Livin' On The (Cheap) Edge

Christian Köberl – Global Azure Austria, May 2023

Christian Köberl

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Develops webapps with Java since 1999.

You'll find my code at github.com/derkoe
More talks and information at derkoe.dev
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Cheap Web Hosting?

php

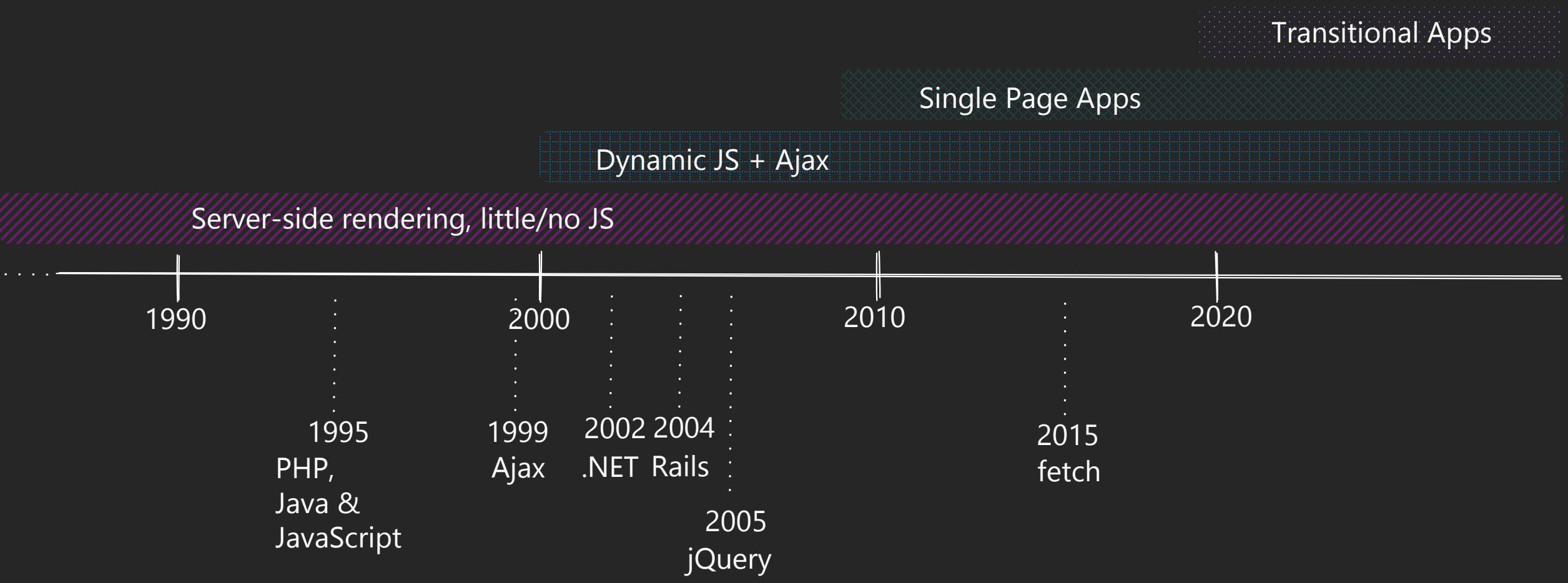
What happened?

What happened?

Transitional Web Applications

New (Edge) Hosting Platforms

Short History of JavaScript Web



Transitional Web Applications

HTML first

When done right the site works without JavaScript

Interactivity typically via <form> posts

SSG SSR

Server-side rendering (SSR) or static site generation (SSG)

Switch automatically to single-page application mode (hydration).

One codebase

Server and client code in one file

(Semi-)automatic code splitting

Client-Side Rendering (Single Page App)

Static Site Generation (SSG)
Server-Side Rendering (SSR)

Hydration

Partial Hydration (Islands)

“Resumeability” and Lazy Loading

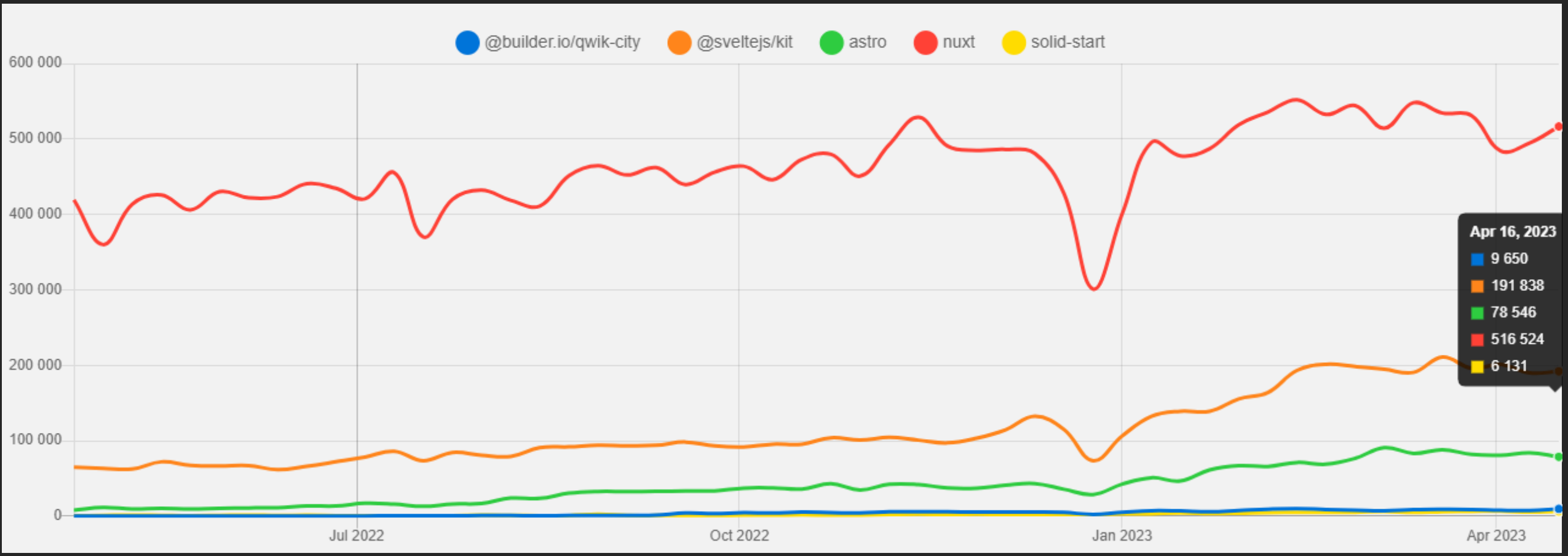
Frameworks

Elixir (Erlang BEAM)

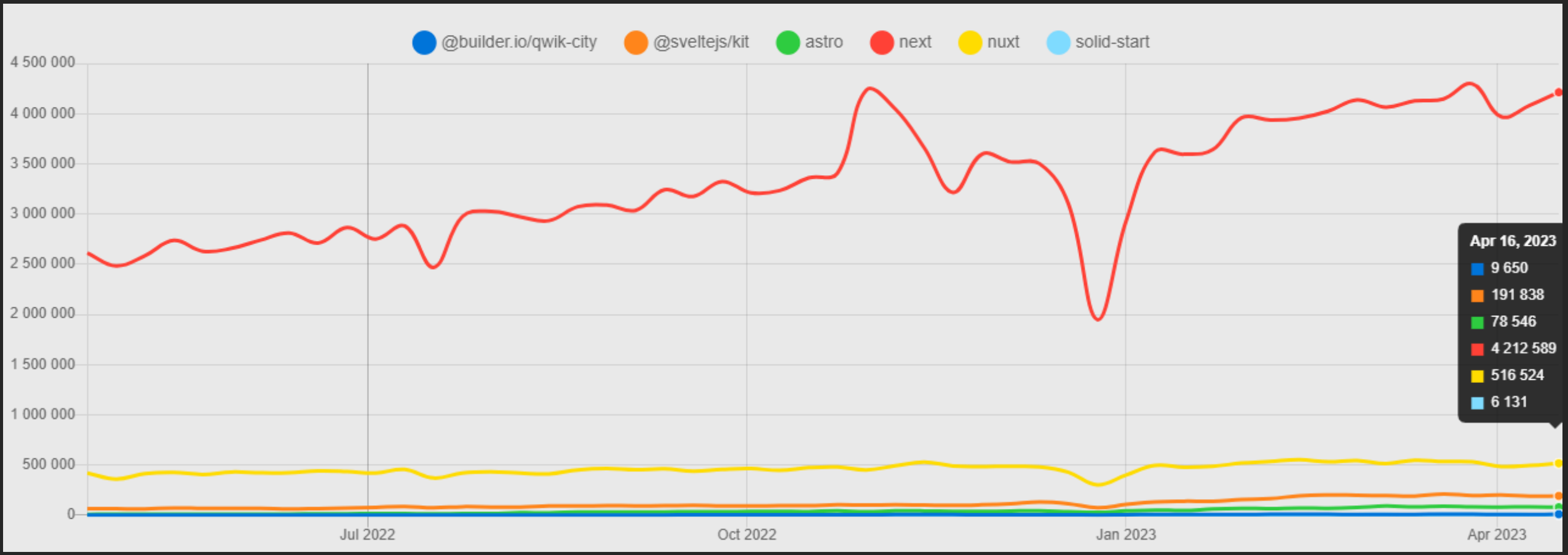
Rust

Framework	Features	Rendering
Next.js	SSR, SSG ISR (incremental static regeneration)	React
Nuxt	SSR, SSG	Vue
SvelteKit	SSR, SSG HTML-first Fine-grained reactivity	Svelte
Astro	SSR, SSG HTML-first Partial hydration (“islands”)	React, Preact, Svelte, Vue, ...
Qwik City	SSR, SSG HTML-first Fine-grained reactivity “Resumeable”	Qwik (React)
SolidStart	SSR, SSG HTML-first Fine-grained reactivity	SolidJS

NPM Trends


@builder.io/qwik-city
@sveltejs/kit
astro
nuxt
solid-start
600 000
500 000
400 000
300 000
200 000
100 000
0
Jul 2022
Oct 2022
Jan 2023
Apr 2023
Apr 16, 2023
9 650
191 838
78 546
516 524
6 131

NPM Trends with Next.js



Demo

Qwik Todo App

Code: https://github.com/derkoe/qwik-todos

What happened?

Transitional Web Applications

New (Edge) Hosting Platforms

New Hosting Platforms

Function as a Service (FaaS)

Fly.io

Edge Containers

CLOUDFLARE

netlify

Vercel

Edge Workers

Runtime Comparison

	Function as a Service	Edge Functions
Isolation	MicroVMs or containers	V8 isolates
Startup time	Average: 2s for Azure, 0.6s for AWS	(Almost) no cold start
Languages	Any (explicit support for JS, Python, Java)	Only JS and WASM
Limitations	Very few limitations	• No TCP connections • Small max bundle size • Small execution time limit

Hosting Platforms Compared

	Cloudflare Pages	Azure SWA
Hosting	Globally distributed (edge)	Static content globally distributed, functions run in defined region
Authentication	• Possible with "Zero Trust" (💰) • Only all routes or no auth at all • SAML, OpenID Connect, well known providers	• Included • Fine-grained route control • OpenID Connect, Azure AD, well known providers
Cold Start	Not recognizable	Adds around 2 seconds to normal request time
CDN	Cloudflare fully integrated	FrontDoor can be added (💰)
Limits	Server function < 5MB, 20k files 200ms startup, 30 seconds execution	500 MB total storage, 15k files -

Demo

Qwik Application on
Azure Static Web Apps and Cloudflare Pages

Code: https://github.com/derkoe/qwik-todos

Thanks!

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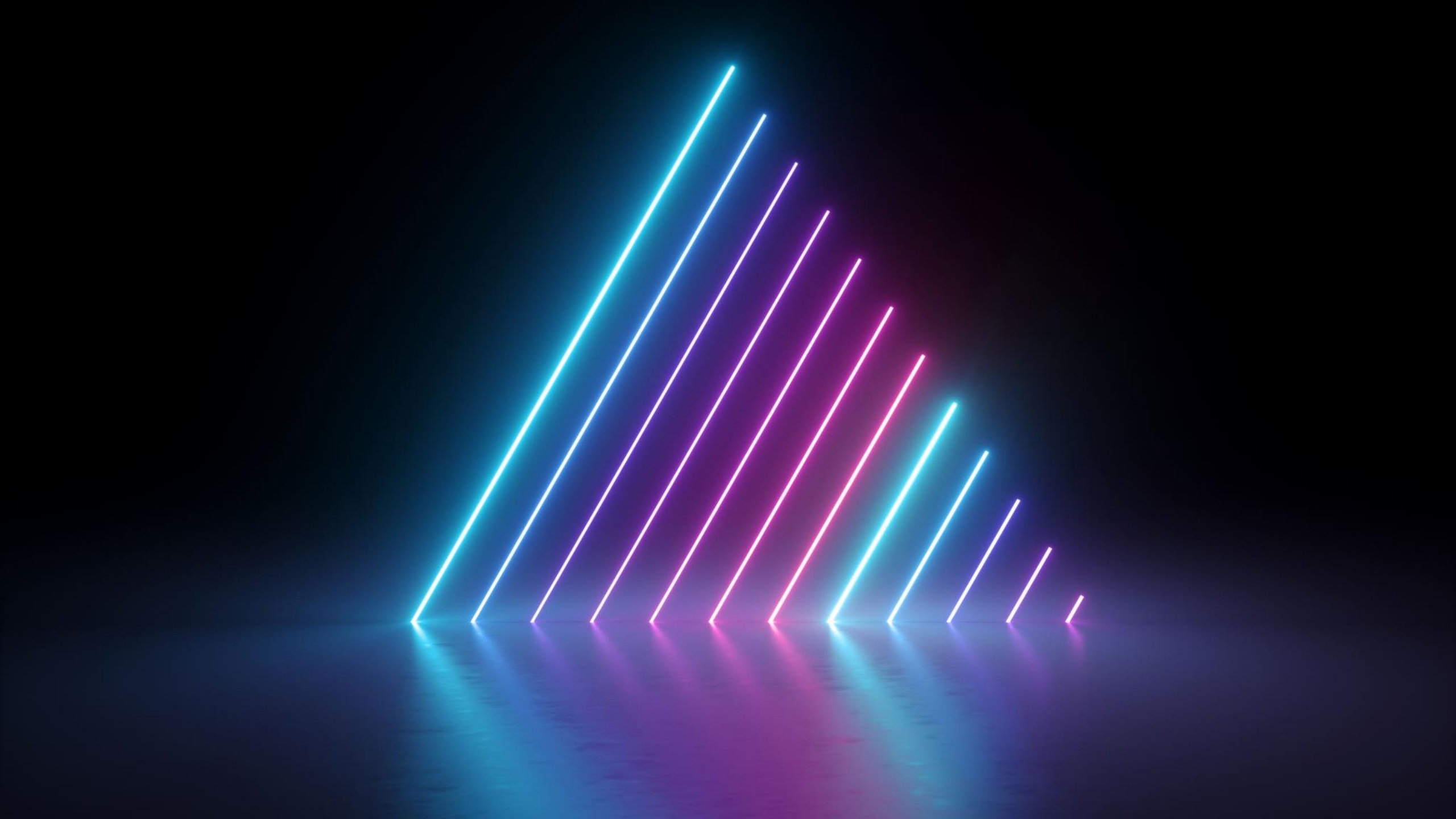
We are hiring:
https://www.porscheinformatik.com/en/career/

Sources

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