HIGH PERFORMANCE REACT

Jonathan Fleckenstein

- Software Engineer
- @jonfleck
- github.com/fleck

Raise your hand if you've worked with React

Who's worked with server rendered React?

What Is Server Rendering?

Notice the difference between the header and platinum buttons

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Benefits of Server Rendering

- Quicker initial render because browser doesn't have to wait on JS to start.
- HTML can be scanned and images and other assets can start downloading earlier.
- CSS layout can start early in the page's life.
- SEO friendly.

"a programmer would be overcome by sleep and hunger before being able to describe with words what a demo is able to depict in an instant."

–Leonardo da Vinci ?

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profile page, show a difference between header and platinum buttons, take a screenshot of the first full page

How Do You Server Render React?

- ReactJS.net C# https://reactjs.net/

- Next.js - Node (can fetch data from anywhere!) https://nextjs.org/

- Hypernova - HTTP API (runs on Node) https://github.com/airbnb/hypernova

- React-rails - Rails https://github.com/reactjs/react-rails

“Fast Software, the Best Software”

–Craig Mod

Server rendering helps, but we still have some stuff slowing us down

- Fetching data (SQL, Redis, Elastic Search, etc.)
- Deserialization (turning our data into JavaScript objects)
- Rendering (React => HTML)

Our solution?


CACHE ME OUTSIDE
HOW BOUT DAT

HTML Caching

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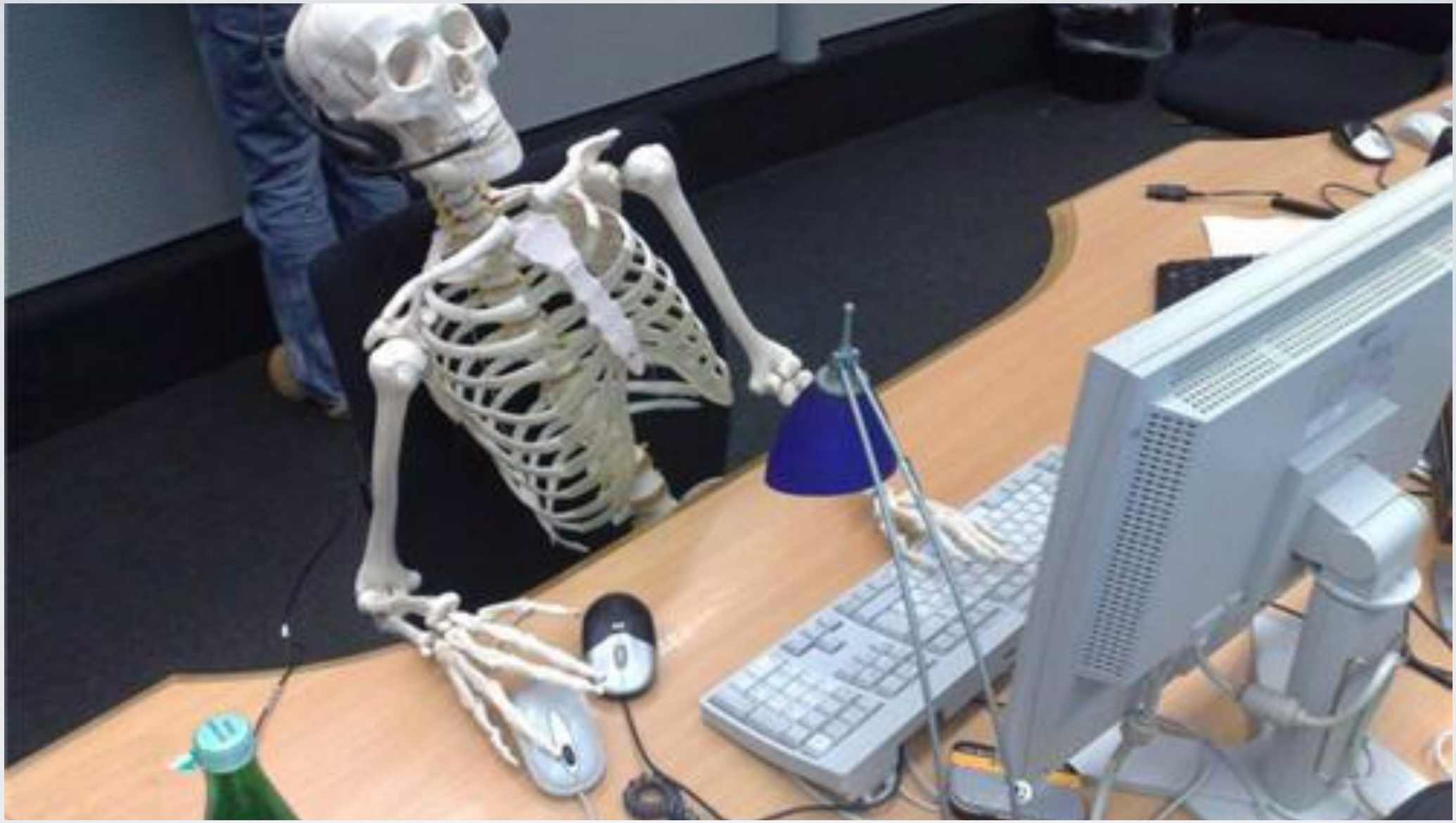
HTML Caching Options



Put in an Ops Ticket

- Cloudflare
- Nginx try_files
- IIS Output Caching


HOME
OF THE
BIG BUN
Where's
the
~~beef?~~
State

fetch

Doesn't going back to origin offset the gains from caching the HTML?

The solution to our problem was released over 10 years ago…

Any guesses?

localStorage

Overview

- Users visits page, we return cached HTML
- React hydrates (Hydration is when React connects to server rendered HTML and makes it “live”), pulls cached state from localStorage, and updates UI accordingly
- Make a fetch back to server to synchronize state. (Maybe the user updated information in another browser?)

Once you have your HTML cached can you go any faster?

Prefetching and Prerendering

http://instantclick.io/click-test

https://www.webstaurantstore.com/cookware.html

“You gotta know when to be lazy. Done correctly, it's an art form that benefits everyone.”

–Nicholas Sparks

React.lazy

We conditional render user specific features and also lazily load the JS www.webstaurantstore.com

Send the user less JS

```
<script type="module" src=“new.js”></script>

<script nomodule src=“old.js”></script>.
```

This allows developers to ship modern JavaScript to modern browsers and old JS to old browsers (Internet Explorer 11 👀)

How much data can be saved using this technique?

10% on the low end and up to 30% if you have a lot of polyfills

Let's take a look at our old.js. Any guesses as to what the original source for this code looks like?

Questions?