Fast Focus: JavaScript Framework/Library Showdown

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Level: Introductory

#VSLIVE

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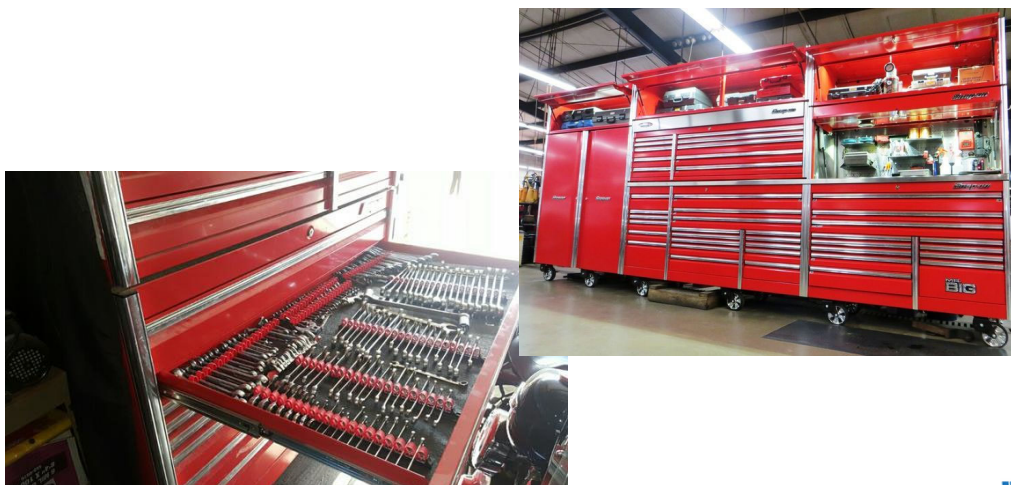
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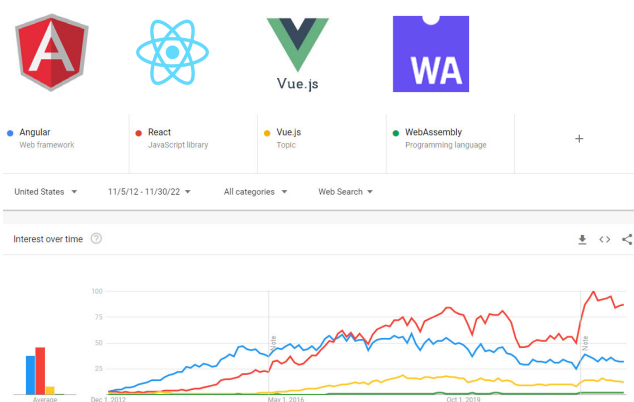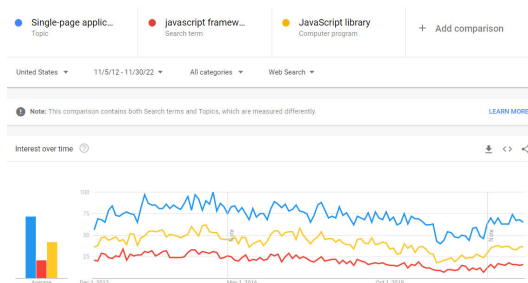**The Current Web Client Toolbox is Vast**

What's out there in 2023?
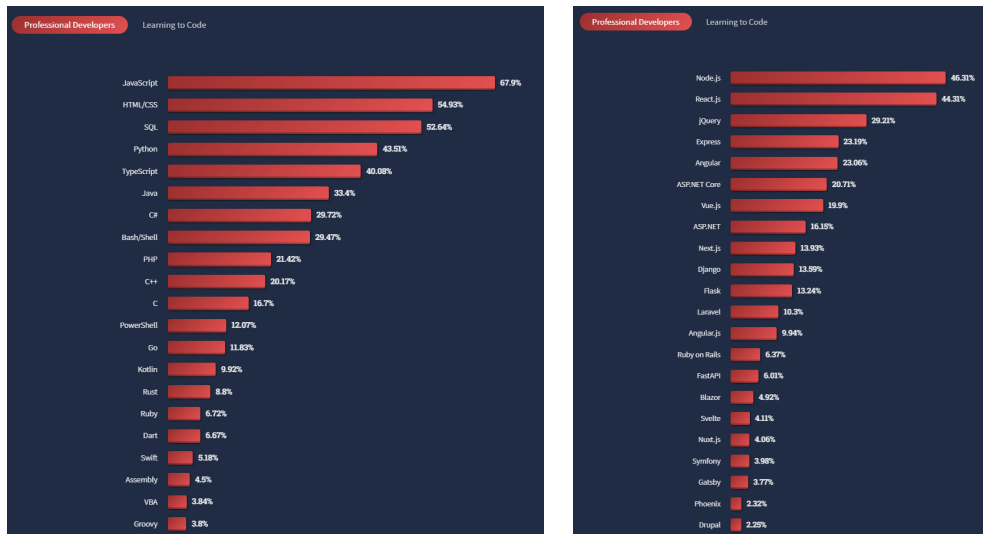
Which Framework / Library?

- 3 *main* choices today
  - React, Angular, Vue
- Company and Team DNA
- Evaluate / investigate at a 30k level
- Performance
- Community adoption
- Company backing
- Feature comparison
- Personal preference / subjective opinions
- Surveys are mixed…

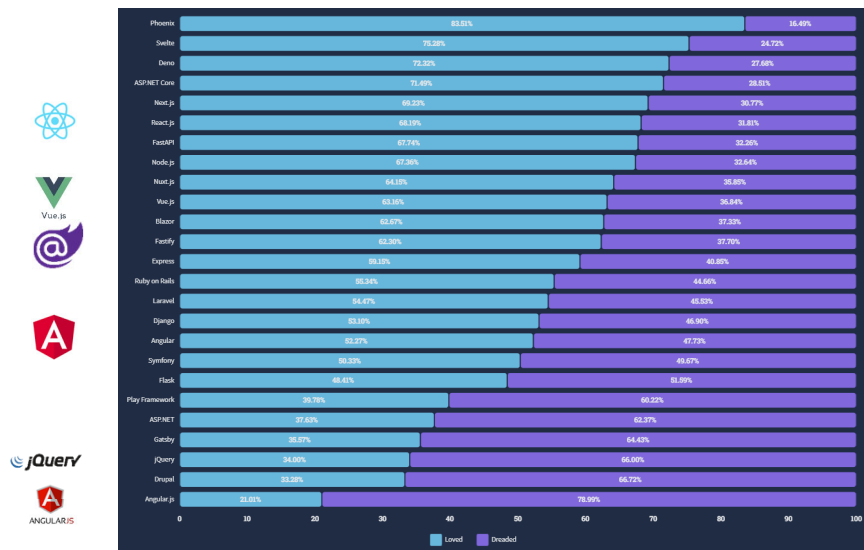# JavaScript Framework/Library Popularity

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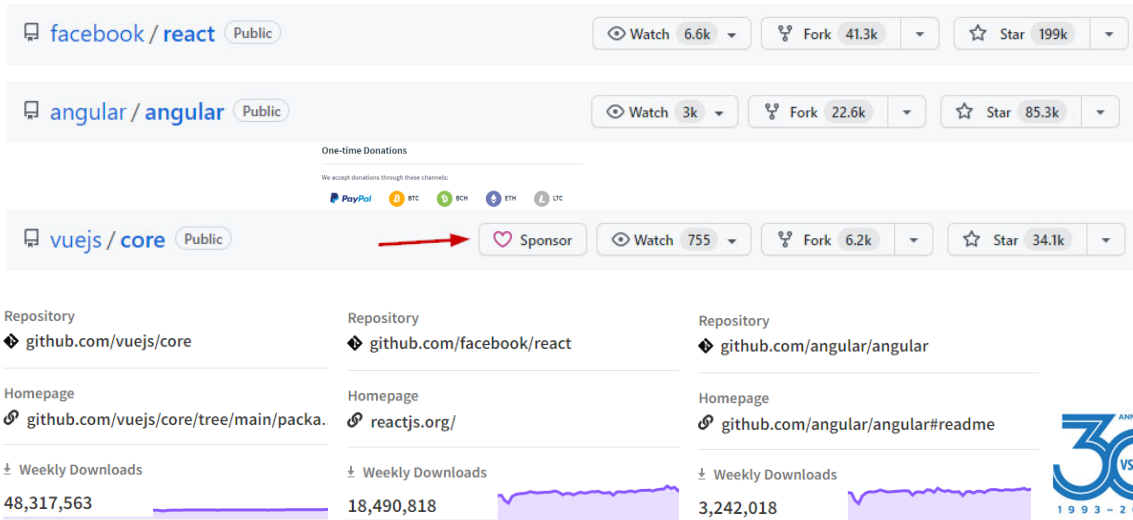
React.js

- View library focused on component creation / reusable elements
- 10 years tenure
- Wide community and enterprise adoption
- Rich ecosystem
- Excellent choice for seasoned JS teams
- Everything is JavaScript: JSX, CSS-in-JS
- CLI: create-react-app
- Leverage core React knowledge for mobile apps
- Developed and maintained by Meta

Angular

- Complete framework for building modern web/Single Page Apps
- 12+ years tenure
- Wide community and enterprise adoption
- All-inclusive benefits that come with a framework
- Built using TypeScript
- HTML Templates
- Some dotted-line concepts to server-side MVC development
- CLI: Angular CLI
- Developed and maintained by Google

Vue.js

- Framework for creating components
- Core library >> view layer only
- Companion libraries officially supported by core team
- 9 years tenure
- Grassroots popularity
- Less adoption in the enterprise
- Best of Angular + React
- Out of the box: HTML Templates
- v3.0 rewritten from the ground up in TypeScript
- Lacking major financial backing
- Remember Aurelia?

Framework Advantages

- Frameworks can aid in the following
  - All-inclusive benefits
  - Focus on writing code instead of juggling decisions
  - Data-binding
  - DI
  - Routing
  - Testability
  - SoC
  - Modular
  - **Security**
  - Support
  - Overall efficiency getting up and running

View/Component Library Advantages

- Less opinionated / more flexible
- More control over the architecture/implementation behavior
- Focus on doing one thing well; making reusable components
- Segregated API surface area
- Mix and match
- Composable application
- Cherry-pick the tailored solution
  - Router
  - State management
  - Http
  - Type Checking
  - Build System
- *"If you don't choose a framework, you'll end up building one"*

Web Assembly

- The reality is… a lot of people don't like JavaScript
  - There is excitement brewing for this part of the community

- A new option exists for modern web development
  - This might dilute some JS development in the future

Web Assembly

- Compiled code for the web browser
- Native part and supported by all major browsers
- Compile C# to WASM bytecode that runs in the browser
- No plugin required (Silverlight, Flash)
- Runs inside the browser sandbox alongside JS
- Same code client & server (C#)
- Performant due to being machine code vs. human code (.js)
  - Runs at near native speeds | https://webassembly.org

JavaScript Runtime

Blazor

- Open-source framework from Microsoft
- Part of ASP.NET
- Ability to create modern web applications using C#, HTML, CSS
- Use C# in favor of JavaScript*
- Leverages WebAssembly = **Performance**
- Use .NET/C# skills for the **entire stack**

Blazor

- 5 years strong | https://blazor.net
- Increased adoption
- Client & Server-Side hosting models
  - Blazor WebAssembly (WASM)
  - Blazor Server
- Included in .NET 6
- Based on web components (.razor views)
- Component libraries: https://blazorise.com/

Keeping up with changes

- Web technology is ever evolving
- New technology choices: overwhelming
- Keep stock in logic on the server
- Focus on architecture and patterns
- Stay informed but don't overreact

Thank you! Q&A

http://c1.staticflickr.com/1/28/65098350_b7bd96f38_b.jpg

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