

Fresh - the next level in web applications?

AI



KARAKUN



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OpenSource Enthusiast

Knowing me, knowing you...

- Who is using...
 - Node
 - React
 - Angular
 - Next.js

Fresh - The next-gen web framework

Built for speed, reliability, and simplicity.

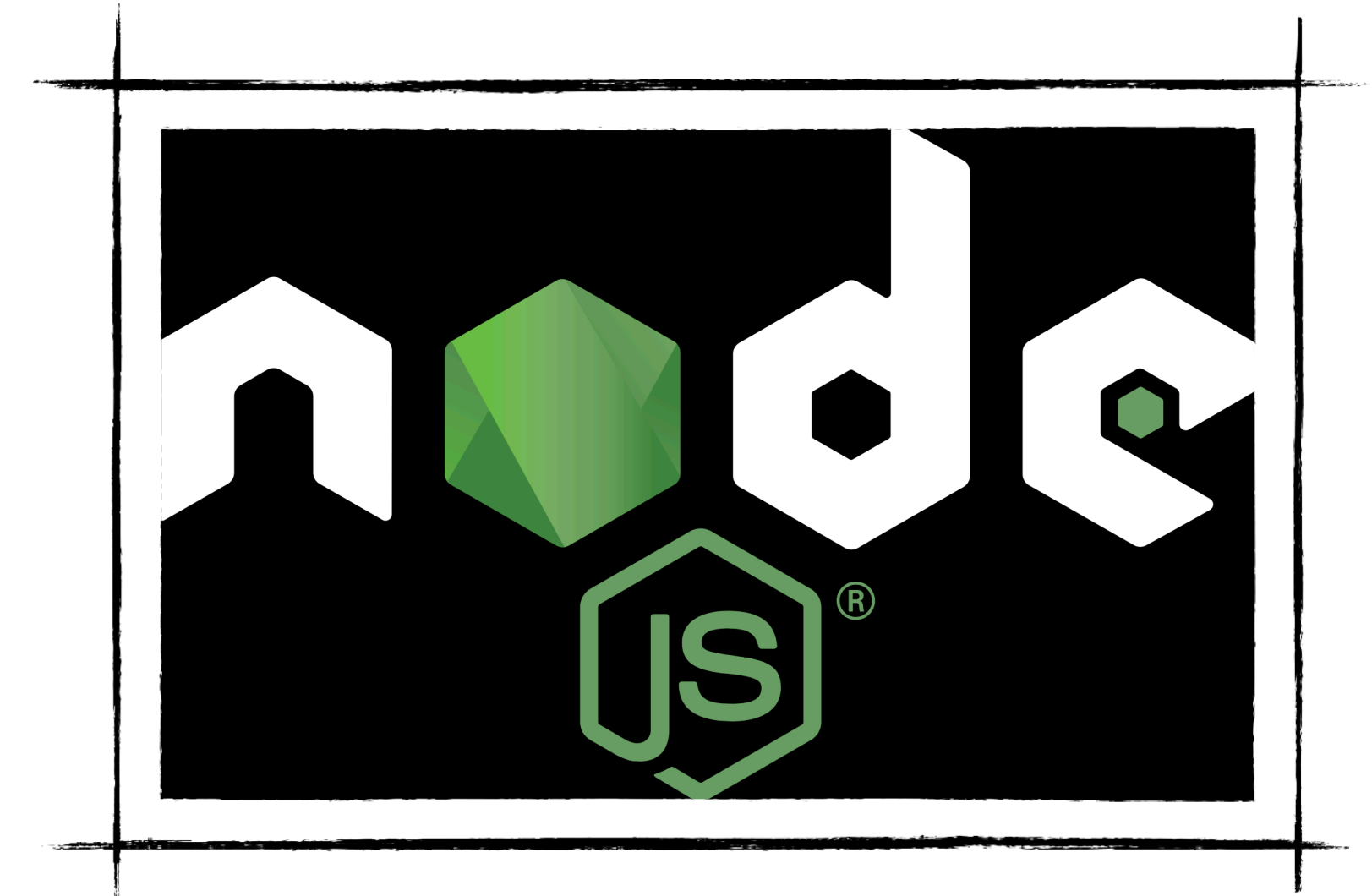
- Just-in time rendering
- Island-based client hydration
- Zero runtime overhead
- Typescript support out of the box
- No build step
- No configuration
- MIT Licensed
- **Based on Deno**



History

It all started with Node.js

- Node was created by **Ryan Dahl** in **2008** based on Google V8 Engine
- Brought Server-Side JS to the masses, allowed to use the language of the web everywhere
- **2018**, Ryan Dahl summarized „10 Things I Regret About Node.js“
- Missing features
 - Promises and Async/Await
 - ES Modules
 - TypeScript



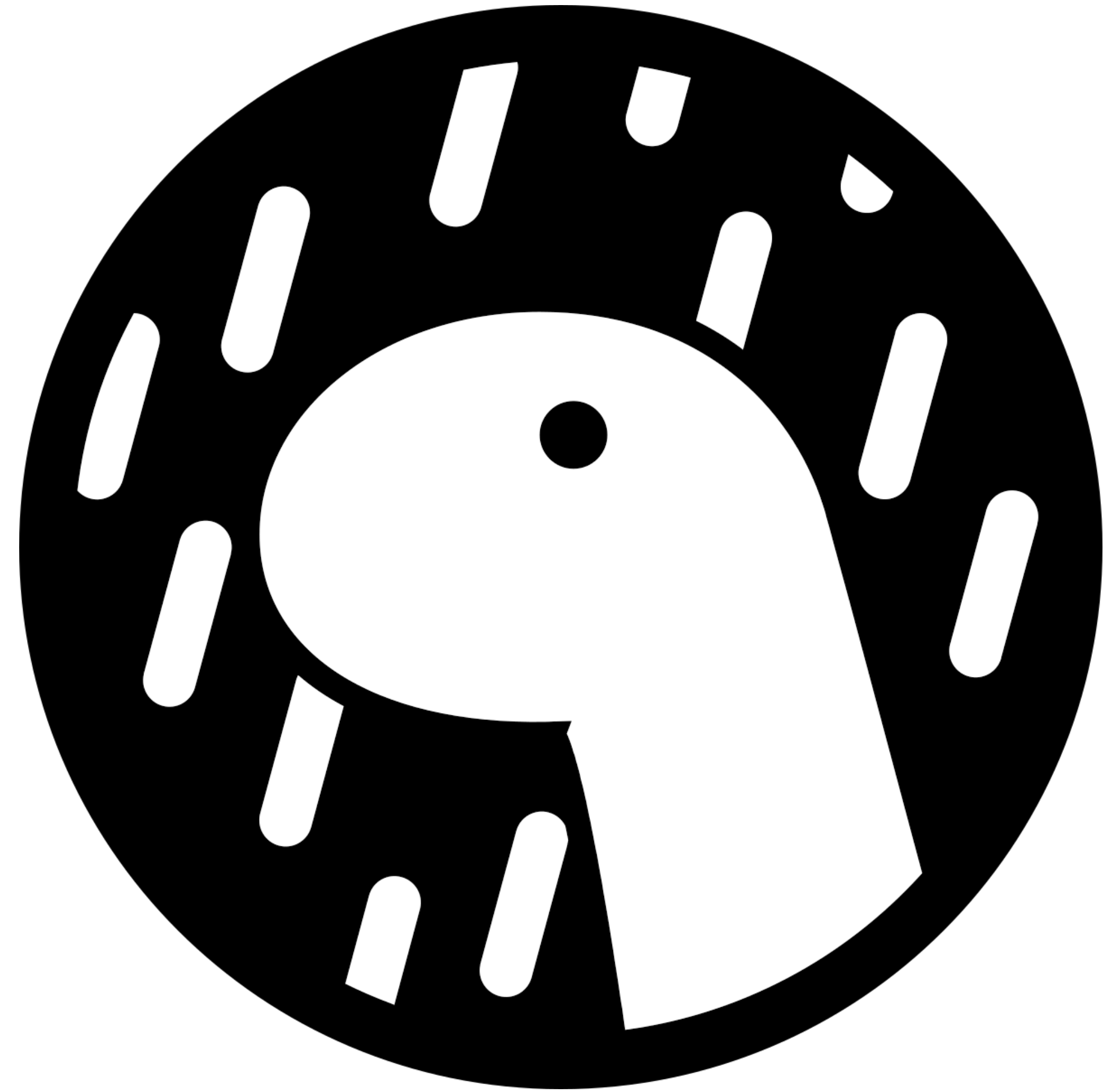
NODE

DENO

Deno

- Not a fork
- Secure JS and TS runtime
- (Still) based on V8
- Core is built in Rust
- Event-Loop driven by Tokio

- Provides a STL
- Centric to the Browser APIs



Deno

- Single Executable
 - bundler (deno bundle)
 - debugger (--inspect, --inspect-brk)
 - dependency inspector (deno info)
 - documentation generator (deno doc)
 - formatter (deno fmt)
 - test runner (deno test)
 - Linter (deno lint)



Deno: Security

- Sandbox
- Only explicit enabled access to
 - Disk
 - Network
 - Subprocesses
 - env variables

```
--allow-read=/tmp  
--allow-write  
--allow-net=karakun.com  
--allow-env  
-allow-sys  
...
```



Deno: Dependency Management

- URLs for dependency management
- using the ECMAScript 6 import/export standard
- Global cache
- Bundle to prepare deployments

Deno Third Party Modules

deno.land/x is a hosting service for Deno scripts. It caches releases of open source modules on an easy-to-remember domain.

Deno can import modules from any location on the web, like GitHub, a personal website, or [jsDelivr](#).

To make it easier to consume third party modules Deno provides some built-in utilities.

[+ Publish a module](#)

[Learn more](#)

Explore Modules

[flat](#)

A collection of postprocessing utilities for flat

[lambda](#)

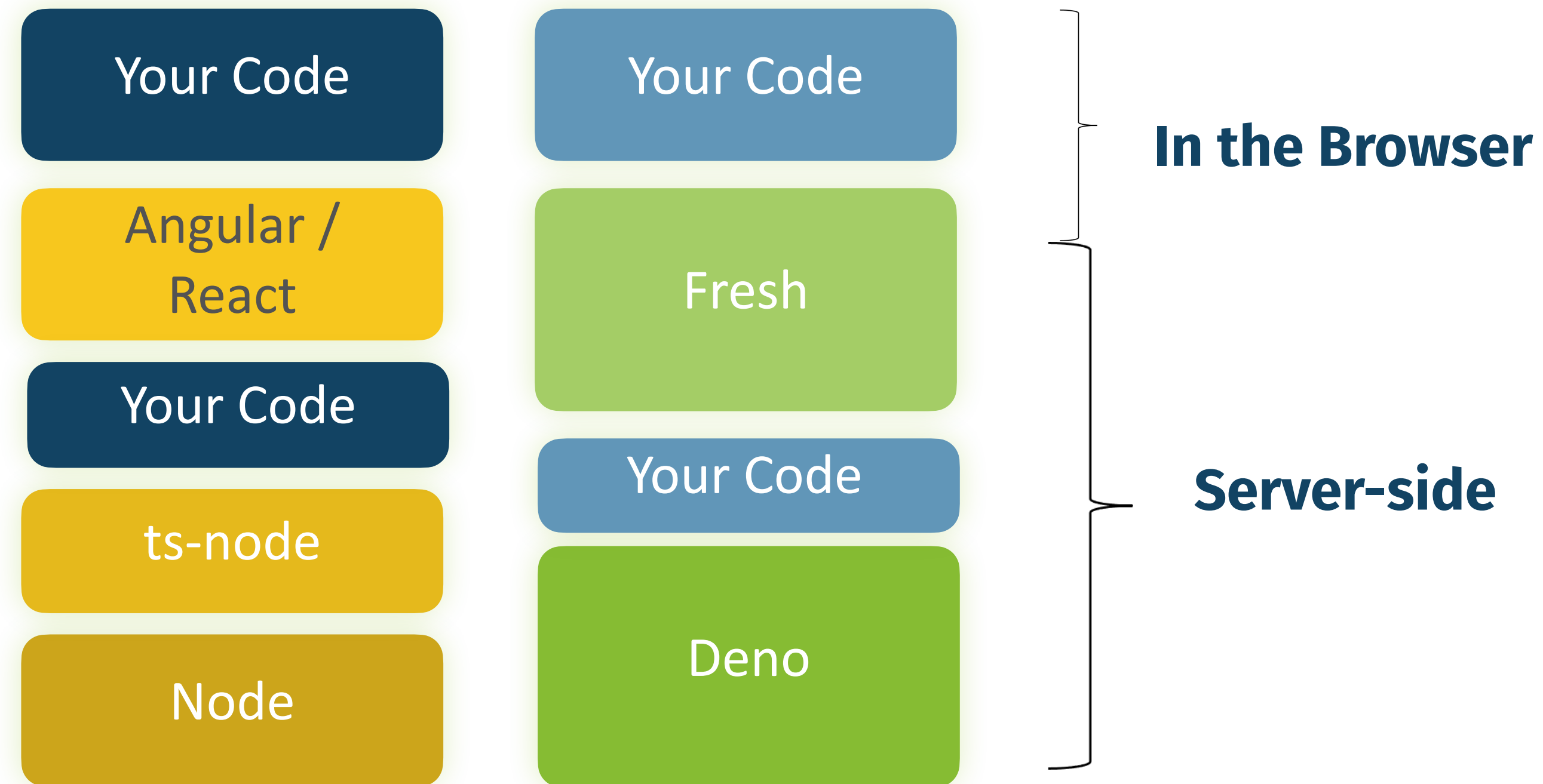
<https://deno.land/x>

Deno: Using NPM specifiers

- Node modules
- NPM specifiers
e.g.: `import express from "npm:express@4.17";`
- `std/node` modules to "polyfill"



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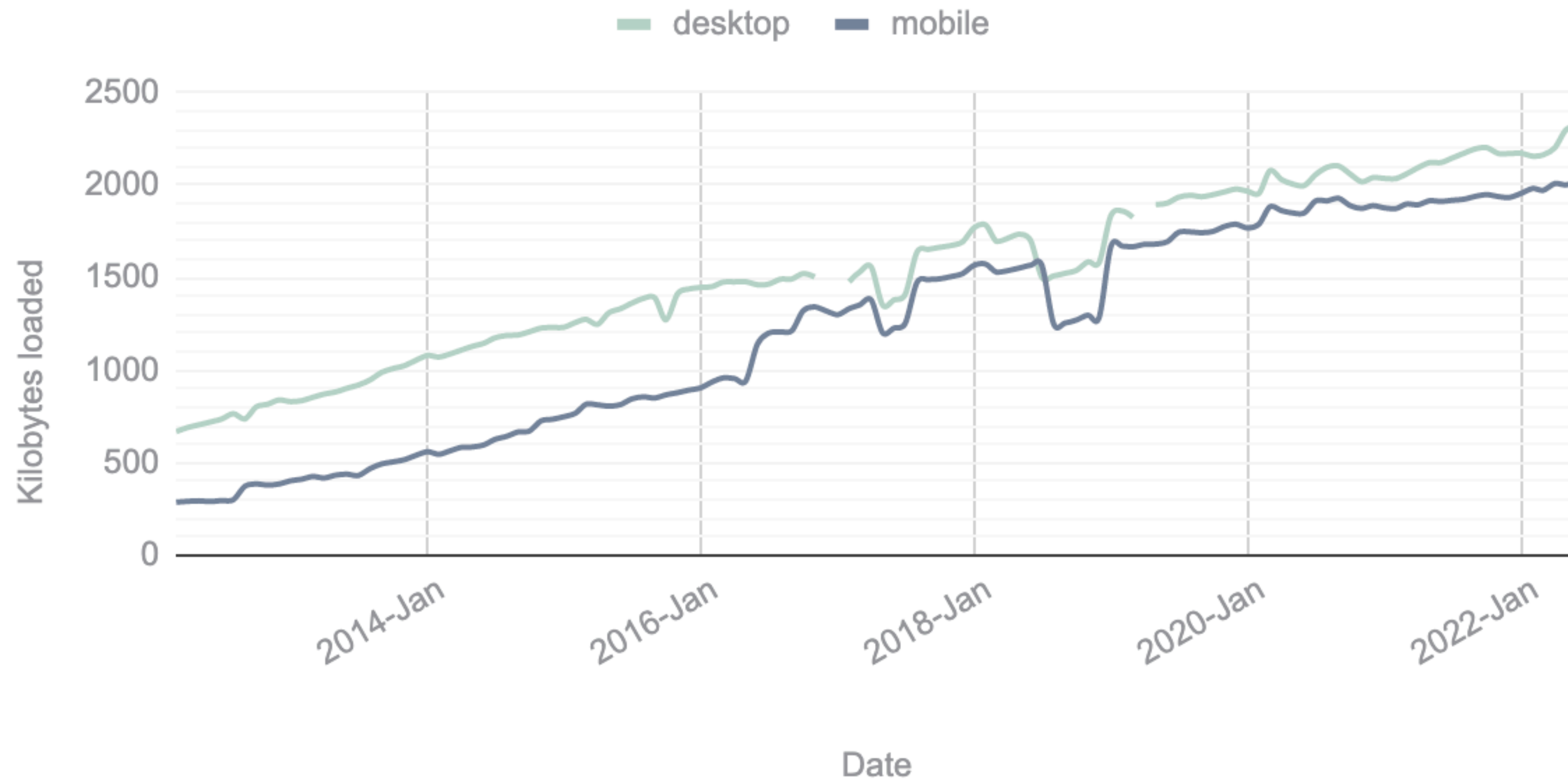
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Islands and more - why?

Median page weight over time

Web Almanac 2022: Page Weight



<https://almanac.httparchive.org/en/2022/page-weight>

Islands Architecture

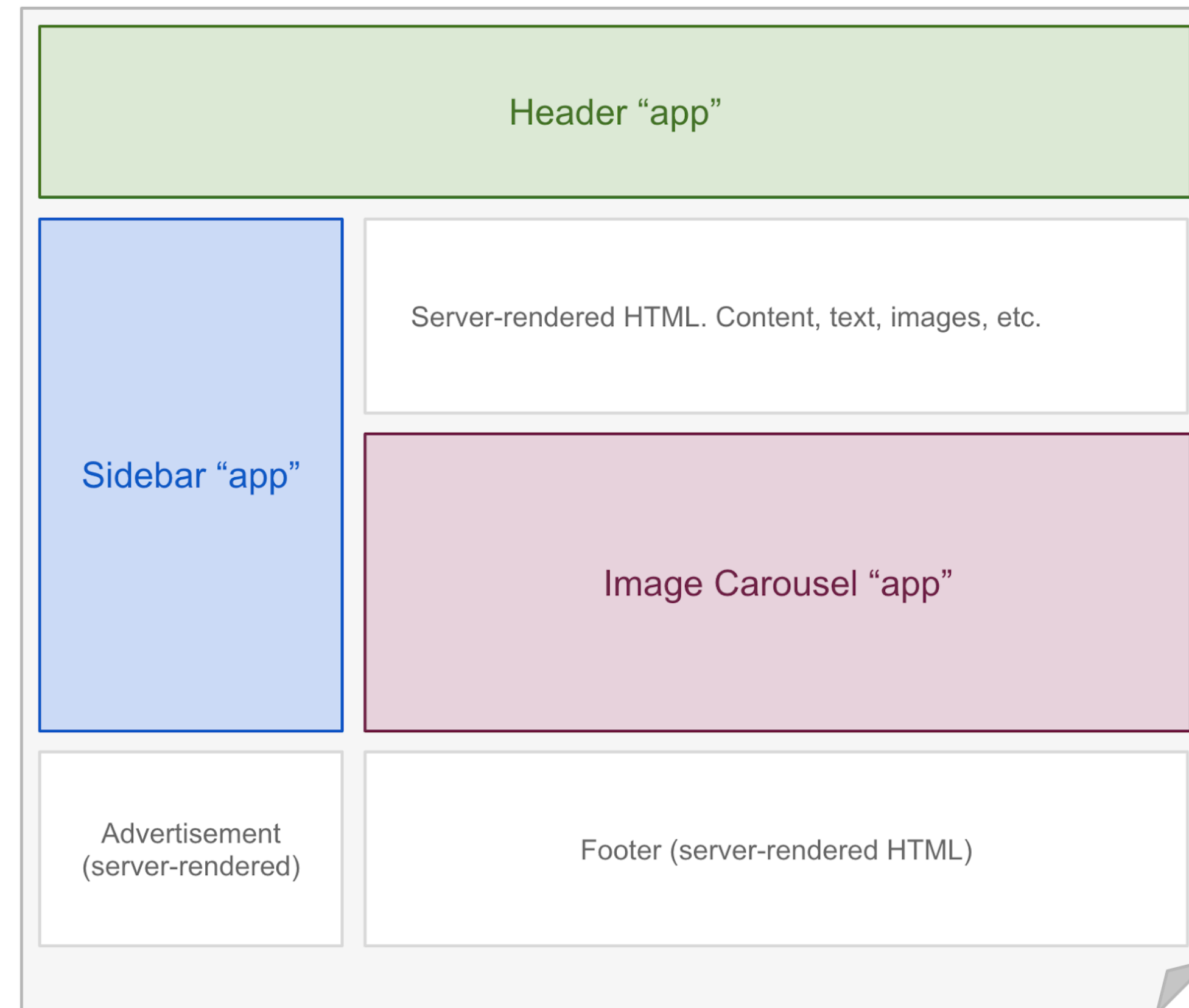
- The ,sea' is the content of page that is static and can be SSR
- islands enable client side interactivity
- Isolated components
- rendered on the client
- Cannot be nested



Photo by @yaaniu on Unsplash

Signals

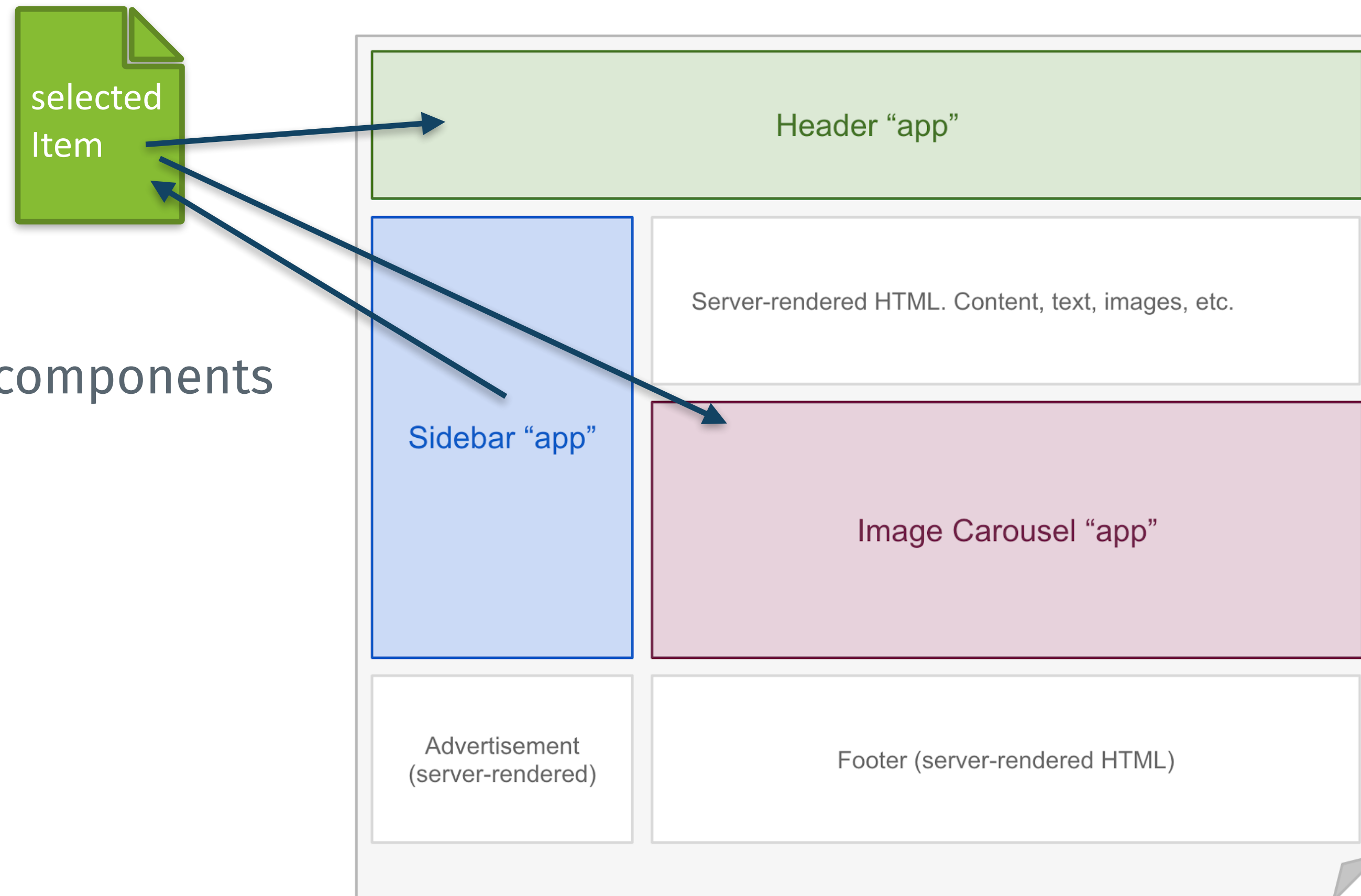
- State can be shared between components using Signals



<https://preactjs.com/guide/v10/signals/>

Signals

- State can be shared between components using Signals



<https://preactjs.com/guide/v10/signals/>

Client hydration

- Each component separately
- Hydration means the enhancement with event handlers as well as dynamic data
- Speeds up experienced speed a lot



Photo by [Lucas Santos](#) on [Unsplash](#)

Preact

- JSX Templates (as in React)
- Virtual DOM abstraction
- new Preact *Signals* are supported and used to connect Islands

```
export default function Counter(props: CounterProps) {  
  const count = useSignal(props.start);  
  return (  
    <div>  
      <p>{count}</p>  
      <button onClick={() => count.value--}>-1</button>  
      <button onClick={() => count.value++}>+1</button>  
    </div>  
  );  
}
```


Routing

File name	Route pattern	Matching paths
<code>index.ts</code>	<code>/</code>	<code>/</code>
<code>about.ts</code>	<code>/about</code>	<code>/about</code>
<code>blog/index.ts</code>	<code>/blog</code>	<code>/blog</code>
<code>blog/[slug].ts</code>	<code>/blog/:slug</code>	<code>/blog/foo, /blog/bar</code>
<code>blog/[slug]/comments.ts</code>	<code>/blog/:slug/comments</code>	<code>/blog/foo/comments</code>
<code>old/[...path].ts</code>	<code>/old/:path*</code>	<code>/old/foo, /old/bar/baz</code>

Persistence

- Integration for all major DBs
 - PostgreSQL
 - MySQL / MariaDB
 - MongoDB
 - SQLite
 - Firebase
- ORM mapper
 - Prisma.io
 - DenoDB



Tooling

- CLI
- Deno VS Code extension
- Deno IntelliJ extension
- Deno Deploy
- Preact DevTools compatible

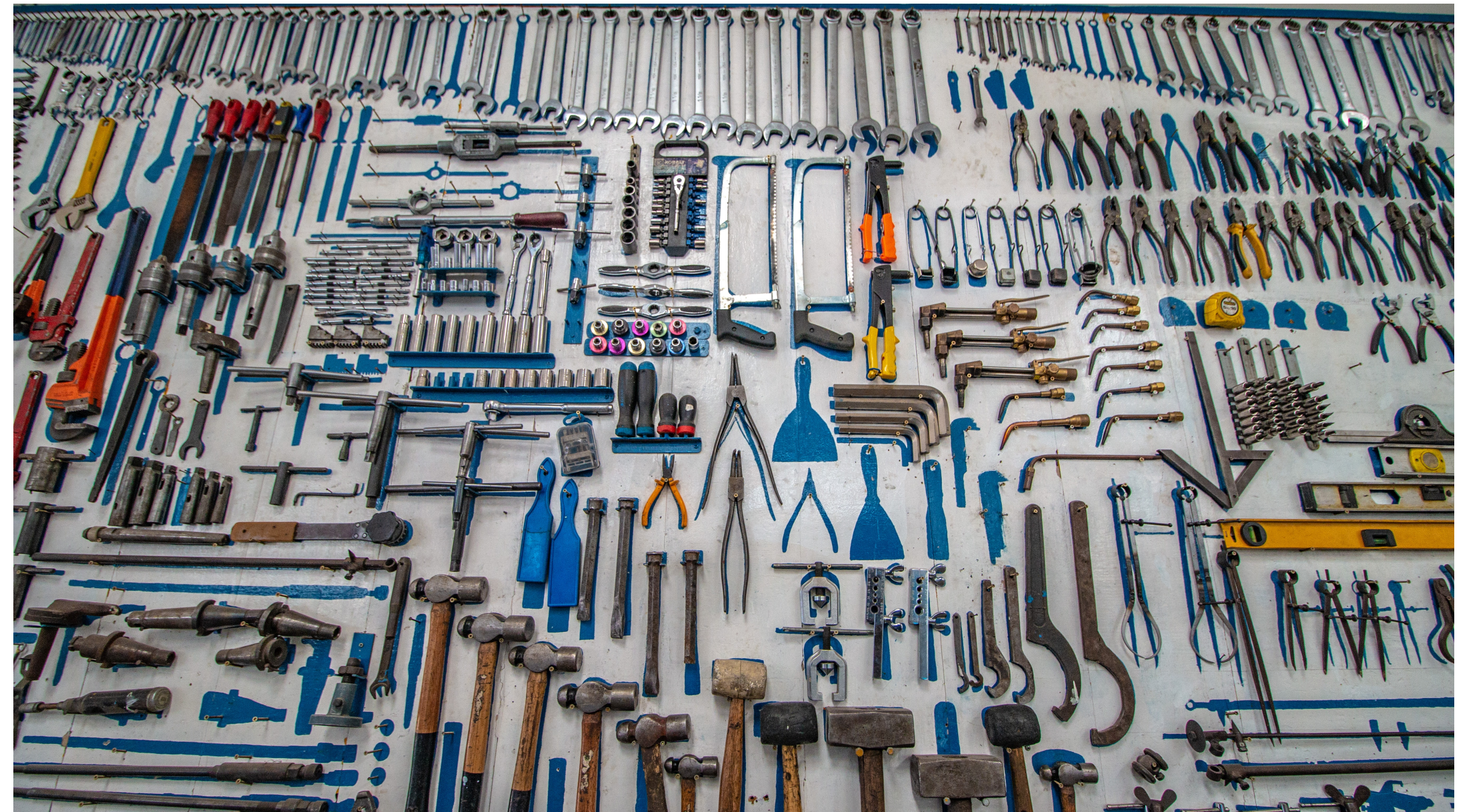


Photo by [Cesar Carlevarino Aragon](#) on Unsplash

Testing

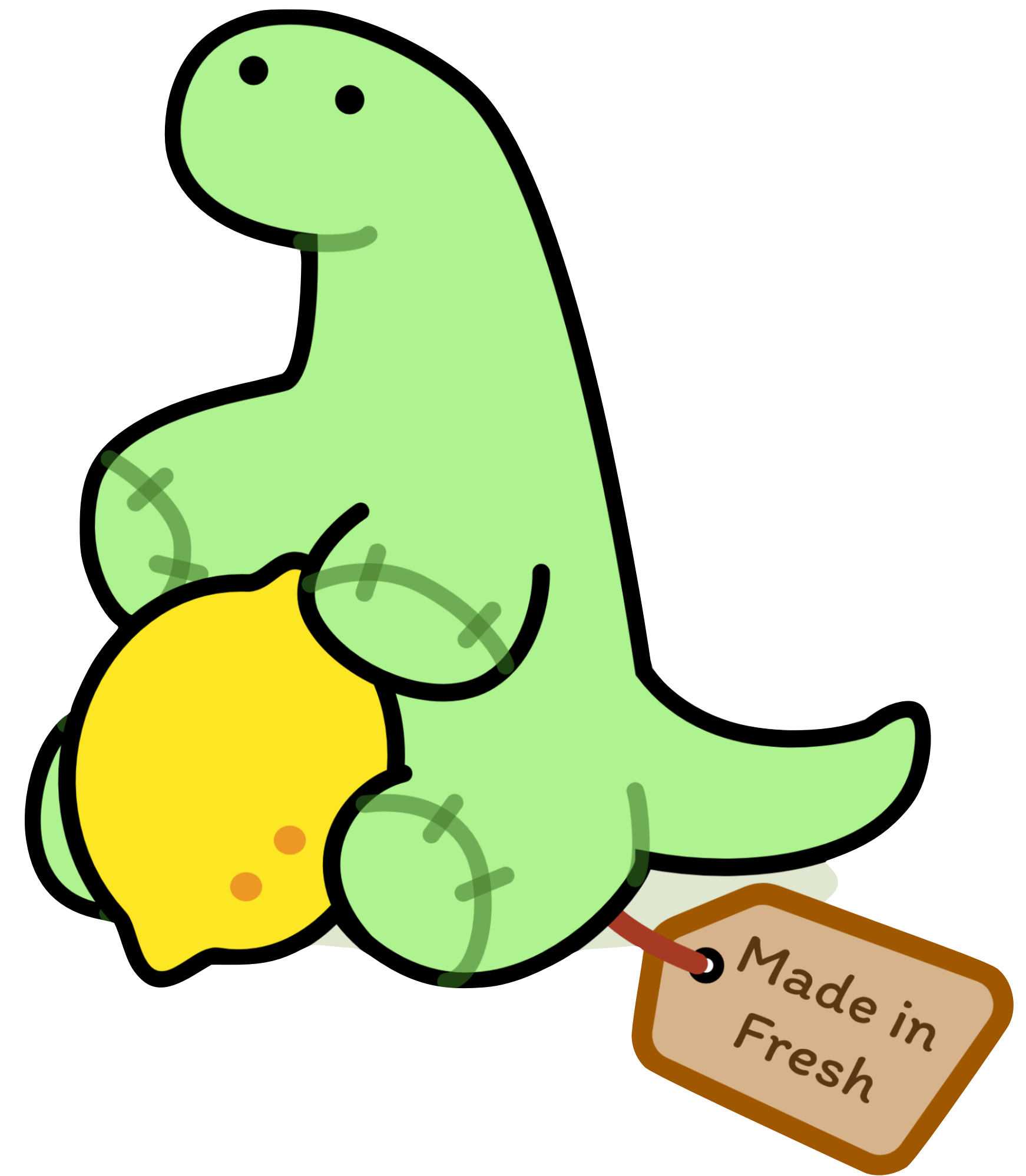
- Deno test
- Chai (BDD / TDD assertion library)
- Sinon.JS (spies, stubs and mocks)
- Fast-check (Property based testing)



DEMO

Who is behind Fresh?

- Maintainer Luca Casonato
- OpenSource community
- Deno 750 committers
- Fresh 100 committers
- The Deno Company



Conclusion

- No Fresh without Deno
- Deno Ecosystem is still small
(but recently added Node support helps a lot)
- Very promising feature set
- Interesting for PoC and pet projects



From <https://segmentfault.com>



KARAKUN

We develop Software.

Agile. User-centric. Successful.

<https://karakun.com/jobs/>

Resources

- [10 things I regret about Node - Ryan Dahl](#)
- <https://medium.com/deno-the-complete-reference>
- [PodRocket: Demo and Fresh with Luca Casonato](#)
- [YouTube: A full course on Deno and Fresh](#)

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