



9 Emerging Trends in Web Development for 2023

wingravity.com

1

The Rise of Meta Frameworks

winggravity.com

Meta frameworks are changing the trend from client-side rendering (CSR) to server-side rendering (SSR).

Its "batteries included" approach has made Next.js the most popular meta-framework for React.js and Remix, SvelteKit, and SolidStart are alternatives.



**Many front-end software engineers
are becoming full-stack developers
and framework rivalry is causing
feature convergence.**

Are you a client?

Faster page load times & **improved** performance and enhanced user experience.

Next.js provides **better scalability** and **easier maintenance** for the dev team, which results in faster feature releases and bug fixes for you .

Are you a software engineer?

Full-stack development can offer you more **diverse** job opportunities and a **broader** skill set.

With the help of Next.js, you can build **complex** applications with a **lower risk** of bugs and errors.

2 From SPAs to SSR and Beyond

winggravity.com

Competition between SSR and static site generation (SSG), and the emergence of more nuanced rendering techniques like Incremental Static Regeneration (ISR), Streaming SSR, Partial Hydration, Progressive Hydration, Island Architectures, and resumability.

Software engineers must be aware of the trade-offs and best practices involved in executing these rendering patterns efficiently since more choices increase complexity.

Are you a client?

Improved performance, **faster** page load times, and a smoother user experience overall.

Additionally, with Partial and Progressive Hydration, you can experience **faster rendering of content**.

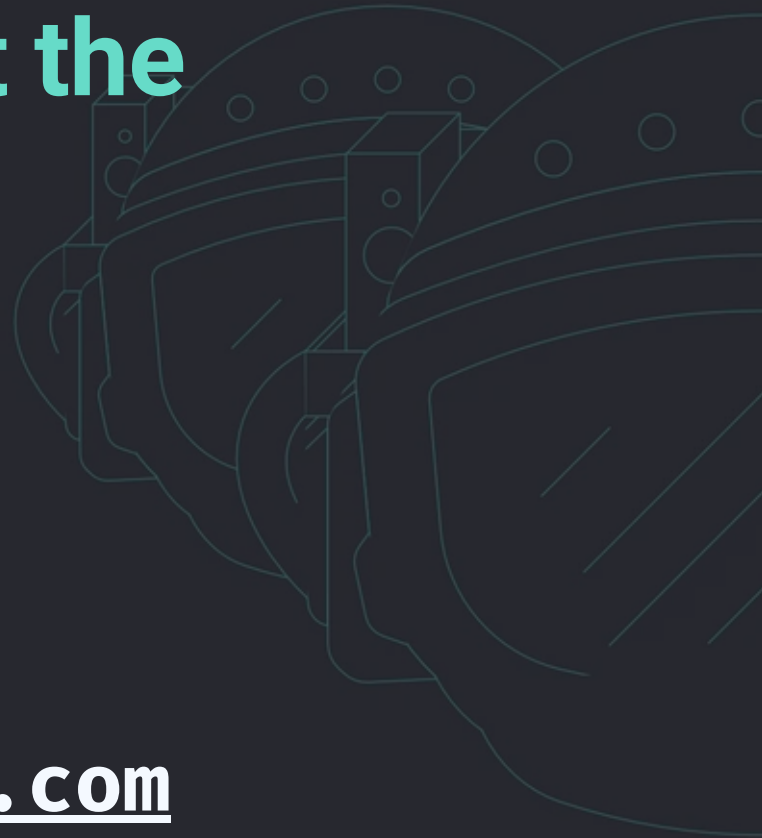
Are you a software engineer?

More flexibility in terms of optimizing performance and customizing the user experience.

You must stay up-to-date with the **latest trends** and technologies in order to remain competitive.

3 Serverless at the Edge

wingravity.com



The increased popularity of serverless computing, particularly at the edge, where the goal is to deploy functions as close to the end-users as possible.

This trend has led to competition among cloud providers to optimize the time-to-interactive (TTI) experience for their users.

The emergence of edge functions is only the beginning of the serverless trend in cloud computing.

Are you a client?

SSR and SSG with serverless at the edge lead to a **faster** and more **seamless** user experience.

Shorter client-server roundtrip → improved page load times, reduced latency, and faster time-to-interactive (TTI) experiences.

Are you a software engineer?

Easier and more **efficient** deployment and management of applications.

You can also take advantage of caching results closer to the user, which can further improve the **speed** and **performance** of the apps.

4 Databases

A new era of innovation

winggravity.com

Popular serverless databases such as PlanetScale, Neon, and Xata - database branching and schema diffing. Ely.io provide a complete platform for distributing not only the database but also the app. Railway and Supabase are providing solutions for deploying tech stacks, from PaaS to BaaS.

Serverless databases can be more cost-effective since they only require payment for usage, rather than the overhead costs of maintaining and scaling a traditional database.

Are you a client?

Faster access to data with minimal latency since the data is cached closer to them.

Improved overall user experience as the time it takes to retrieve and display data is reduced.

Are you a software engineer?

New opportunities to build and deploy applications with more **agility** and **scalability**.

You no longer have to worry about database management, scaling, or maintenance.

5 From Node.js to Deno and Beyond

wingravity.com

The introduction of Node.js in 2009 revolutionized the use of JavaScript on the server side.

A decade later, its creator Ryan Dahl announced Deno as its successor, with the promise of a more secure and faster environment.

With the increasing popularity of edge functions and cloud providers implementing their own JavaScript Runtimes, the JavaScript landscape is becoming fragmented.

Are you a client?

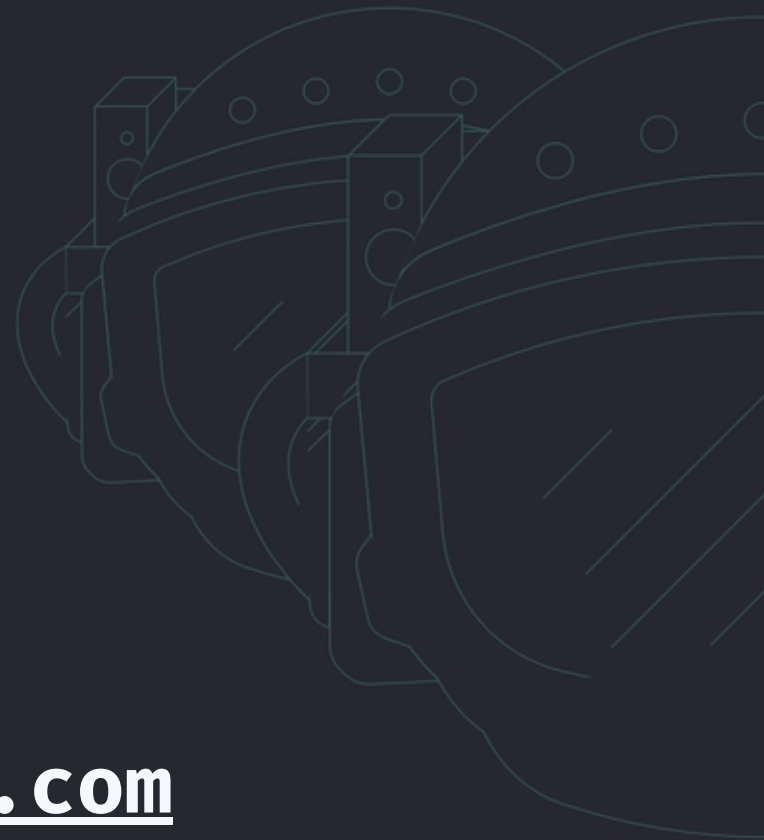
You may indirectly benefit from **faster** and more **secure** web applications built on top of these runtimes.

Are you a software engineer?

The fragmentation of the JavaScript landscape can lead to **compatibility issues**.

Deno, Vercel, and Cloudflare joined WinterCG to work towards achieving API interoperability between their respective JavaScript Runtimes.

6 Monorepos



winggravity.com

The rise can be attributed to tools like Turborepo.

which allows teams to create and build pipelines for all applications and packages in a monorepo with caching capabilities.

Competitors: Nx, Rush, and Lerna.

Monorepos were traditionally used for large-scale applications.

However, these days, even small companies and open-source projects are adopting monorepos for managing shared packages.

Are you a client?

Faster load times and **better user experience** due to the caching of builds across teams.

More **consistent design system** across all applications, resulting in a better user interface and user experience.

Are you a software engineer?

Faster development times and **fewer errors**,
reduced conflicts, and easier to update packages
across all applications.

7 Utility-first CSS

winggravity.com

With the rise of server-side rendering (SSR), CSS-in-JS solutions like Styled Components and Emotion may not be the best option due to their negative impacts on performance.

**This shift towards utility-first CSS
could have significant effects on the
way software engineers approach
styling modern web applications.**

Are you a client?

Indirectly you may experience **faster page load** times and **improved performance** due to the adoption of server-side rendering (SSR) and the use of lightweight CSS solutions like utility-first CSS.

Are you a software engineer?

The rise of SSR-friendly solutions like utility-first CSS and pre-defined UI components, as well as the emergence of zero-runtime/compile-time CSS-in-JS tools, means that you can choose the approach that works best for your needs, taking into account factors like performance, ease of use, and flexibility.

8 tRPC for Type-Safe APIs

wingravity.com

tRPC is offering a type-safe API that can be used as a replacement for REST/GraphQL. tRPC and allows the export of all types from the backend to the frontend application without any intermediate generation of a typed schema.

Moving towards more type-safe solutions for full-stack applications, tRPC, along with other options like Zod, Prisma, and TanStack Router, are quickly becoming a popular choice.

Are you a client?

Improved stability and **reliability** of your web application, as well as **reduced** potential for runtime errors

Better user experience, as users are less likely to encounter errors or unexpected behavior

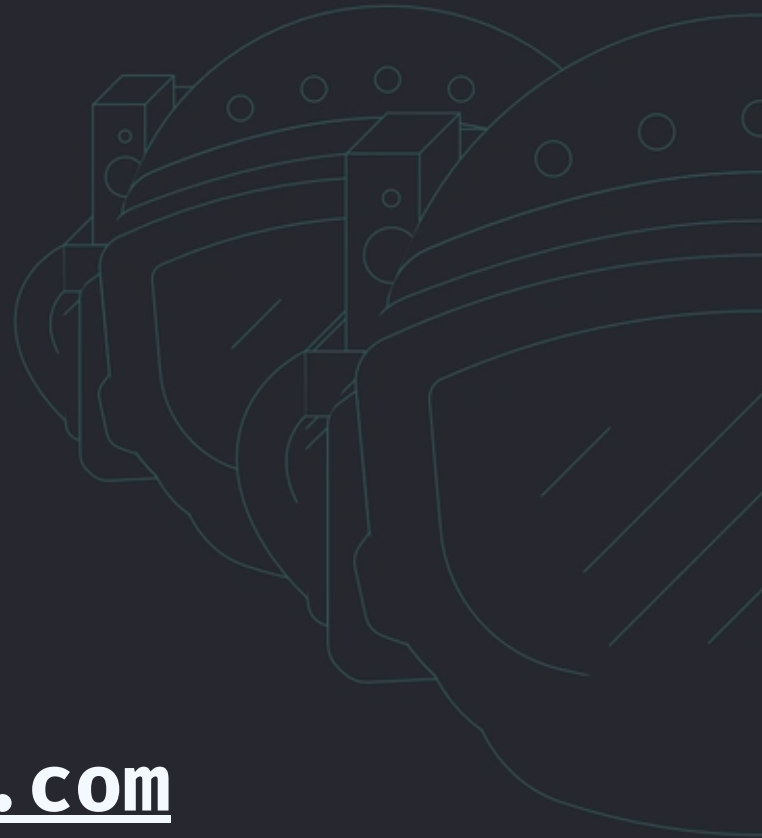
Are you a software engineer?

Reduced time spent **debugging** code and improved collaboration with your colleagues.

It makes the development process more **accessible** if you are new to a codebase.

9 AI-Driven Development

wingravity.com



With the release of GitHub Copilot and ChatGPT, AI-driven development has become a hot topic in the web development community.

Additionally, there is Tauri for desktop applications, Playwright for E2E testing, and CSS Container Queries for responsive design

Overall, these trends are shaping the future of web development, and software engineers need to adapt and embrace new technologies.

Are you a client?

While there may be concerns about the quality of code generated by AI, using it can lead to **faster development time**, a more **efficient** software development process, and potentially **lower costs**.

Are you a software engineer?

You can **automate** mundane and repetitive coding tasks, allowing you to focus on more complex and creative work.

You may need to **adapt** to new workflows and learn how to work effectively with these new tools.

**Want to build a web application
using the latest technologies?**

contact us 



wingravity.com