



0 to 1
(Million Downloads)

PUMAs Mobile Success Story



Rob Walker

Engineering Manager at
Formidable

@robwalkerco





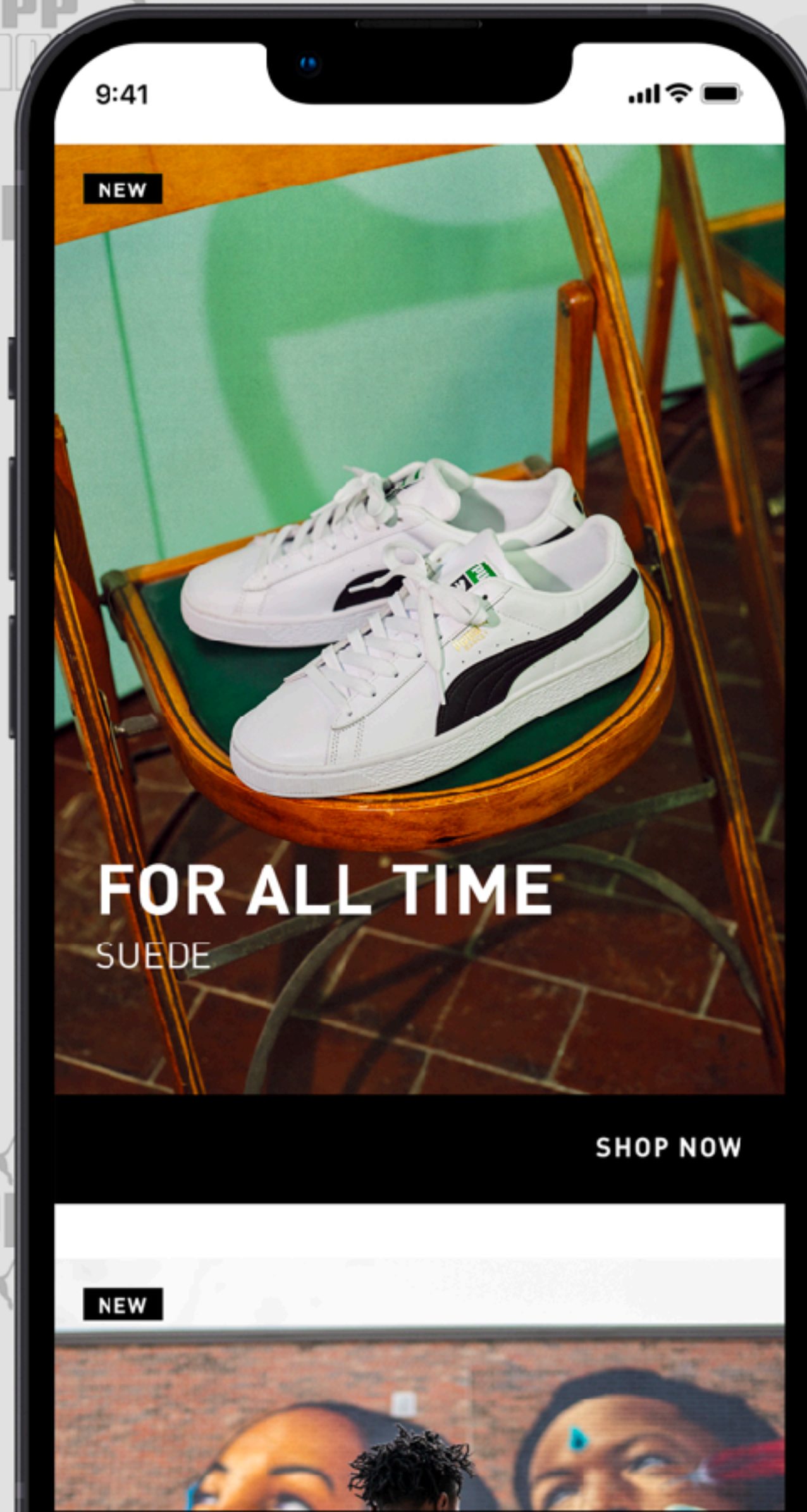
PUMA APP

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



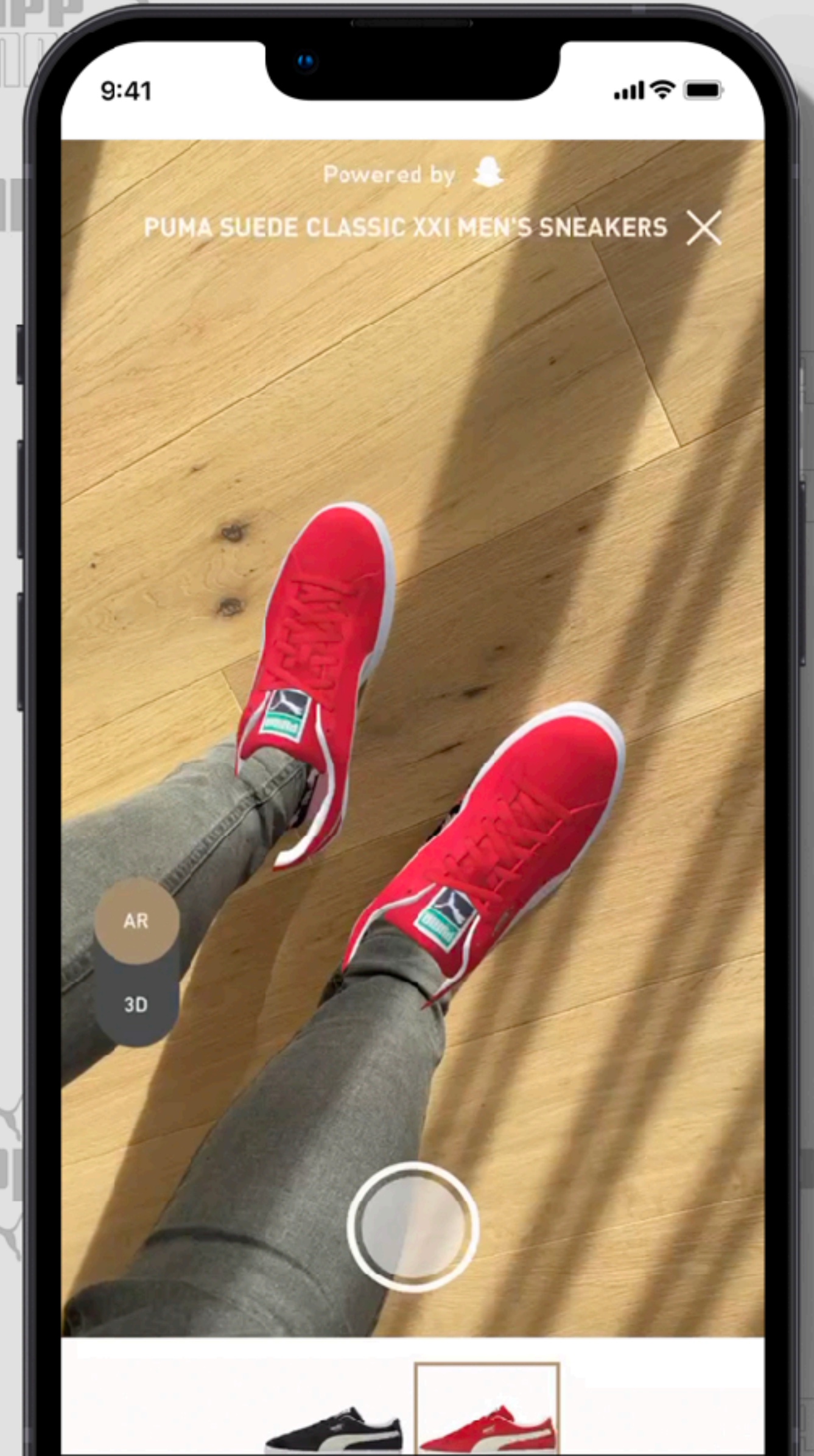
SHOP. FASTER.

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

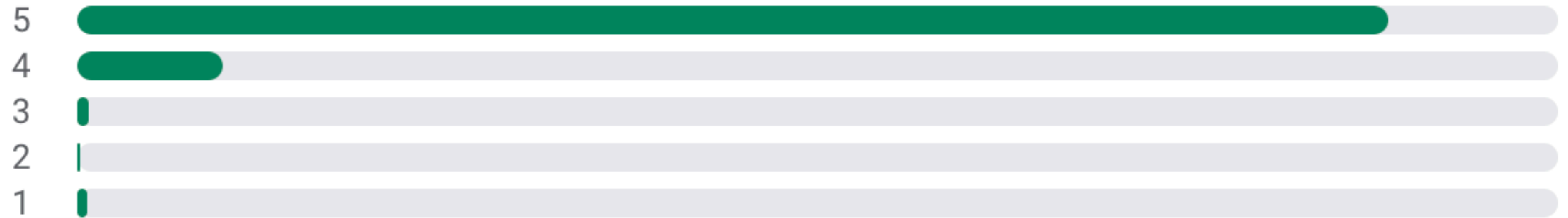


Play Store Reviews

4.9



40.8K reviews





Kadi Kraman

Director of Mobile Application Services

Rob Walker

Engineering Manager



Alessandro Senese

Senior Software Engineer

Joe Hobson

Software Engineer



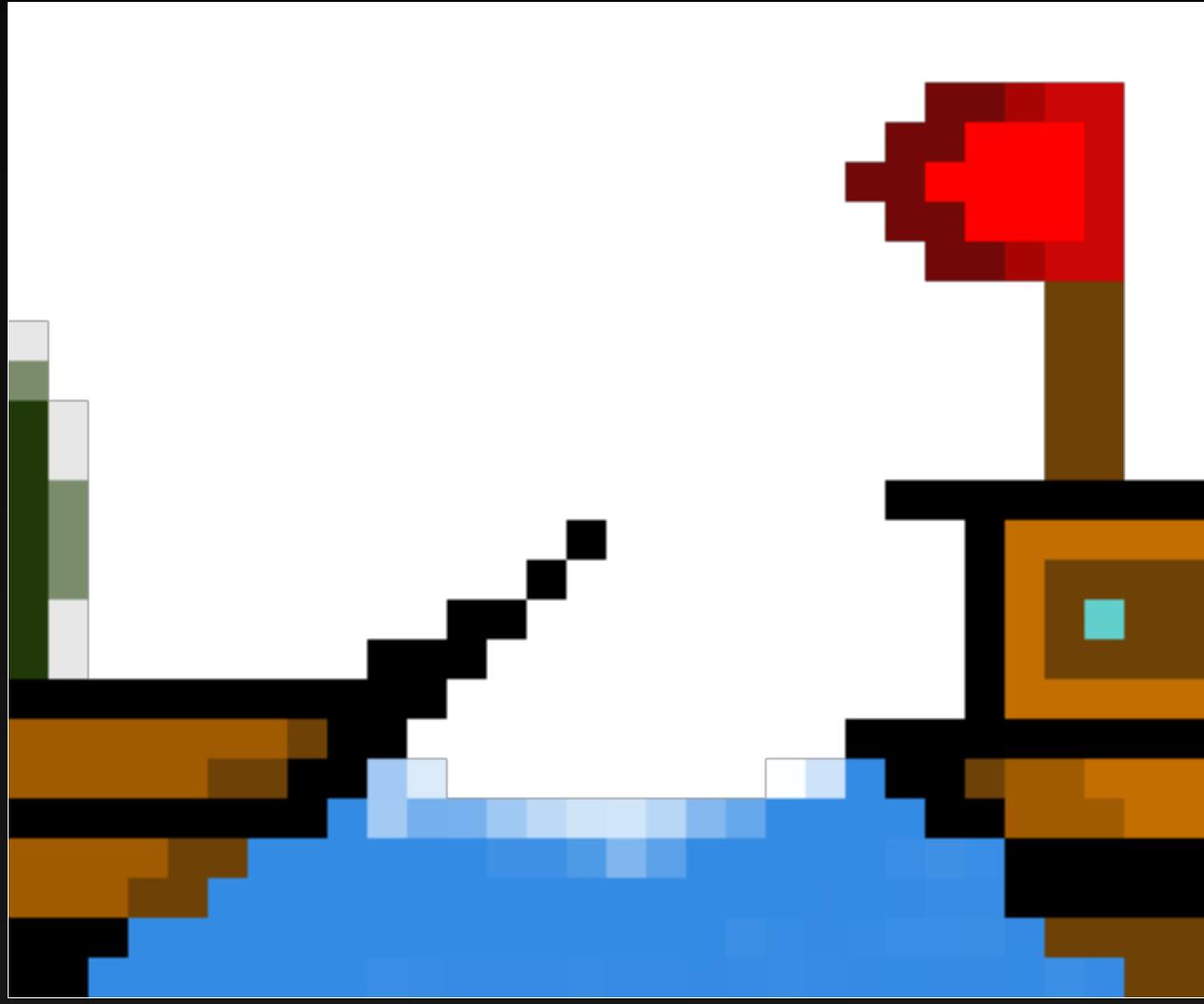
Justin Mathew

Software Engineer



Mo Bhojani

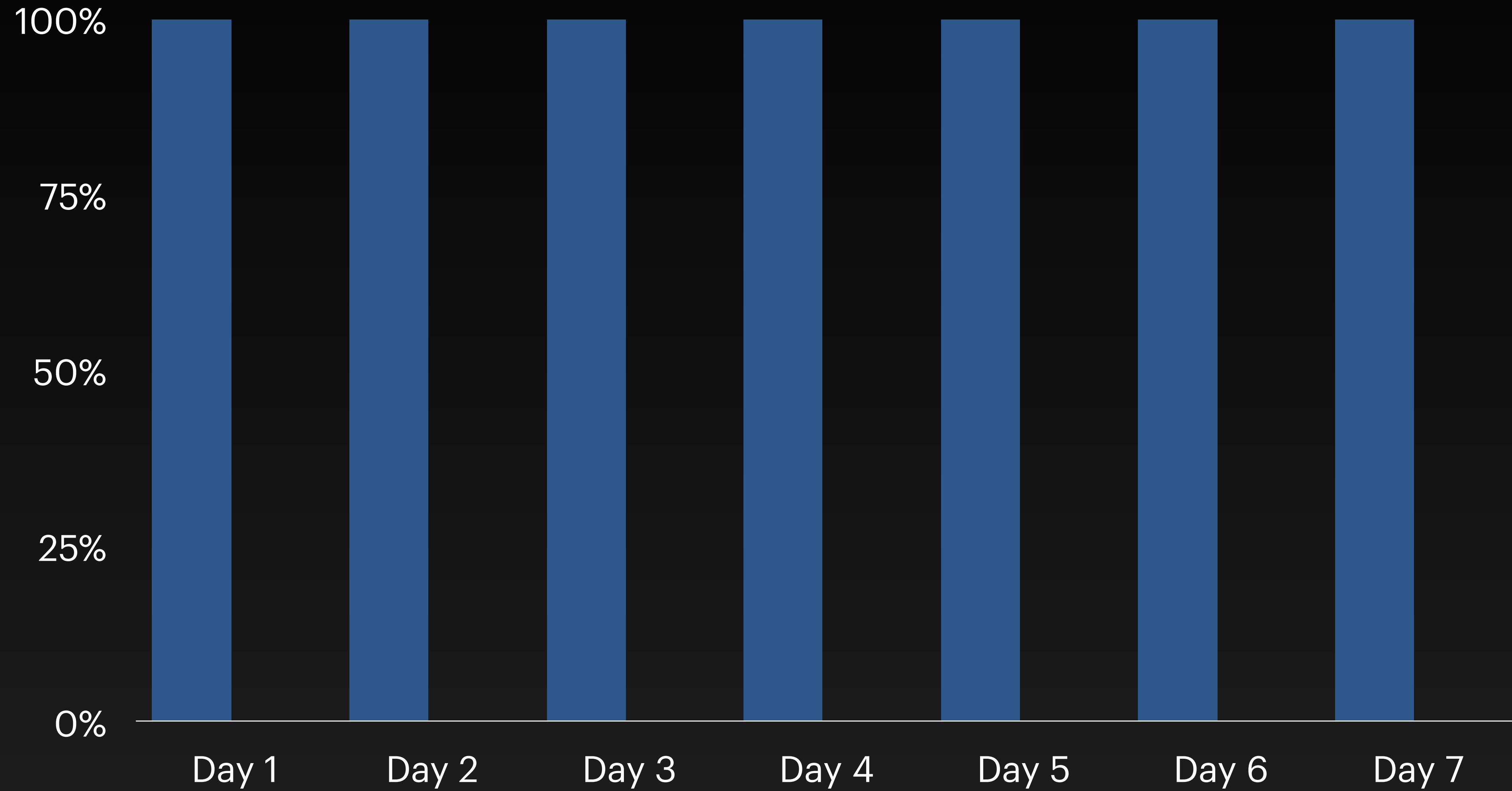
QA tester



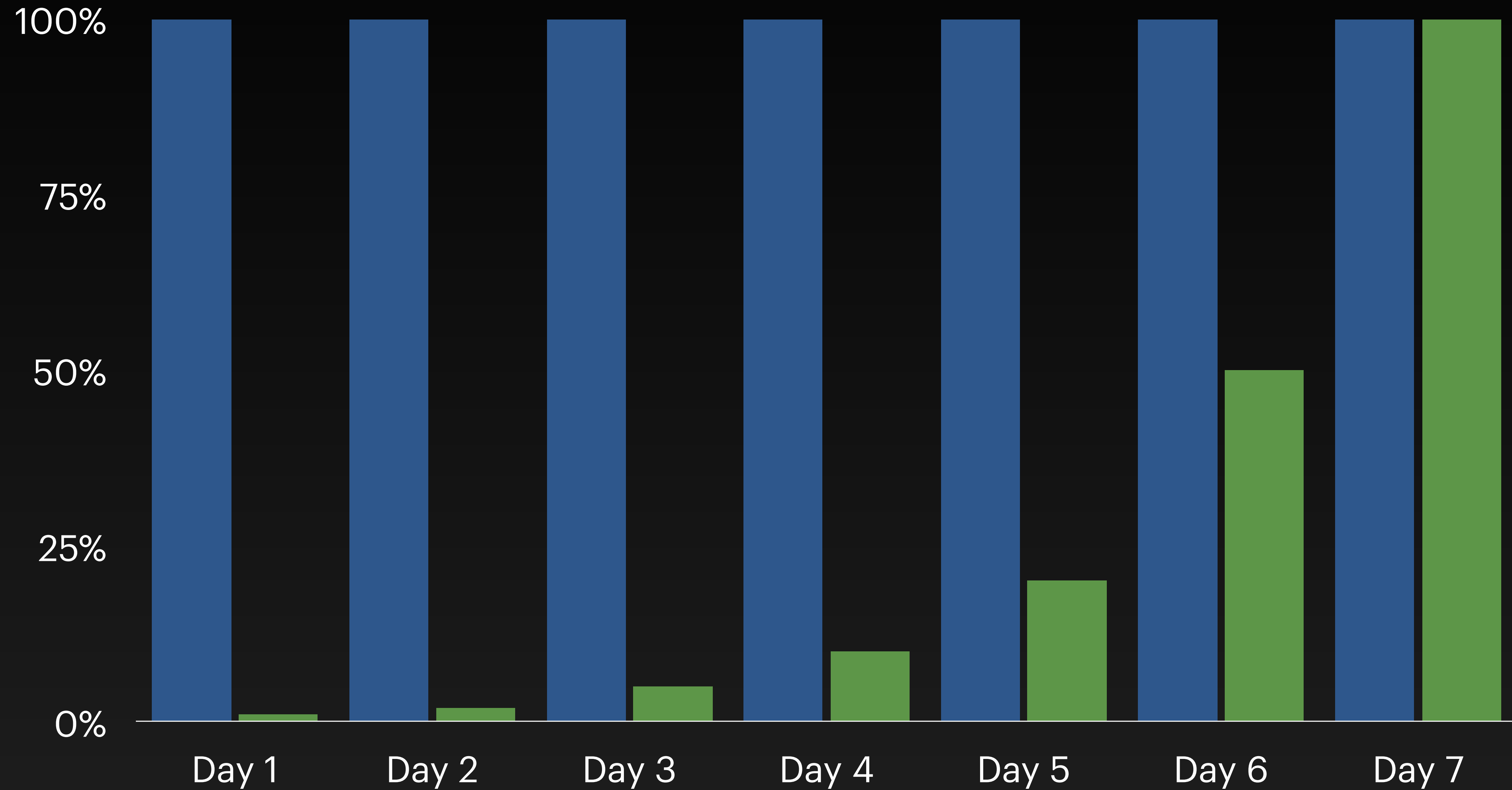
51 Weeks
39 Releases

A release every 9 days

Version Release Availability



Version Release Availability



App Store Phased Release

04/12/2023

Release Started

04/19/2023

Scheduled to Complete



Play Store Staged Rollout

Roll-out percentage *

20.0

%

Lesson 1

Roll-out Releases Gradually



Total Errors

176K

Accepted Errors ?

176K 12 in last min

Filtered Errors ?

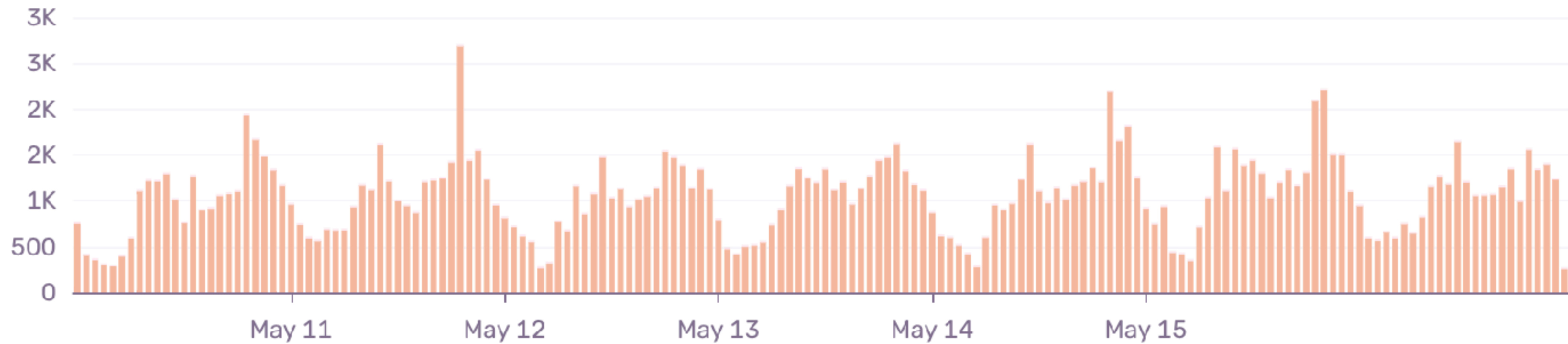
0

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}`;
```

```
Sentry.captureException(error, {  
  fingerprint: [operation.kind, queryName, errorCode || ''],
```

```
  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	handled	yes				
hermes	true	level	error	mechanism	generic	operation_kind	query	os	iOS 16.0	os.name	iOS
os.rooted	no	query_name	UserProfile	release	1.3.13 (1291)						

- 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

on ▾

Open in Discover

Ignore ▾

Resolve ▾

Ignore

For... >

Until this occurs again... >

Until this affects an additional... >

one time... >

10 times... >

100 times... >

1,000 times... >

10,000 times... >

100,000 times... >

Custom

from now

per hour

per day

per week



Crashes and ANRs

Issue	Type	Affected versions	Affected users	Events	Last occurred
▶ [split_config.arm64_v8a.apk!libc++_share 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++_share 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.ReactSc 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.tr com.facebook.jni.CppException	Crash	! 1281 (1.3.12) 14 others	104 1.7%	107 1.5%	8 hours ago

- Products
 - Archives
- Reports
 - Crashes
 - Disk Writes
 - Energy
 - Feedback
 - Hangs
- Insights
 - Regressions
- Metrics
 - Battery Usage
 - Disk Writes
 - Hang Rate
 - Launch Time
 - Memory
 - Scrolling
 - Terminations

- hermes: 0x102bd0000 + 2... 18 devices
- Puma: std::__1::shared_p... 18 devices
- EmarsysPush NotificationServic... 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: -[REANimationsMa... 1 device**
- Puma: 0x10080c000 + 4... 1 device
- Puma: 0x100b... 1 device

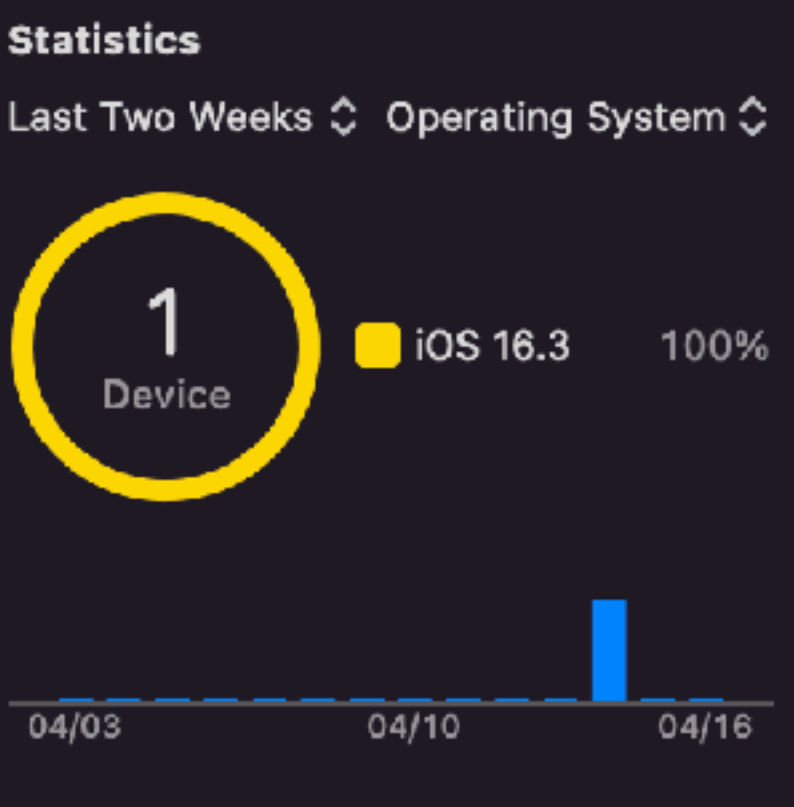
Thread 0

1	CoreFoundation	mdict_rehashd
2	CoreFoundation	-[__NSDictionaryM setObject:forKey...
3	Puma	-[REANimationsManager onView...
4	Puma	__51-[REAUIManager uiBlockWithLa...
5	Puma	__44-[RCTUIManager flushUIBlocks...
6	Puma	__44-[RCTUIManager flushUIBlocks...
7	libdispatch.dylib	_dispatch_call_block_and_release
8	libdispatch.dylib	_dispatch_client_callout
15	UIKitCore	-[UIApplication _run]
16	UIKitCore	UIApplicationMain
17	Puma	main
18	dyld	start

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)



Notes

Puma: -[REANimationsManager onView...

No Notes

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



XXXXXXXX



XXXXX

XXXXXX

XXXXXXXX

XXXXXXXXXX

XXXX

XXXXX XXXXXX *

XXXXX *

XXXXXXXX XXXX *

XXX XXXXX XXXXXXXX

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



DEV OPTIONS

TRANSLATIONS

ANALYTICS (GA)

A

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-devaite-elite",
  "promotionName": "DEVIATE NITRO ELITE",
  "items": [
    {
      "item_id": "377789_01",
      "item_ean": "",
      "item_name": "Deviante 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>

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 >

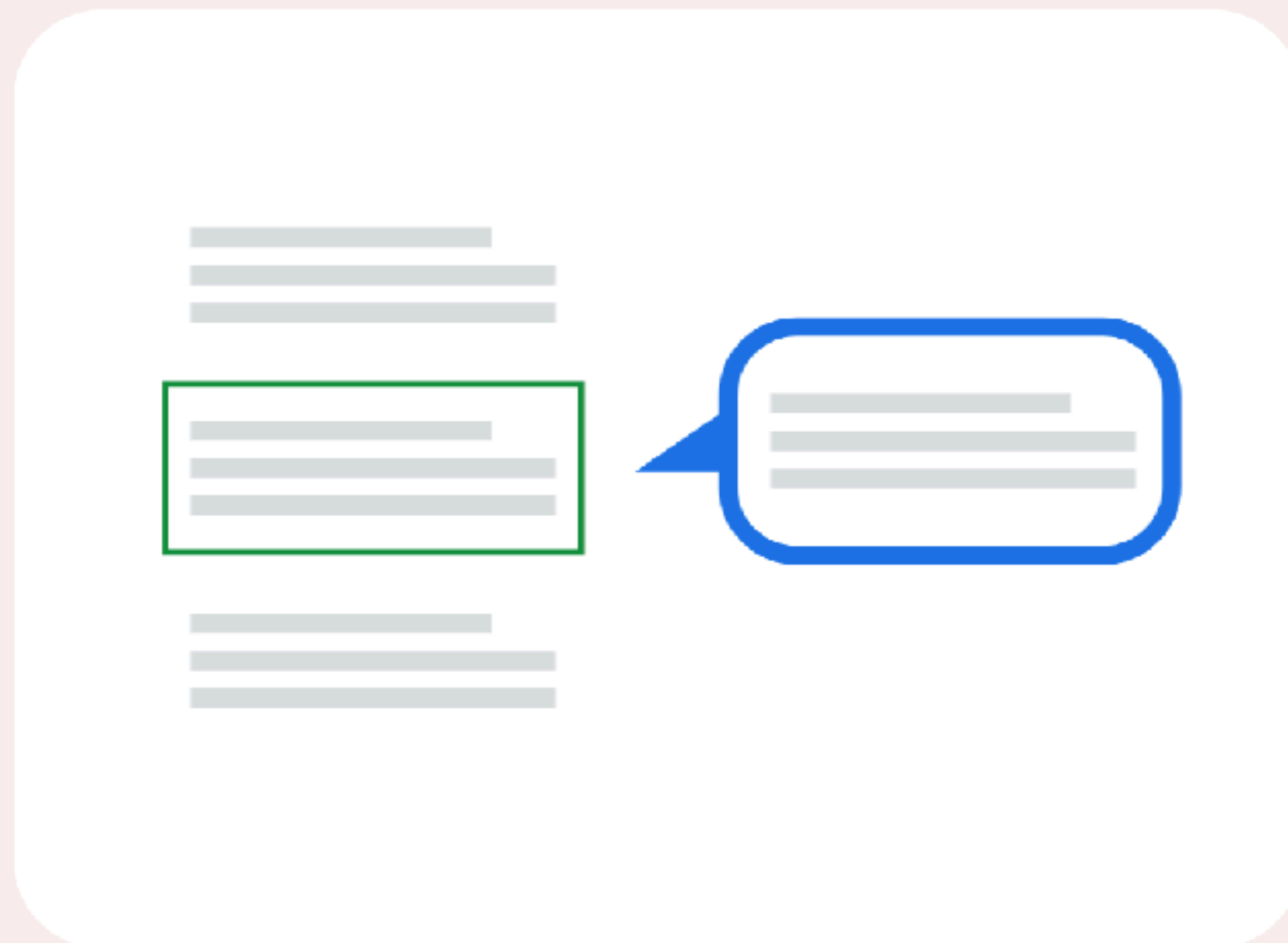
Braille >

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](#)

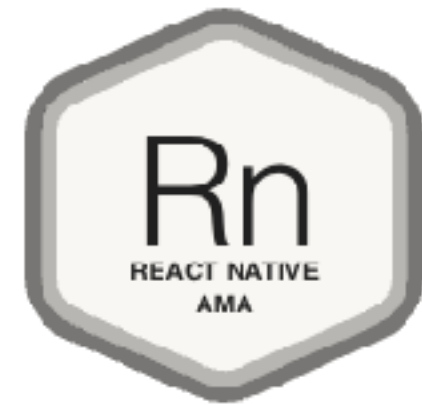
<https://formidable.com/blog/2023/ios-voiceover-guide-for-developers>



How to Navigate with VoiceOver



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



react-native-ama

Accessibility as a First-Class Citizen with
React Native AMA

[!\[\]\(dfbd6b3763a6d1d9afaa974f64e2e4b5_img.jpg\) Git Repository](#)

☆ 160

| TypeScript

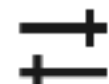
| Updated 4 days ago

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

Lesson 4

Invest in Accessibility





SUEDE

52 PRODUCTS

SORT ↑↓

ALL

BASKETBALL

MOTORSPORT

NEW



1 Color

PUMA NYC Suede
Triplex Park Flagship ...

\$85.00

NEW

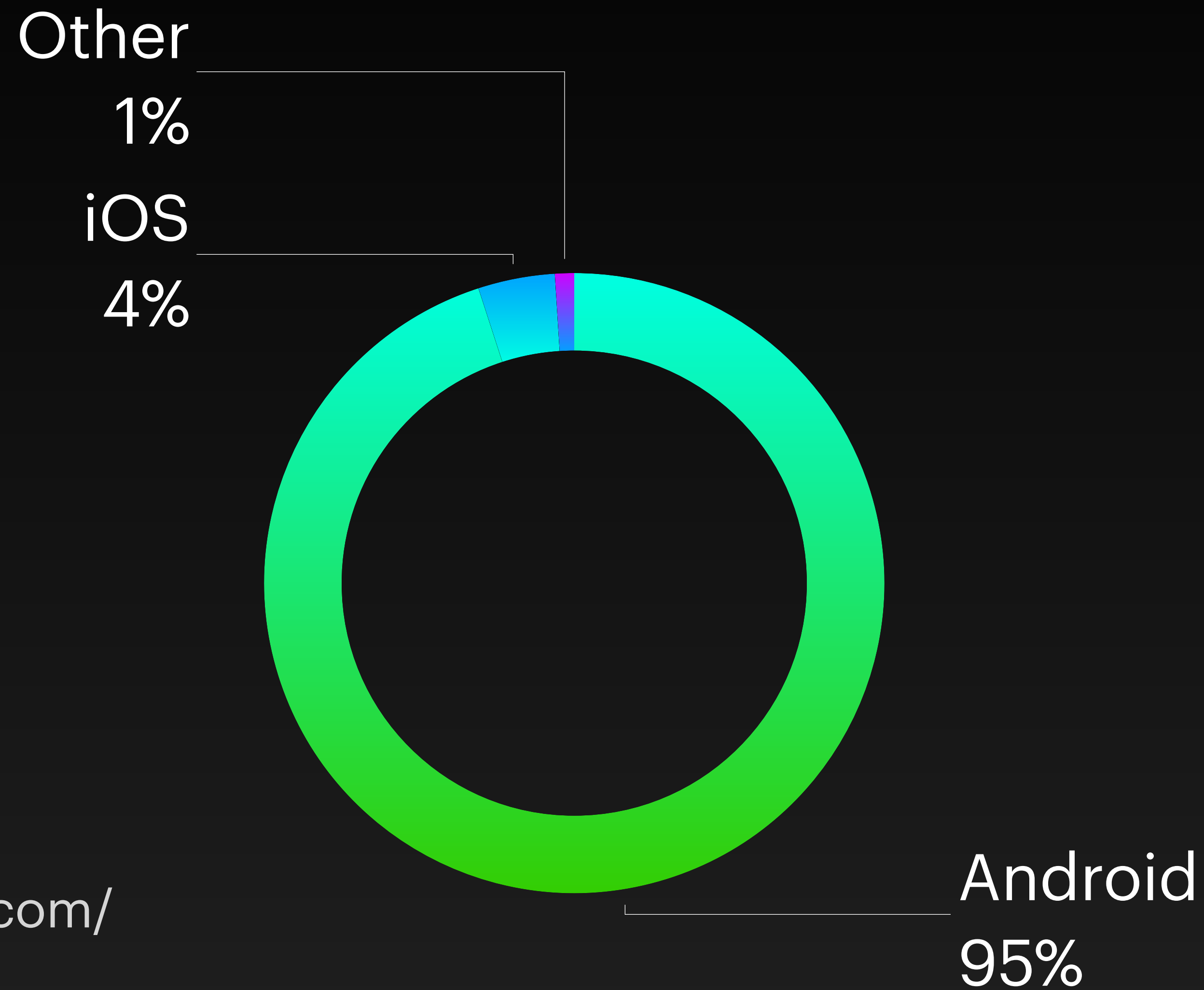


1 Color

PUMA x RHUIGI B-boy
Suede Sneakers

\$120.00

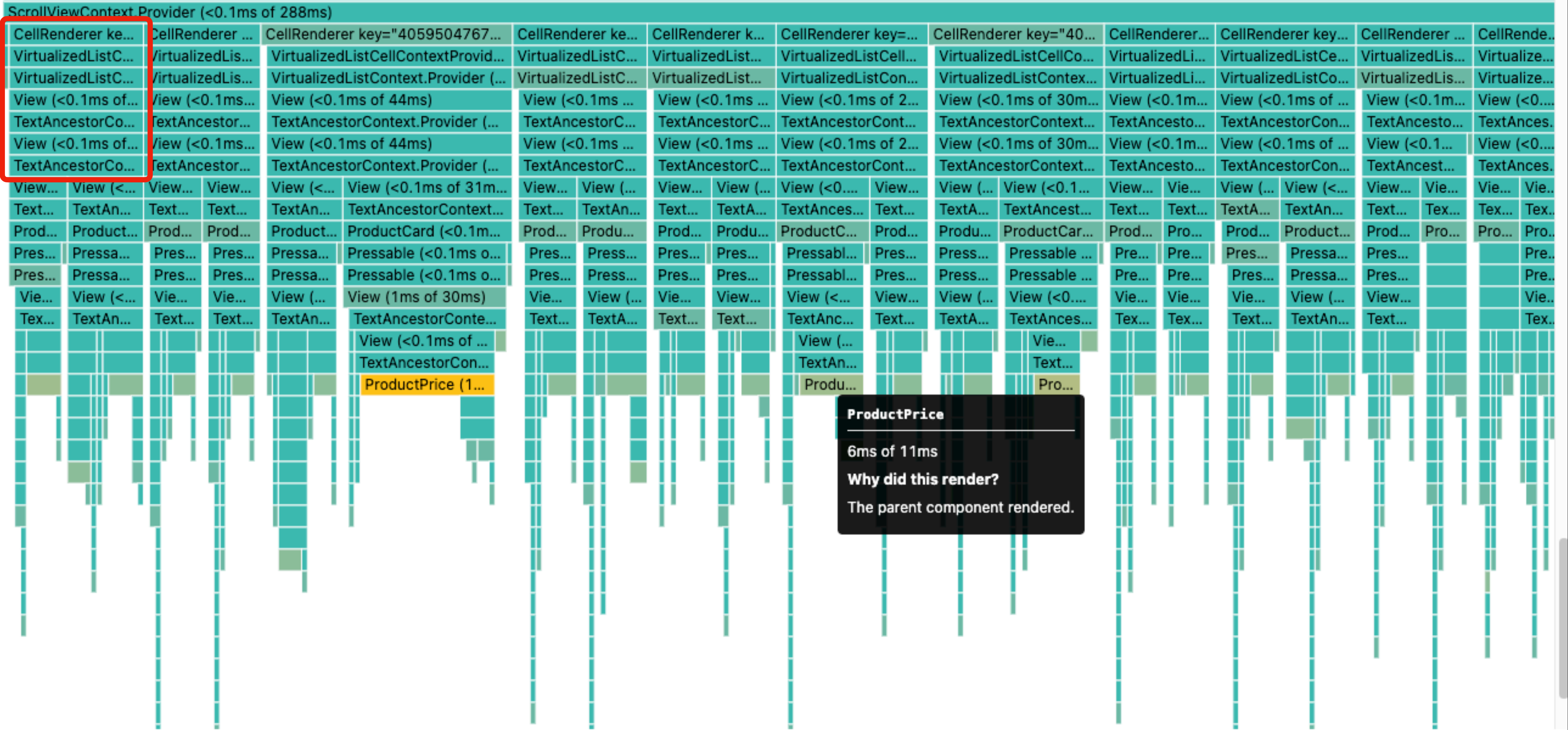
India Mobile Operating Systems 2022

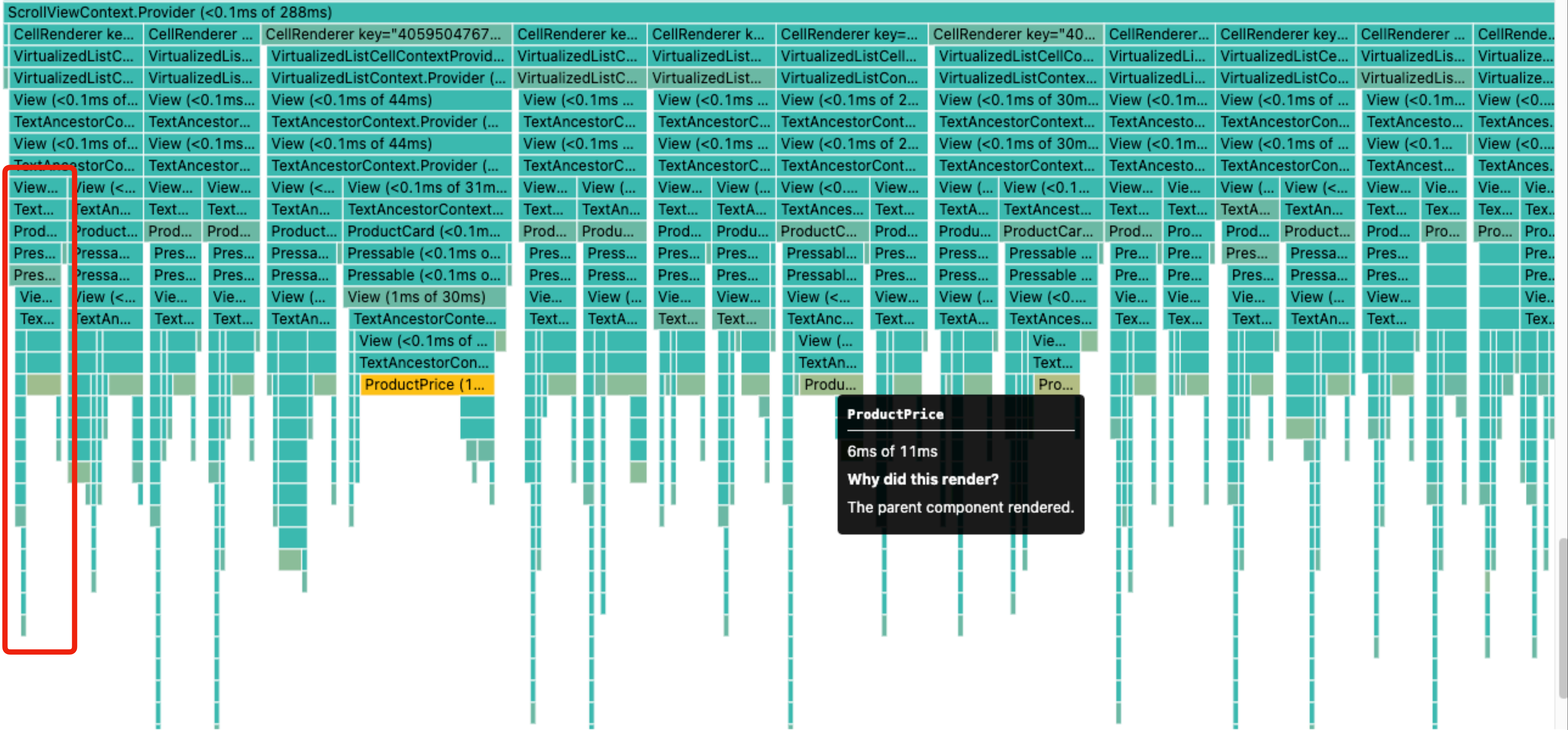


<https://www.statista.com/statistics/262157>

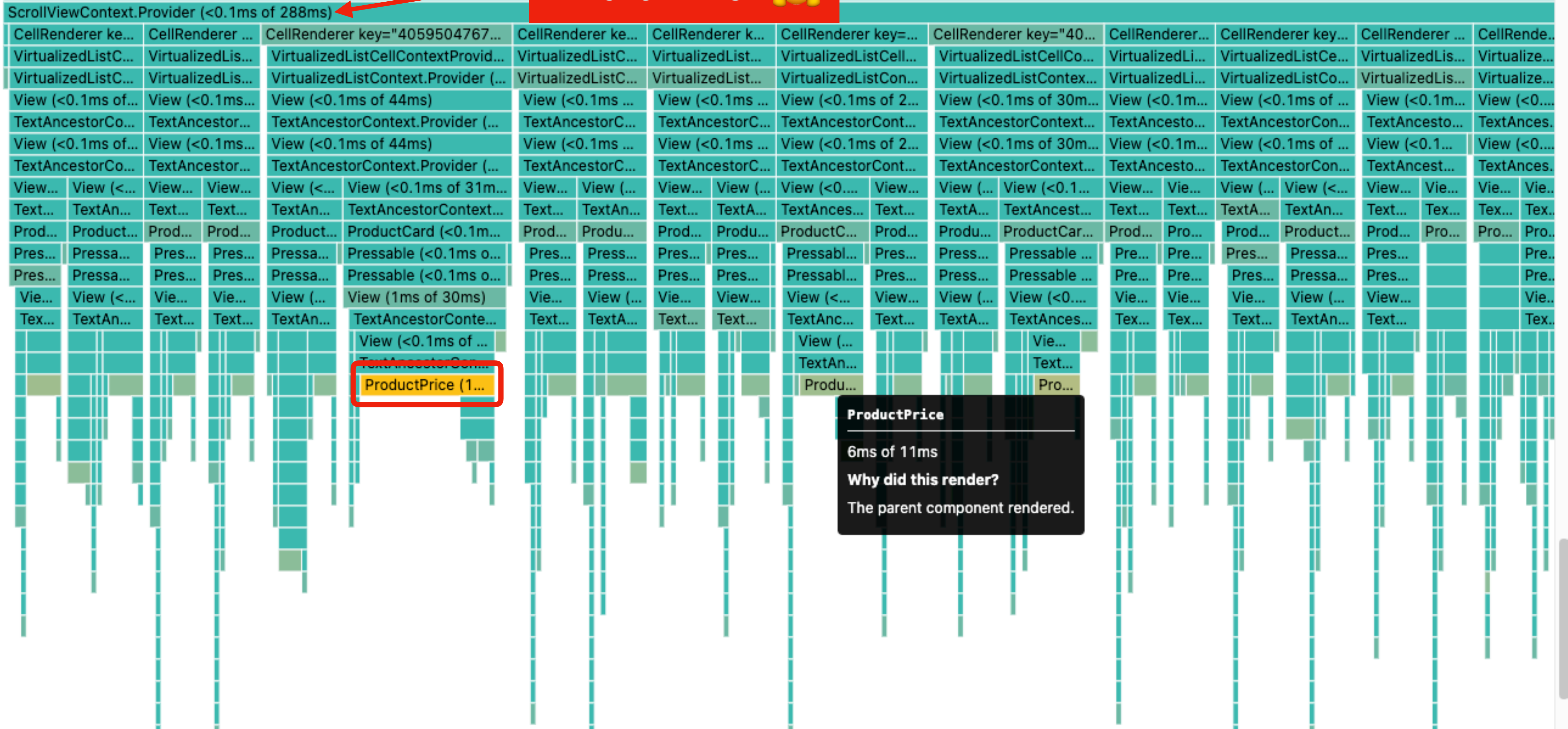
ScrollViewContext.Provider (<0.1ms of 288ms)





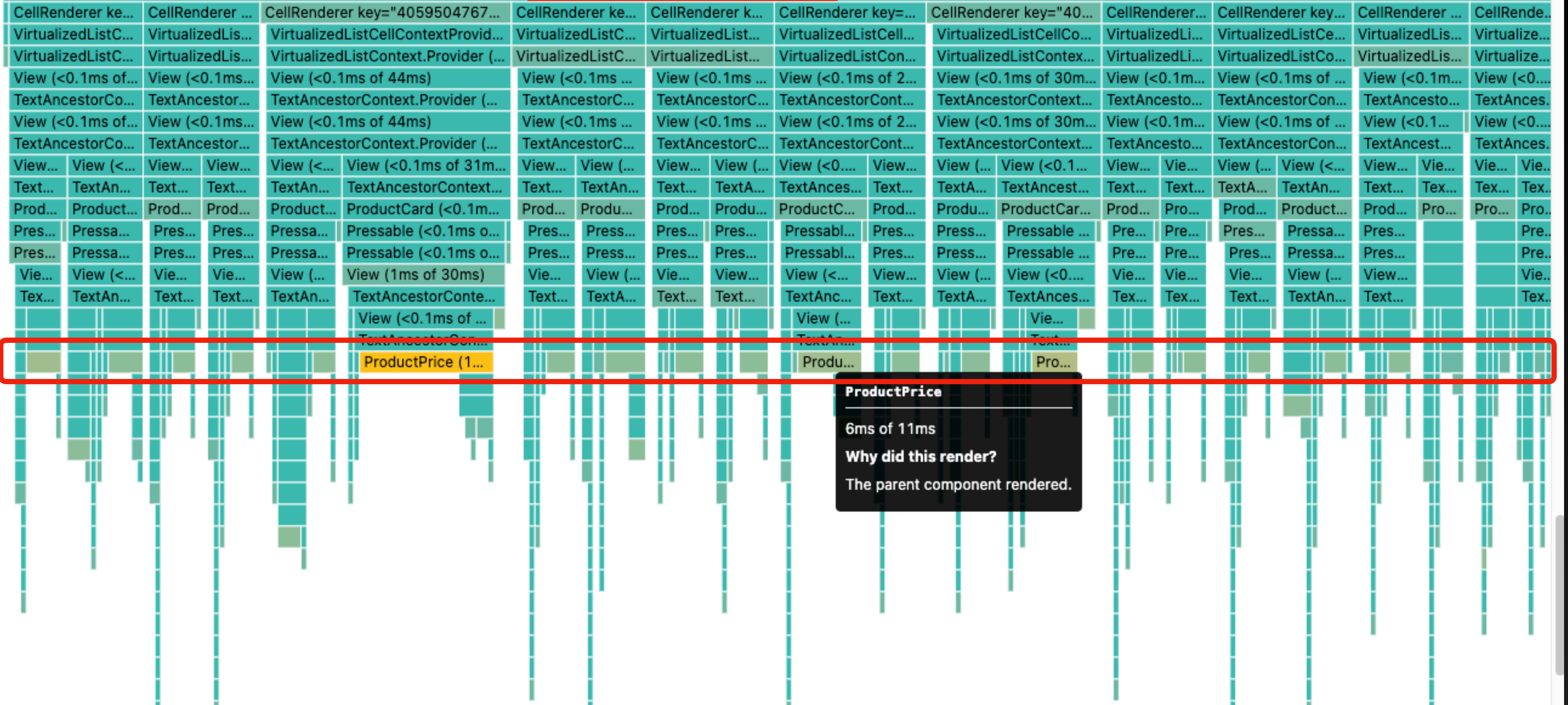


288ms 🤯

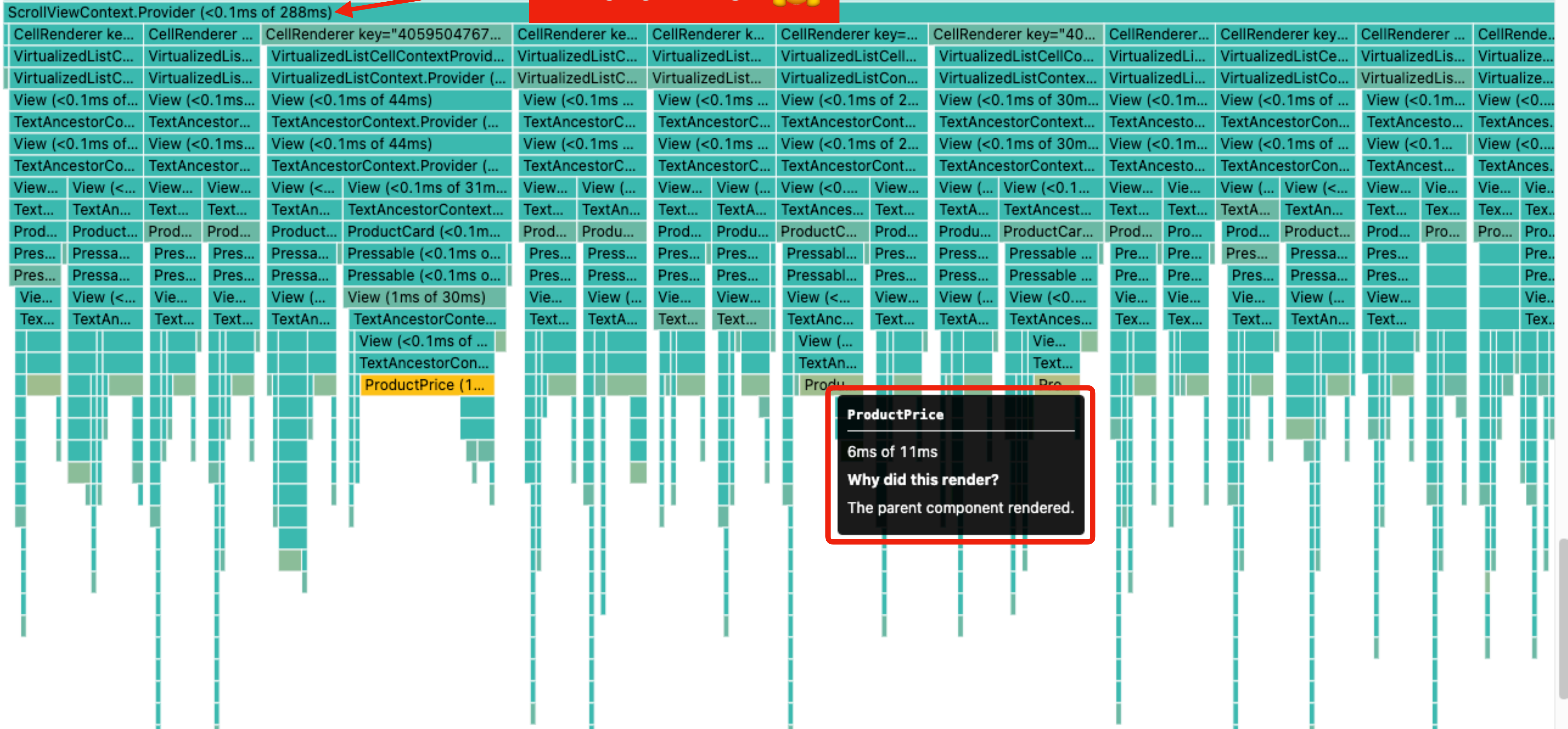


288ms 🤯

ScrollViewContext.Provider (<0.1ms of 288ms)



288ms 🤯





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


APP INSPECT ⓘ

React Native

NO APPLICATION SELECTED

PLUGINS

Device 3 ^

- Hermes Debugger (RN)
- Logs
- React DevTools

React Native 3 ^

- Hermes Debugger (RN)
- Logs
- React DevTools

DevTools 4.27.2-7f747b80e

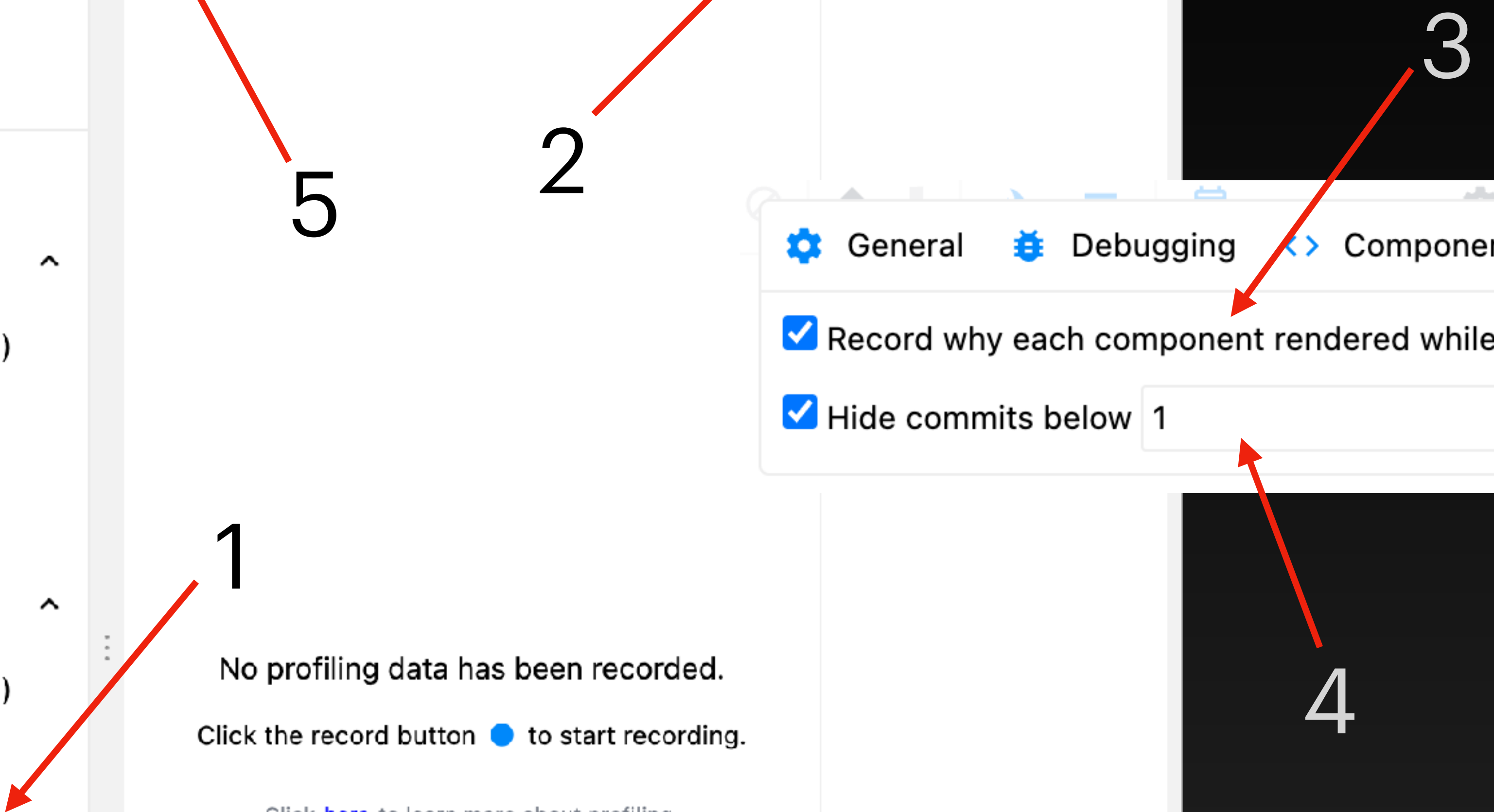
Components Profiler

● 🔍 ⬆️ ⬇️ 🔥 ≡ 📅 ⚙️

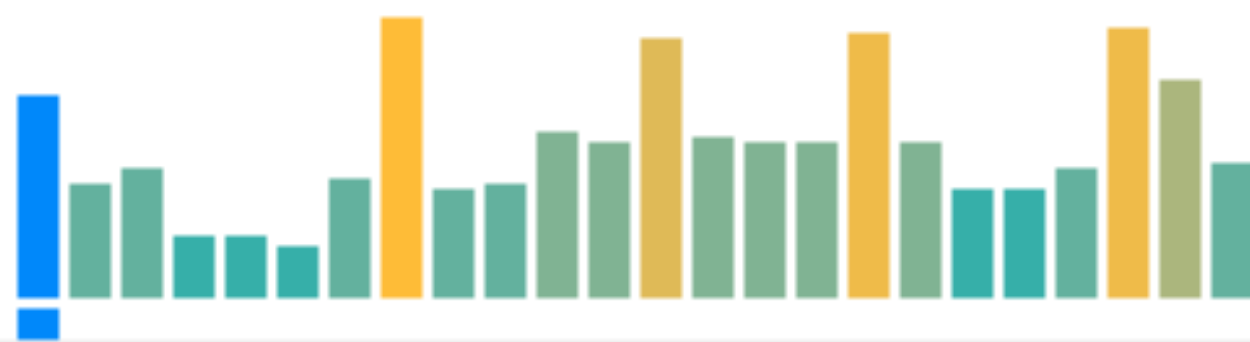
No profiling data has been recorded.
Click the record button ● to start recording.
[Click here](#) to learn more about profiling.

⚙️ General ⚙️ Debugging <> Components ||| Profiler ✕

- Record why each component rendered while profiling.
- Hide commits below (ms)



1 / 24



com.puma.MainActivity

CPU 10 %

100 %

50

MEMORY

0.8 GB

1 GB

0.5

ENERGY

Light

Medium

Light

15.000

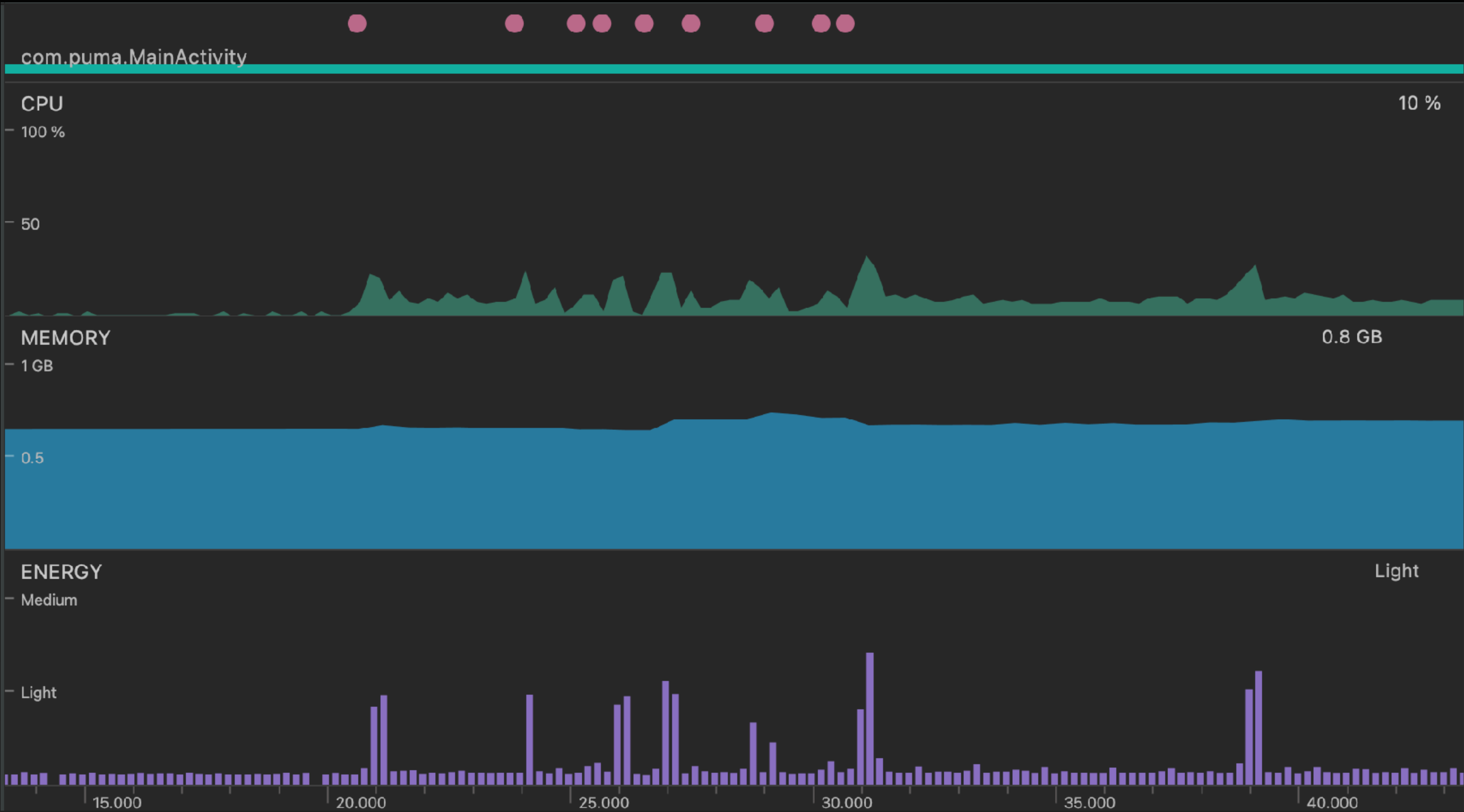
20.000

25.000

30.000

35.000

40.000



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](https://twitter.com/robwalkerco)

