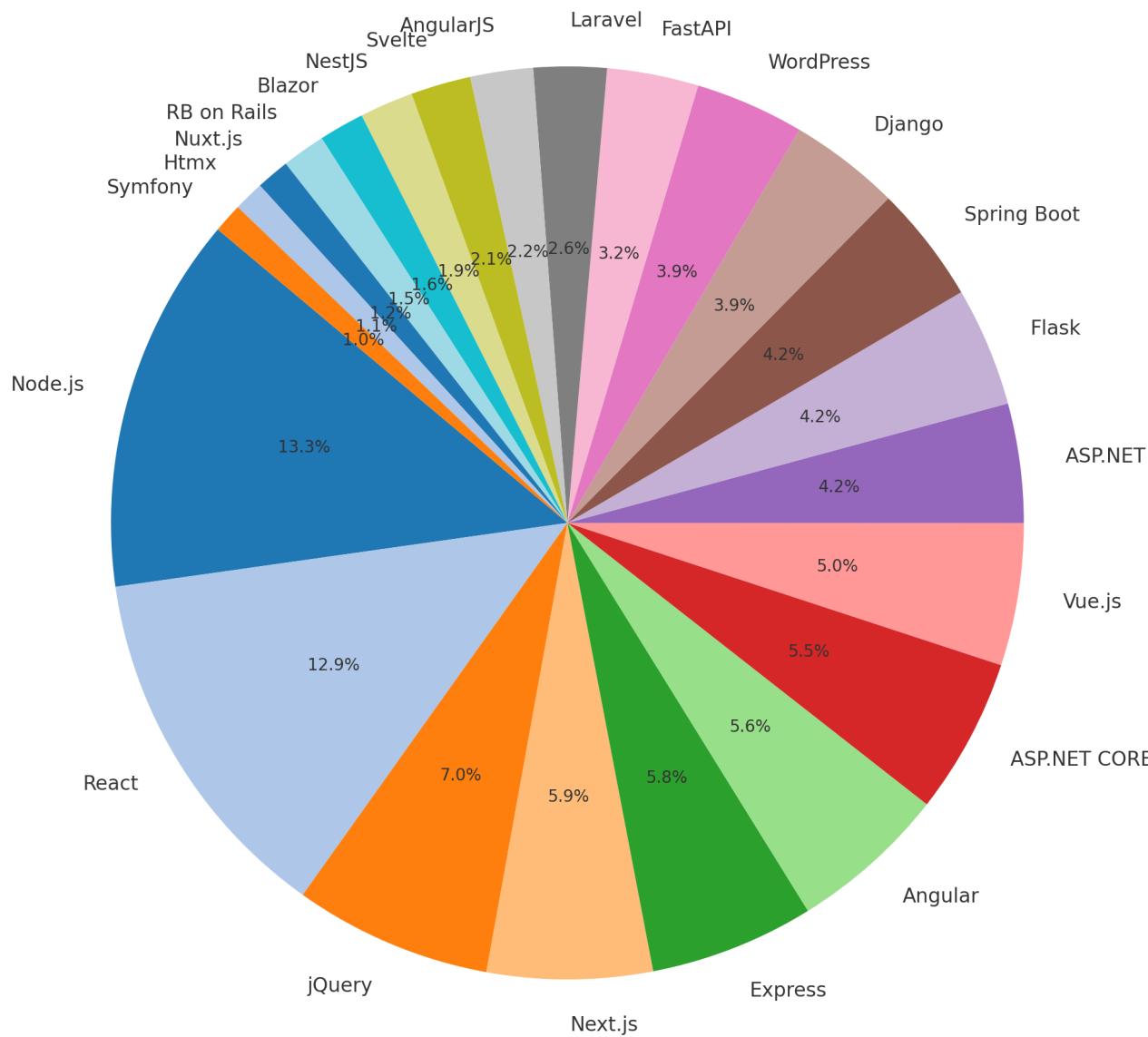
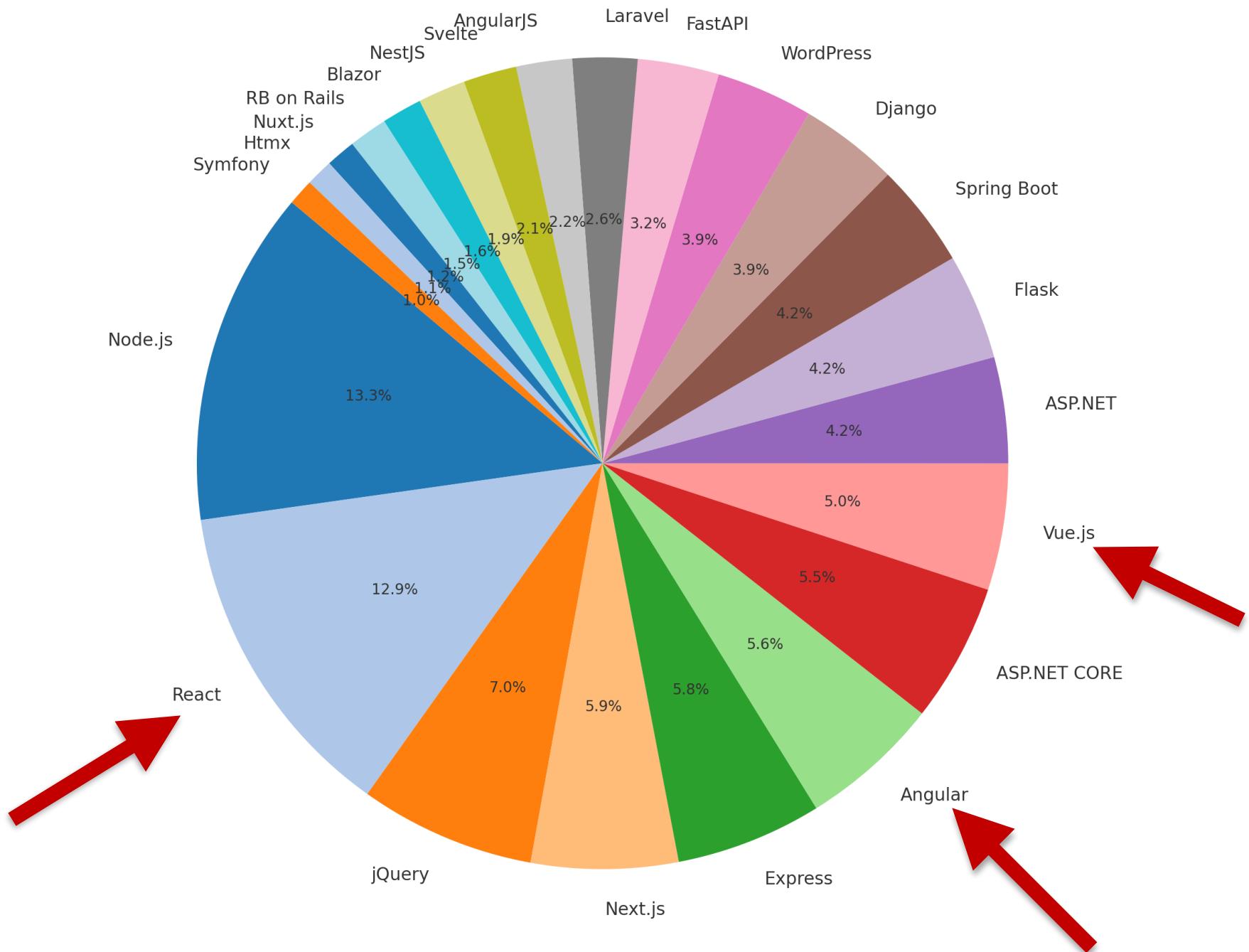
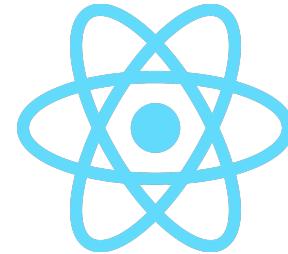


# Most Used Web Frameworks Among Developers Worldwide (2024)





# Web Development UI Library



NiceGUI

~~NE~~~~X~~~~T~~.JS



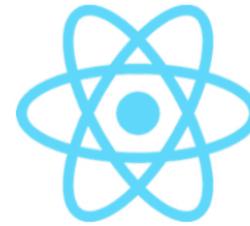
Serhat Ceri, 15.05.2025



# Core Concepts

- Components are **reusable UI elements**, such as buttons, input fields or entire sections of a page.
- Each component bundles **HTML, CSS and logic** into a self-contained unit.
- Frameworks like Angular, React and Vue build entire applications out of these components to ensure clean, modular code.

# Compare Frameworks



Feature	Angular	React	Vue.js
Type	Full-fledged framework	UI library	Progressive framework
Language	TypeScript	JavaScript (with JSX) /TypeScript	JavaScript + SFC (Vue files) /TypeScript
Data Binding	Two-way	One-way	Both (mainly one-way)
Learning Curve	Steep	Moderate	Gentle
CLI Tool	Angular CLI	Create React App / Vite	Vue CLI / Vite
Project Structure	Strict and opinionated	Flexible and minimal	Balanced and intuitive
Use Case Focus	Large-scale enterprise apps	Interactive UI components	Quick apps to full-scale

# Code Demonstrations

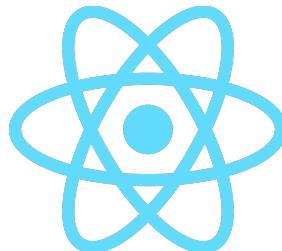
- React: <https://github.com/SCeri196/react-demo>
- Angular: <https://github.com/SCeri196/angular-demo>
- Vue.js: <https://github.com/SCeri196/vue.js-demo>

# When to use which framework?



- Best for largescale enterprise applications
- Built-in tools (routing, HTTP, forms, testing)
- Strict structure is great for big teams
- Long-term maintainability

# When to use which framework?



- Great for dynamic, highly interactive UIs
- Best choice for custom solutions
- Big ecosystem (Next.js, Redux, etc.)
- Works well in micro frontends

# When to use which framework?



- Ideal for small to medium-sized apps
- Quick to learn and use
- Clean structure and Single File Components
- Can scale if needed

# Conclusion & Takeaways

## Why Angular?

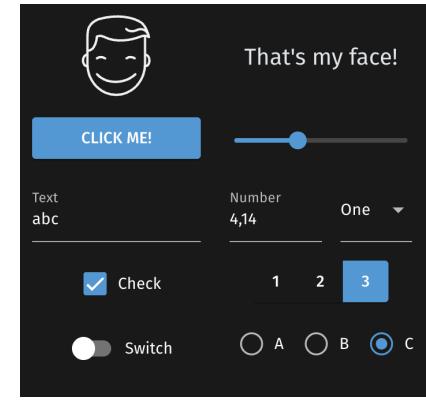
- Robust structure for larger applications
- Team oriented, scalable & maintainable
- Aligns well with agile, component driven architecture

# Other Noteworthy UI Frameworks & Libraries

- **NiceGUI**- Python-based GUI library – ideal for fast dashboards and data apps
- **Svelte**-Lightweight JS framework – compiler-based, highly reactive and fast
- **Next.js**- React-based meta framework – SSR, API routes, file-based routing
- **Qwik** Ultra-fast framework – „Resumability “, ideal for edge apps

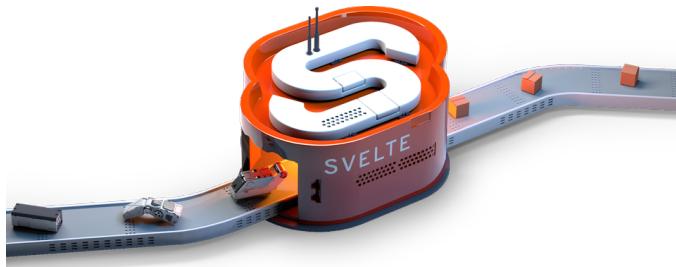
# NiceGUI

- NiceGUI allows developers to quickly create GUIs without needing to learn additional web technologies
- It enables the rapid creation of interactive dashboards and data visualization applications.
- Useful for quickly prototyping or building internal tools, as it doesn't require extensive configuration.



# Svelte

- Svelte compiles components into highly efficient, plain JavaScript at build time. Unlike React or Vue, it doesn't use a virtual DOM (Document Object Model). Svelte updates the real DOM directly with minimal overhead, improving performance.
- Reactive updates happen automatically when variables change. For example, writing „count +=1“ in Svelte automatically triggers a UI update.
- Svelte apps have small bundle sizes and fast runtime performance. It's ideal for lightweight apps, embedded UIs or when loading speed matters.



# Next.js

- Next.js allows pages to be pre-rendered on the server or at build time, improving initial load speed compared to client-only React apps.
- Routes are automatically generated from the filesystem. You can also build backend APIs directly in the same project using API routes.
- Built-in support for TypeScript, image optimization, middleware and deployment with Vercel. Next.js is ideal for scalable and fullstack web apps.

# Qwik

- Qwik skips the usual rehydration step and resumes the app state from where the server left off – making it instantly interactive on load.
- Ultra-fast page loads, fine-grained lazy loading of components and minimal JavaScript execution on the client.
- Ideal for edge deployment, works well with modern hosting (like Cloudflare Workers or Vercel Edge) and offers server-side rendering.



# Links

- Pie chart: <https://www.statista.com/statistics/1124699/worldwide-developer-survey-most-used-frameworks-web/>
- React Logo: <https://de.wikipedia.org/wiki/React#/media/Datei:React-icon.svg>
- Angular Logo: [https://cdn.prod.website-files.com/603c9be75dc3e972627a97ab/67c6daa2174583edf0c18285\\_angular\\_wordmark\\_gradient.png](https://cdn.prod.website-files.com/603c9be75dc3e972627a97ab/67c6daa2174583edf0c18285_angular_wordmark_gradient.png)
- Angular Playground : <https://angular.dev/playground>
- NiceGUI – Official Site: <https://nicegui.io/>
- NiceGUI GitHub Repository: <https://github.com/zauberzeug/nicegui>
- Svelte.dev – Official Site: <https://svelte.dev/>
- Svelte tutorial: <https://svelte.dev/tutorial/svelte/welcome-to-svelte>
- Rich Harris – “Rethinking Reactivity” (YouTube):<https://www.youtube.com/watch?v=AdNJ3fydeo>
- Next.js – Official Site: <https://nextjs.org/>
- Next.js Crash Course (YouTube): <https://www.youtube.com/watch?v=mTz0GXj8NN0>
- Qwik -Official Site: <https://qwik.dev/>
- Qwik GitHub Repository: <https://github.com/QwikDev/qwik>
- <https://en.wikipedia.org/wiki/Svelte>
- <https://medium.com/@Rushabh-/mastering-next-js-a-comprehensive-guide-7799c3b8f968>
- <https://github.com/QwikDev/qwik>
- Qwik Overview: <https://qwik.dev/docs/qwikcity/>
- Svelte GitHub Repository: <https://github.com/sveltejs/svelte> / <https://github.com/sveltejs>
- Svelte vs React: <https://fireship.io/lessons/svelte-for-react-developers/>
- Nextjs GitHub Repository: <https://github.com/vercel/next.js>
- <https://de.wikipedia.org/wiki/Next.js>
- <https://react.dev/learn/creating-a-react-app>
- Vue.js Website: <https://vuejs.org/>

# Links

- Vue.js: <https://vuejs.org/guide/quick-start>
- <https://de.wikipedia.org/wiki/Vue.js>
- <https://de.wikipedia.org/wiki/JavaScript>
- <https://en.wikipedia.org/wiki/CSS>
- <https://en.wikipedia.org/wiki/JavaScript>
- <https://en.wikipedia.org/wiki/HTML>
- <https://github.com/vuejs/vue>
- Angular-Official Site : <https://angular.dev/>
- <https://de.wikipedia.org/wiki/Angular>
- Angular GitHub: <https://github.com/angular/angular>
- [Leistungsoptimierung von Webanwendungen mit Qwik](#)
- [https://www.theseus.fi/bitstream/handle/10024/795367/Cao\\_Xuan-An.pdf](https://www.theseus.fi/bitstream/handle/10024/795367/Cao_Xuan-An.pdf)
- Resumability: <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=10388344>
- DOM benchmark comparison of the frontend(React, Angular, Vue, and Svelte): [https://www.doria.fi/bitstream/handle/10024/177433/levlin\\_mattias.pdf?sequence=2&isAllowed=y](https://www.doria.fi/bitstream/handle/10024/177433/levlin_mattias.pdf?sequence=2&isAllowed=y)