ARE THEY REALLY USING IT?

MONITORING DIGITAL EXPERIENCE TO DETERMINE FEATURE EFFECTIVENESS

CARLY RICHMOND

elastic

@CarlyLRichmond

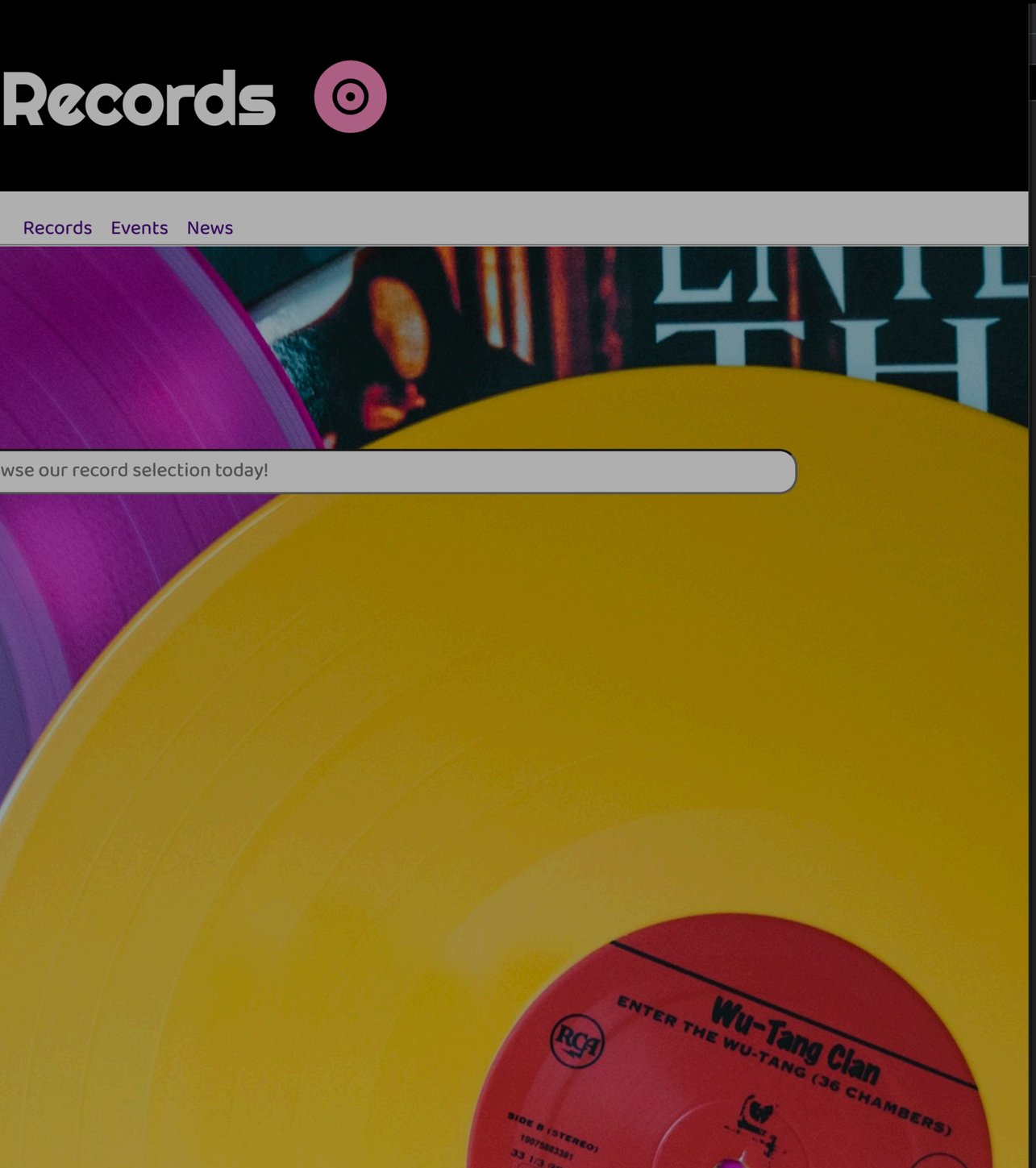
KUKA
elastic
@CarlyLRichmond

RED ALERT!
elastic
@CarlyLRichmond

ONCE UPON A TIME...

Turn the page

@CarlyLRichmond



Elements Console Sources Network Performance Memory Application Security Lighthouse

15:24:33 - localhost:4200

Perform an audit... 4200/records?terms=

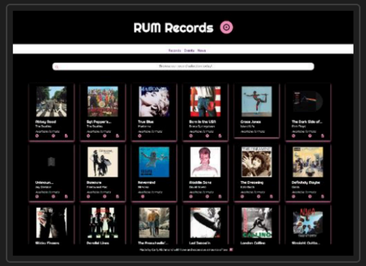
20/26 Performance

6/7 Best Practices

20/26

Performance

▲ 0–49 ■ 50–89 ● 90–100



METRICS

Collapse view

▲ Total Blocking Time

400 ms

Sum of all time periods between FCP and Time to Interactive, when task length exceeded 50ms, expressed in milliseconds. Learn more.

▲ Cumulative Layout Shift

0.293

Cumulative Layout Shift measures the movement of visible elements within the viewport. Learn more.

● Interaction to Next Paint

40 ms

Interaction to Next Paint measures page responsiveness, how long it takes the page to visibly respond to user input. Learn more.

View Trace View Treemap

Show audits relevant to: All TBT CLS INP

CORE WEB VITALS

LCP

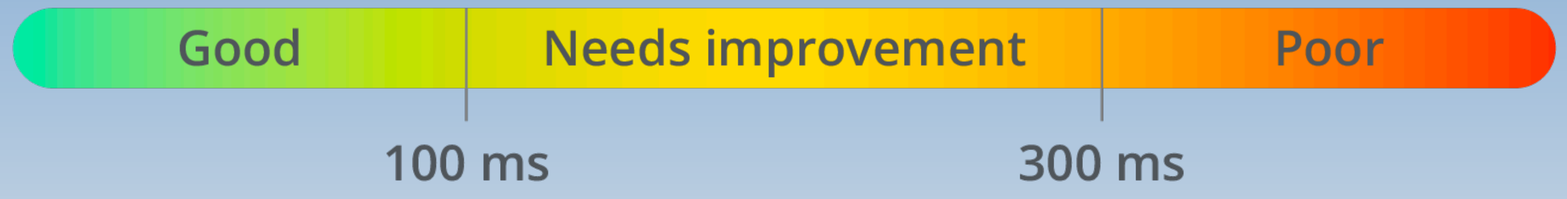
LARGEST CONTENTFUL PAINT

The render time of the largest image or text block visible within the viewport

FID

FIRST INPUT DELAY

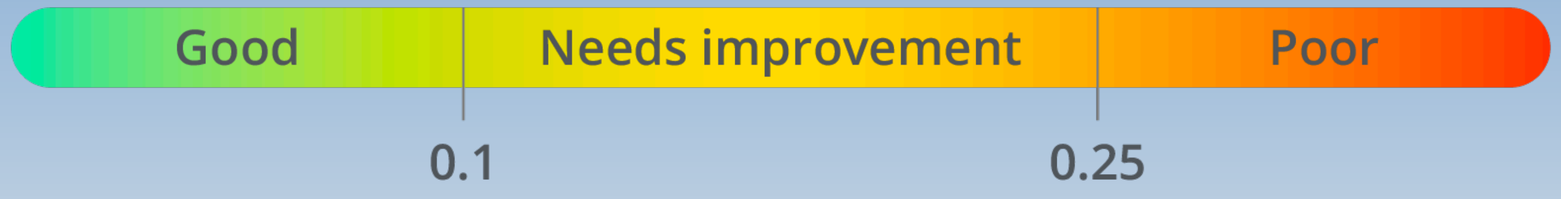
The time from when a user inputs an action or command and the page executes it



CLS

CUMULATIVE LAYOUT SHIFT

The largest burst of *layout shift scores* for every unexpected layout shift that occurs during the entire lifespan of a page



LIMITATIONS

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Twitter is testing a status feature that's taking us back to MySpace

Amanda Silberling @asilbwrites / 9:31 PM GMT+1 • July 27, 2022

Comment

Published in Netflix TechBlog

Netflix Technology Blog
Sep 7, 2021 · 3 min read · Listen

Decision Making at Netflix

Martin Tingley with Wenjing Zheng, Simon Ejdemyr, Stephanie Lane, and Colin McFarland

This introduction is the first in a multi-part series on how Netflix uses A/B tests to make decisions that continuously improve our products, so we can deliver more joy and satisfaction to our members. Subsequent posts will cover the basic statistical concepts underpinning A/B tests, the role of experimentation across Netflix, how Netflix has invested in infrastructure to support and scale experimentation, and the importance of the culture of experimentation within Netflix.

GoodUI PATTERNS TESTS LEAKS TEMPLATES COACHING BLOG Log In Get Access

Google Has Been A/B Testing Link Colors (Again) And This Light Blue Didn't Pass

Leak #16 from Google.com | Jul 22, 2019 Listing

It's been a decade since it was first discovered that Google has famously tested those 41 shades of blue. Last month I discovered that they began experimenting with link colors on their search results screen - once again. This time Google tested a lighter blue with a lower contrast which turned out that they rejected (most likely due to a negative experiment result).

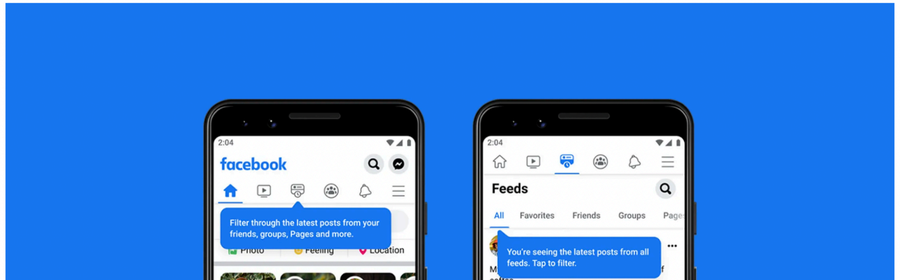
WIRED

SIGN IN | SUBSCRIBE

FEATURED HOW TO DIGITIZE OLD PHOTOS BEREAL BASICS BEST TABLETS FOR WORK AND PLAY BEST CAMERA BAGS AND ACCESSORIES BUYING GUIDES GADGET LAB NEWSLETTER

As Facebook Becomes TikTok, a New Feeds Tab Ditches the Algorithm

Big changes are coming to the platform.



@CarlyLRichmond

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Instagram

Instagram rolls back some changes to app after user backlash

Reversal includes toning down algorithm that resulted in users' feeds being deluged with videos from accounts they do not follow

Dan Milmo *Global technology editor*

Thu 28 Jul 2022 22.48 BST

ADVERTISEMENT Privacy Policy | Feedback Follow 21.8M Monday, Aug 1st 2022 3PM 24°C 6PM 22°C 5-Day Forecast

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Mail Online

Elon Musk intensifies his crackdown on working from home: Tesla is now tracking how frequently staffers swipe into the office and warning them if they don't show up often enough

Forbes

CAREERS

Why CoStar's Alleged Employee Monitoring Program Could Backfire

Tom Spiggle Senior Contributor

I'm an employment lawyer who writes about your workplace rights.

The New York Times

Should a Morning Staff Meeting Feel Like Homeroom?

A hybrid-work challenge: taking attendance.

GETTY IMAGES

MOTHERBOARD
TECH BY VICE

Workers Are Using 'Mouse Movers' So They Can Use the Bathroom in Peace

"The tables have turned in favor of the Worker," said one mouse jiggler company. "They are in power today."

VICE

MOTHERBOARD
TECH BY VICE

Amazon's AI Cameras Are Punishing Drivers for Mistakes They Didn't Make

Amazon delivery drivers say surveillance cameras installed in their vans have made them lose income for reasons beyond their control.

yahoo!news

BUSINESS INSIDER

JPMorgan Chase staffers complain of being 'watched' all the time as the bank seems to be growing more secretive with its employee-tracking systems

Samantha Delouya
July 7, 2022 · 2 min read

BANKING DIVE Deep Dive Opinion Library Events

Commercial Retail Credit Unions Payments Regulations & Policy

DIVE BRIEF

Barclays faces $1.1B fine over alleged monitoring of employees

Published Aug. 10, 2020

Dan Ennis
Senior Editor

Out of sight: the algorithms running our lives

'Bossware is coming for almost every worker': the software you might not realize is watching you

Computer monitoring software is helping companies spy on their employees to measure their productivity – often without ent

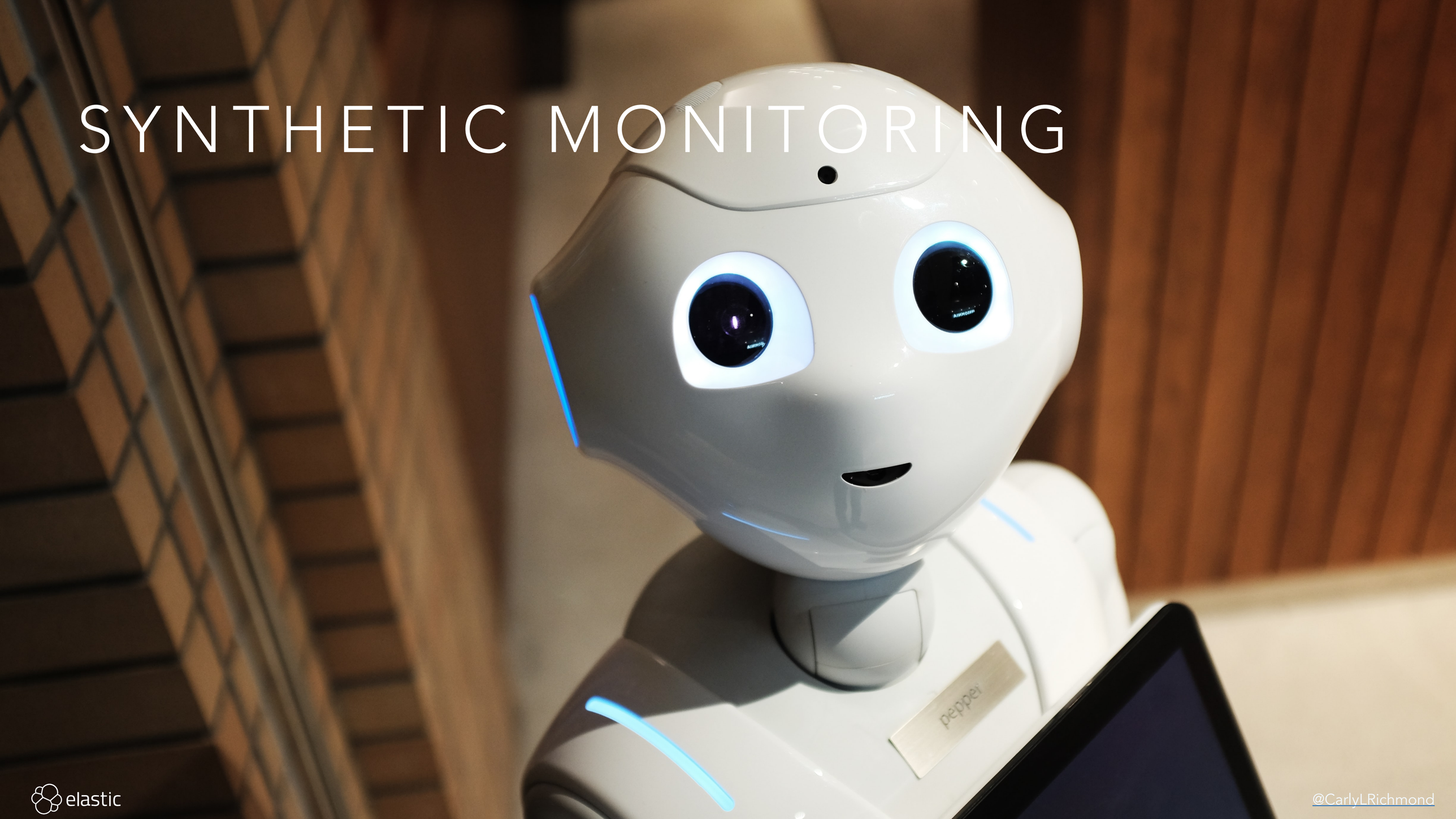
byn

TUC warns against employee monitoring after Post Office scandal

by Jo Faragher | 28 Feb 2022

@CarlyLRichmond

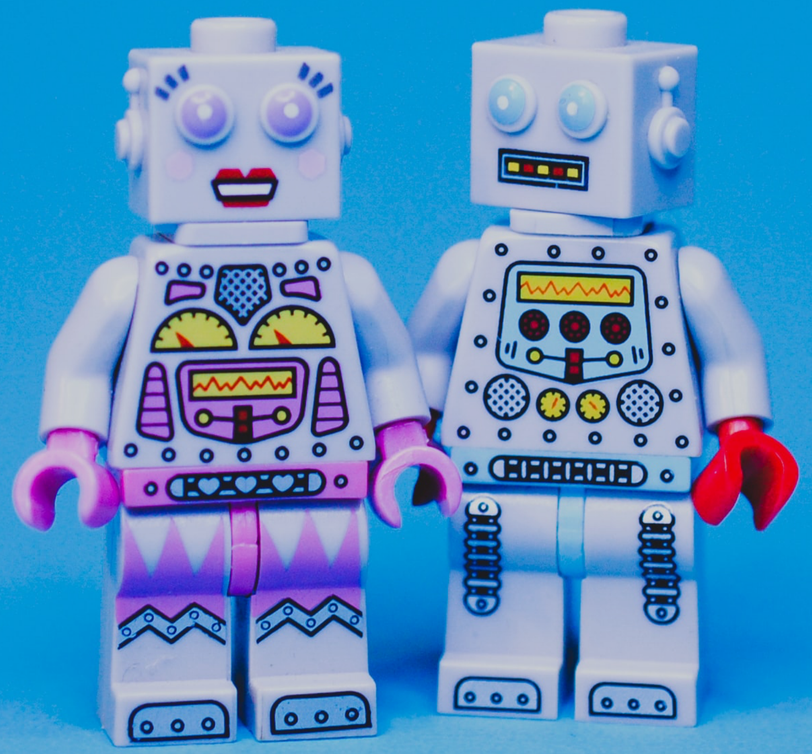
SYNTHETIC MONITORING



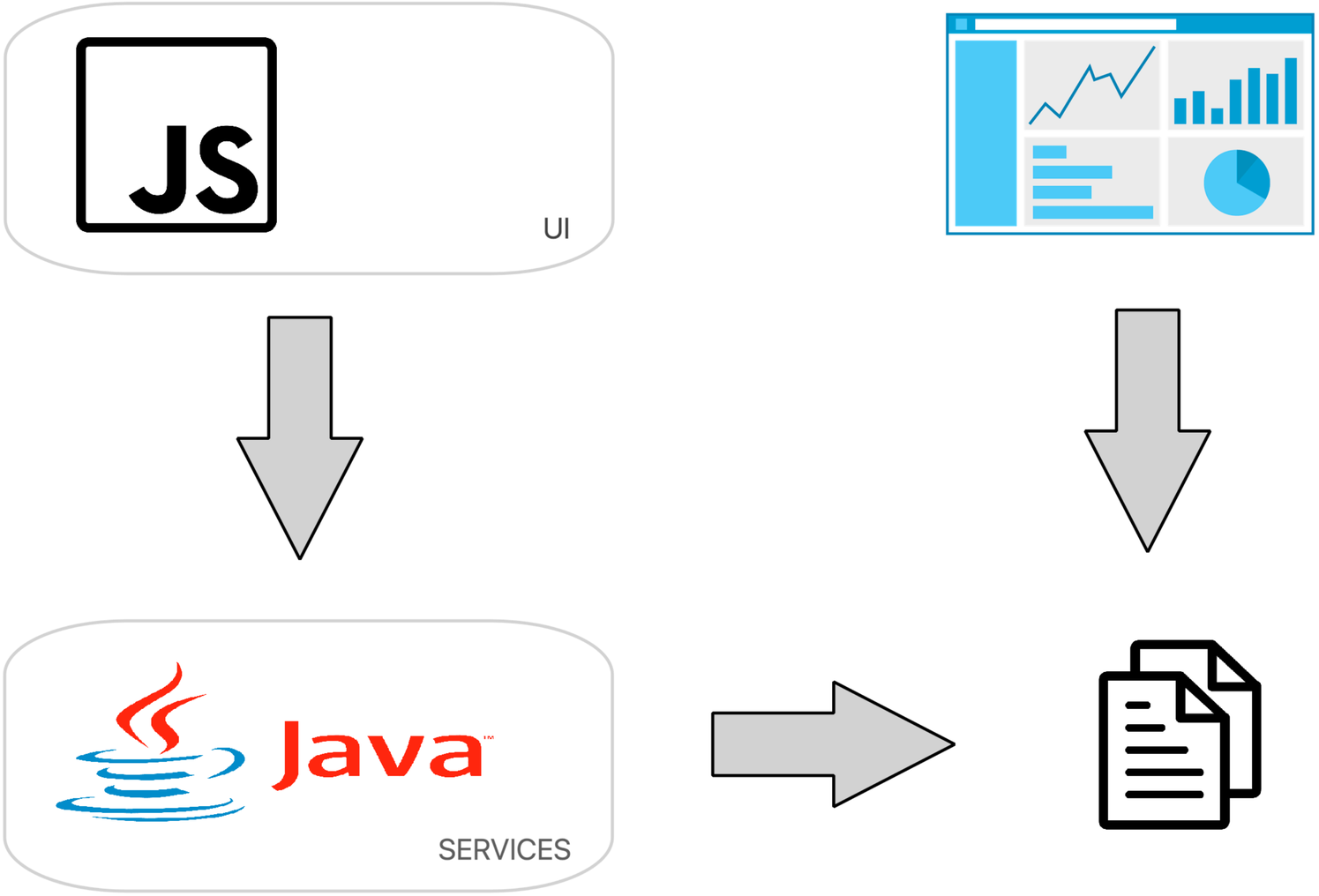
elastic

@CarlyLRichmond

BUILD YOUR OWN MONITORING

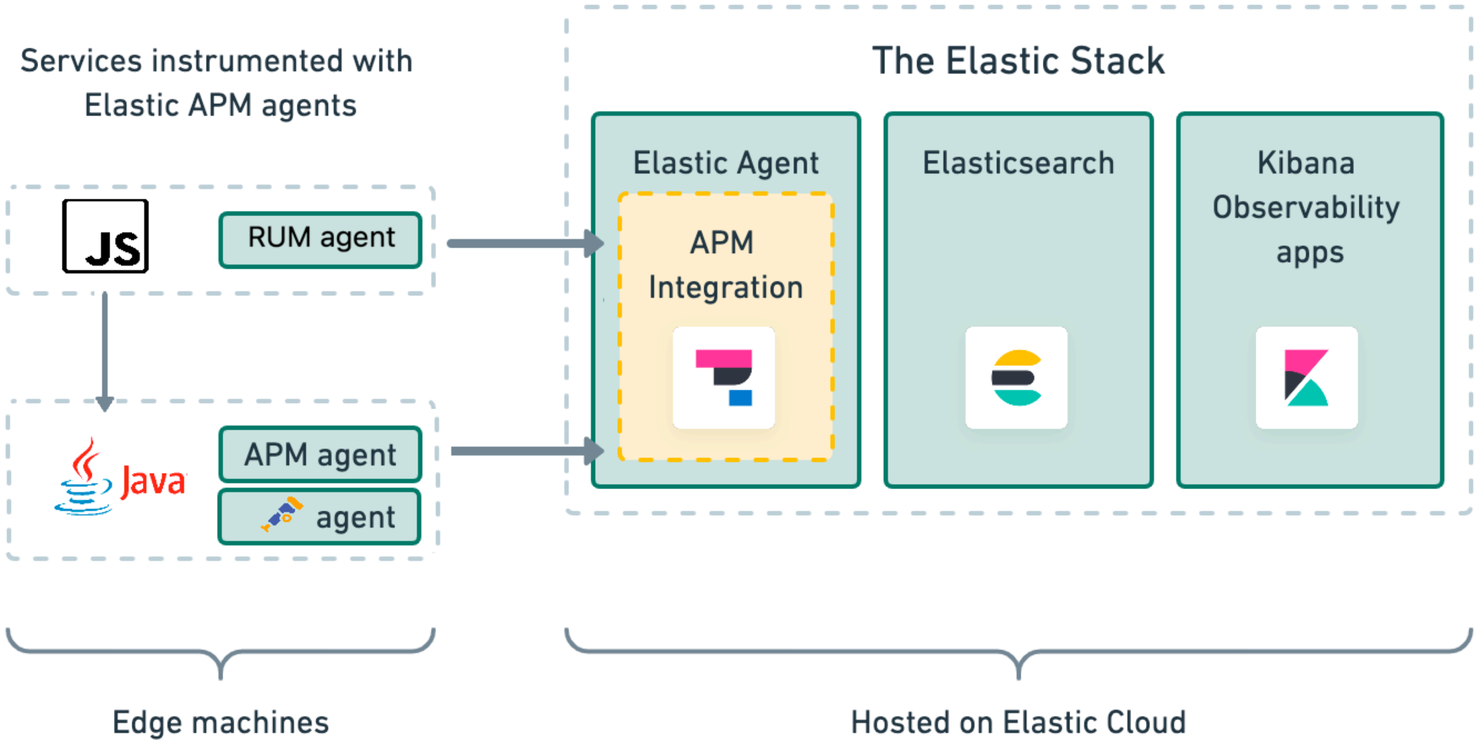


BYO MONITORING



MORE REAL USER MONITORING!

SAMPLE RUM ARCHITECTURE



app.js

```
1 const apm = initApm({
2   serviceName: 'rum-records-ui',
3   distributedTracingOrigins: ['http://localhost:8080'],
4   serverUrl: 'https://my-elastic-deployment:122',
5   serviceVersion: '1',
6   environment: 'dev',
7 });
```

RumRecordsServerApplication.java

```java
package com.rum.records.store.server;

import org.springframework.boot.SpringApplication;
import org.springframework.boot.autoconfigure.SpringBootApplication;

import co.elastic.apm.attach.ElasticApmAttacher;

@SpringBootApplication
public class RumRecordsServerApplication {

    public static void main(String[] args) {
        ElasticApmAttacher.attach();
        SpringApplication.run(RumRecordsServerApplication.class, args);
    }
}
```

elasticapm.properties

```
service_name=rum-records-server
server_urls=https://my-elastic-deployment:122
secret_token=ssssssshhhhhhhhhh
environment=dev
application_packages=com.rum.records.store.server
```


@CarlyLRichmond

run-my-java-app.sh

```
1 export OTEL_RESOURCE_ATTRIBUTES=
2     service.name=rum-records-server,
3     service.version=1,
4     deployment.environment=dev
5 export OTEL_EXPORTER_OTLP_ENDPOINT=https://my-elastic-deployment:122
6 export OTEL_EXPORTER_OTLP_HEADERS=Authorization=Bearer ssss$$$hhhhhhhhhh
7 export OTEL_METRICS_EXPORTER=otlp
8 export OTEL_LOGS_EXPORTER=otlp
9 export OTEL_TRACES_EXPORTER=otlp
10
11 java -javaagent:/path/to/opentelemetry-javaagent.jar
12      com.rum.records.store.server.RumRecordsServerApplication
```

DMC
DeLorean
DOC
THE FUTURE
DMC
elastic
@Cathy Richmond

IT'S SO SLOW

Observability

Overview
Alerts
Cases

Logs
Stream
Anomalies
Categories

Metrics
Inventory
Metrics Explorer

APM
Services
Traces
Dependencies
Service Map

Uptime
Monitors
TLS Certificates

User Experience
Dashboard

Dashboard

Last 30 days | Refresh

Web application: rum-records-react-ui | Percentile: 50th (Median) | Environment: All

Filter by URL | Location 1 | Device 1 | OS 1 | Browser 5

Page load (median)

Total	Backend	Frontend	Total page views
439 ms	13 ms	426 ms	385

Metrics (median)

First contentful paint	Total blocking time	No. of long tasks	Longest long task duration	Total long tasks duration
300 ms	15 ms	2	101 ms	137 ms

Core web vitals

88% of the traffic represented

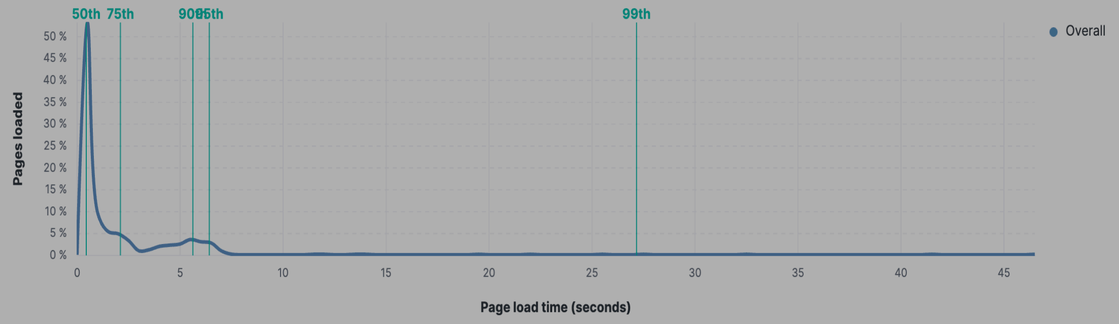
Largest contentful paint: 324 ms
Good (80%) · Needs improvement (10%) · Poor (10%)

First input delay: 1 ms
Good (100%) · Needs improvement (0%) · Poor (0%)

Cumulative layout shift: 0.008
Good (89%) · Needs improvement (7%) · Poor (4%)

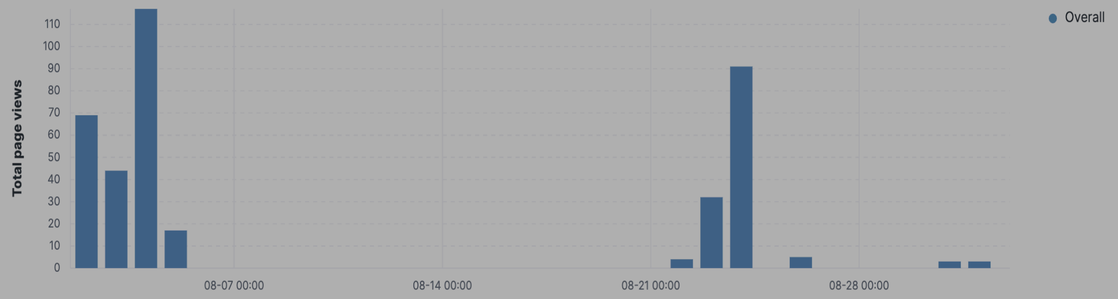
Page load distribution

No breakdown



Total page views

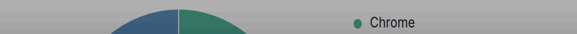
No breakdown



Page load duration by region (avg.)

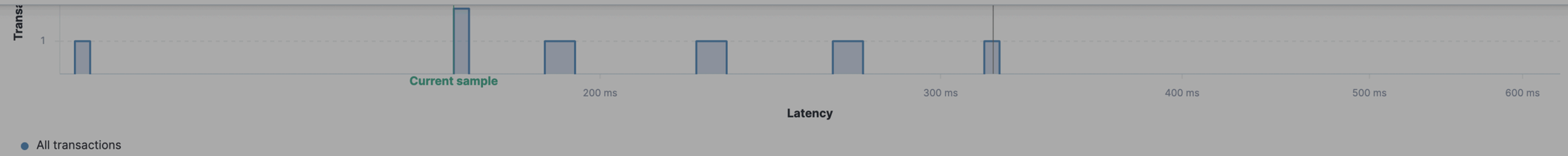
Visitor breakdown

Browser



Operating system

@CarlyLRichmond
elastic

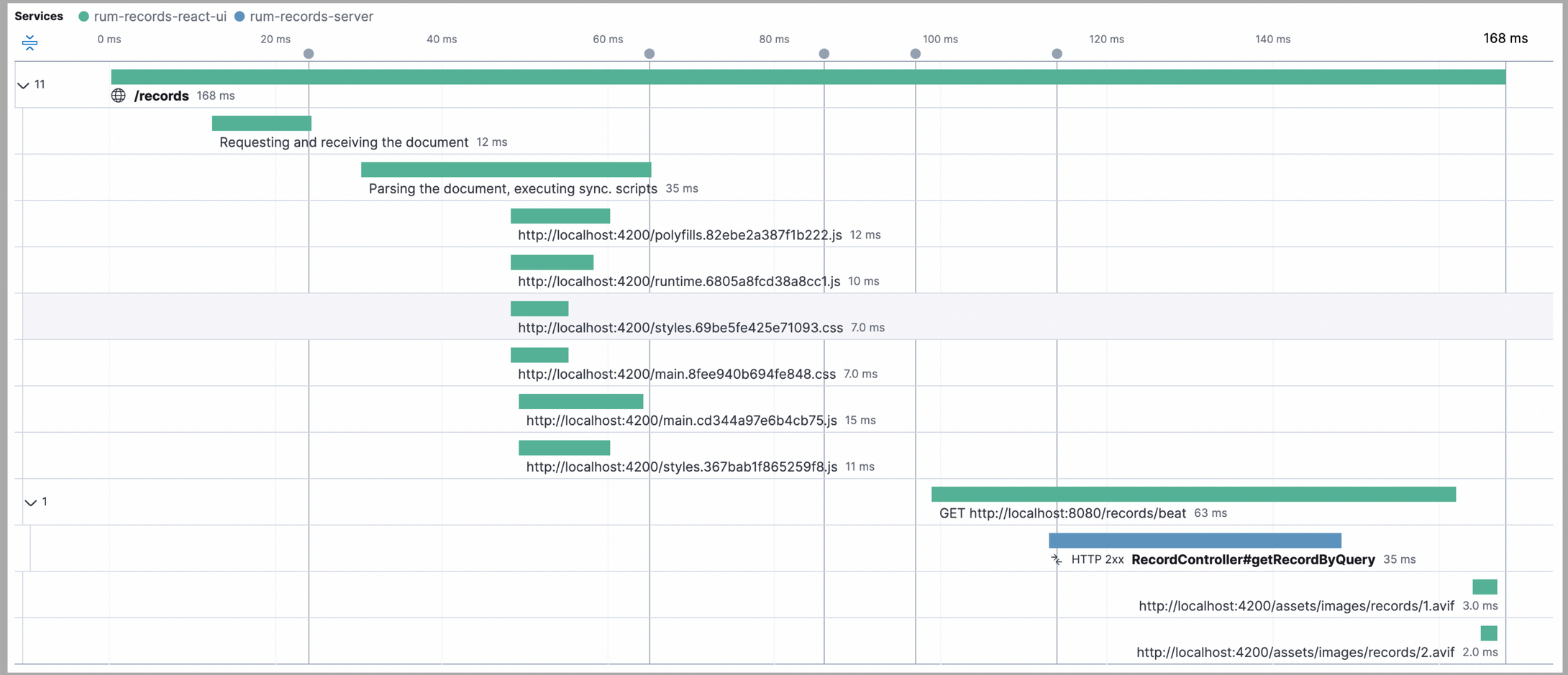


Trace sample 1 of 10

Investigate | View full trace

2 hours ago | 168 ms (100% of trace) | http://localhost:4200/records?terms=beat | Chrome (105.0.0.0)

Timeline Metadata Logs



CONFLICTING ACCOUNTS

elastic

@CarlyLRichmond

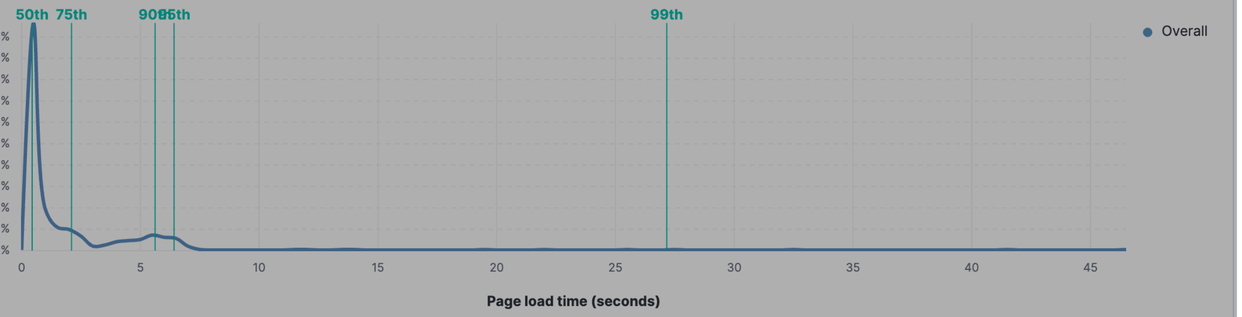
t contentful paint
ms
d (80%) Needs improvement (10%) Poor (10%)

First input delay
1 ms
Good (100%) Needs improvement (0%) Poor (0%)

Cumulative layout shift
0.008
Good (89%) Needs improvement (7%) Poor (4%)

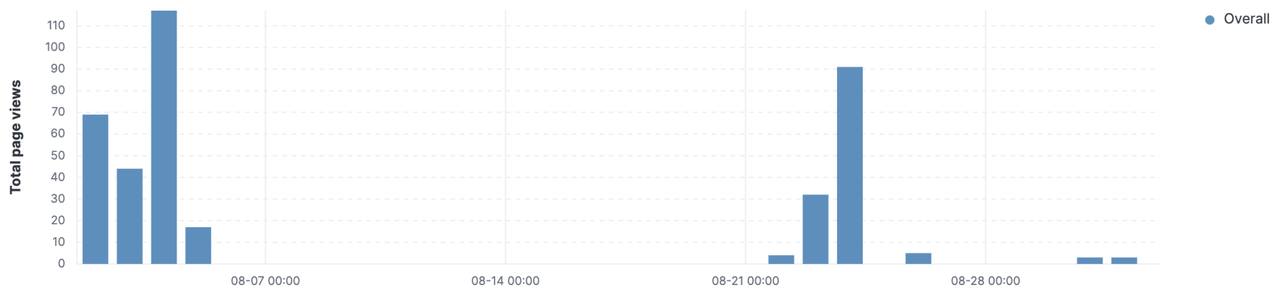
load distribution

No breakdown



Total page views

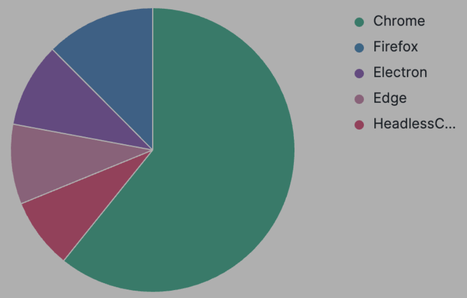
No breakdown



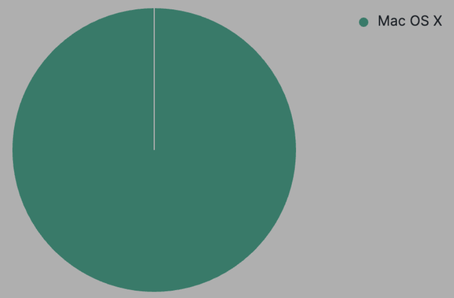
load duration by region (avg.)

Visitor breakdown

Browser



Operating system



script errors

rrors

essage	Impacted page loads
dled promise rejection: AxiosError: Network Error	0.5 %

IT'S FROZEN! AHHHHHHH!

record-store-server-java

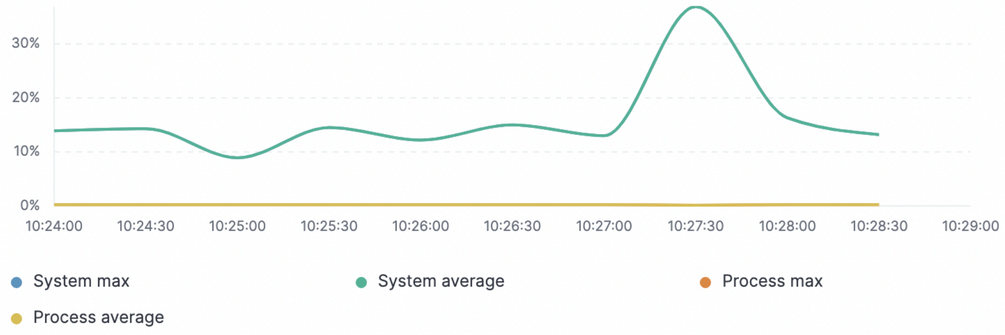
Environment All

Overview | Transactions | Dependencies | Errors | JVMs | Infrastructure | Service Map | Logs | Alerts

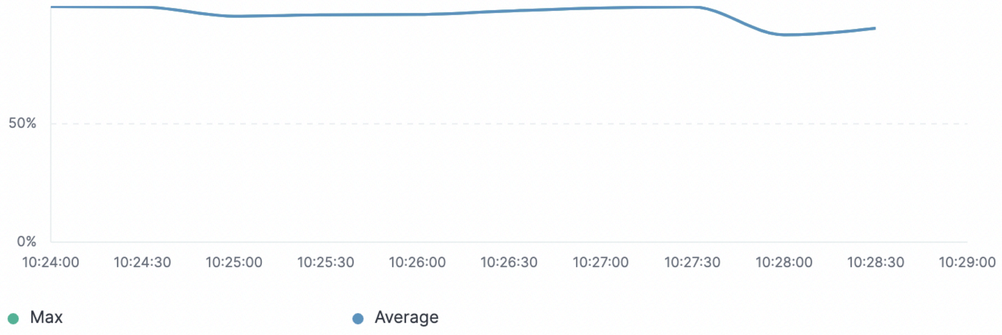
Search metrics (E.g. process.pid = "1234") | Last 5 minutes | Refresh

Service name **record-store-se...** Host **Carlys-MBP** Container ID **N/A**

CPU usage

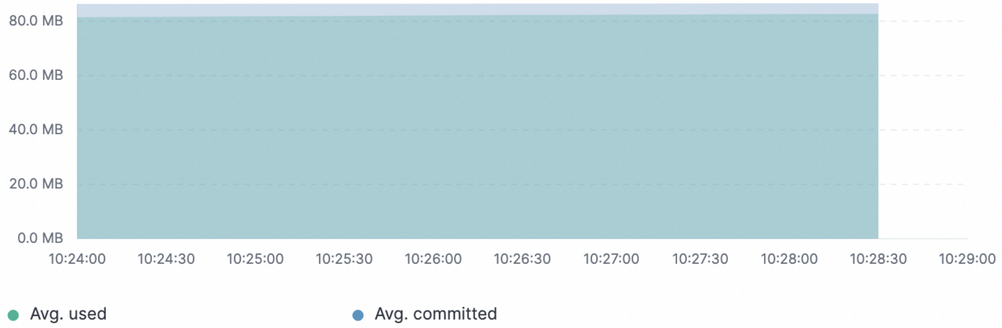


System memory usage



Heap Memory

Non-Heap Memory



Thread Count

Garbage collection per minute

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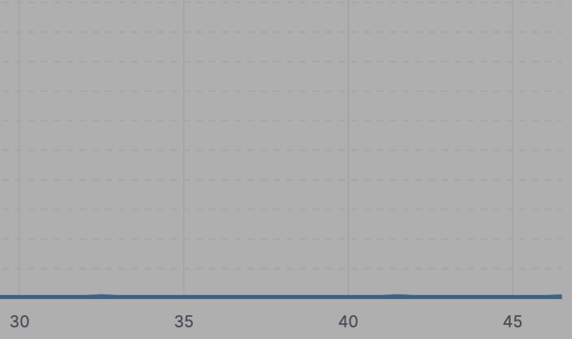
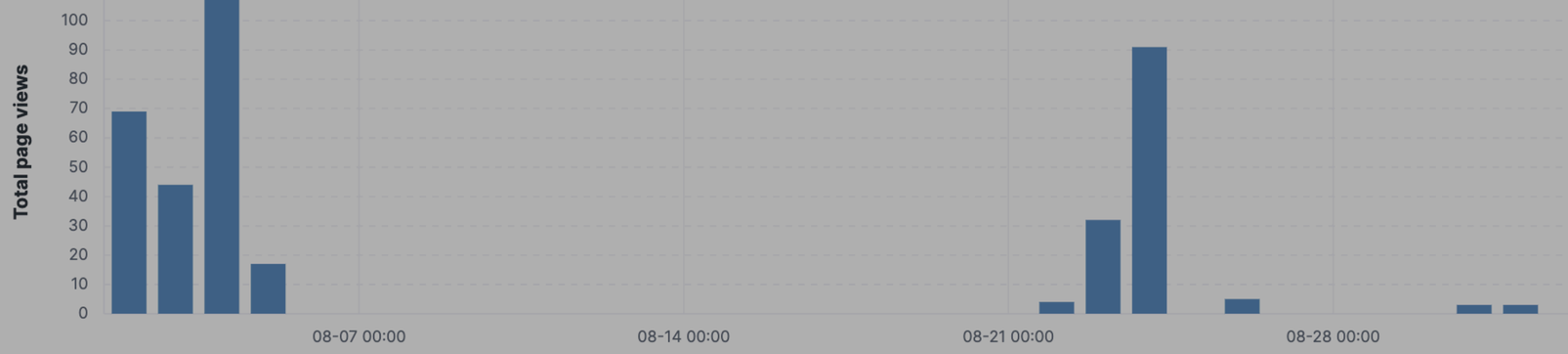
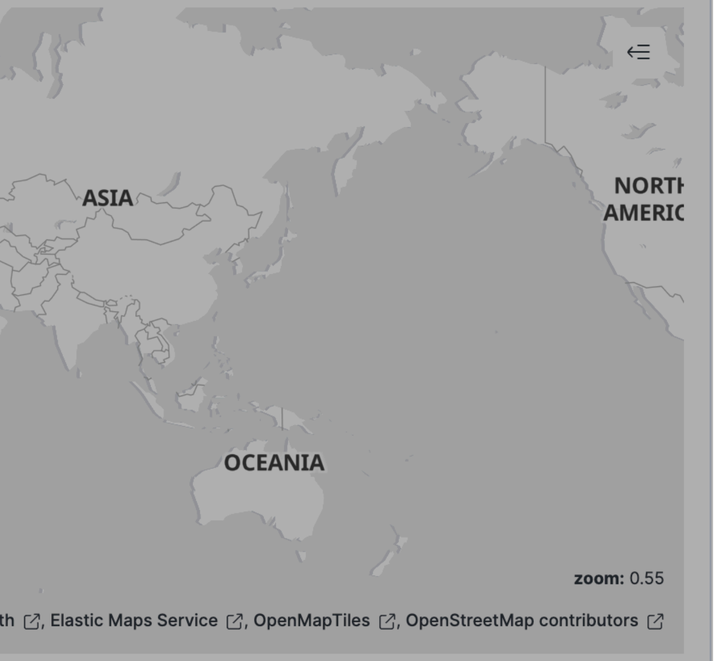
NOT WORKING FOR A PARTICULAR USER

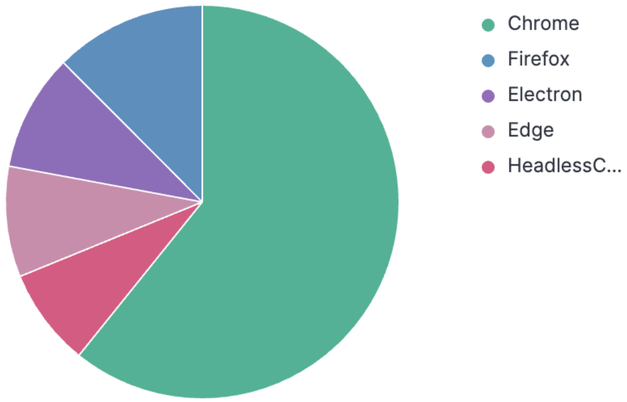




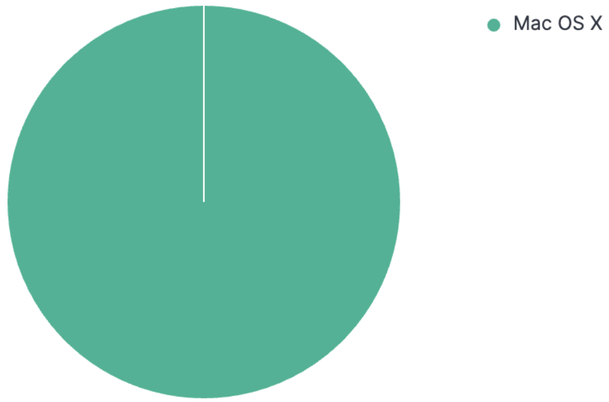


Visitor breakdown

Browser



Operating system



Impacted page loads

0.5 %

elastic

Find apps, content, and more. Ex: Discover ⌘/

Observability > APM > Services > rum-records-react-ui > Errors > 0b4a4ed806b277707e1fcf1c5812071f

Settings | Anomaly detection | Alerts and rules | Add data

Observability

Overview
Alerts
Cases

Logs
Stream
Anomalies
Categories

Metrics
Inventory
Metrics Explorer

APM
Services
Traces
Dependencies
Service Map

Uptime
Monitors
TLS Certificates

User Experience
Dashboard

rum-records-react-ui

JS

Explore data | Environment: All

Overview | Transactions | Errors | Service Map

Search errors (E.g. http.response.status_code >= 400) | Comparison 02/07 09:27 - 02/08 00:00 | Last 30 days | Refresh

Error group 0b4a4

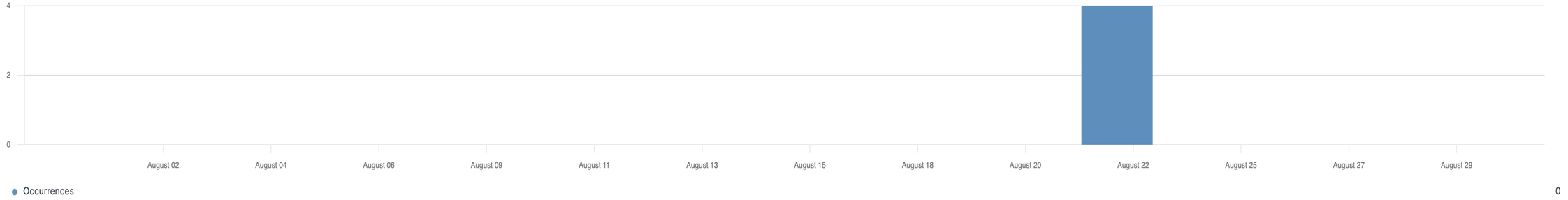
Exception message

`Unhandled promise rejection: AxiosError: Network Error`

Culprit

`(inline script)`

Occurrences



Error occurrence

View 4 occurrences in Discover

9 days ago | Edge (104.0.1293.63) | Click - input

Exception stack trace | Metadata

Unhandled promise rejection: AxiosError: Network Error

No stack trace available.

elastic

@CarlyLRichmond

NO LONGER USING IT (PROMISE)

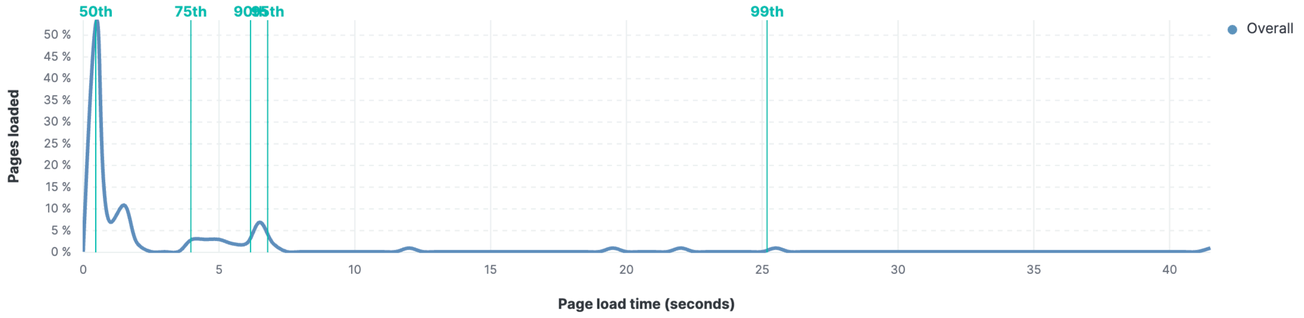
Good (80%) Needs improvement (11%) Poor (9%)

Good (100%) Needs improvement (0%) Poor (0%)

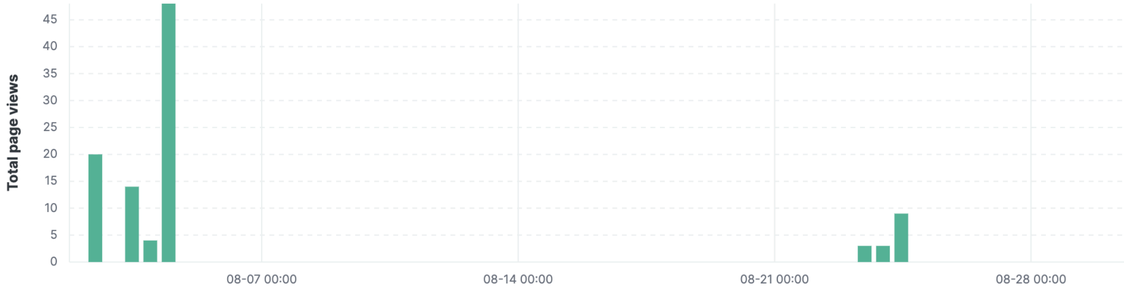
Good (80%) Needs improvement (12%) Poor (8%)

Page load distribution

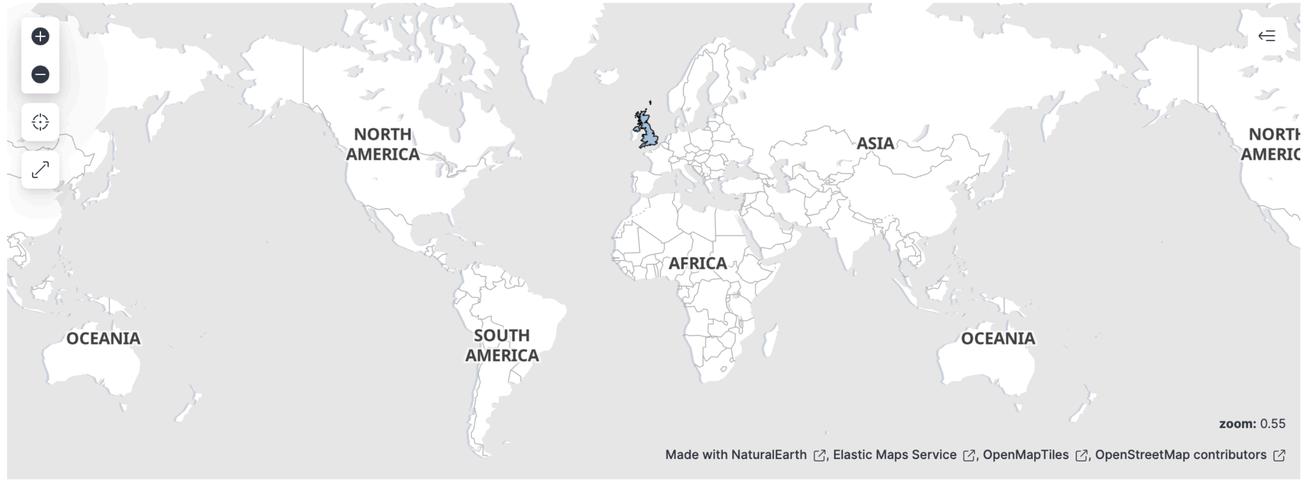
No breakdown



Total page views

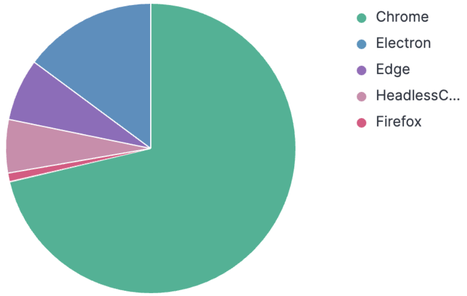


Page load duration by region (avg.)

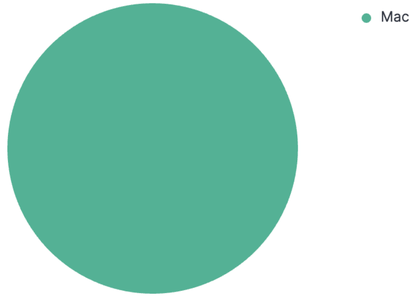


Visitor breakdown

Browser



Operating system



JavaScript errors

Total errors

2

Error message
Unhandled promise rejection: AxiosError: Network Error

Rows per page: 5

I
TRUST
YOU

DANKE!
THANK YOU!
MERCI!
GRAZIE!
GRACIAS!
DANK JE WEL!

. . . . . .

@CarlyLRichmond