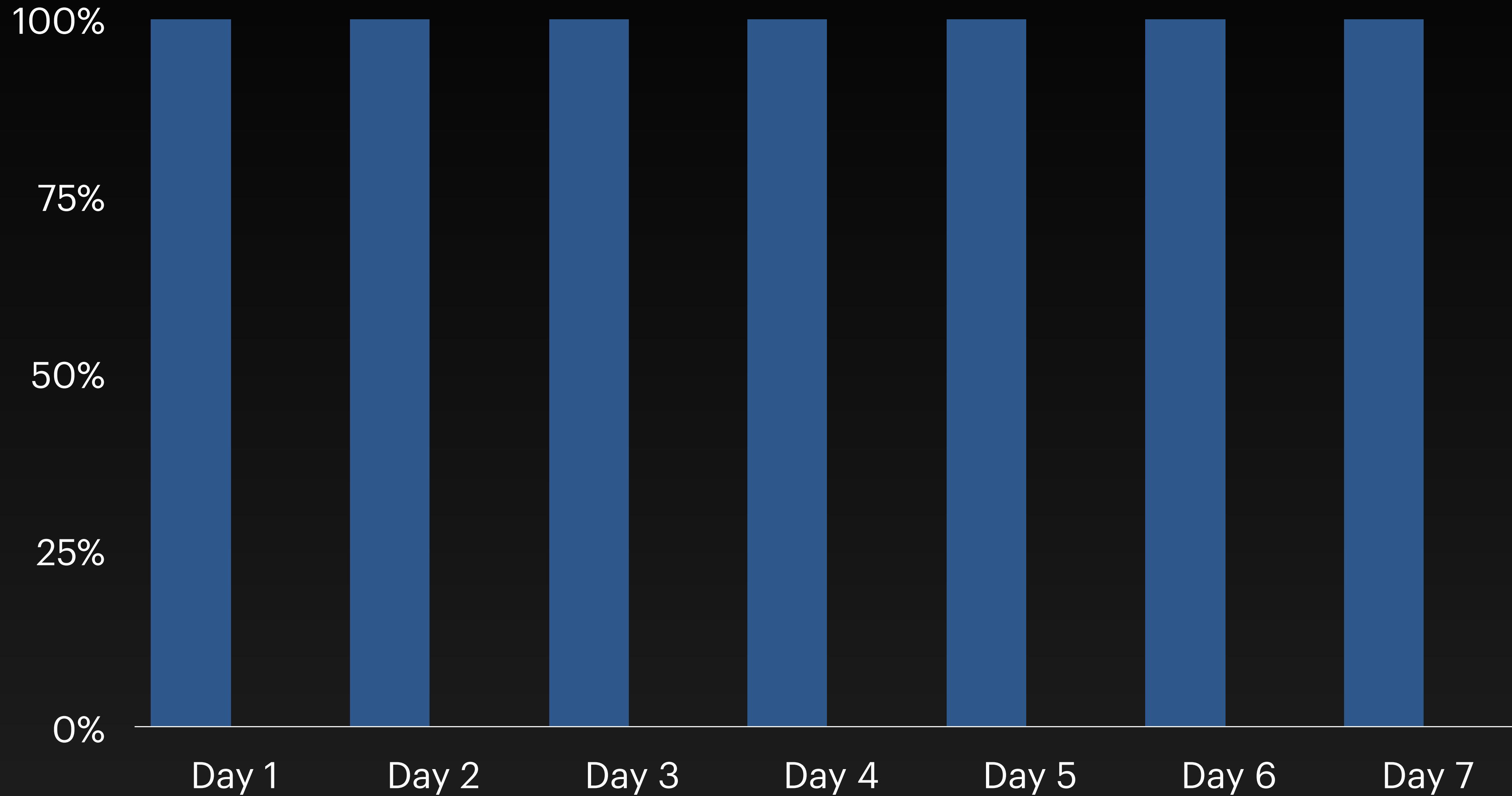
QA tester



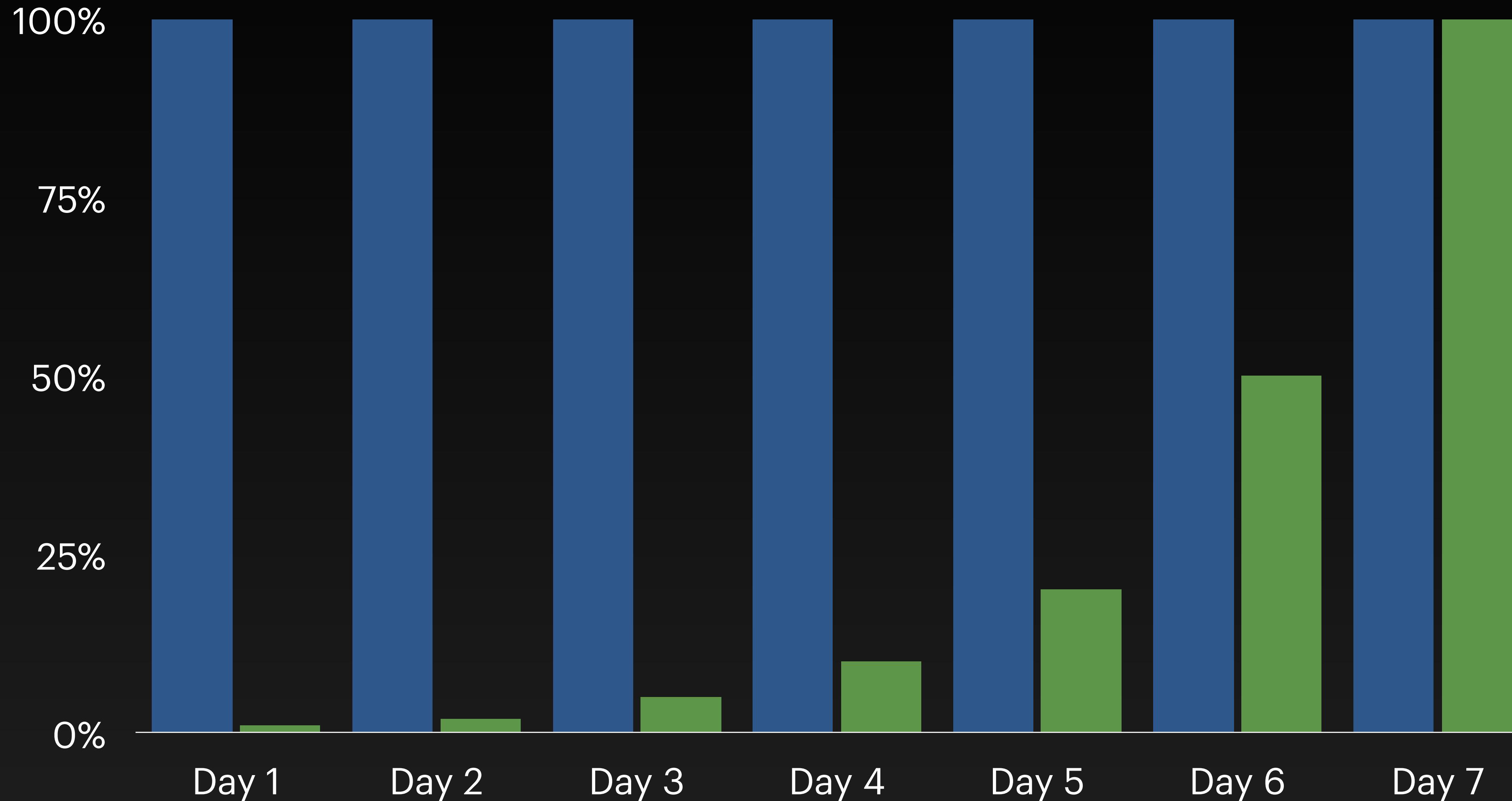
**51 Weeks
39 Releases**

A release every 9 days

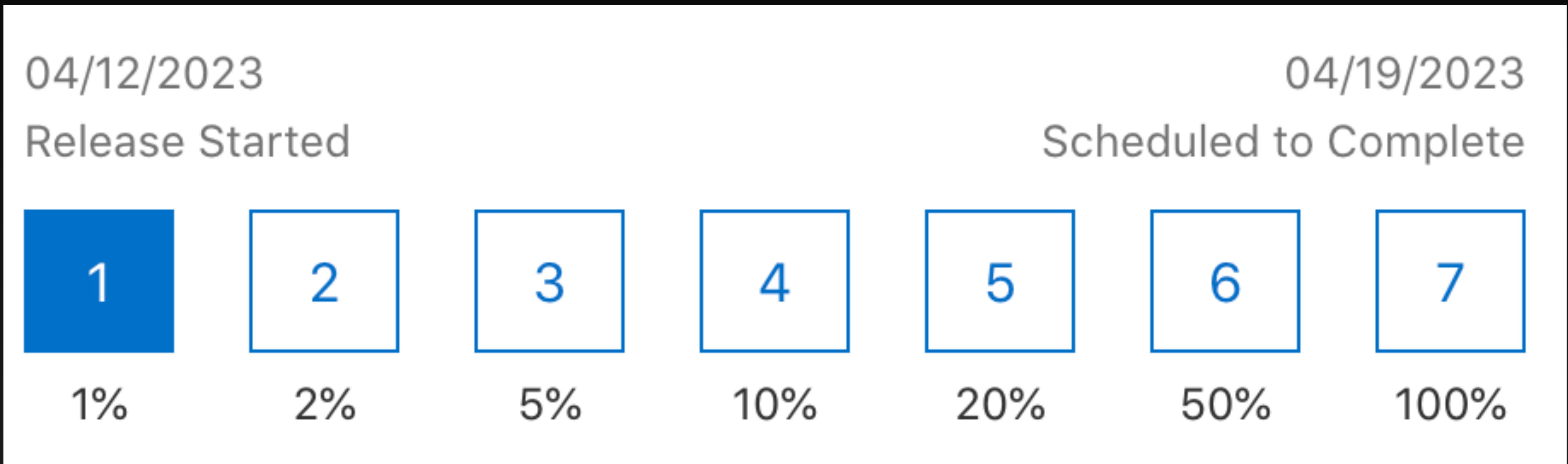
Version Release Availability



Version Release Availability



App Store Phased Release



Play Store Staged Rollout

Roll-out percentage *

20.0

%

Lesson 1

Roll-out Releases
Gradually



formidable.com/blog/2022/mobile-app-rollout

Total Errors

176K

Accepted Errors [?](#)

176K 12 in last min

Filtered Errors [?](#)

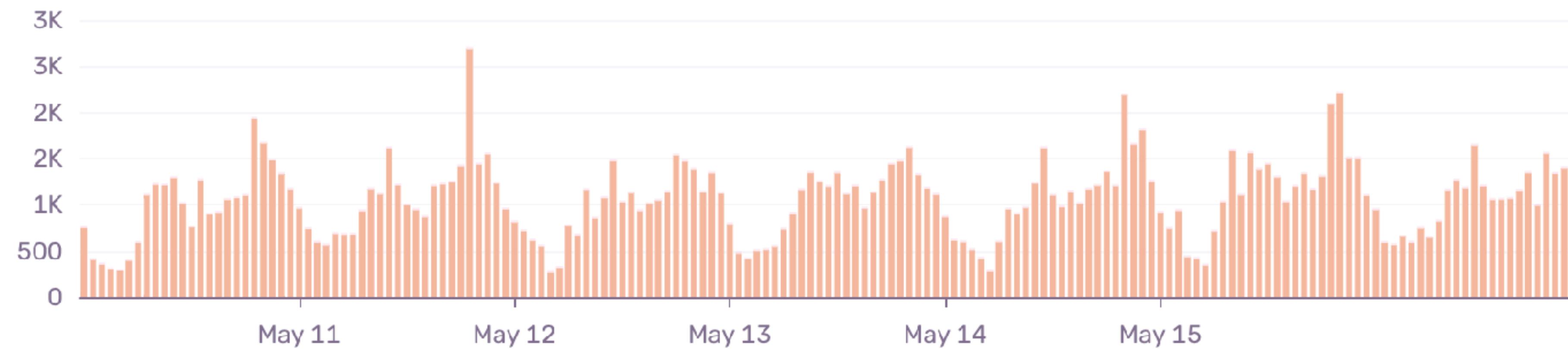
0

Dropped Errors [?](#)

0

Project Stats

● Accepted ● Filtered ● Dropped ● Spike Protection Threshold ● Spikes



Date Range: May 10 12:00 PM – May 17 12:00 PM (-07:00 UTC, 1h interval)

Type: Periodic ▾



```
error.name = `${error.name} - ${operation.kind}: ${queryName}`;
```

```
Sentry.captureException(error, {
  fingerprint: [operation.kind, queryName, errorCode || ''],
  tags: {
    exception_source: 'graphql_error',
    query_name: queryName,
    operation_kind: operation.kind,
    error_code: errorCode,
  }
})
```



```
error.name = `${error.name} - ${operation.kind}: ${queryName}`;

Sentry.captureException(error, {
  fingerprint: [operation.kind, queryName, errorCode || ''],
  tags: {
    exception_source: 'graphql_error',
    query_name: queryName,
    operation_kind: operation.kind,
    error_code: errorCode,
  }
})
```



```
error.name = `${error.name} - ${operation.kind}: ${queryName}`;

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  tags: {
    exception_source: 'graphql_error',
    query_name: queryName,
    operation_kind: operation.kind,
    error_code: errorCode,
  }
})
```

Tags ?

**123.45.123.145**

ID: 30F24506-E037-4F2...

**iOS**

Version: 16.0

**iPhone 13 Pro**

Arch: arm64

app.device	3e002704fa59d8949b3ebdba624f85ce6dcd0ea9	app_locale	en-IN	device	iPhone 13 Pro
device.class	high	device.family	iOS	dist	1291
environment	production	error_code	NOT_FOUND		
event.environment	javascript	event.origin	javascript	exception_source	graphql_error
hermes	true	level	error	mechanism	generic
os.rooted	no	query_name	UserProfile	operation_kind	query
		release	1.3.13 (1291)	os	iOS 16.0
				os.name	iOS

-   **CombinedError - query: UserProfile** construct(native)
[GraphQL] The customer could not be found
 REACT-NATIVE-1ZC  2min ago | 10mo old
-   **CombinedError - query: OrderDetails** construct(native)
[GraphQL] Not Found
 REACT-NATIVE-4SP  3min ago | 6mo old
-   **CombinedError - mutation: AddCouponToCart** construct(native)
[GraphQL] Coupon already in basket
 REACT-NATIVE-4SB  3min ago | 6mo old
-   **CombinedError - query: Pincode** construct(native)
[GraphQL] Sorry! Your PIN code is not serviceable.
 REACT-NATIVE-1TN  4min ago | 10mo old
-   **CombinedError - query: CartNotices**
[Network] Network request failed
 REACT-NATIVE-47N  5min ago | 7mo old

FINGERPRINT RULES

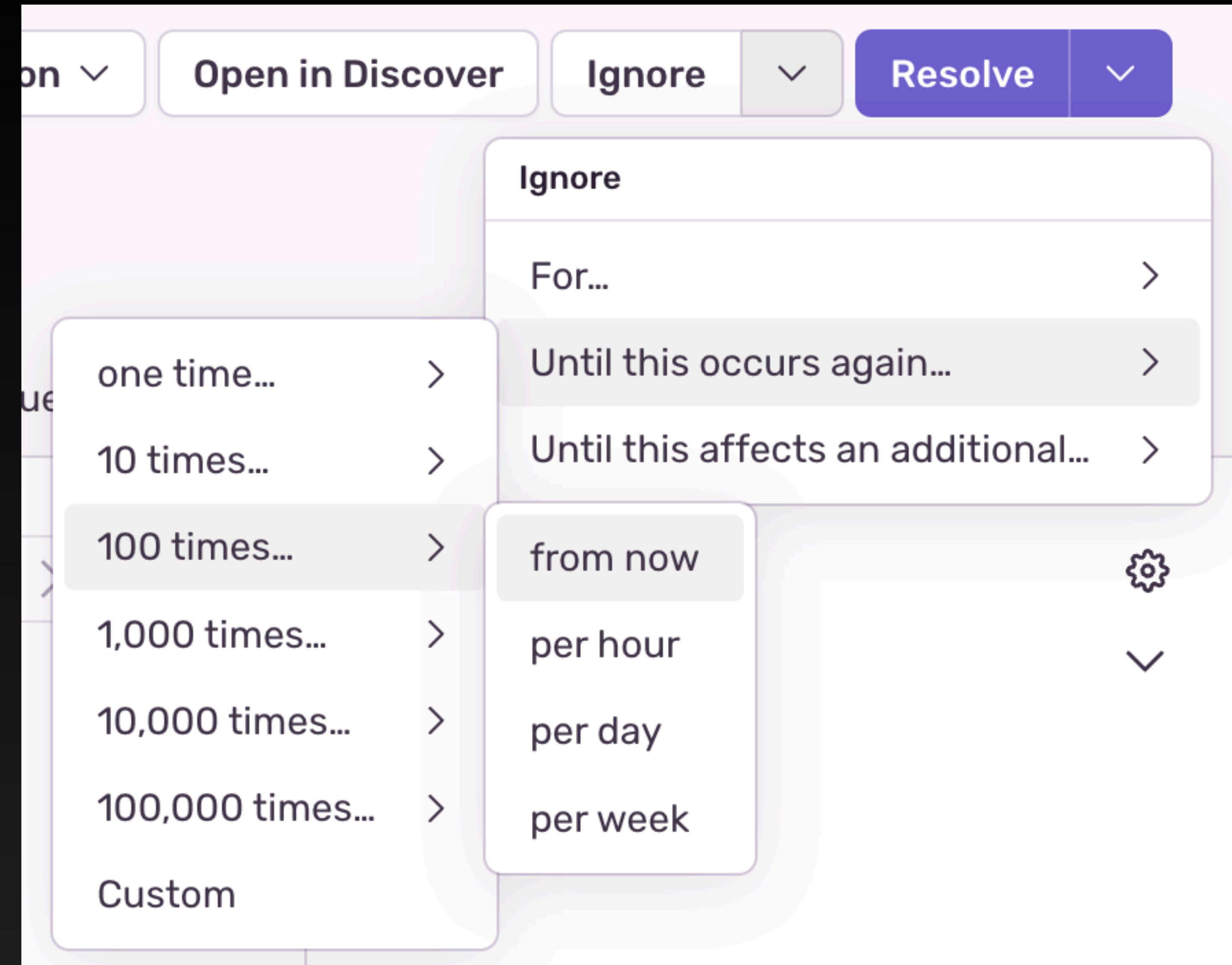
This can be used to modify the fingerprint rules on the server with custom rules. Rules follow the pattern `matcher:glob -> fingerprint, values`. To learn more about fingerprint rules, [read the docs](#).

```
# force all errors of the same type to have the same fingerprint  
error.type:DatabaseUnavailable -> system-down  
# force all memory allocation errors to be grouped together  
stack.function:malloc -> memory-allocation-error
```

```
error.type:OutOfMemoryError message:"Failed to allocate a *" -> OutOfMemoryError-failed-to-allocate  
error.type:EXC_BAD_ACCESS -> EXC_BAD_ACCESS  
error.type:SIGABRT message:"*heap corruption detected*" -> SIGABRT-heap-corruption-detected  
error.value:"Application Not Responding*" -> Application-not-responding  
error.type:"App Hanging" -> App-hanging  
error.type:IllegalArgumentException message:"pointerIndex out of range" -> IllegalArgumentException-  
pointerIndex-out-of-range  
error.value:"[Network] Same machine same service in the most recent hop on cache*" -> Same-machine-  
same-service-in-the-most-recent-hop-on-cache  
error.type:CppException message:"bad_weak_ptr" -> CppException-bad_weak_ptr  
error.type:"i0" -> i0  
error.value:"invalid pointerIndex -1 for MotionEvent*" -> Invalid-pointer-index-MotionEvent  
message:"Unknown block type *undefined*" -> Unknown-block-type-undefined
```

Issues

All Unresolved  984



Crashes and ANRs

Issue	Type	Affected versions	Affected users	Events	Last occurred
▶ [split_config.arm64_v8a.apk!libc++_shared] SIGABRT	Crash	❗ 1281 (1.3.12) 7 others	2,070 34.3%	2,097 29.8%	61 minutes ago
▶ [split_config.arm64_v8a.apk!libc++_shared] SIGABRT	Crash	❗ 1281 (1.3.12) 8 others	610 10.1%	634 9.0%	2 hours ago
▶ android.os.MessageQueue.nativePollOnce Input dispatching timed out	ANR	❗ 1281 (1.3.12) 13 others	362 6.0%	405 5.8%	3 hours ago
▶ com.facebook.react.views.scroll.ReactScrollView java.lang.IllegalArgumentException	Crash	❗ 1281 (1.3.12) 8 others	296 4.9%	327 4.7%	3 hours ago
▶ [split_config.arm64_v8a.apk!libreanimate] SIGSEGV	Crash	❗ 1281 (1.3.12) 6 others	146 2.4%	150 2.1%	3 hours ago
▶ [split_config.arm64_v8a.apk!libb2d1.so] .SIGSEGV	Crash	❗ 1281 (1.3.12) 9 others	115 1.9%	134 1.9%	2 hours ago
▶ expo.modules.kotlin.views.ViewManager Input dispatching timed out	ANR	❗ 1281 (1.3.12) 3 others	112 1.9%	118 1.7%	19 hours ago
▶ com.swmansion.reanimated.Scheduler. com.facebook.jni.CppException	Crash	❗ 1281 (1.3.12) 14 others	104 1.7%	107 1.5%	8 hours ago

Crashes

Last Two Weeks Version 1.3.12 All Builds All Products App Store

Open in Project...

Crash Log Details

Binary Puma 1262 (1.3.12)
Thread 0
iOS 16.3.1 (20D67)
Device iPhone 14
Architecture ARM-64 (Native)

Statistics

Last Two Weeks Operating System

1 Device iOS 16.3 100%

04/03 04/10 04/16

Notes

Puma: -[REAAAnimationsMa...

No Notes

Crashes

hermes: 0x102bd0000 + 2... 18 devices

Puma: std::__1::shared_p... 18 devices

EmarsysPush NotificationService... 11 devices

Puma: -[RCTView Manager view] + 20 2 devices

Puma: std::__1::unordere... 2 devices

Puma: -[BNCSKAd Network updatePo... 1 device

Puma: -[RCTText ViewManager uiMa... 1 device

Puma: -[REAAAnimationsMa... 1 device

Puma: 0x10080c000 + 4... 1 device

Puma: 0x10080d000 + 20000

Filter

< 1 of 1 >

Lesson 2

Proactively Monitor
& Manage Error
Tracking



注文履歴



お気に入り
リスト



メッセージ

注文履歴

プロフィール

設定

サポート

ご注文番号 *

メールアドレス *

電話番号 *

ステータスの確認

Translation Truths

- Good translations are difficult
- It will take longer than expected

XXXXXX



XXXXXXX



XXXXX

XXXXXX

XXXXXXX

XXXXXXX

XXXX

XXXXX XXXXX *

XXXX *

XXXXXX XXXX *

XXX XXXX XXXXXX

Translation Issues

⚠ Invalid Placeholder issues

This means that data will be missing from rendered translation strings.

Locale	Invalid Placeholder Translation Keys
ja-JP	removeProducts

DEBUG MENU

X

DEV OPTIONS TRANSLATIONS ANALYTICS (GA)

Currently selected locale = ja-JP

All translations: 796

Invalid placeholders: 1

Invalid links: 0

Missing translations: 104 (Using 'en' fallback)

Untranslated values: 8

SEARCH

Plurals (1)

DEBUG MENU



TRANSLATIONS

ANALYTICS (GA)

ANALYTICS (BRAI

EVENT

13 April 2023 07:15 pm

view_promotion

```
{  
  "creative_name": "mobileappproducttilecustom",  
  "creative_slot": "2",  
  "location_id": "LandingHome",  
  "promotionId": "product-tile-custom-75-deviate-elite",  
  "promotionName": "DEVIATE NITRO ELITE",  
  "items": [  
    {  
      "item_id": "377789_01",  
      "item_ean": "",  
      "item_name": "Deviate NITRO Elite 2 Run 75 Running Shoes  
Women",  
      "price": 0,  
      "full_price": 0,  
      "currency": "GBP",  
      "discount": 0,  
      "quantity": 1,  
      "size": "",  
      "availability": "InStock",  
      "assortmentAvailability": ""  
    }  
  ]  
}
```

Lesson 3

Create the tooling
you need



**"The ADA guarantees that people with
disabilities have the **same**
opportunities to purchase goods and
services"**

<https://www.ada.gov/topics/intro-to-ada>

	Permanent	Temporary	Situational
Touch			
			
One arm	Arm injury	New parent	
See			
			
Blind	Cataract	Distracted driver	
Hear			
			
Deaf	Ear infection	Bartender	
Speak			
			
Non-verbal	Laryngitis	Heavy accent	

<https://www.iweb.co.uk/2016/10/inclusive-design-why-our-websites-should-more-accessible>

[Accessibility](#)

VoiceOver

VoiceOver



VoiceOver speaks items on the screen:

- Tap once to select an item.
- Double-tap to activate the selected item.

[Learn more...](#)

VoiceOver Practice

SPEAKING RATE



[Speech](#)



[Braille](#)



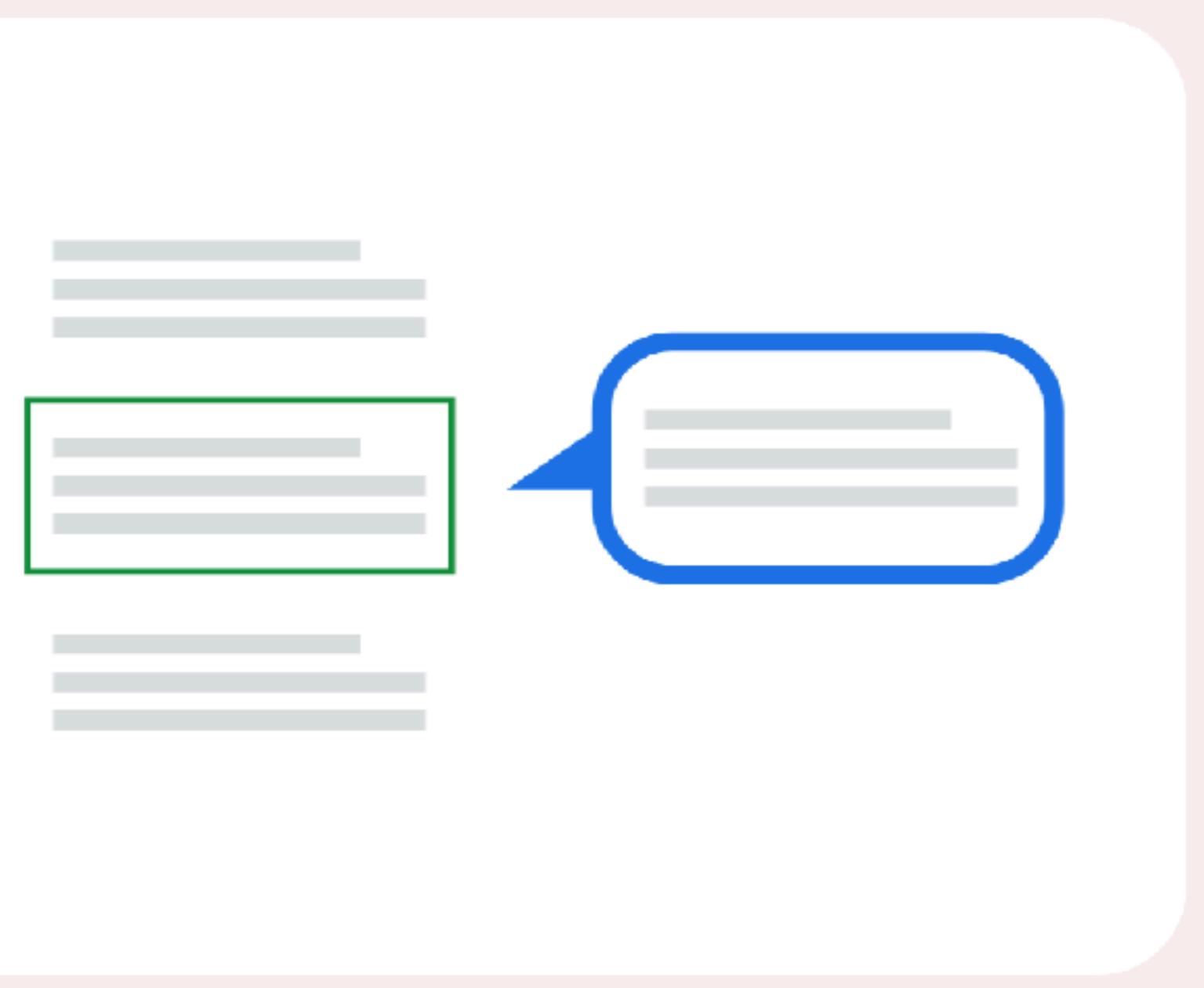
[VoiceOver Recognition](#)





TalkBack

TalkBack provides spoken feedback so that you can use your device without looking at the screen. TalkBack can be helpful for people who have difficulty seeing the screen.



Use TalkBack



Learn by Doing: an iOS VoiceOver Guide for Developers

9 May 2023

That's right, in just 10 minutes you can go from "what even is this" to a "fizz-buzz" level of capability with VoiceOver. Are you ready?

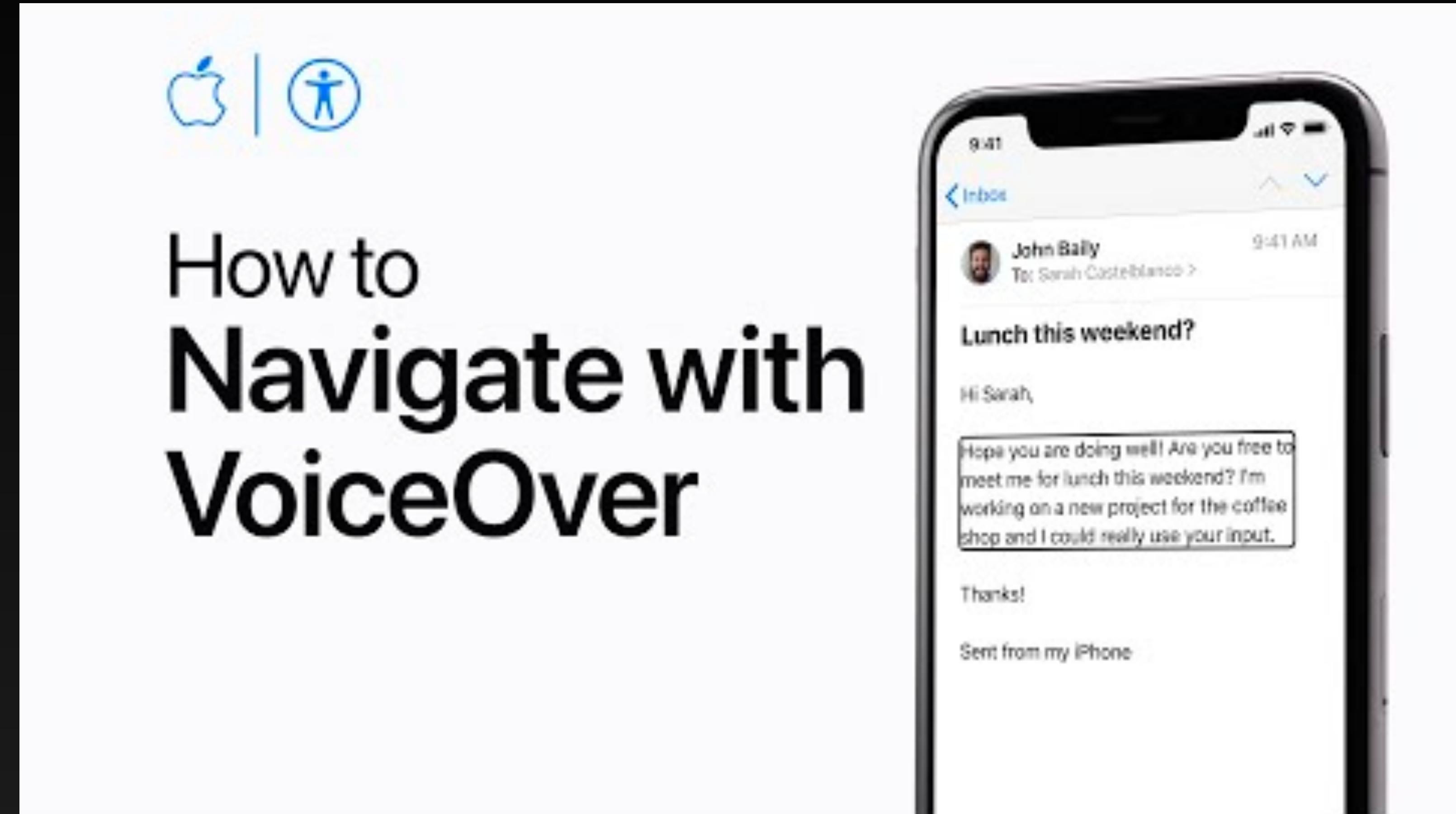
Grab your pho ...



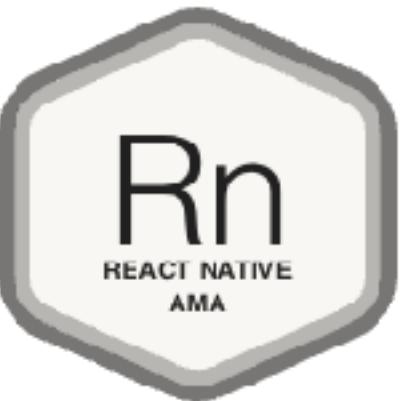
Kadi Kraman

[Read More](#)

<https://formidable.com/blog/2023/ios-voiceover-guide-for-developers>



<https://www.youtube.com/watch?v=qDm7GiKra28>



react-native-ama

Accessibility as a First-Class Citizen with
React Native AMA

 [Git Repository](#)

☆ 160 | TypeScript | Updated 4 days ago

<https://formidable.com/open-source/react-native-ama>

Lesson 4

Invest in
Accessibility





± Q

SUEDE

52 PRODUCTS

SORT ↑↓

ALL

BASKETBALL

MOTORSPORT

NEW



1 Color

PUMA NYC Suede

Triplex Park Flagship ...

\$85.00

NEW



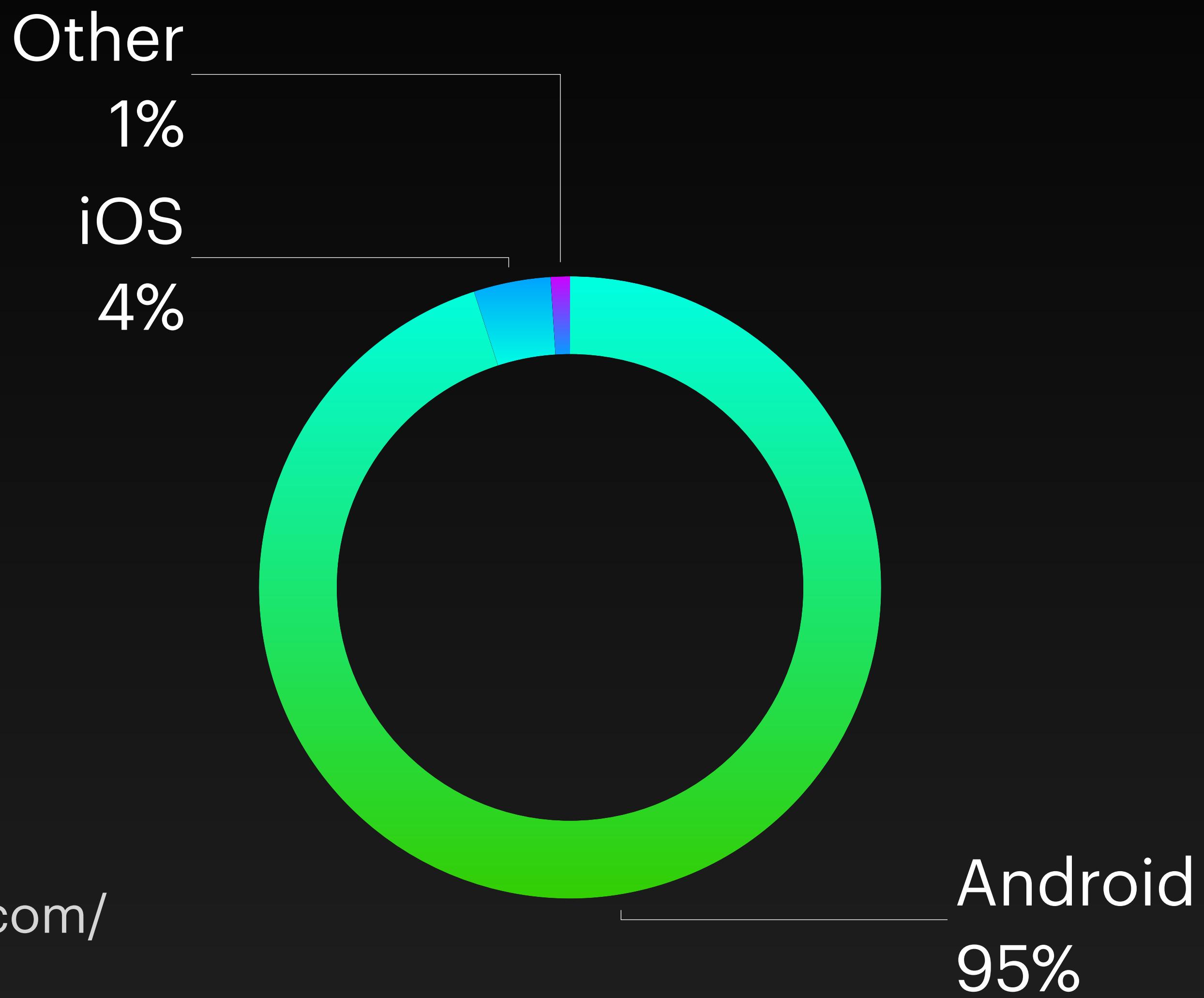
1 Color

PUMA x RHUIGI B-boy

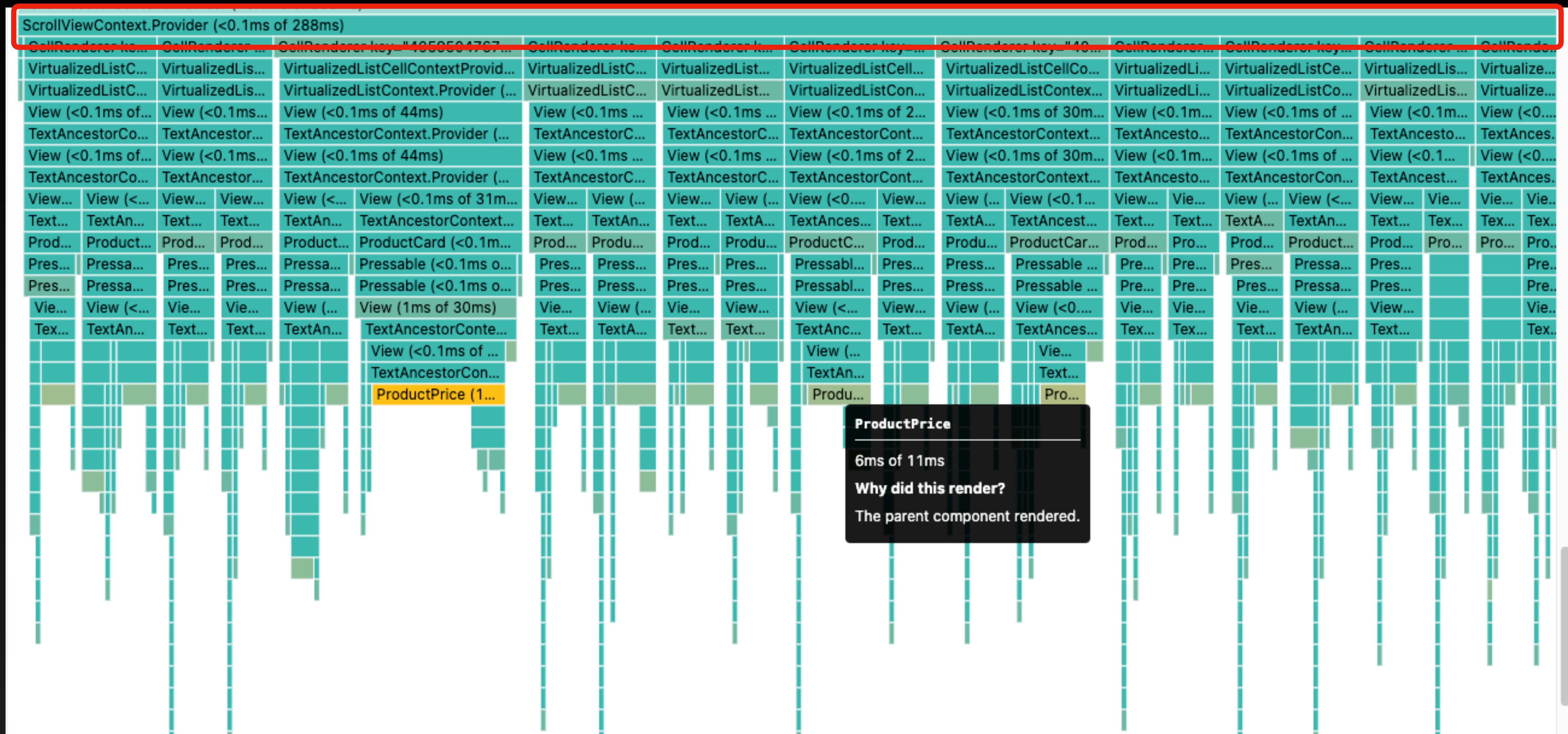
Suede Sneakers

\$120.00

India Mobile Operating Systems 2022



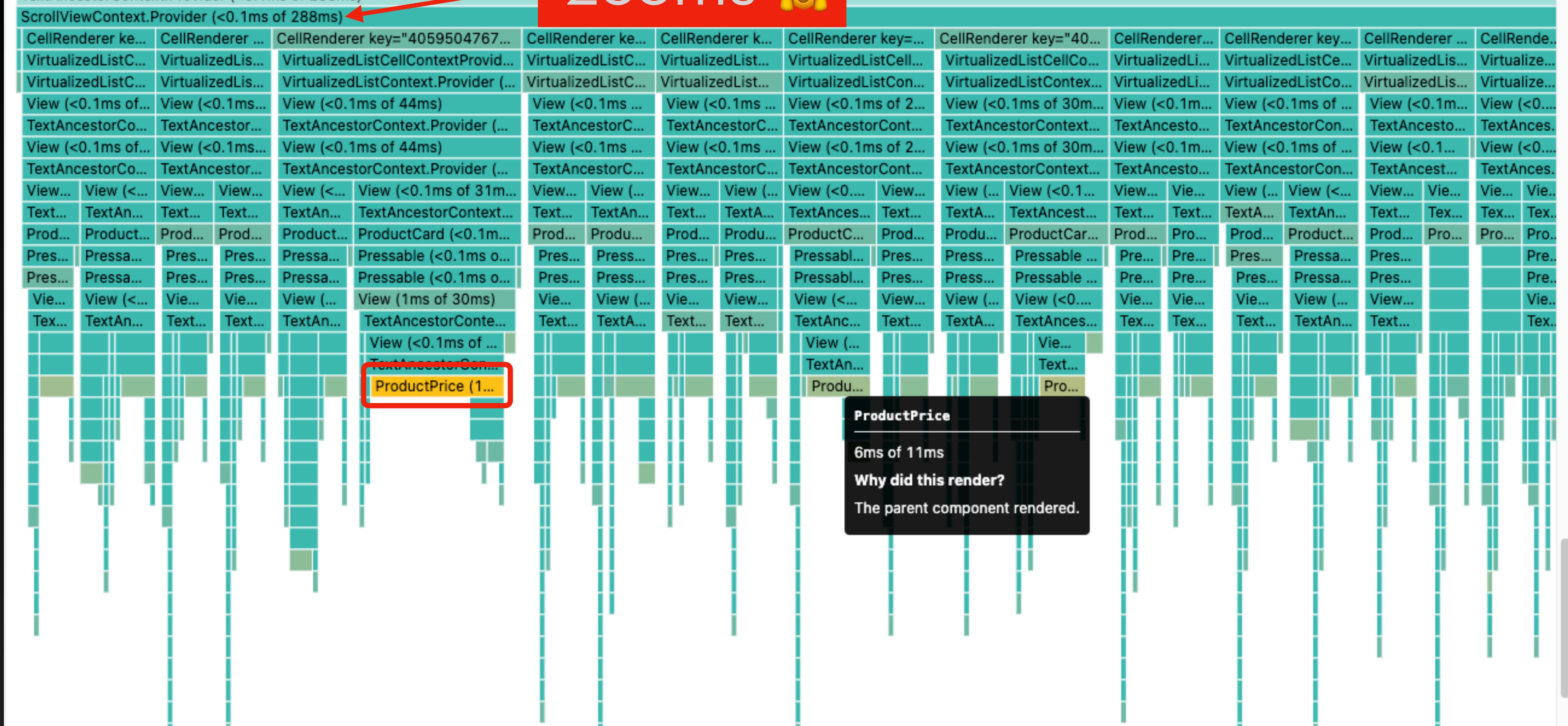
[https://www.statista.com/
statistics/262157](https://www.statista.com/statistics/262157)



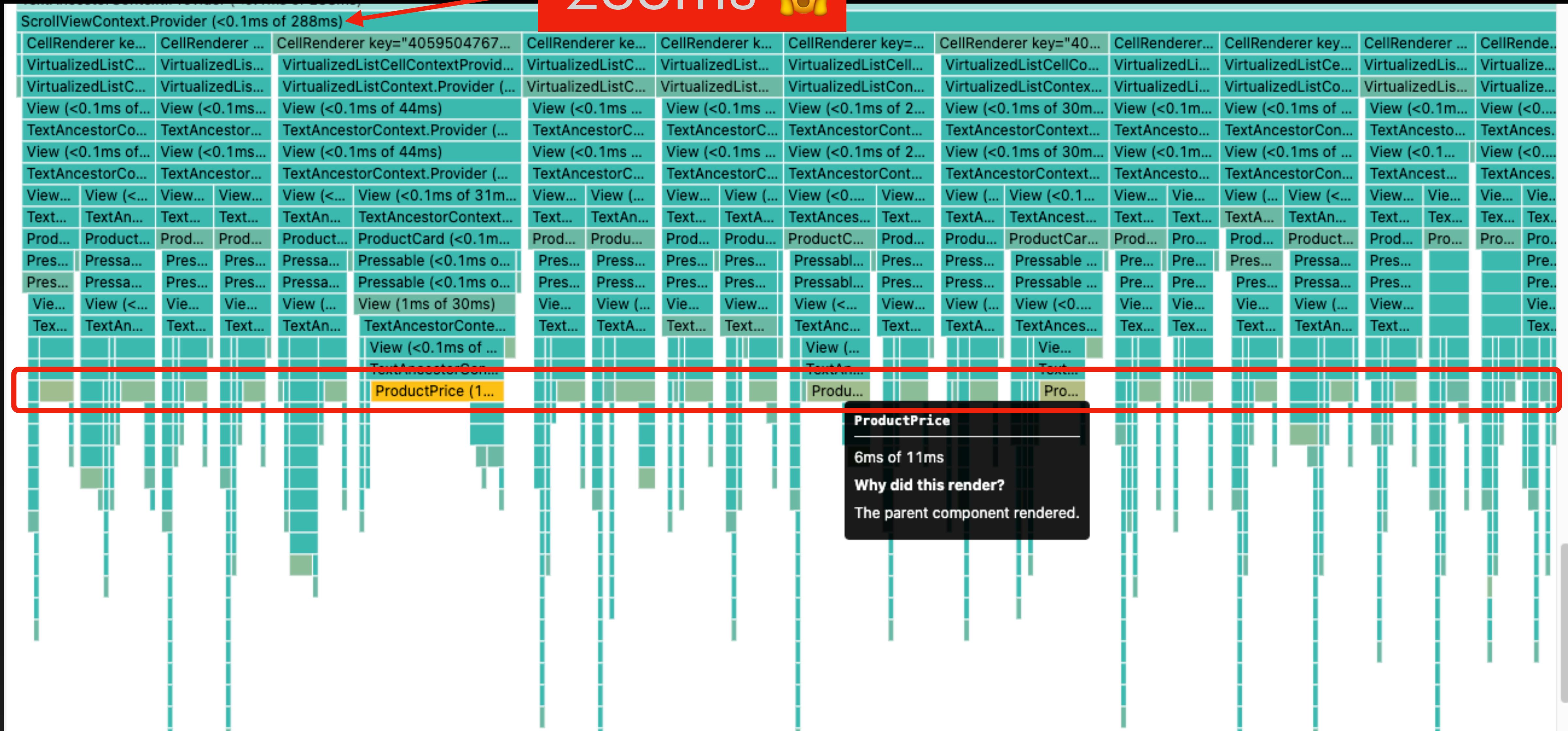




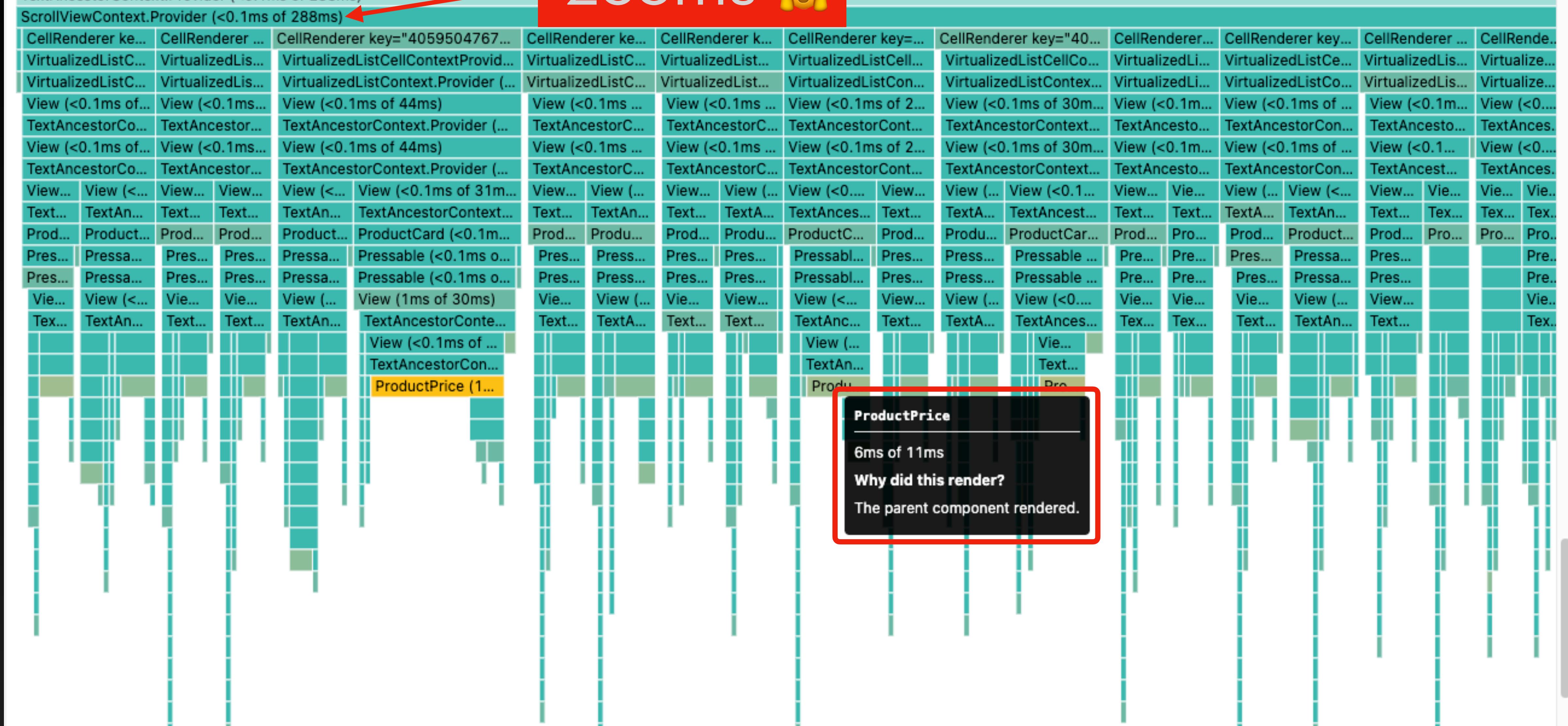
288ms



288ms



288ms





```
export const formatCurrency = (val: number, locale: Locale) =>
  new Intl.NumberFormat(locale, {
    style: 'currency',
    currency: currencyMap[locale],
  }).format(val)
```

143ms



ScrollViewContext.Provider (<0.1ms of 143ms)



The screenshot shows the React Native DevTools Profiler interface. A sidebar on the left lists applications: 'React Native' (selected), 'Hermes Debugger (RN)', 'Logs', 'React DevTools', and another 'React Native' entry. The main area displays a timeline for recording profiling data. Red arrows numbered 1 through 5 point to specific UI elements:

- 1: A red arrow points to the number '1' above the text 'No profiling data has been recorded.'
- 2: A red arrow points to the gear icon in the toolbar.
- 3: A red arrow points to the 'Components' tab in the bottom navigation bar.
- 4: A red arrow points to the 'Hide commits below 1 (ms)' input field.
- 5: A red arrow points to the record button (blue dot) in the toolbar.

Key UI elements include:

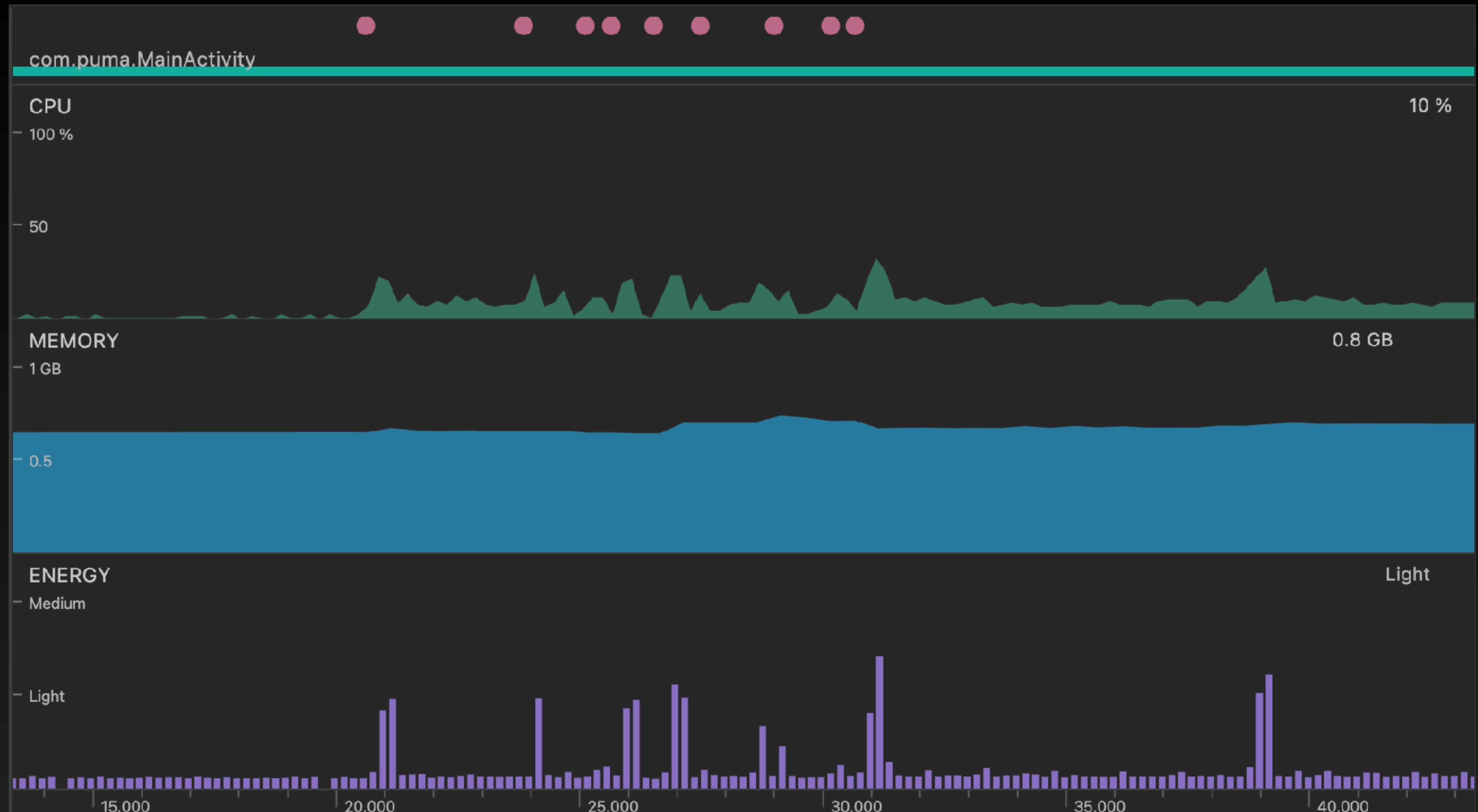
- APP INSPECT**: Application selection dropdown showing 'React Native'.
- NO APPLICATION SELECTED**: Error message.
- PLUGINS**: Device selection dropdown.
- React Native**: Another application entry in the sidebar.
- DevTools 4.27.2-7f747b80e**: Version information.
- Components** and **Profiler**: Tabs in the top navigation bar.
- Record button**: Blue dot in the toolbar.
- Toolbar icons**: Includes a stop button, up/down arrows, a flame icon, and a calendar icon.
- General** and **Debugging**: Settings tabs in a dropdown menu.
- Record why each component rendered while profiling**: Checked checkbox.
- Hide commits below 1 (ms)**: Input field for hiding commits below a certain ms threshold.
- No profiling data has been recorded**: Status message.
- Click the record button**: Instruction to start recording.
- Click here to learn more about profiling**: Link to learn more.

1 / 24

<



>

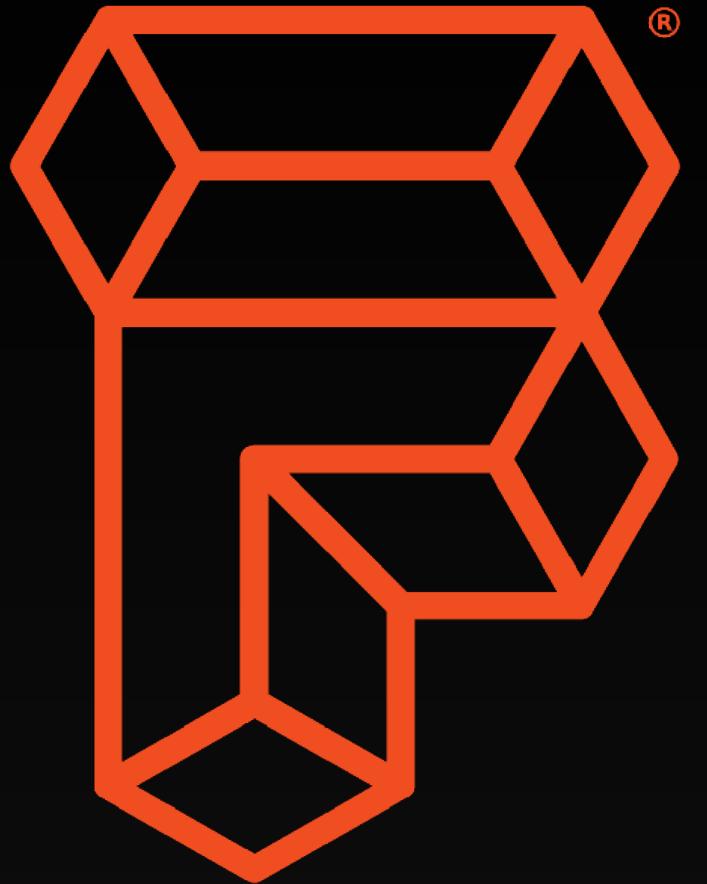


Lesson 5

Learn to Profile



- Roll out releases gradually
- Proactively monitor and manage error tracking
- Create the tooling you need
- Invest in accessibility
- Learn to profile



Thanks for listening

You can find all the links on my website and on Twitter

robwalker.co

@robwalkerco

