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NETWORKING BREAKFAST



Play bingo
and you
can win

**PRIZES GALORE
@ DDD MELBOURNE**



*BUTTERFLY NOT INCLUDED.



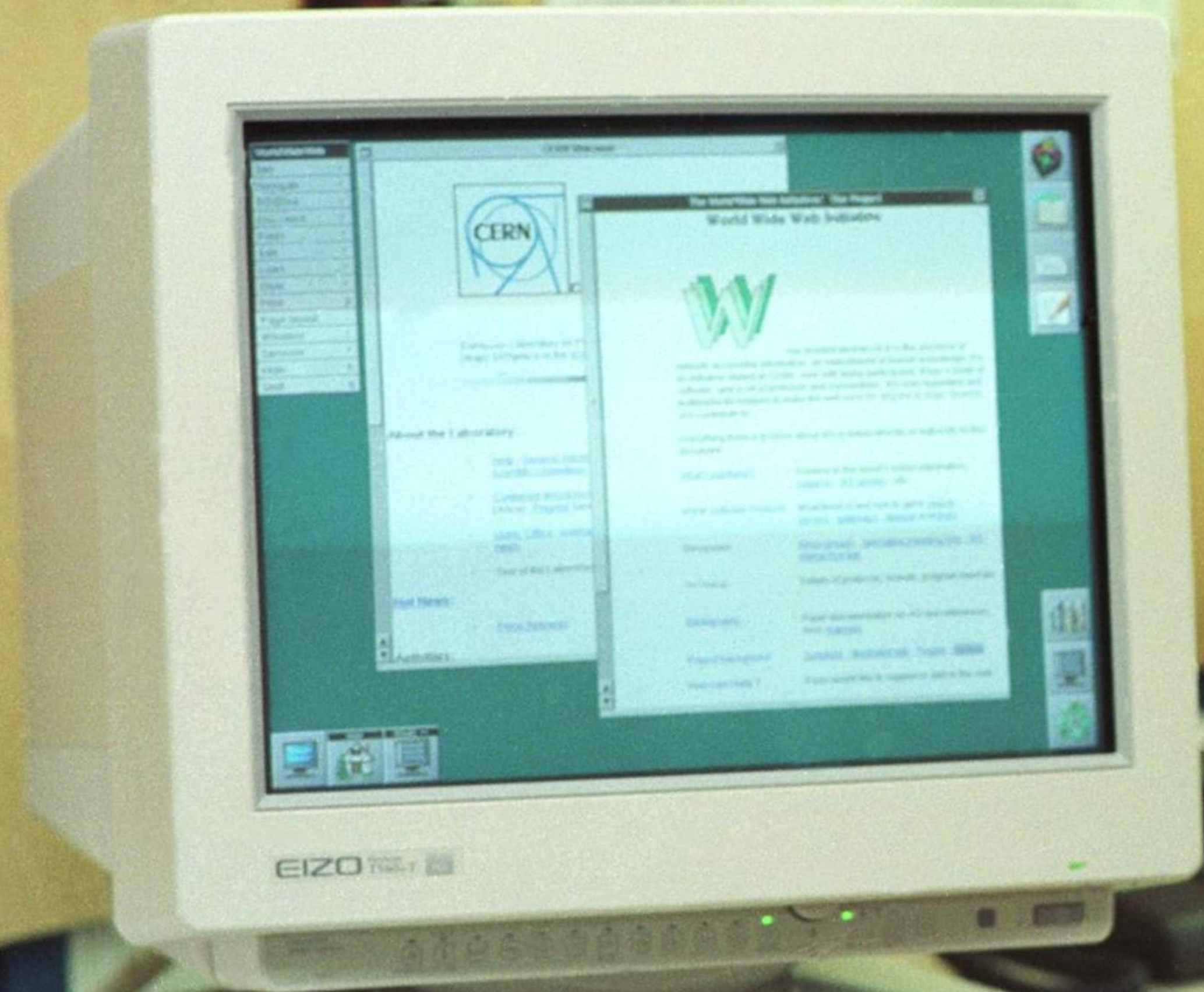


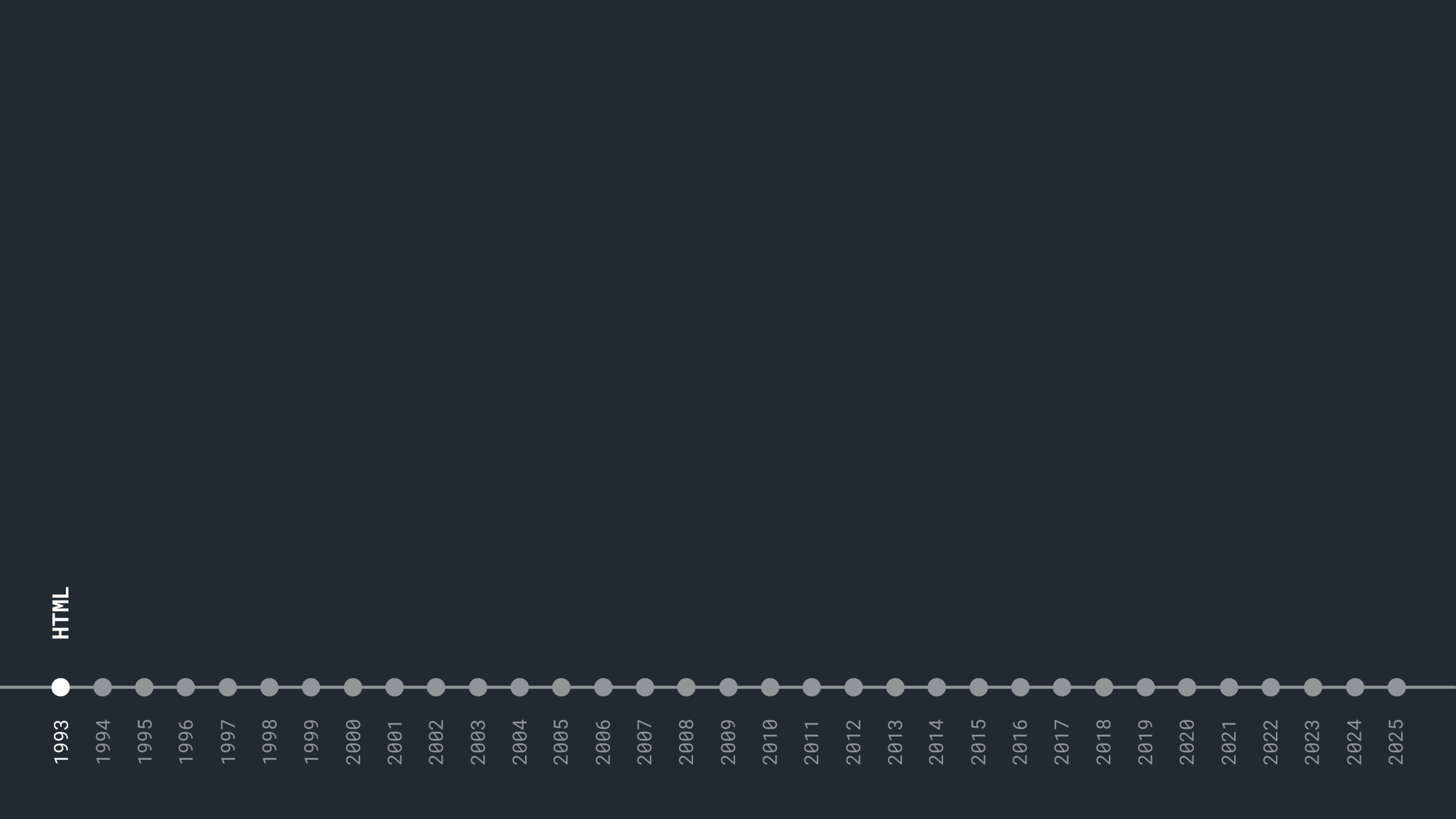
ON THE SHOULDERS OF GIANTS

**A LOOK AT MODERN
WEB DEVELOPMENT**

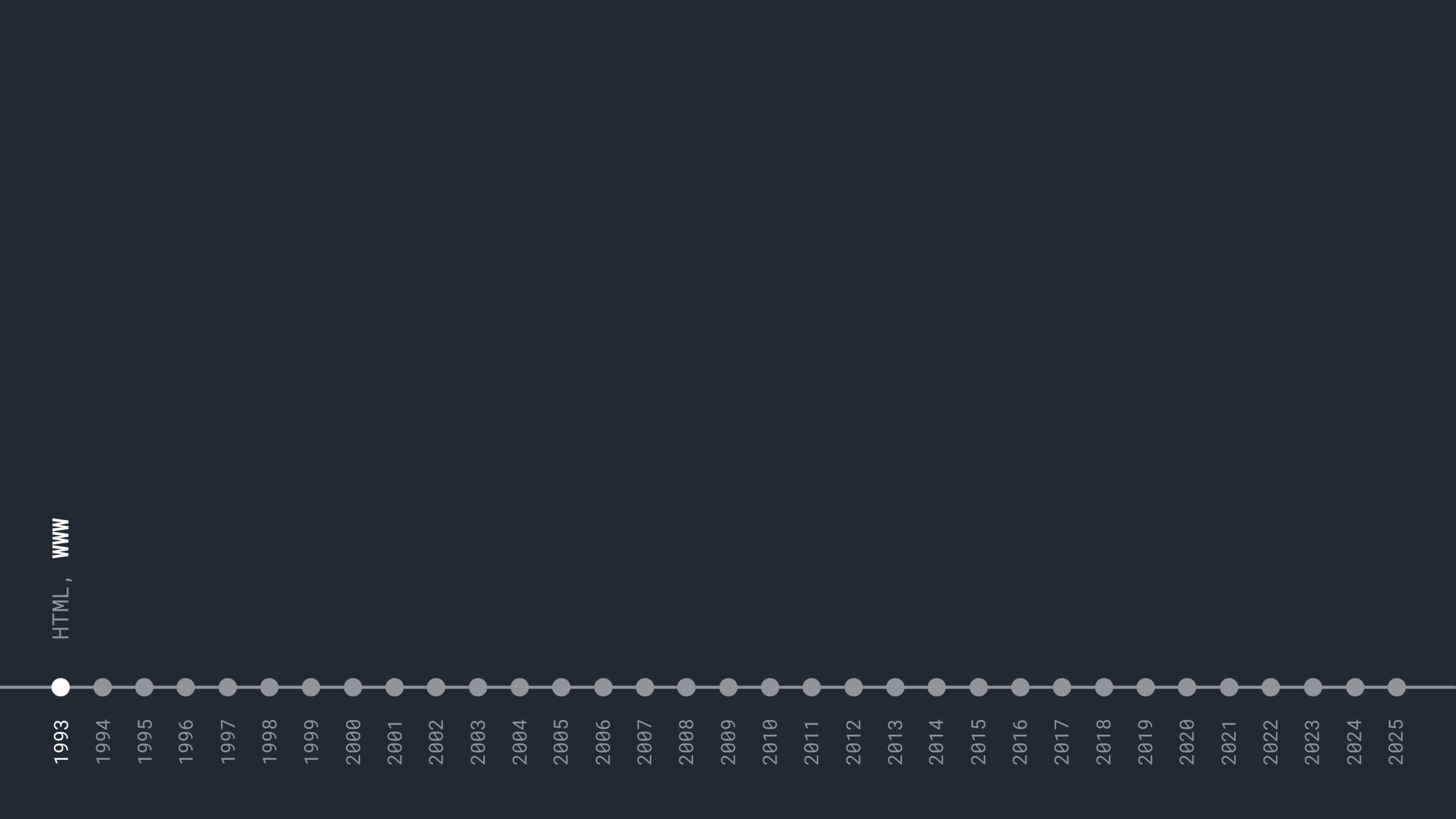
Tim Berners-Lee

@ CERN — The invention of HTML,
the Web and the W3C






```
<HTML>
  <HEAD>
    <TITLE>HTML 1.0</TITLE>
  </HEAD>
  <BODY>
    <H1>There is no such thing as fish</H1>
    <P>The term does not represent a single, unified taxonomic group.</P>
    <UL>
      <LI><A href="./evolution.html">About evolution</A></LI>
      <LI><A href="./colloquial.html">Colloquial usage</A></LI>
    </UL>
  </BODY>
</HTML>
```

HTML, WWW

1993

1994

1995

1996

1997

1998

1999

2000

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

2016

2017

2018

2019

2020

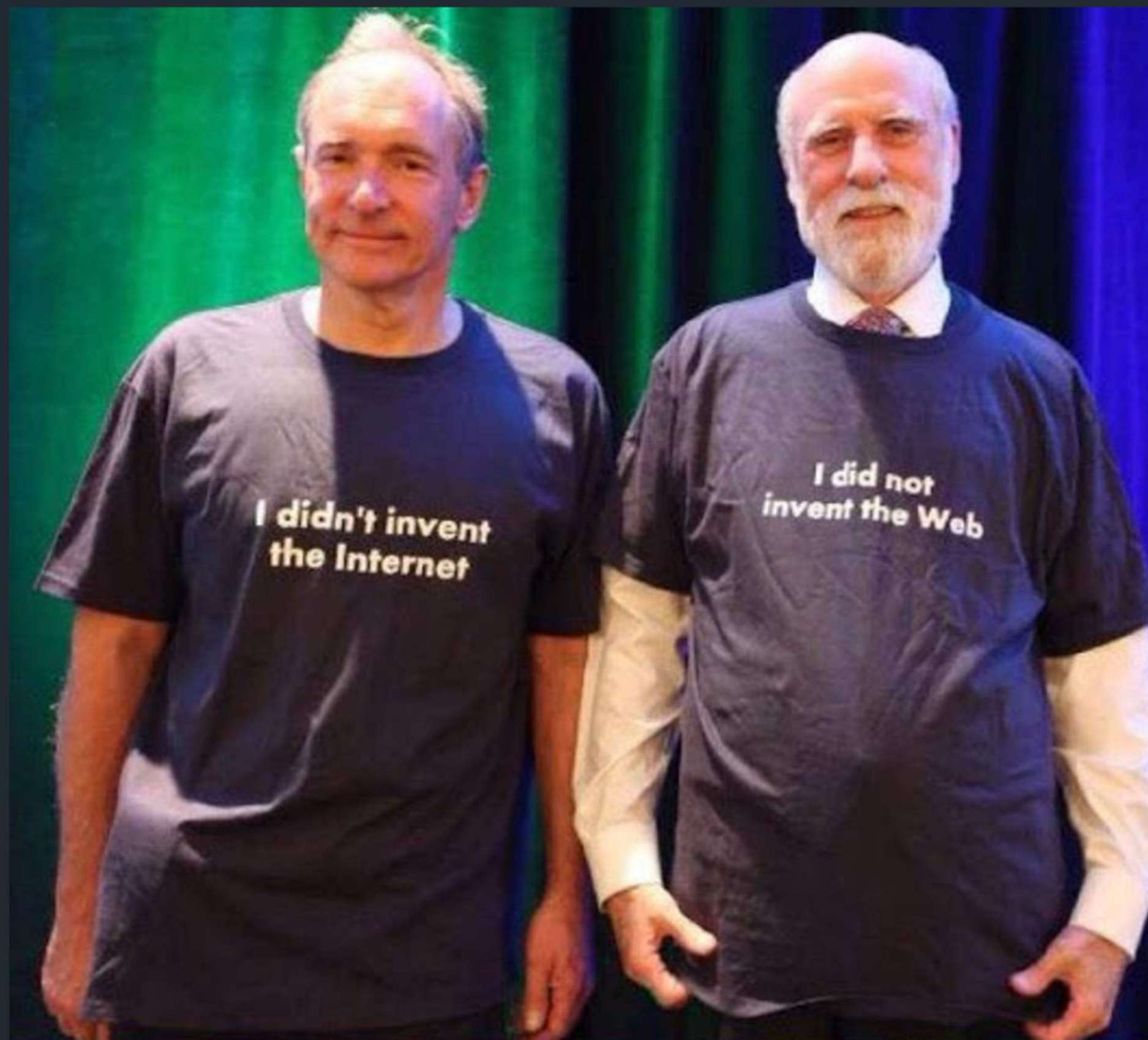
2021

2022

2023

2024

2025






```
<HTML>
  <HEAD>
    <TITLE>HTML can be FUN</TITLE>
  </HEAD>
  <BODY>
    <H1>Congratulations!</H1>
    <MARQUEE>You are the 1.000.000th visitor!</MARQUEE>
    <BLINK>You get a free car 🎉</BLINK>
  </BODY>
</HTML>
```

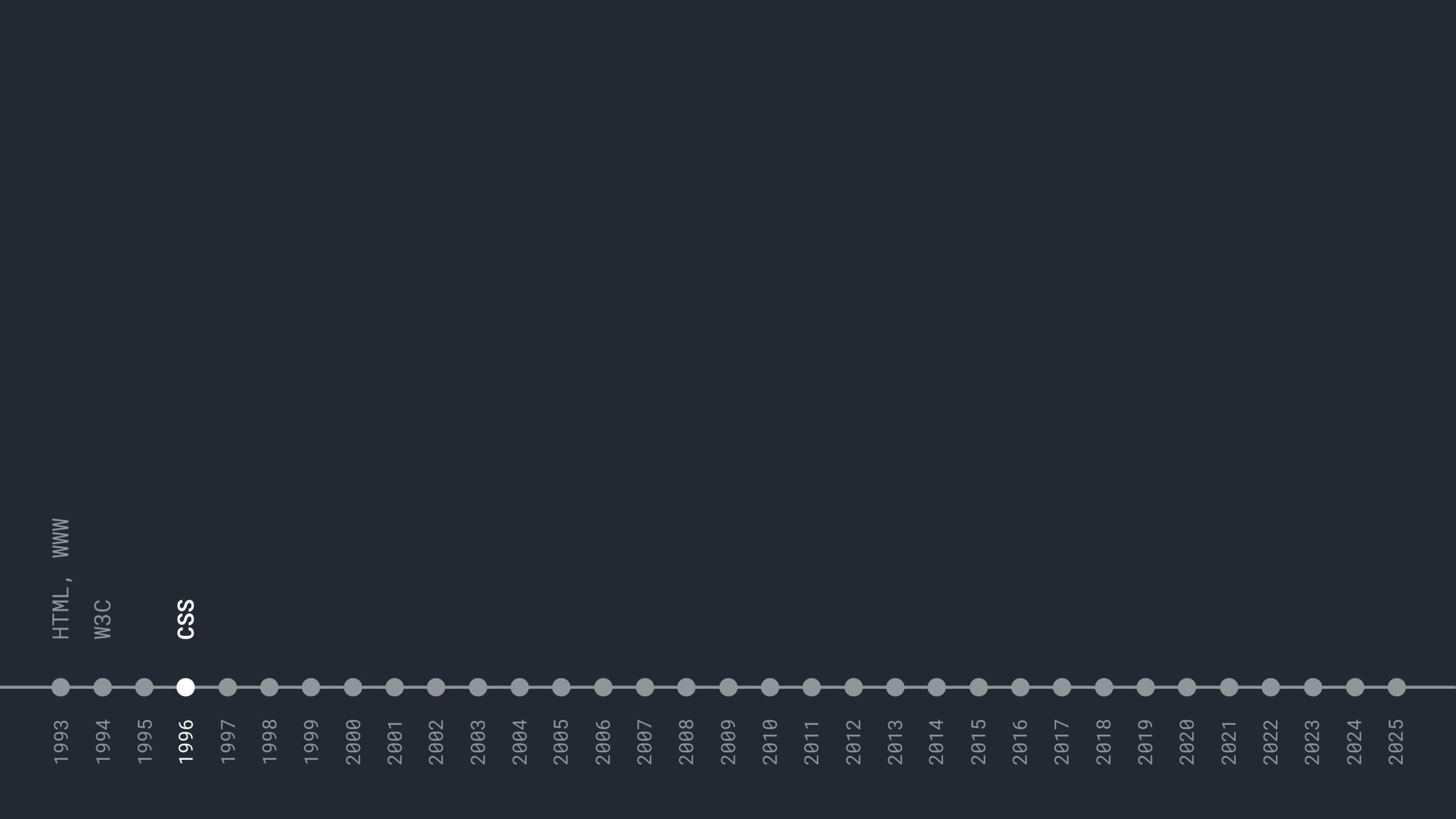
Håkon Wium Lie

@ CERN — The invention and
standardisation of CSS

H?kon W Lie

@ CERN — The invention and
standardisation of CSS







```
<DIV>  
  <P>Do you want to develop an app?</P>  
</DIV>
```



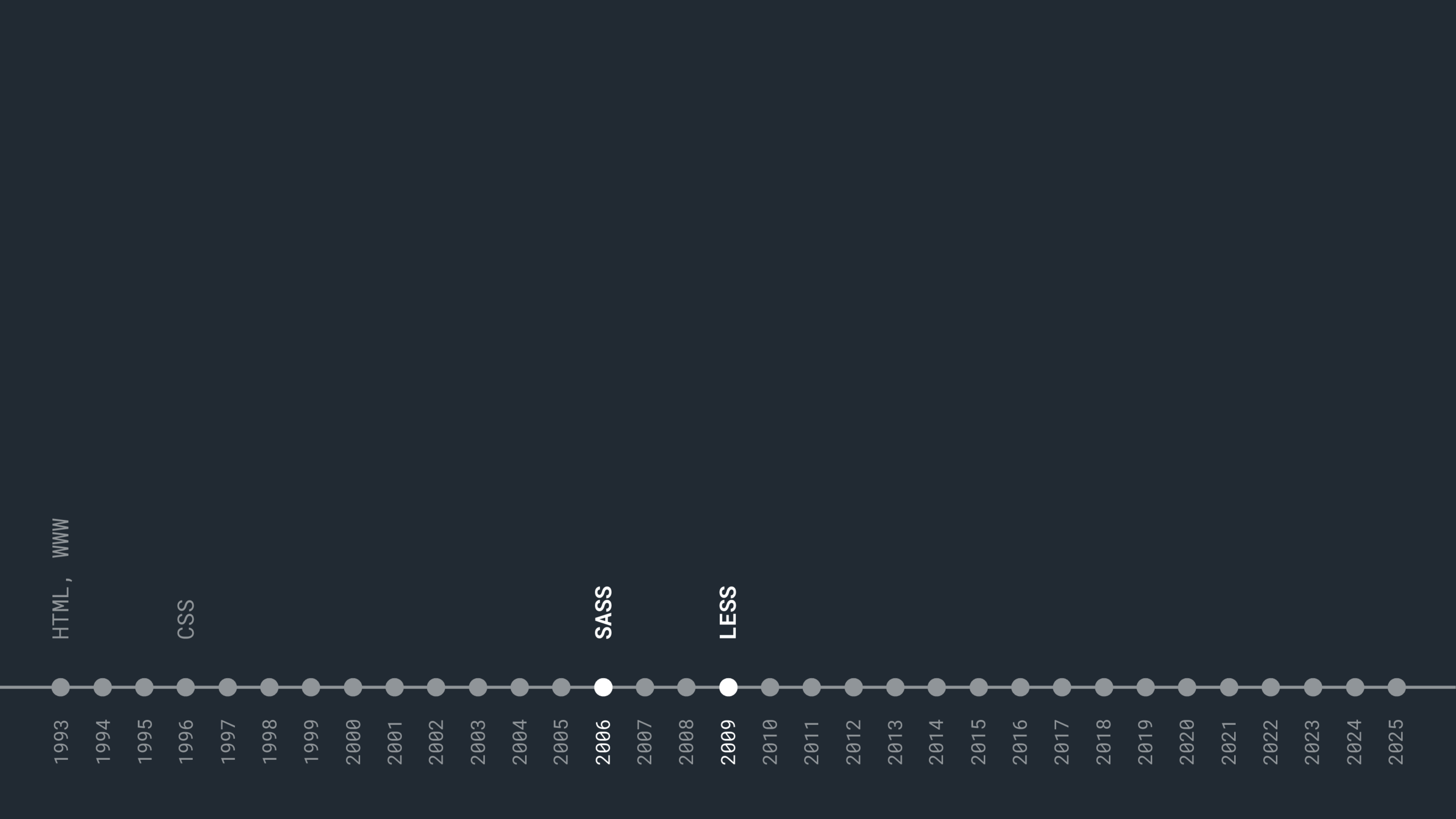

```
<DIV>  
  <P>Do you want to develop an app?</P>  
</DIV>
```

```
<STYLE>  
  p {  
    color: green;  
  }  
</STYLE>
```



```
<DIV class="container">  
  <P>Do you want to develop an app?</P>  
</DIV>
```

```
<STYLE>  
  p {  
    color: green;  
  }  
  
  .container p {  
    color: red;  
  }  
</STYLE>
```





```
$primaryColor: green;
$secondaryColor: red;

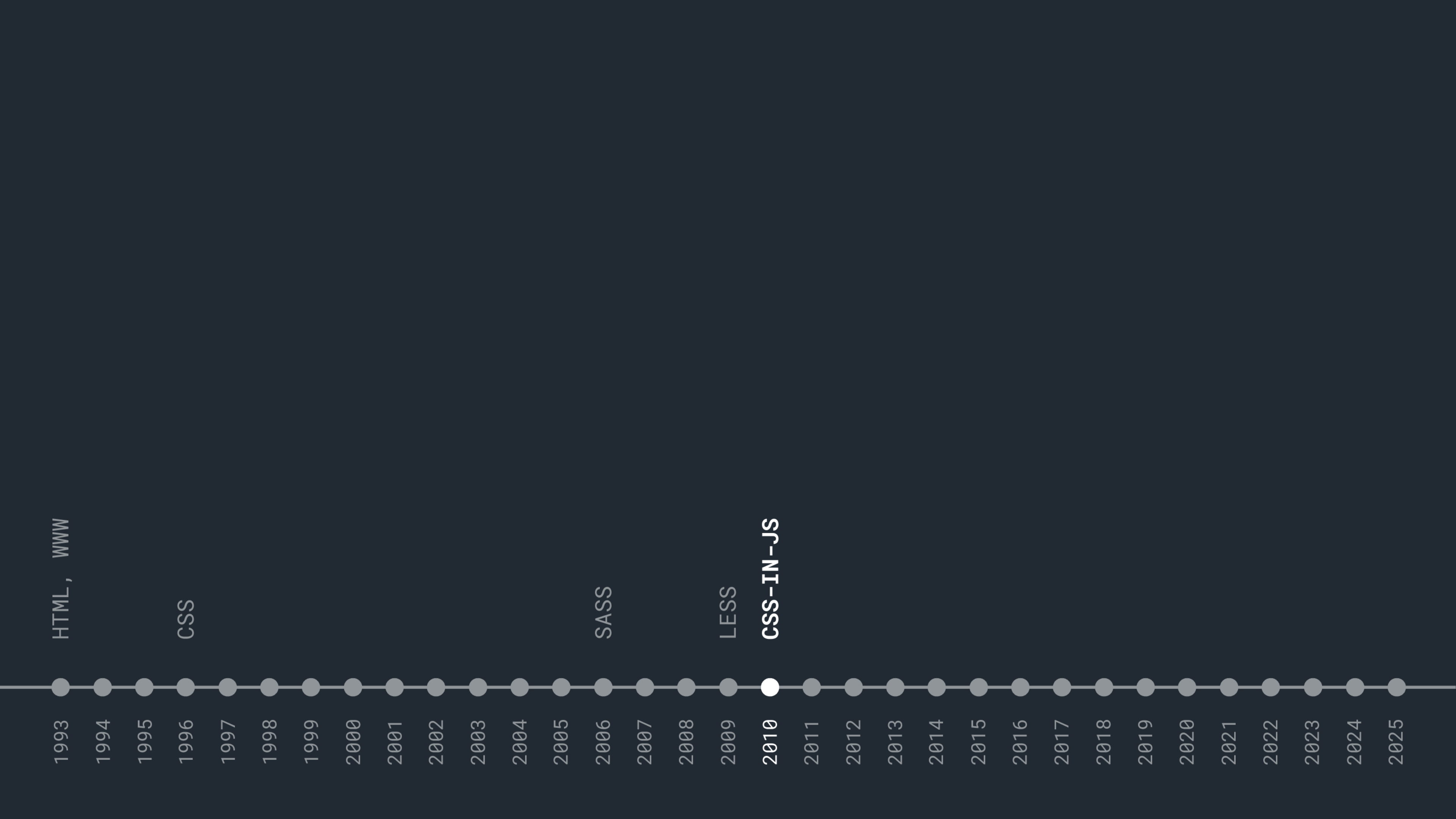
p {
  color: $primaryColor;

  .container & {
    color: $secondaryColor;
  }
}
```

```
@mixin corner-icon($name, $top-or-bottom, $left-or-right) {  
  .icon-#{ $name } {  
    background-image: url("/icons/#{ $name }.svg");  
    position: absolute;  
    #{ $top-or-bottom }: 0;  
    #{ $left-or-right }: 0;  
  }  
}  
  
@include corner-icon("mail", top, left);
```

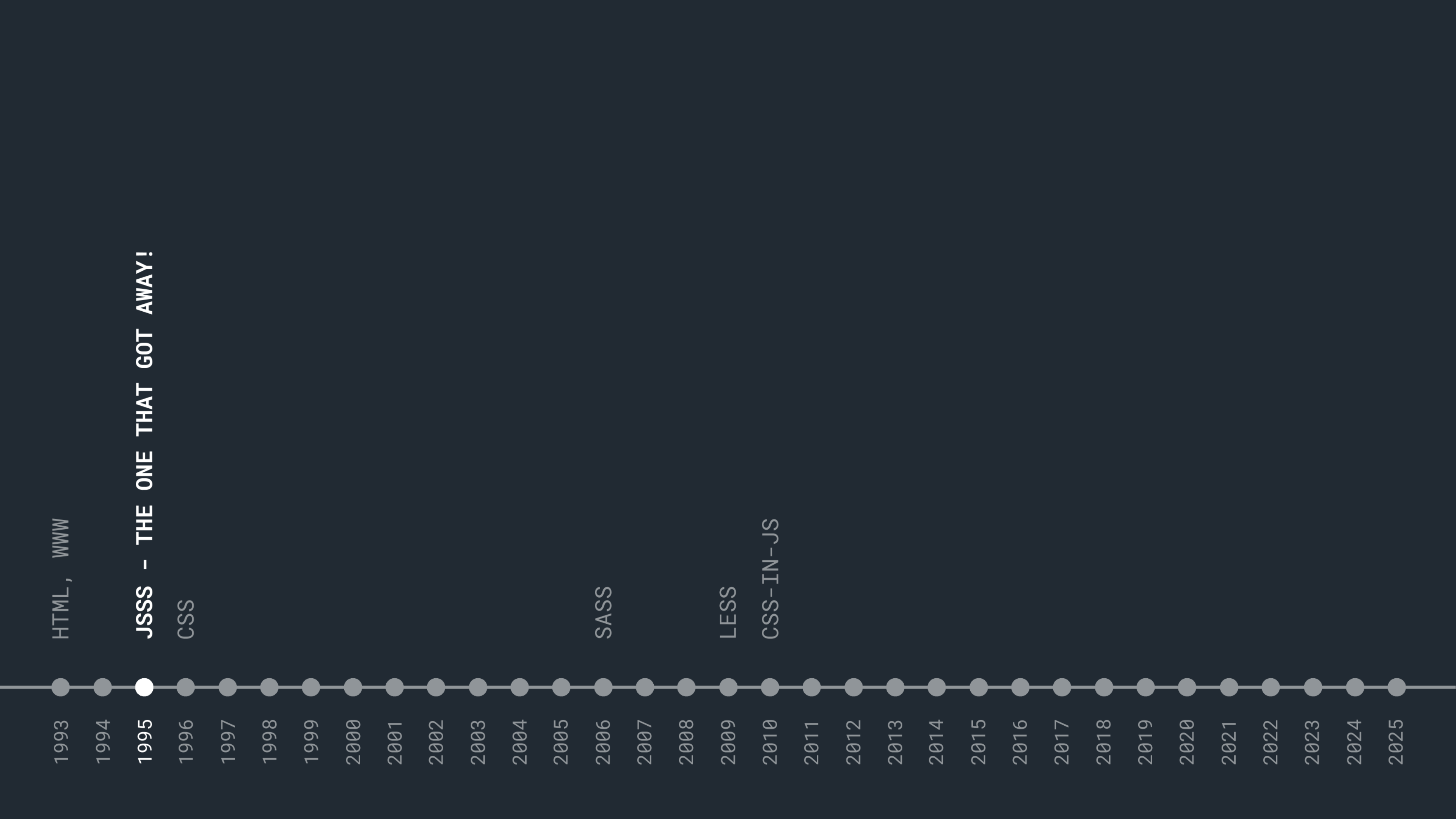
```
@function fibonacci($n) {
  $sequence: 0 1;
  @for $_ from 1 through $n {
    $new: nth($sequence, length($sequence)) + nth($sequence, length($sequen...
    $sequence: append($sequence, $new);
  }
  @return nth($sequence, length($sequence));
}

.sidebar {
  margin-left: fibonacci(4) * 1px;
}
```



```
var primaryColor = "green";  
var secondaryColor = "red";  
  
with(tags) {  
    P.color = primaryColor;  
    contextual(classes.container.all, tags.P).color = secondaryColor;  
}
```





```
<style type="text/javascript">
  with(tags) {
    P.firstLine.fontStyle = "small-caps";

    P.firstLetter.fontSize *= 2; // 200%
    P.firstLetter.float = "left";
  }
</style>
```

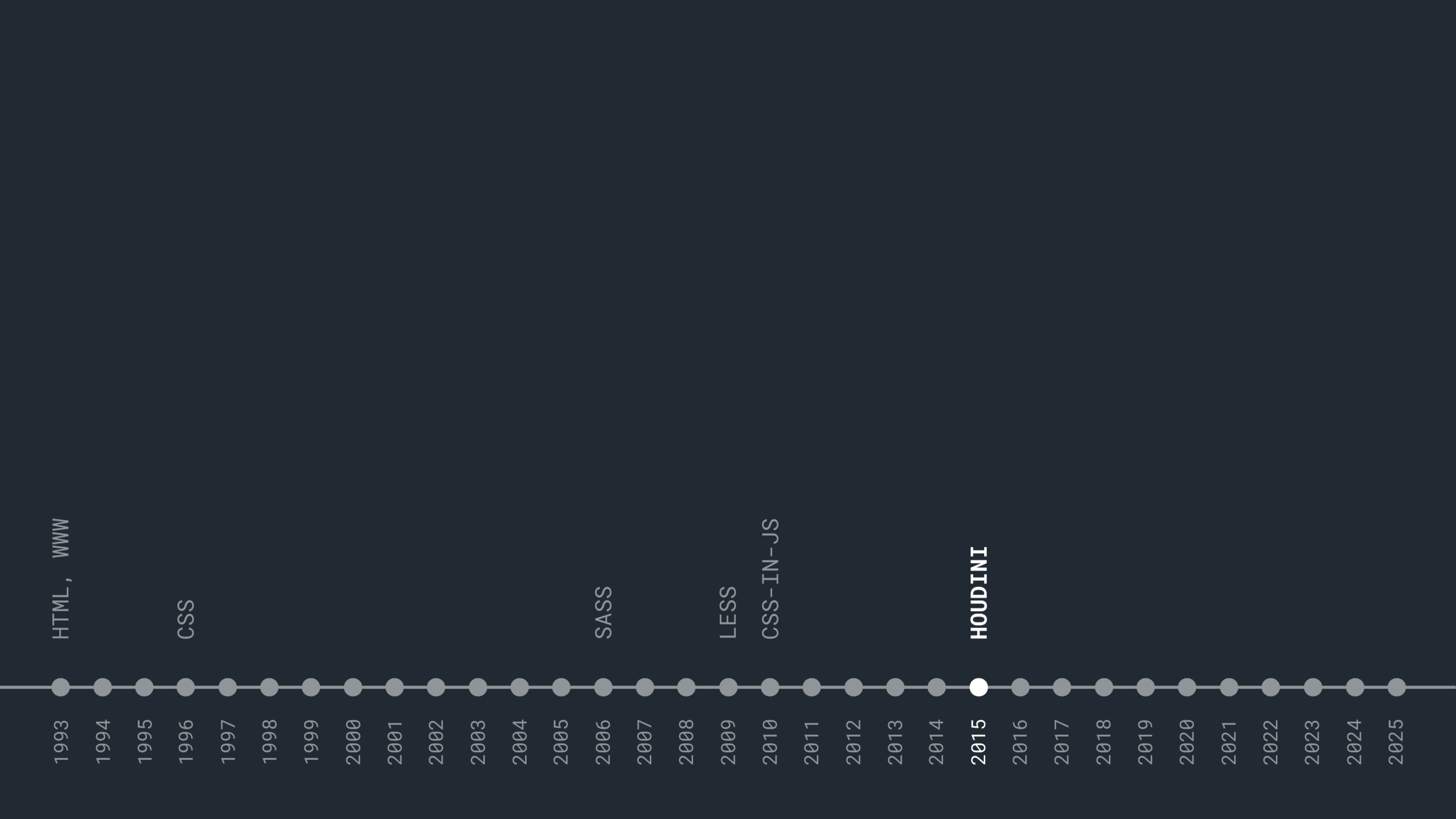


```
const primaryColor = "green";  
const secondaryColor = "red";  
  
const P = styled.p`  
  color: ${primaryColor};  
  
  div & {  
    color: ${secondaryColor};  
  }  
`;  
`;
```



Is Houdini ready yet?

							
	Google Chrome	Microsoft Edge	Opera	Samsung Internet	Mozilla Firefox	Apple Safari	Spec
Engine	Blink				Gecko	WebKit	-
Paint API (Explainer Demos Article)	Shipped (Chrome 65) Details	Shipped (Edge 79) Details	Shipped (Opera 52) Details	Shipped (Internet 9.2) Details	Under consideration Details	In Development Details	Candidate Recommendation Spec
Properties & Values API (Demos Article)	Shipped (Chrome 78) Details	Shipped (Edge 79) Details	Shipped (Opera 65) Details	Shipped (Internet 12.0) Details	Under consideration Details	Shipped (Safari 16.4) Details	Working Draft Spec
Typed OM (Explainer Article)	Shipped (Chrome 66) Details	Shipped (Edge 79) Details	Shipped (Opera 53) Details	Shipped (Internet 9.2) Details	Under consideration Details	Shipped (Safari 16.4) Details	Working Draft Spec
Layout API (Explainer Demos)	Partial support (Canary) Details	Partial support (Canary) Details	Partial support (Developer) Details	No signal	Under consideration Details	Under consideration Details	First Public Working Draft Spec
AnimationWorklet (Explainer Demos Article)	Partial support (Chrome 71) Details	Partial support (Edge 79)	Partial support (Opera 58)	Partial support (Internet 10.2)	No signal	Under consideration Details	First Public Working Draft Spec
Parser API (Explainer)	No signal	No signal	No signal	No signal	No signal	No signal	Proposal Spec





```
:root {  
  --primary-color: green;  
  --secondary-color: red;  
}  
  
p {  
  color: var(--primary-color);  
  
  div & {  
    color: var(--secondary-color);  
  }  
}
```

```
ul li:not(:first-of-type) {  
    /* ... */  
}
```

```
figure:has(figcaption) img {  
    /* ... */  
}
```

```
:is(h1, h2, h3, h4, h5, h6) {  
    /* ... */  
}
```



```
@scope (.article-body) {  
  img {  
    border: 5px solid black;  
    background-color: goldenrod;  
  }  
}  
  
@scope (footer) {  
  :scope {  
    background-color: papayawhip;  
  }  
}
```



```
.colors {  
  color: rgb(255 0 0 / 0.5);  
  color: hsl(0deg 100% 50%);  
  color: lab(87.6 125 104);  
  color: lch(54.3 107 40.9deg);  
  color: oklab(0.63 0.22 0.13);  
  color: hwb(0deg 0% 0%);  
  
  color: color(display-p3 0 1 0);  
  
  background: linear-gradient(in hsl, blue, red);  
  background: conic-gradient(in hsl, blue, red, orange, yellow, purple);  
  
  /* ... */  
}
```

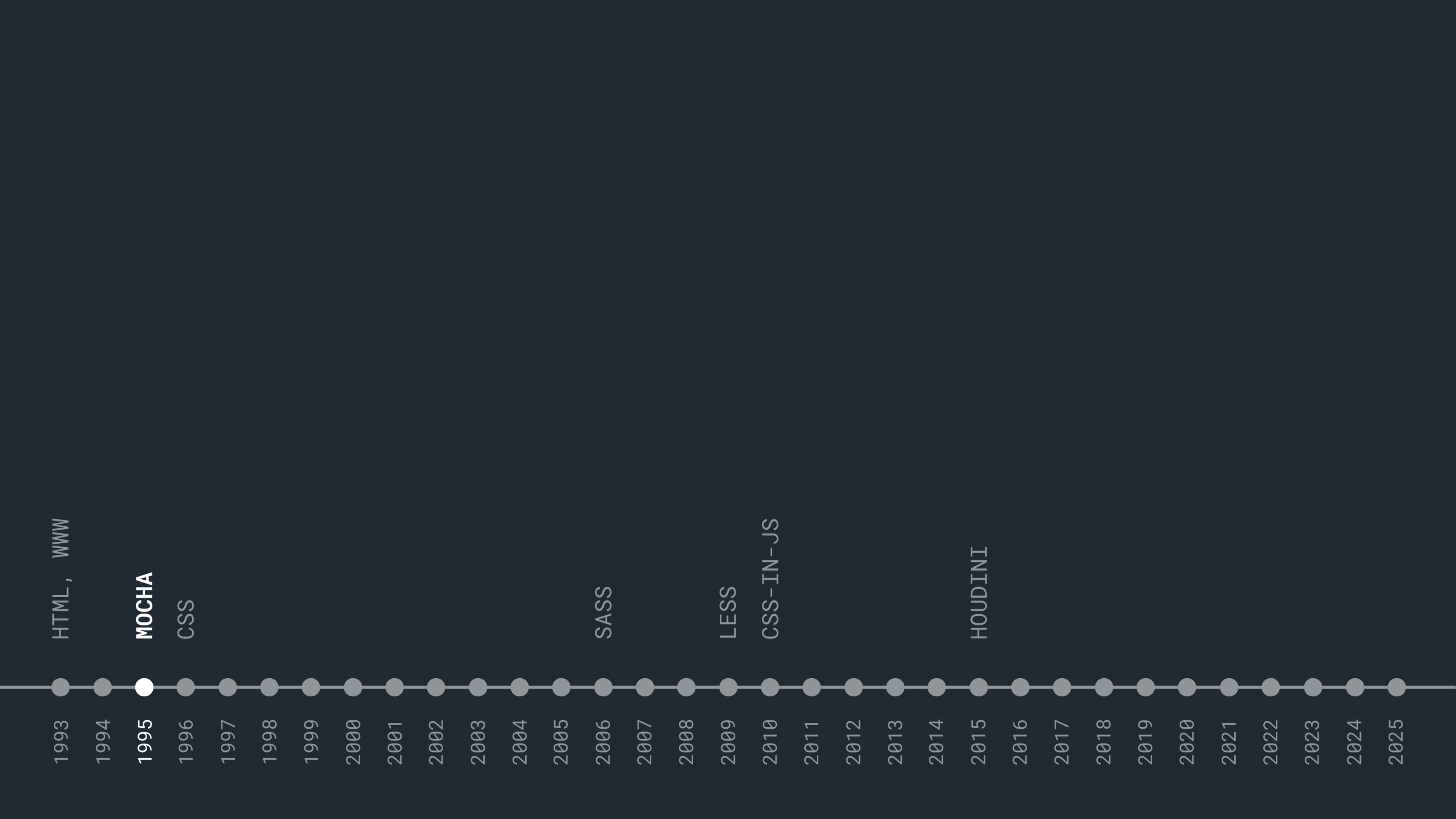


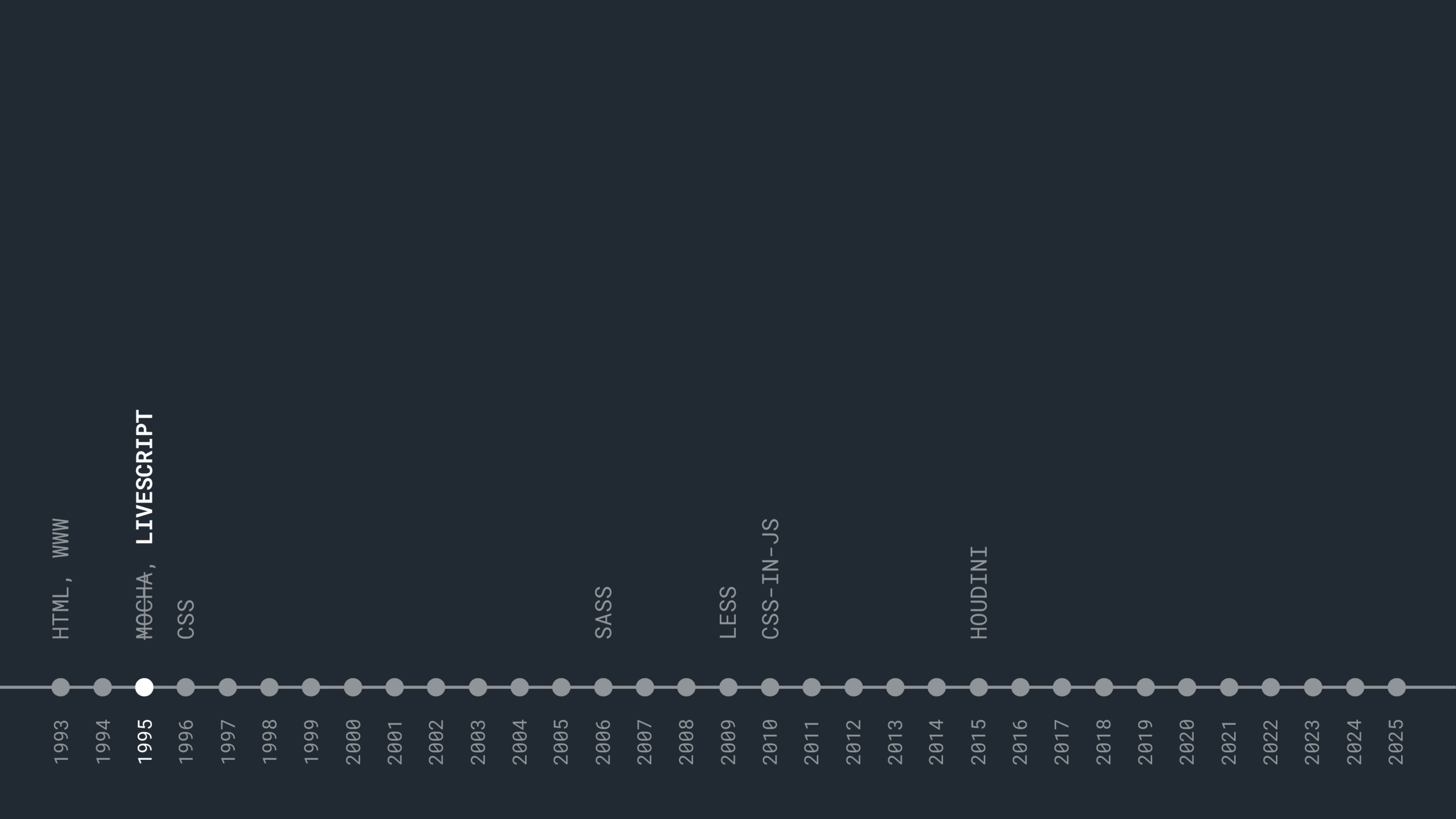
```
@view-transition {  
  navigation: auto;  
}  
  
::view-transition-old(root) {  
  animation: 0.4s ease-in both move-out;  
}  
  
::view-transition-new(root) {  
  animation: 0.4s ease-in both move-in;  
}
```

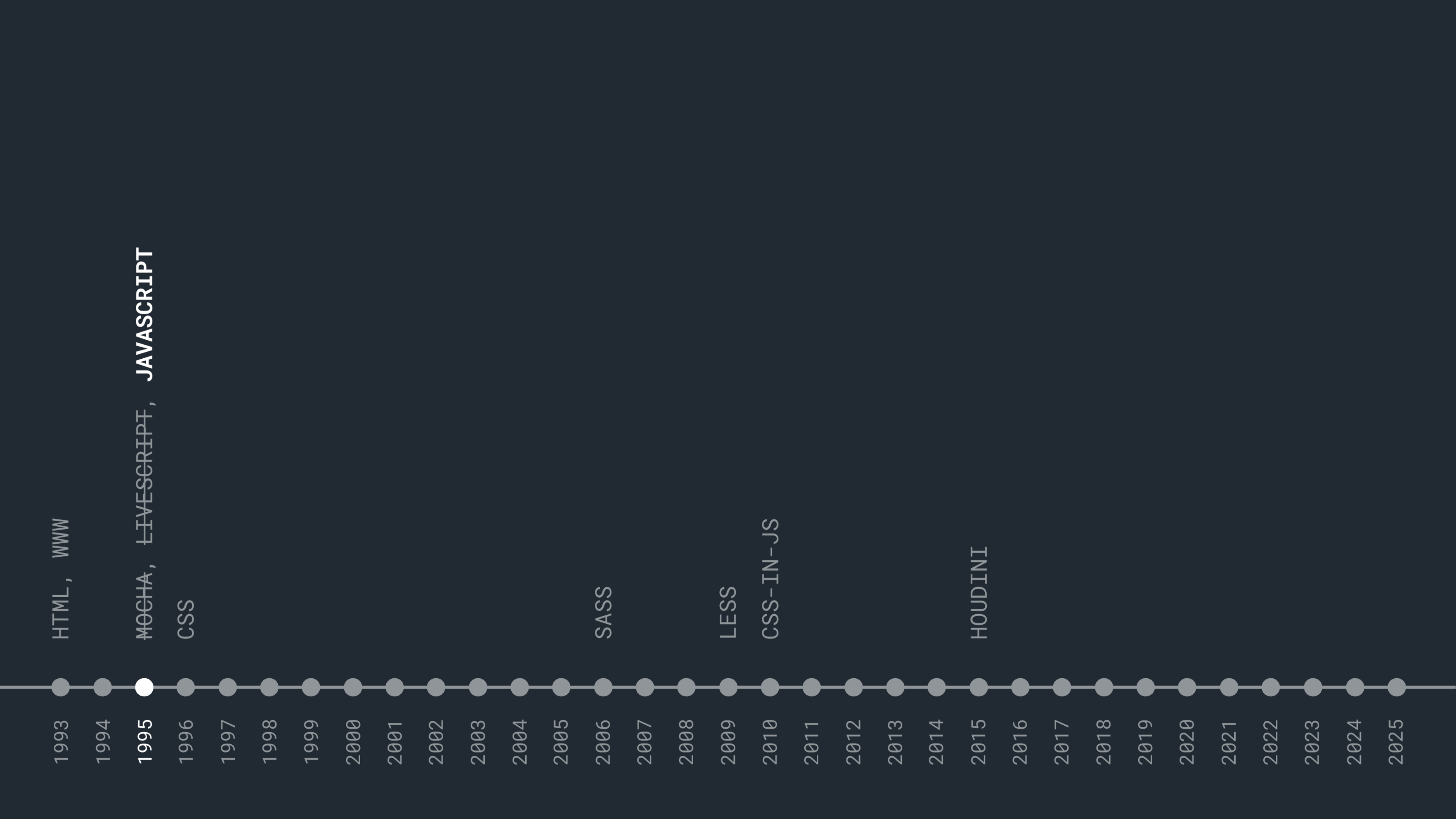
Brendan Eich

The invention of Javascript @ Netscape,
ECMA & TC39, and more...











```
function hello() {  
  return "world";  
}
```




```
var myObject = {  
  foo: "bar"  
};
```

```
myObject.hello = "world";
```

```
// {  
//   foo: "bar",  
//   hello: "world"  
// }
```



```
var myArray = [1, 2, 3];
```

```
myArray[3] = 4;
```

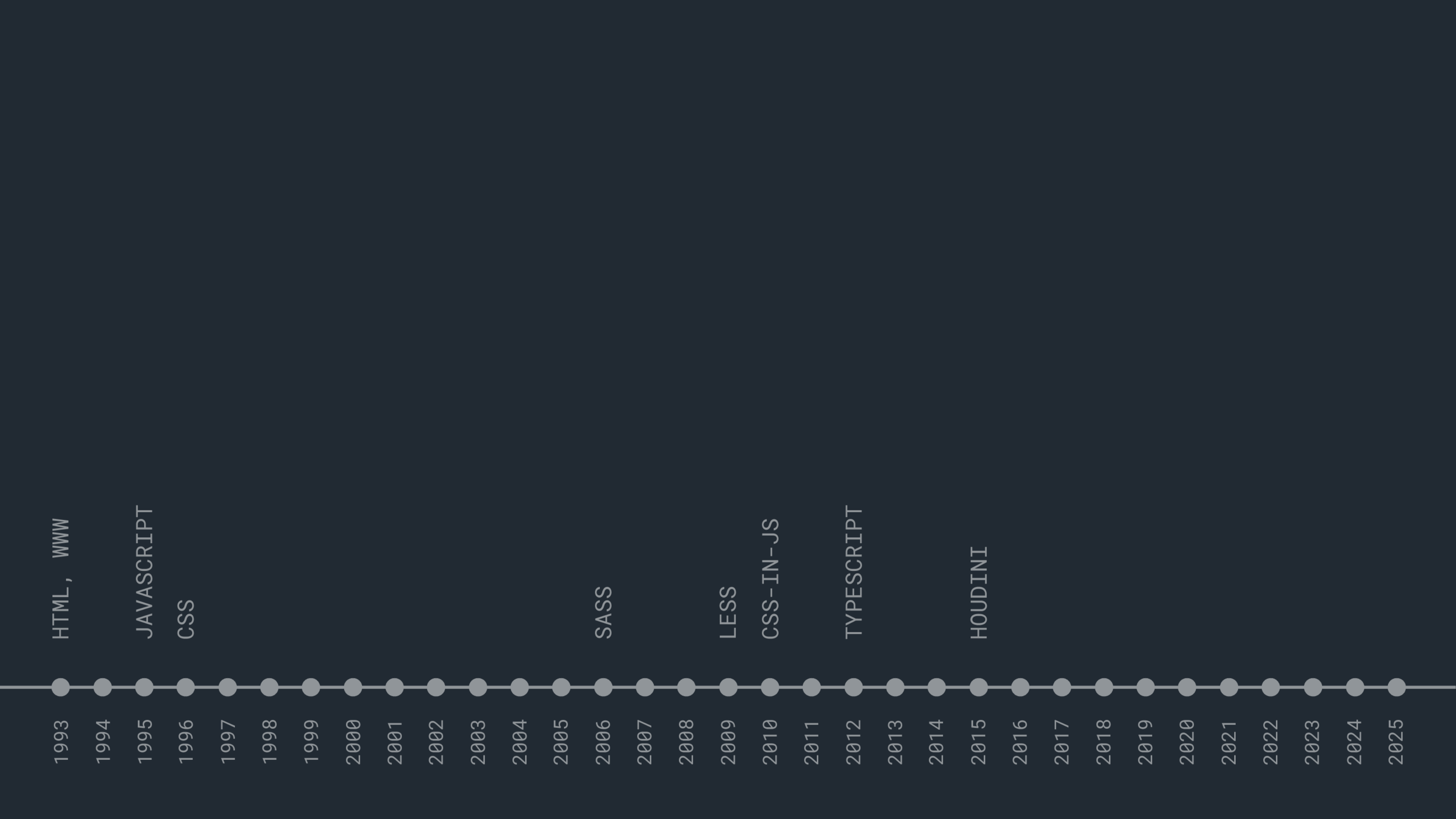
```
myArray.push(5);
```

```
// [1, 2, 3, 4, 5]
```



```
function createCat (name) {  
  this.name = name;  
  
  this.updateName = function (name) {  
    this.name = name;  
  };  
  
  return this;  
}
```

```
var cat = createCat("Whiskers");  
cat.updateName("Schrodinger");  
console.log(cat.name); // Schrodinger
```





```
<DIV class="container">
  <P>Do you want to develop an app?</P>
  <APPLET code="question.class" height="200" width="200">
    <P>Your browser does not support applets!</P>
  </APPLET>
</DIV>
```

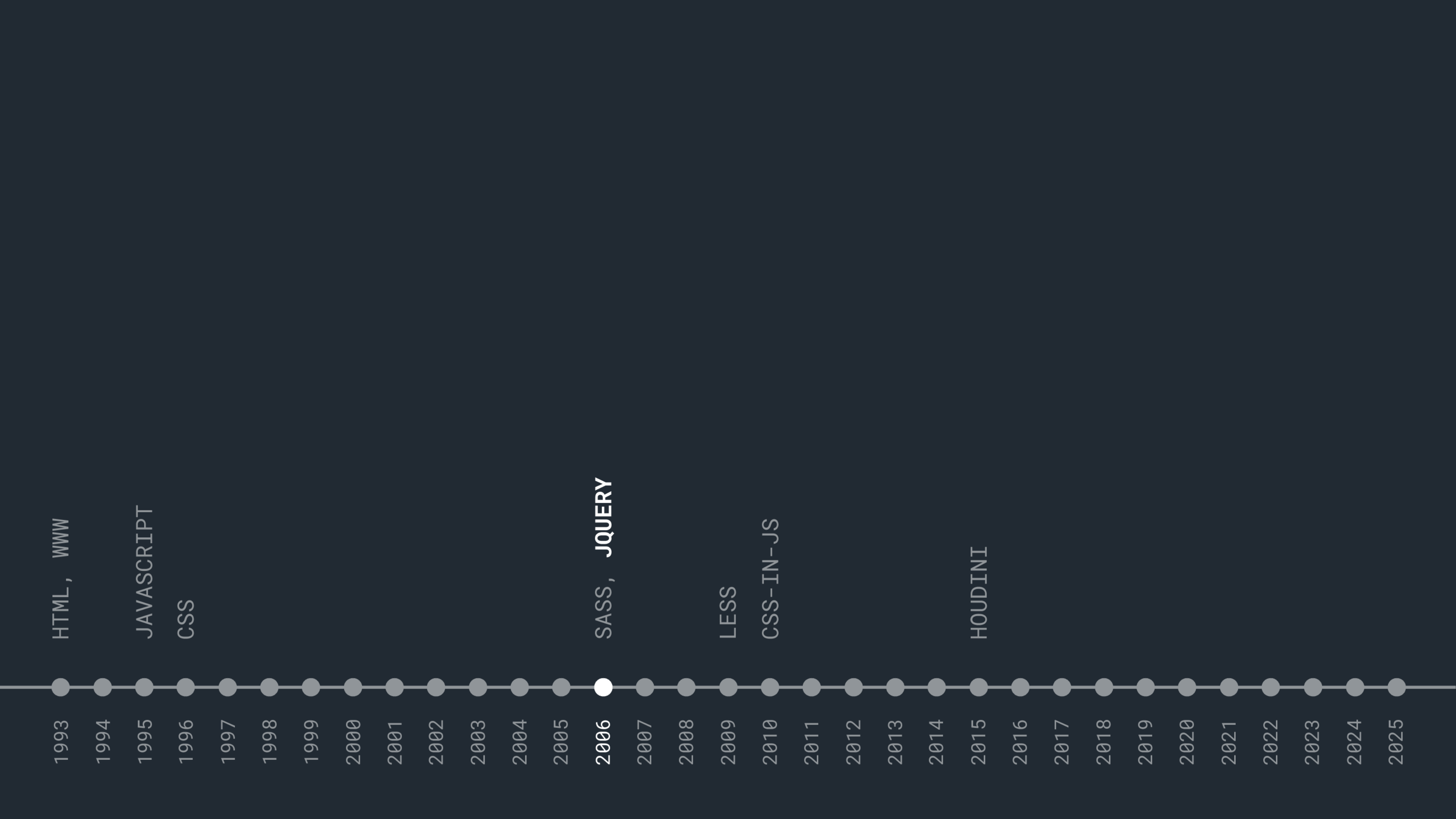



IPHONE LAUNCH IN 2007, ESSENTIALLY KILLING FLASH AND APPLETS

John Resig

The invention of jQuery, making Javascript more accessible and popular than ever





● ● ●

```
// Selecting elements by tag
```

```
var element = $("button").first();
```

```
// or by class / id
```

```
var element = $("#foo");
```

```
var element = $(".foo").nth(3);
```

```
// or other valid CSS selectors
```

```
var element = $(".foo > button").first();
```


● ● ●

```
// Dealing with class changes
```

```
$("#foo").addClass("bar");
```

```
$("#foo").removeClass("bar");
```

```
$("#foo").toggleClass("bar");
```

```
// Setting and reading attributes
```

```
$("#foo").attribute("data-value", myValue);
```

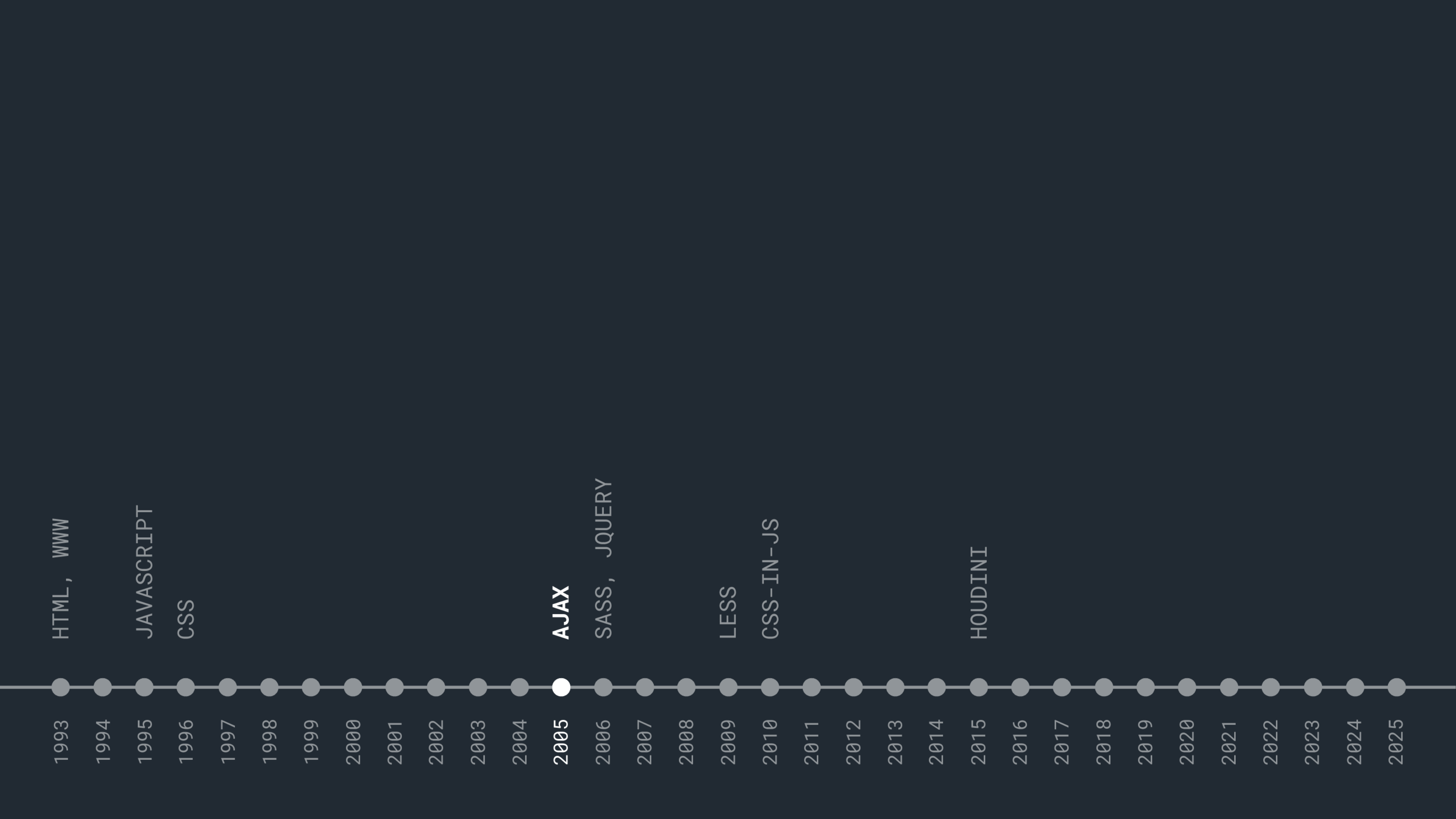
```
var value = $("#foo").attribute("data-value");
```

```
// Hiding and showing elements
```

```
$("#foo").hide();
```

```
$("#foo").show();
```

```
var isHidden = $("#foo").is(":hidden");
```



```
function loadXMLDoc() {  
    var xmlhttp = new XMLHttpRequest();  
    xmlhttp.onreadystatechange = function() {  
        if (xmlhttp.readyState == XMLHttpRequest.DONE) {  
            if (xmlhttp.status == 200) {  
                // ...  
            } else if (xmlhttp.status == 400) {  
                // ...  
            } else {  
                // ...  
            }  
        }  
    }  
    xmlhttp.open("GET", "content.php", true);  
    xmlhttp.send();  
}
```



```
$.ajax("content.php")
  .done(function (data) {
    // ...
  })
  .fail(function (e) {
    // ...
  })
  .always(function () {
    // ...
  });
```




```
// Better core support for selecting DOM elements
const element = window.document.querySelector(".foo");
const elements = window.document.querySelectorAll(".foo");

const container = window.document.getElementById("main");
const submit = container.querySelector("footer button[type='submit']");
submit.click();
```

● ● ●

```
// Better DX for event listeners
```

```
window.document.addEventListener("click", handleDocumentClick);
```

```
window.document.removeEventListener("click", handleDocumentClick);
```

```
window.document.addEventListener("click", function (event) {
```

```
  if (event.target.tag === "A") {
```

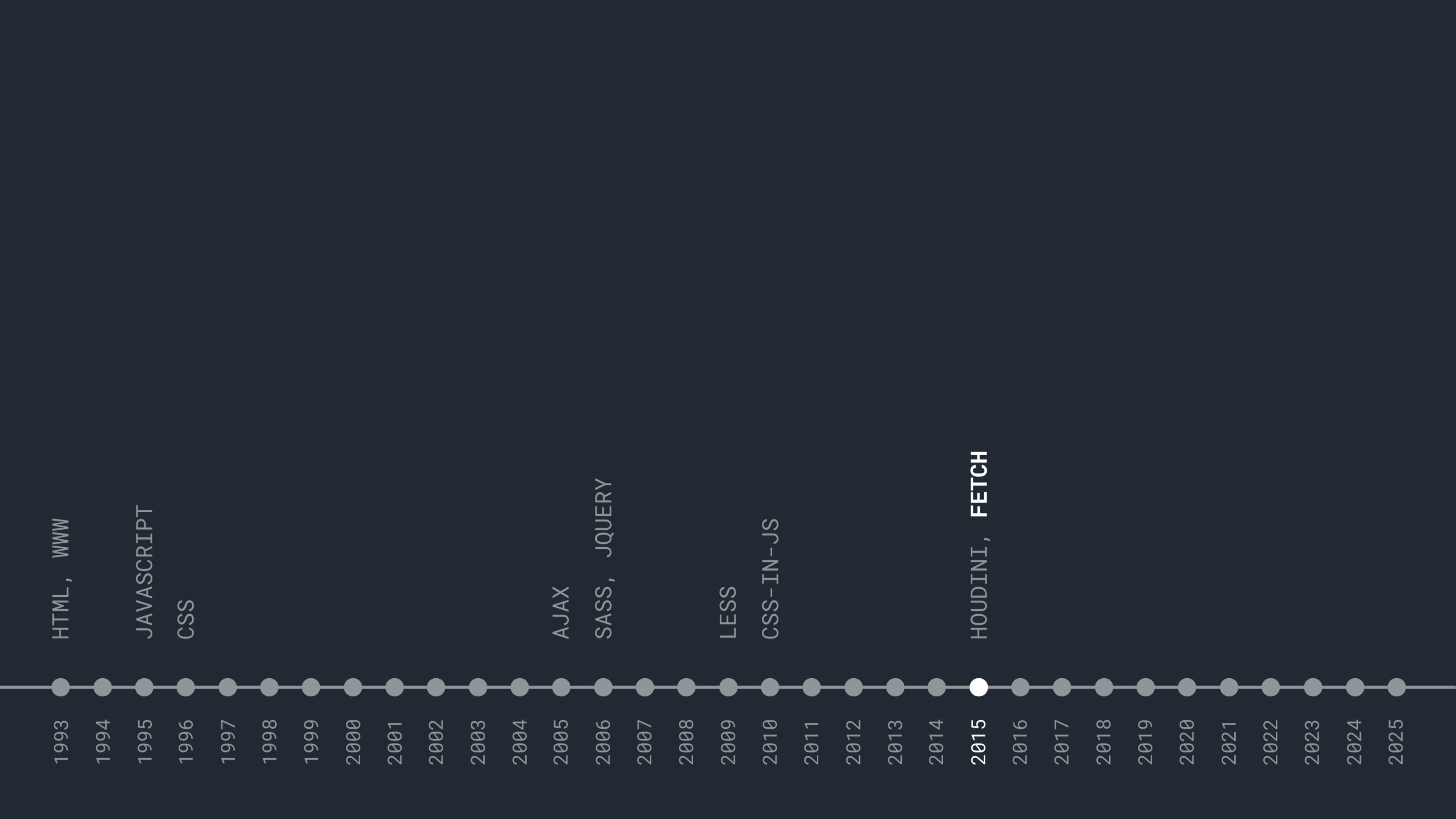
```
    event.preventDefault();
```

```
    event.stopPropagation();
```

```
    // ...
```

```
  }
```

```
});
```





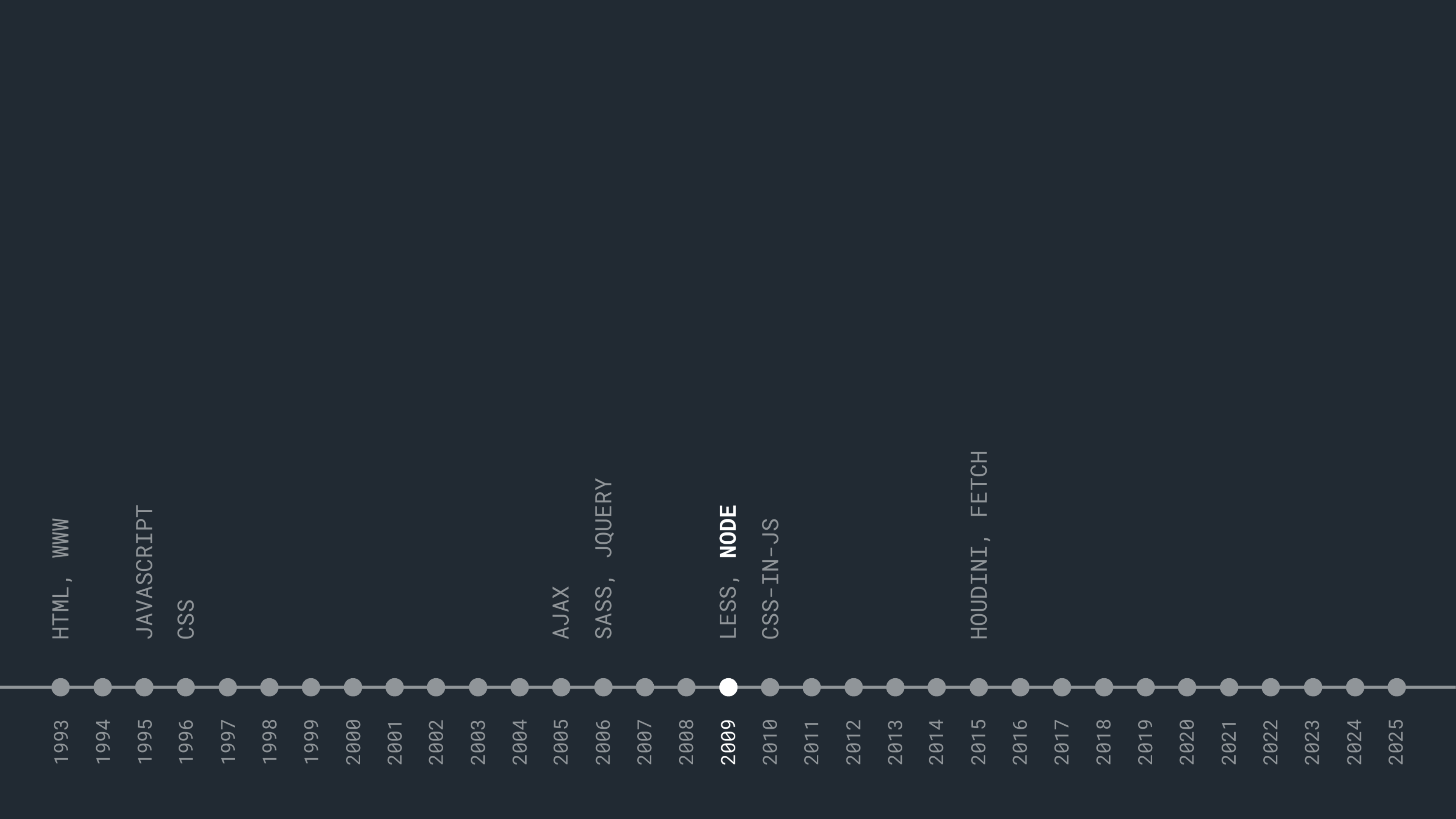
```
fetch("/v1/content")
  .then(res => res.json())
  .then(data => {
    // ...
  })
  .catch(e => {
    // ...
  })
  .always(() => {
    // ...
  });
```

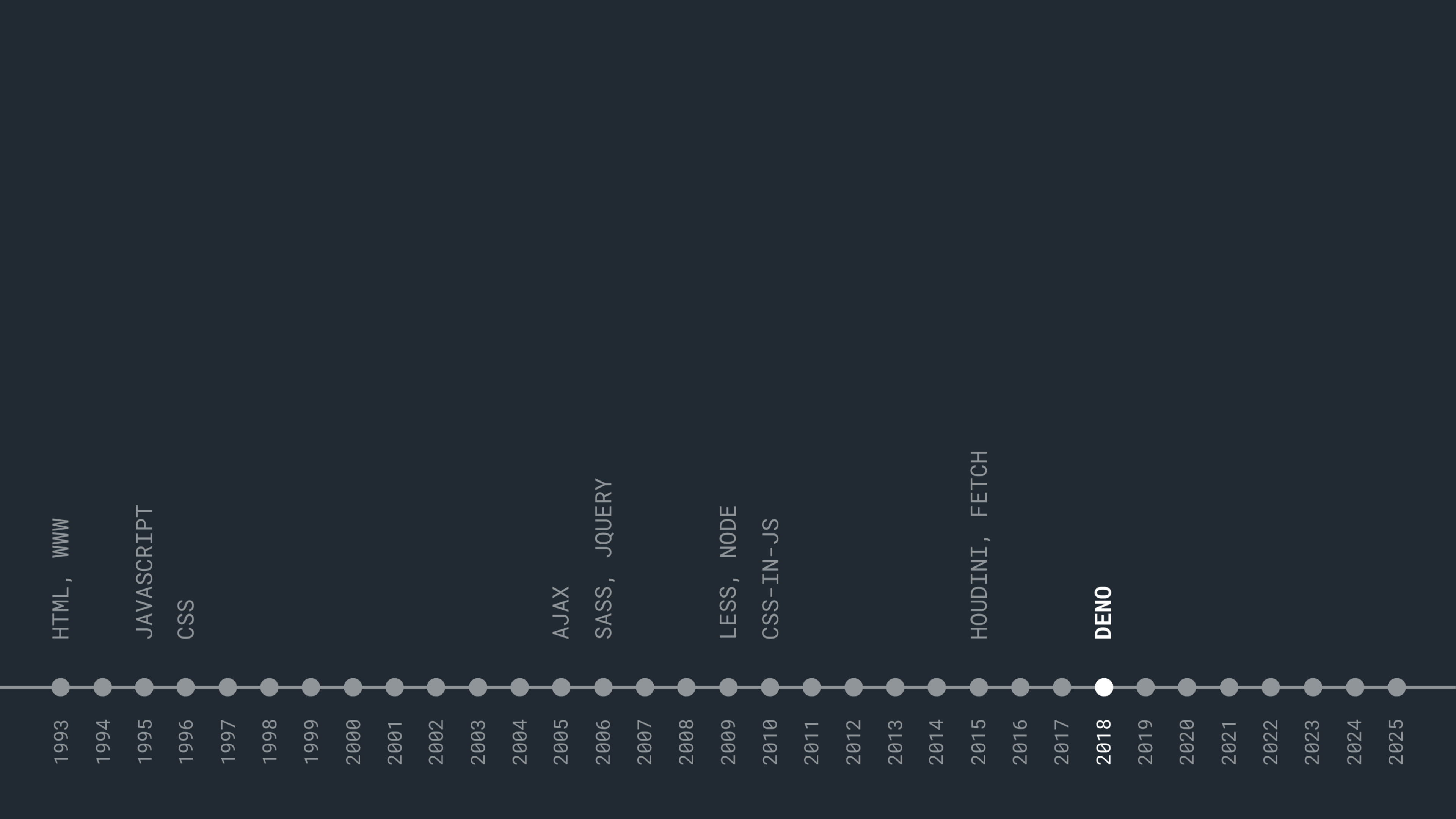

Ryan Dahl

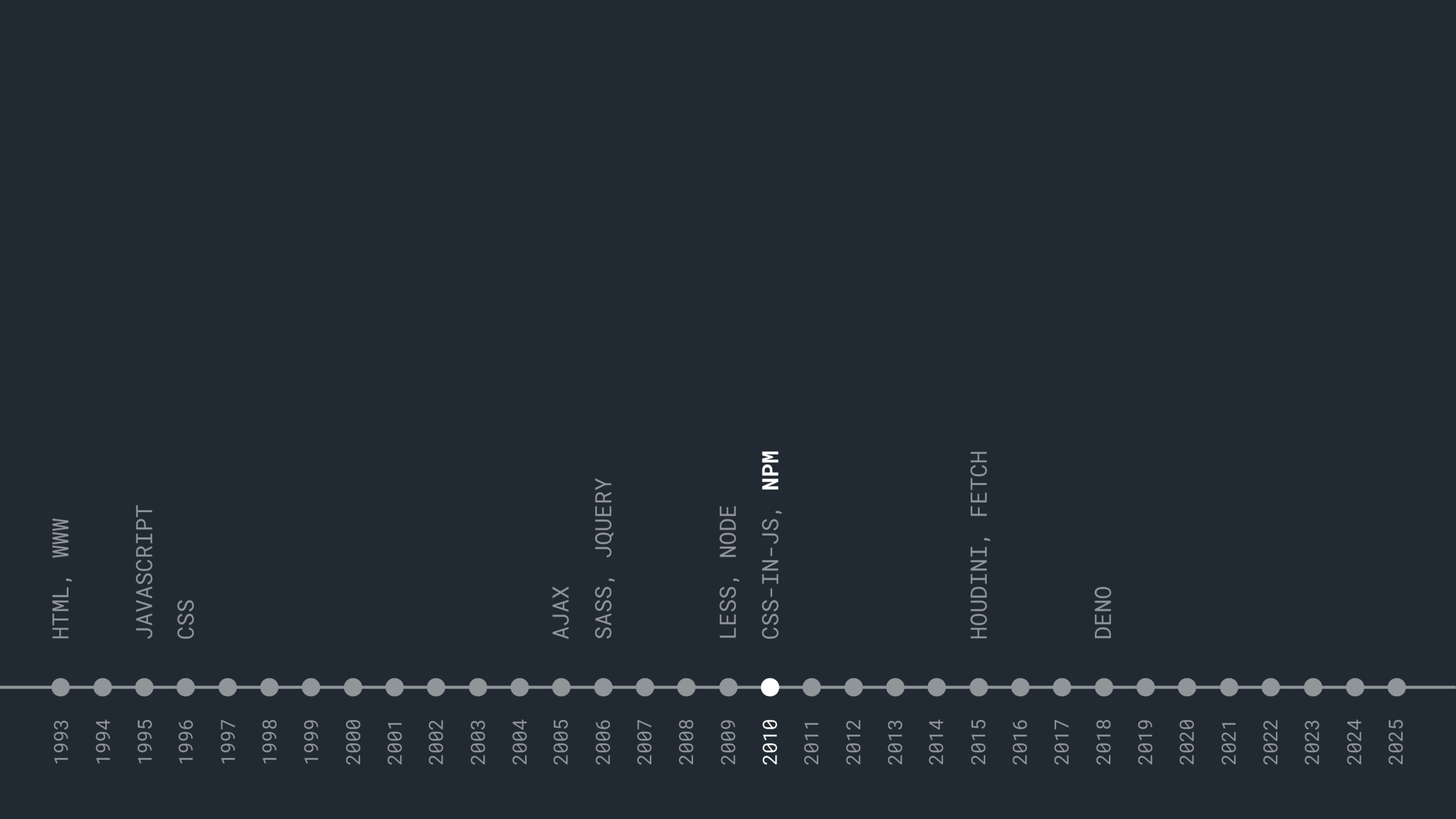
The invention of Node.js and the
ability to use Javascript everywhere

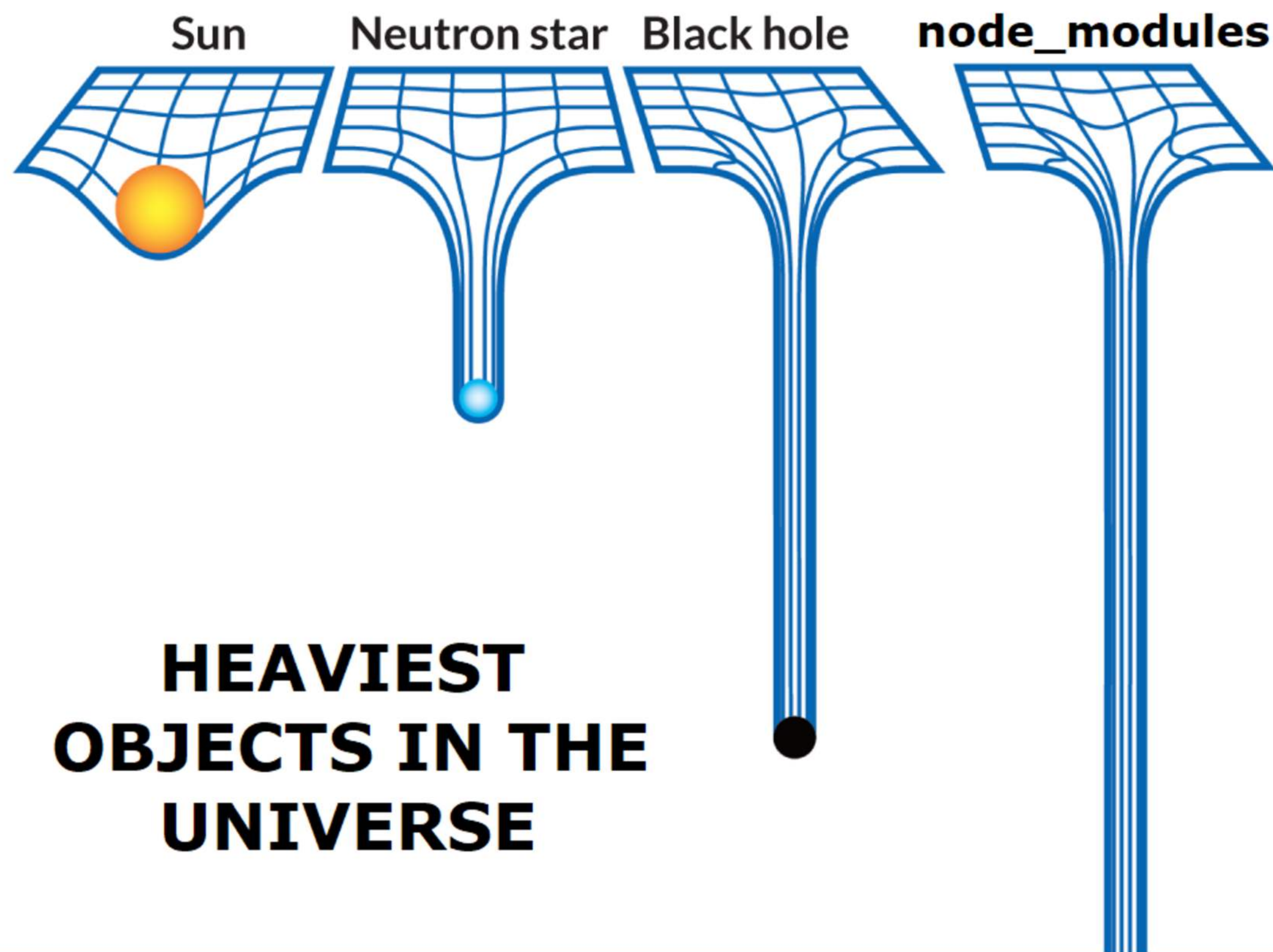


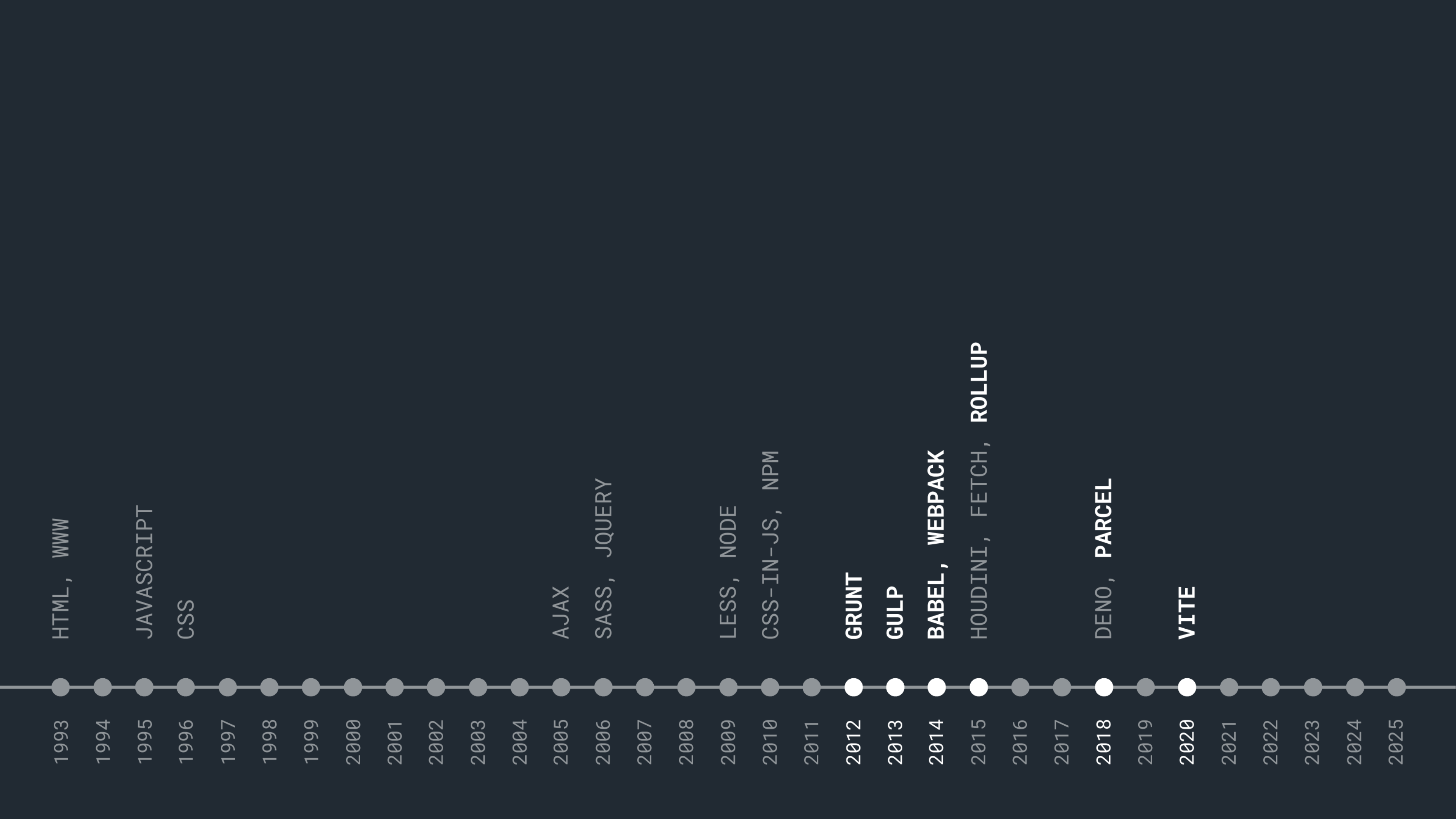
[HTTPS://WWW.YOUTUBE.COM/WATCH?V=M3BM9TB-8YA](https://www.youtube.com/watch?v=M3BM9TB-8YA)











```
module.exports = function() {
  grunt.initConfig({
    sass: {
      dist: { files: { "main.css": "main.scss" } }
    },
    babel: {
      files: { src: "src/index.js", dist: "build/index.compiled.js" }
    },
    uglify: {
      dist: { src: "build/index.compiled.js", dist: "build/index.js" }
    }
  });

  grunt.registerTask("build", ["sass", "babel", "uglify"]);
}
```

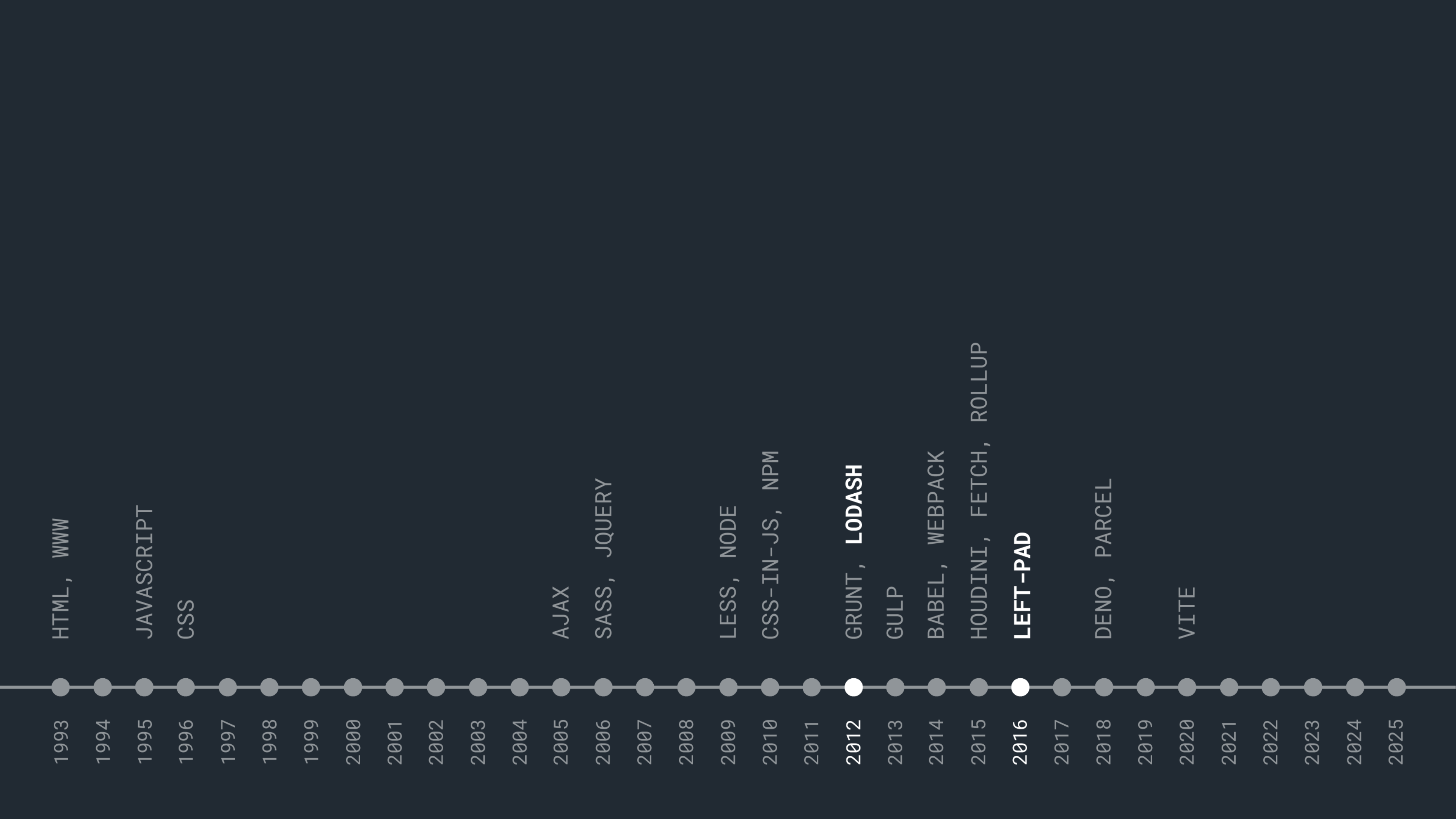


```
module.exports = {
  entry: "./src/index.js",
  output: { path: path.resolve( __dirname, "build"), filename: "index.js" },
  module: {
    rules: [
      { test: /\.s[ac]ss$/i, use: ["css-loader", "sass-loader"] },
      { test: /\.?(?:js|mjs|cjs)$/i, use: ["babel-loader"] },
    ]
  }
};
```



```
import { defineConfig } from "vite";
```

```
export default defineConfig({  
  plugins: [  
    tsConfigPath(),  
    react()  
  ],  
  build: {  
    outDir: "build",  
    minify: true,  
  }  
});
```



```
if (  
    obj.foo &&  
    obj.foo.bar &&  
    obj.foo.bar.hello &&  
    obj.foo.bar.hello.world === "This is crazy!"  
) {  
    // ...  
}
```



```
import _ from "lodash";

if (_.get(obj, "foo.bar.hello.world") === "This is better!") {
  // ...
}
```



```
var chars = myNumber.toString().split("");
var paddedString = "";

for (var i = 0; i < 10 - chars.length; i++) {
    paddedString += ".";
}

paddedString += myNumber.toString();
// .....101
```



```
import leftPad from "left-pad";  
  
const paddedString = leftPad(myNumber, 10, ".");
```




```
if (obj?.foo?.bar?.hello?.world === "This is amazing!") {  
    // ...  
}
```



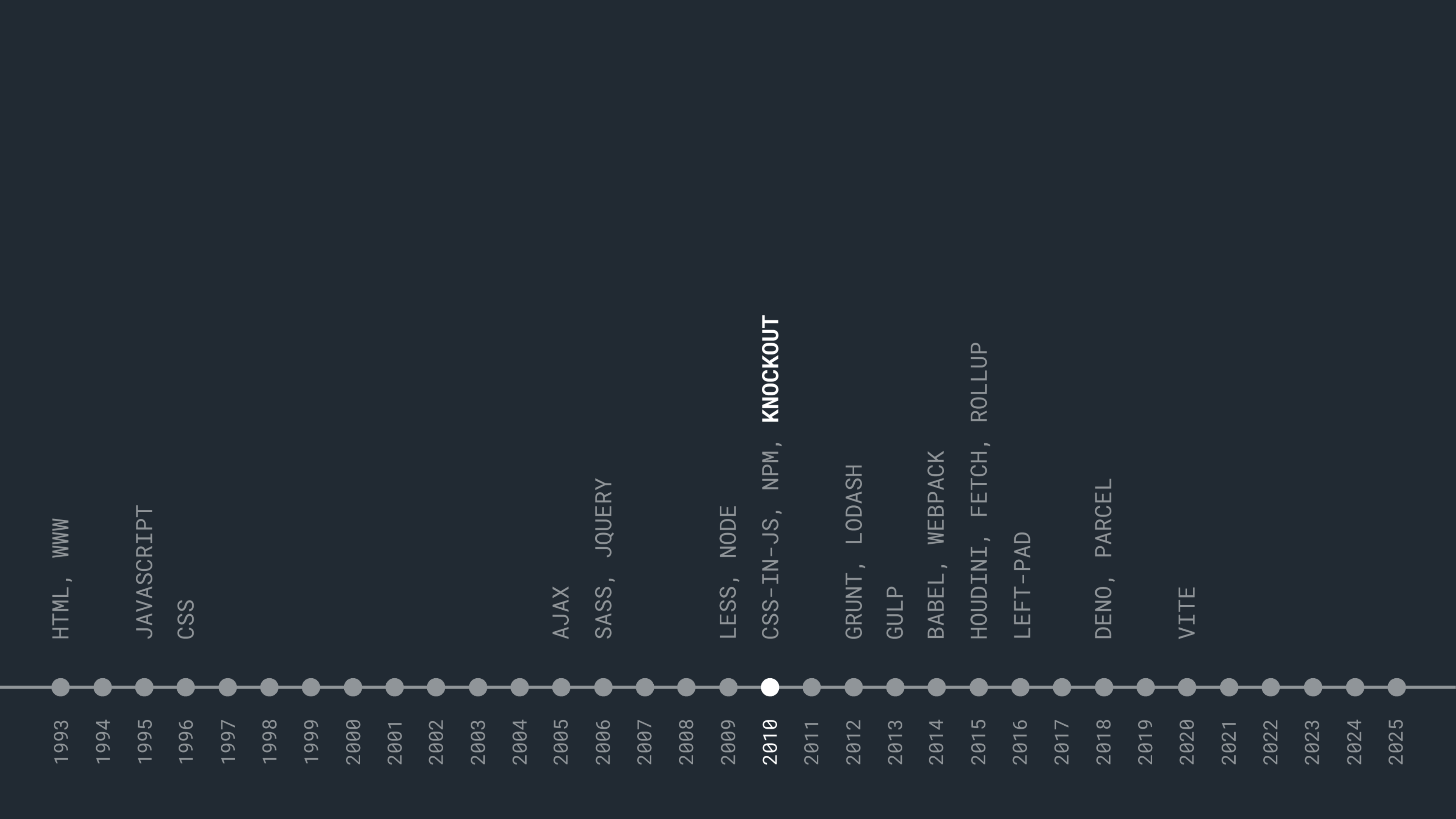
```
const paddedString = myNumber.toString().padStart(10, ".");
```

Steve Sanderson

The invention of KnockoutJS, entering the era of Javascript frameworks and SPAs

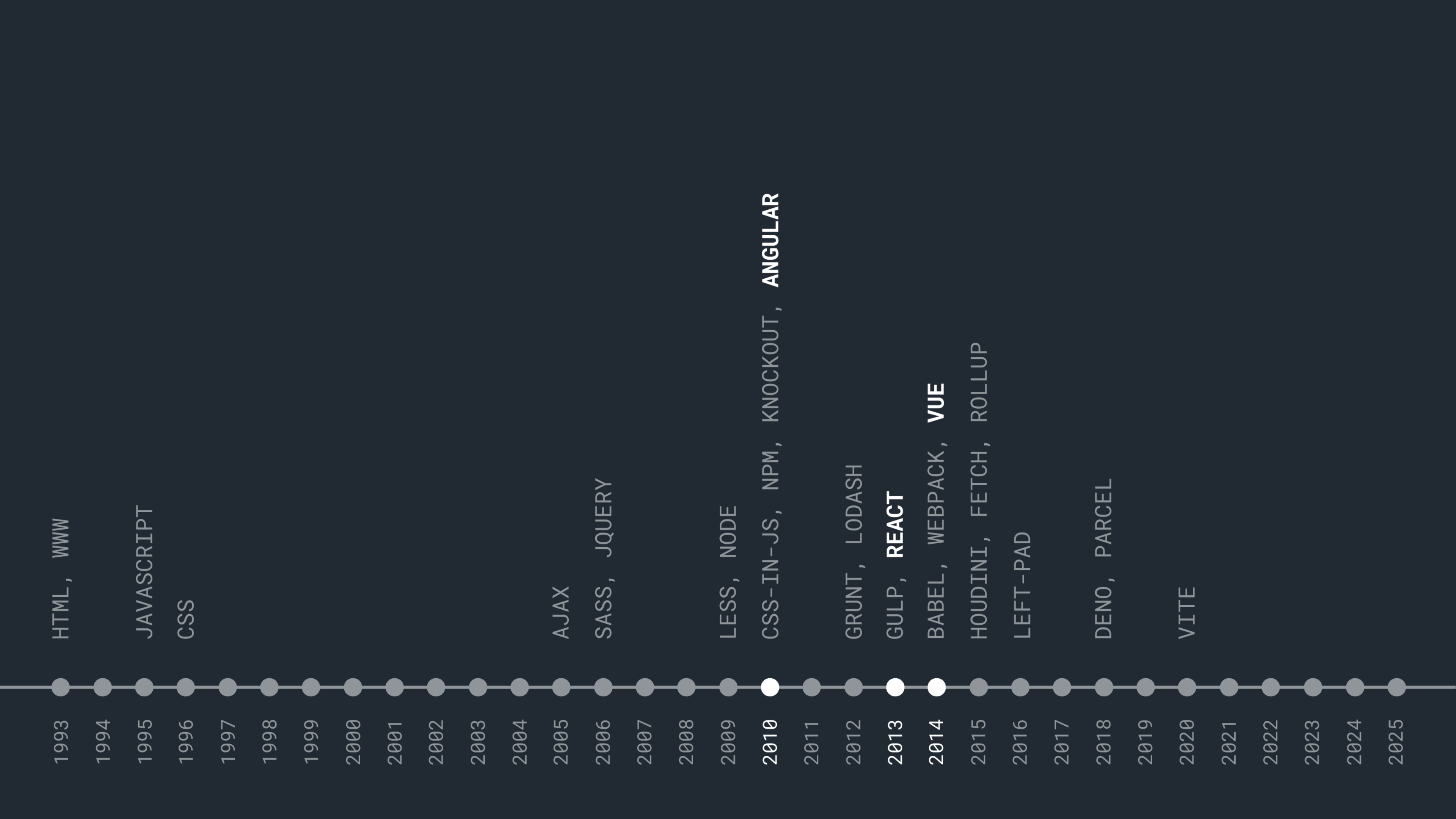


[HTTPS://LBBONLINE.COM/NEWS/MEET-THE-TECHNOLOGISTS-STEVE-SANDERSON](https://lbbonline.com/news/meet-the-technologists-steve-sanderson)




```
<div>
  <p>First name: <input data-bind="value: firstName" /></p>
  <p>Last name: <input data-bind="value: lastName" /></p>
  <h2>Hello, <span data-bind="text: fullName"></span>!</h2>
</div>
```

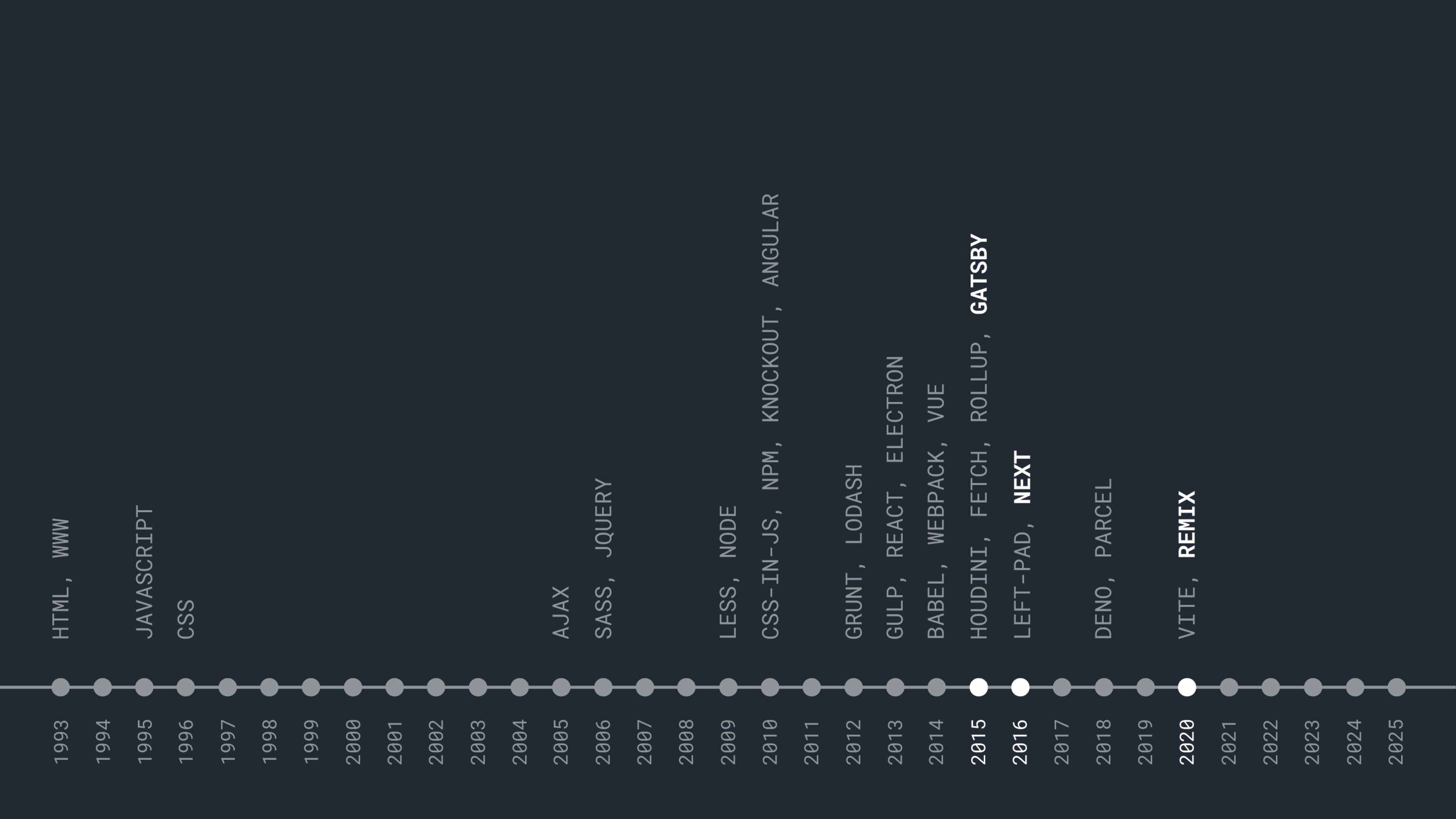
```
<script>
var ViewModel = function(first, last) {
  this.firstName = ko.observable(first);
  this.lastName = ko.observable(last);
  this.fullName = ko.computed(function () {
    return this.firstName + " " + this.lastName;
  });
}
ko.applyBindings(new ViewModel("Steve", "Sanderson"));
</script>
```



```
<template>
  <p>First name: <input v-model="firstName" /></p>
  <p>Last name: <input v-model="lastName" /></p>
  <h2>Hello, <span v-text="fullName"></span>!</h2>
</template>

<script>
export default {
  data: { firstName: "Sanderson", lastName: "Sanderson" },
  computed: {
    fullName () {
      return this.firstName + " " + this.lastName;
    }
  }
}
</script>
```

```
function App () {  
  const [firstName, setFirstName] = useState("Steve");  
  const [lastName, setLastName] = useState("Sanderson");  
  return (  
    <div>  
      <p>First name: <input value={firstName} ... /></p>  
      <p>Last name: <input value={lastName} ... /></p>  
      <h2>Hello, {firstName} {lastName}!</h2>  
    </div>  
  );  
}
```



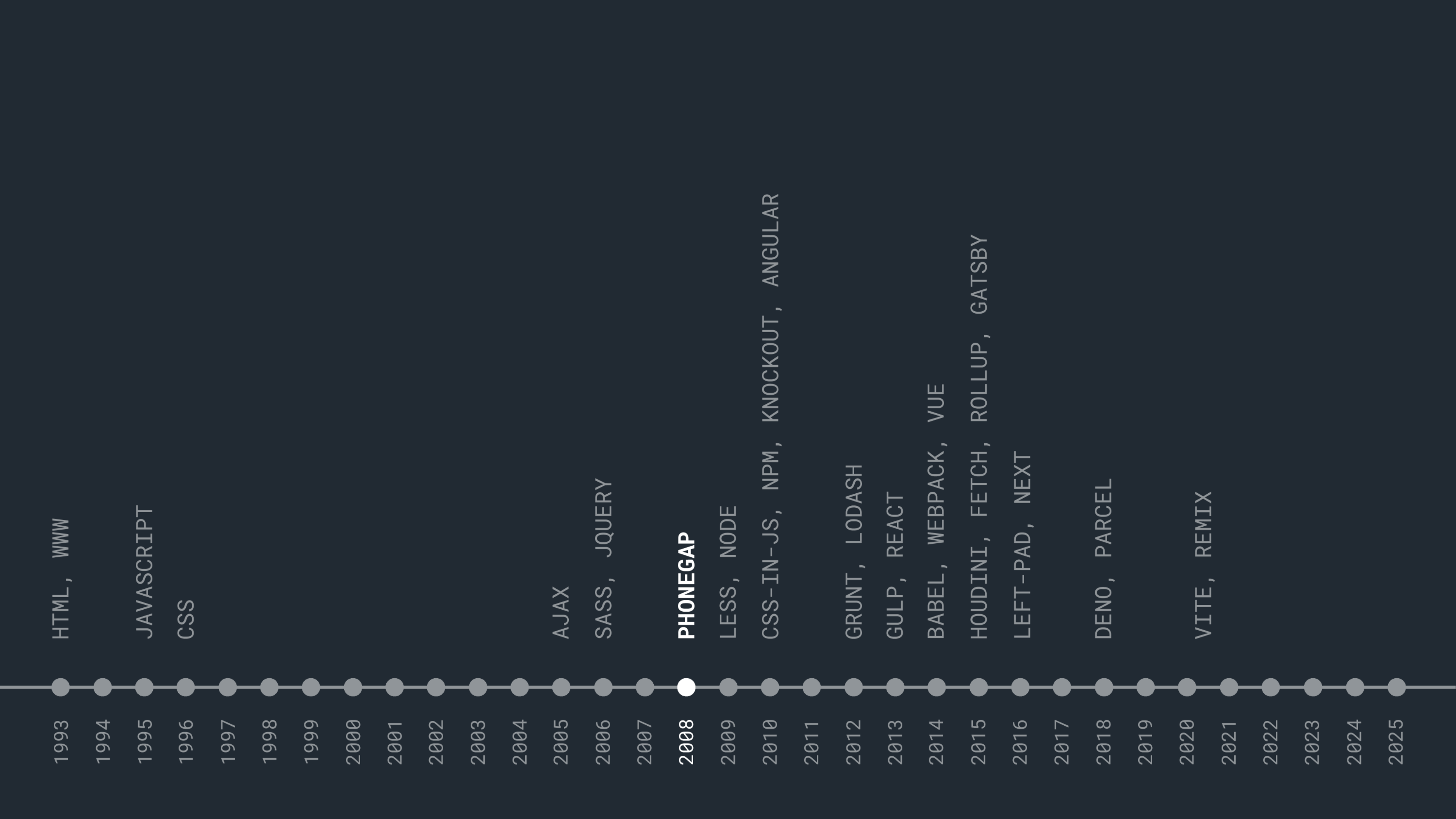


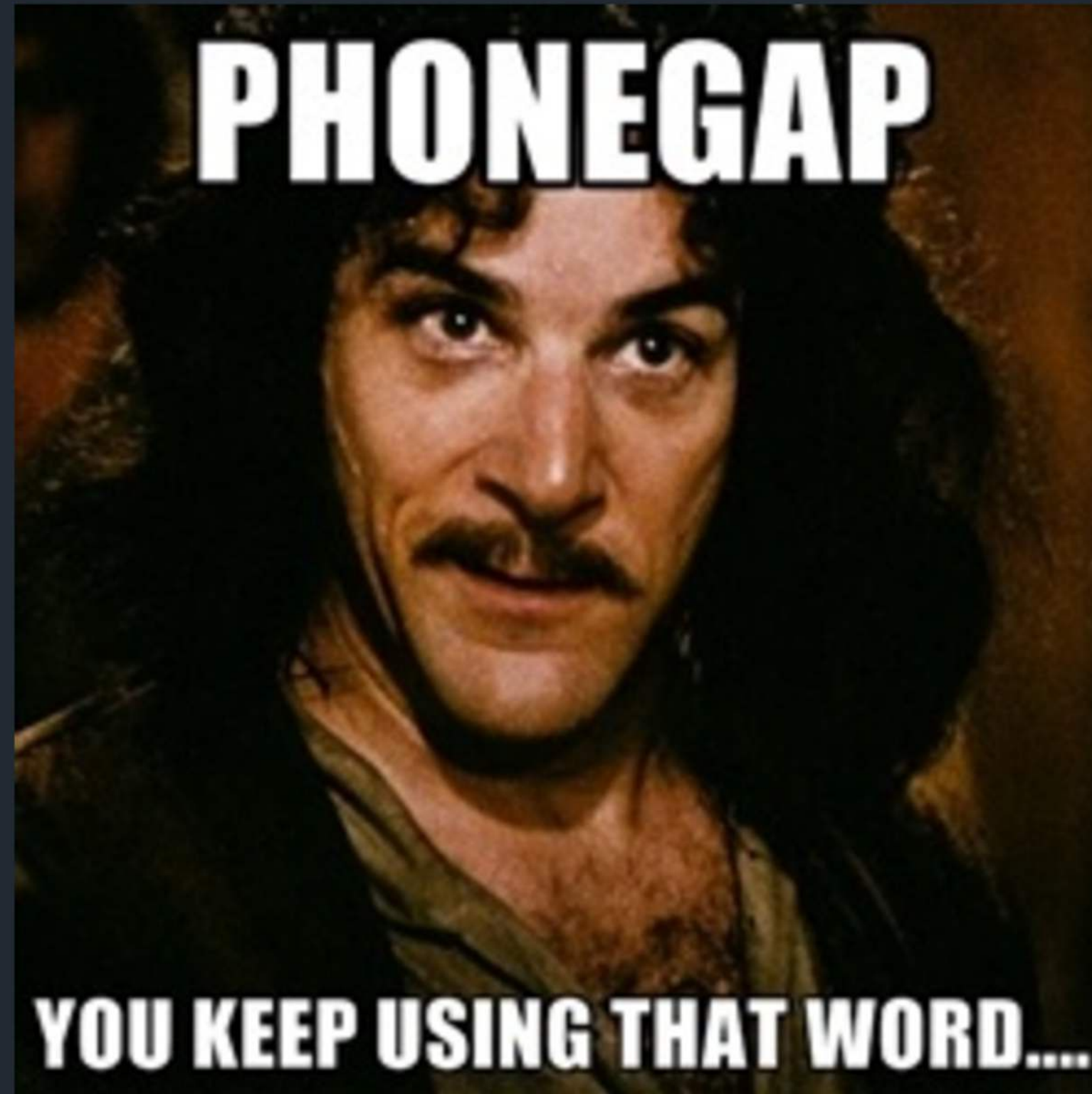
```
export default function Screen ({ firstName, lastName }) {  
  return <h2>Hello, {firstName} {lastName}!</h2>;  
}
```

```
export function getServerSideProps (req) {  
  const user = db.get("user", req.authToken.userId);  
  return {  
    props: {  
      firstName: user.firstName,  
      lastName: user.lastName  
    }  
  }  
}
```

Beyond the web

Javascript is everywhere!





```
// Dispatches custom events
// Plugins will then inject APIs to access native functionalities
document.addEventListener("deviceready", function () {
    // cordova-plugin-camera
    navigator.camera.getPicture(onSuccess, onFail);

    // cordova-plugin-network-information
    var networkState = navigator.connection.type;

    // cordova-plugin-file
    window.requestFileSystem(window.TEMPORARY, 1024, function (fs) { ... });

    // cordova-plugin-vibration
    navigator.vibrate(50);
});
```


● ● ●

```
// Media Capture and Streams API
```

```
const stream = await navigator.mediaDevices.getUserMedia(constraints);
```

```
// Network Information API
```

```
const networkType = navigator.connection.effectiveType;
```

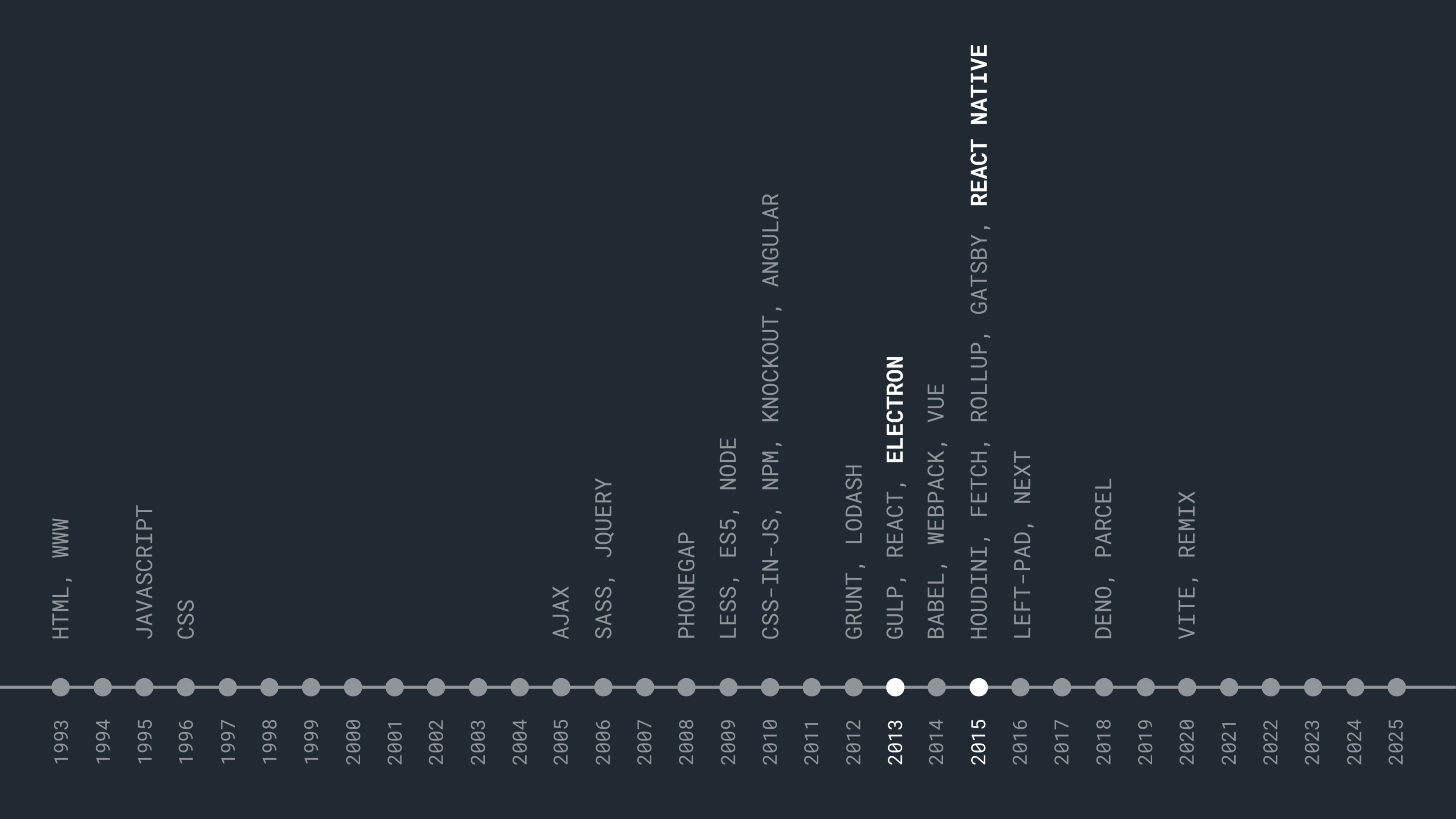
```
// File System API
```

```
const [fileHandle] = await window.showOpenFilePicker();
```

```
const file = await fileHandle.getFile();
```

```
// Vibration API
```

```
navigator.vibrate(50);
```



Where are we now & what is next?

Partial and “zero” hydration

How RSCs, and frameworks like Qwik and Astro, solve traditional SSR problems

SERVER

CLIENT



SERVER

CLIENT



Runs your JS to create
static HTML on the server



SERVER



Runs your JS to create
static HTML on the server

CLIENT



SERVER



Runs your JS to create
static HTML on the server

CLIENT



Needs to run all JS **again**,
to inject dynamic parts



SERVER



Runs your JS to create
static HTML on the server

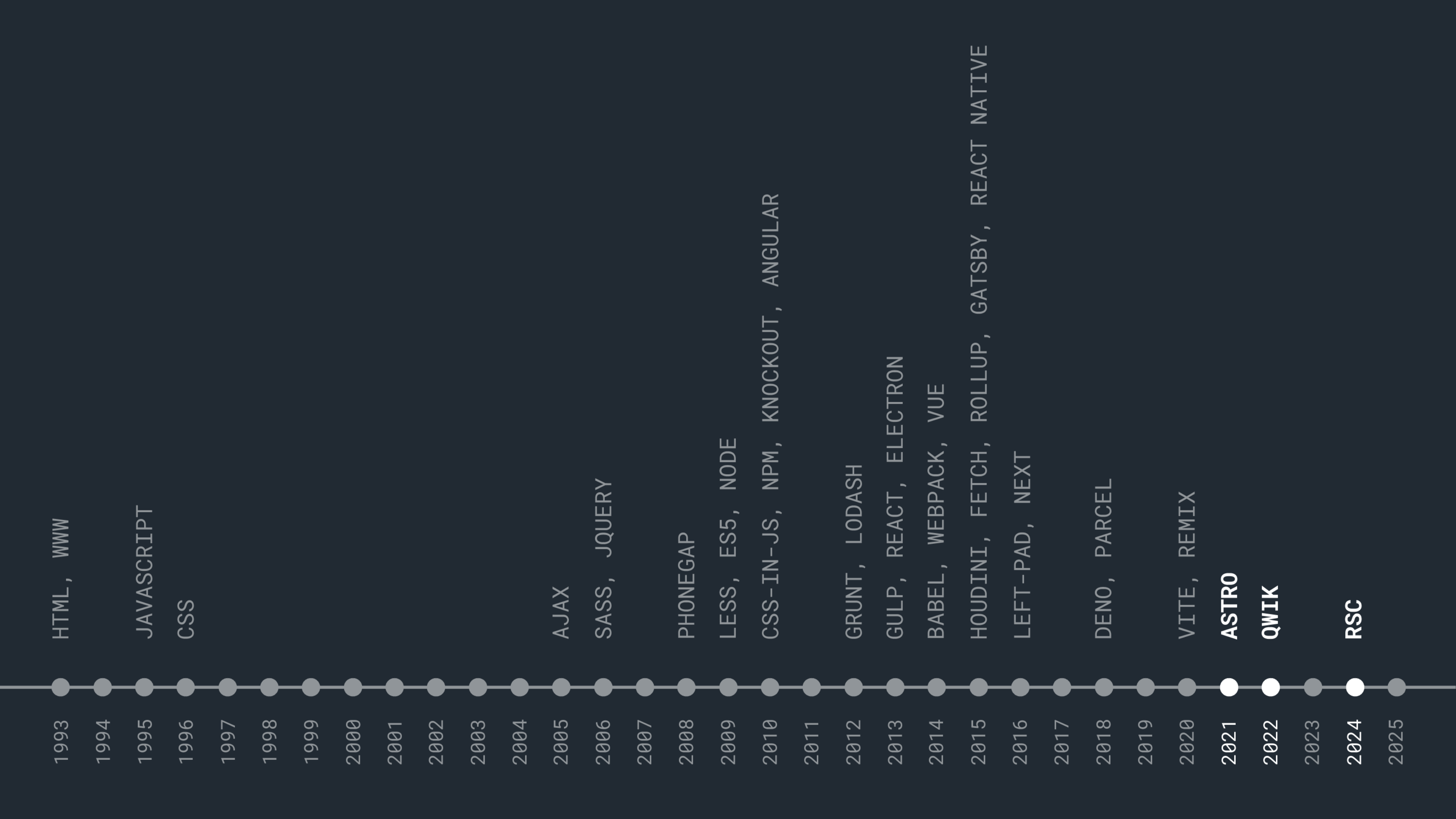
CLIENT



Needs to run all JS **again**,
to inject dynamic parts



* Hydration





```
function ServerComponent () {  
  return (  
    <div>  
      <p>Hello, welcome on the server!</p>  
    </div>  
  );  
}
```




```
async function ServerComponent () {  
  const user = await db.get("user");  
  
  return (  
    <div>  
      <p>Hello ${user.firstName}, welcome on the server!</p>  
    </div>  
  );  
}
```


● ● ●

"use client"

```
function ClientComponent () {  
  const [counter, setCounter] = useState(0);  
  return (  
    <>  
      <span>Counter: {counter}</span>  
      <button onClick={() => setCounter(state => state + 1)}>👍</button>  
      <button onClick={() => setCounter(state => state - 1)}>👎</button>  
    </>  
  );  
}
```



```
---
```

```
const user = db.get("user");
```

```
---
```

```
<div>
```

```
  <h2>Hello, {user.firstName} {user.lastName}!</h2>
```

```
  <span id="counter"></span>
```

```
  <button id="increase">👍</button>
```

```
</div>
```

```
<script>
```

```
let counter = 0;
```

```
window.increase.addEventListener("click", () =>
```

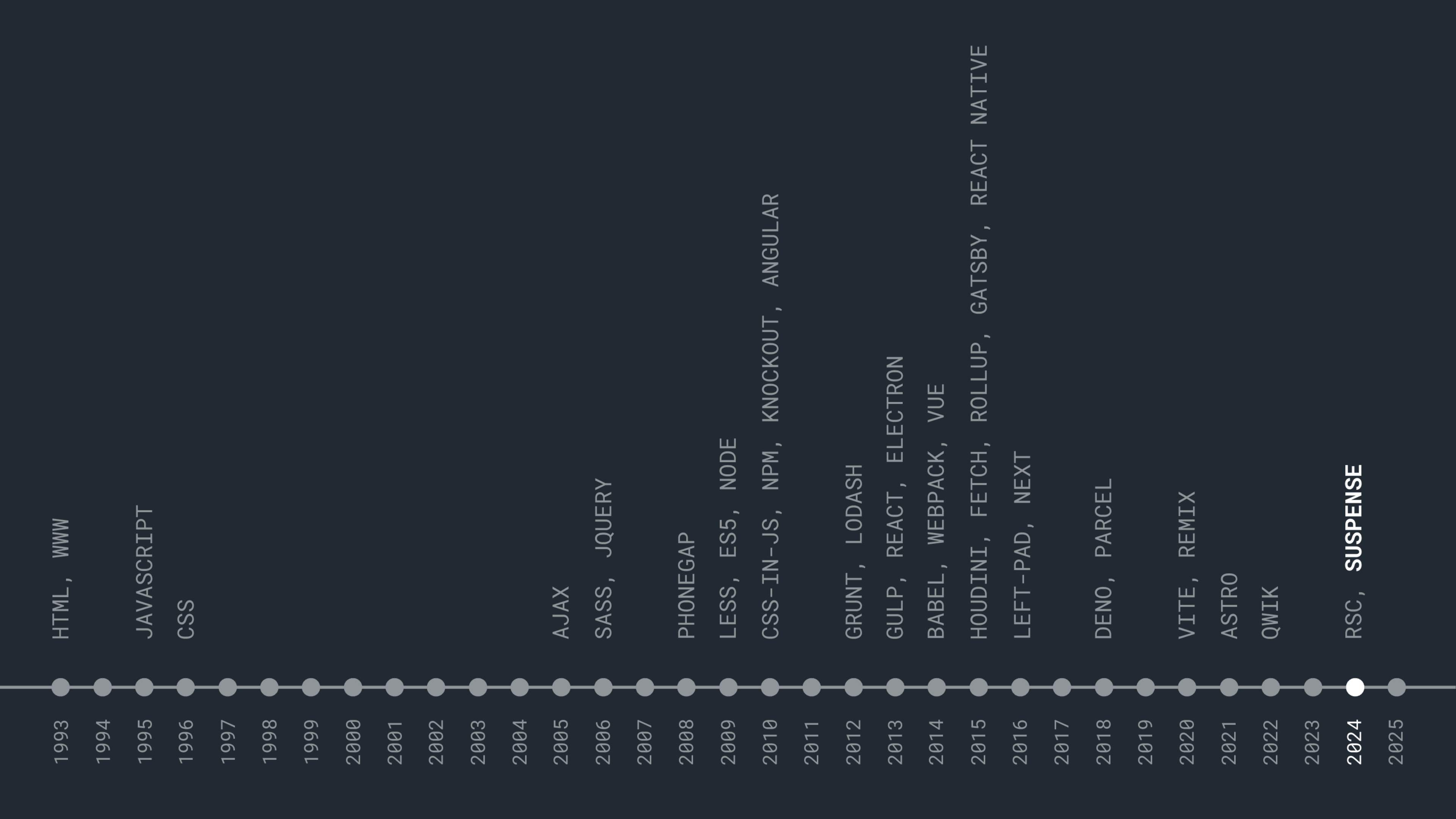
```
  window.counter.innerHTML(++counter));
```

```
</script>
```

```
const App = component$(() => {
  const store = useStore({ count: 0 });
  return (
    <div>
      <span>Counter: {store.counter}</span>
      <button onClick$={() => state.counter++}>
        👍
      </button>
    </div>
  );
}
```

Out-of-order streaming

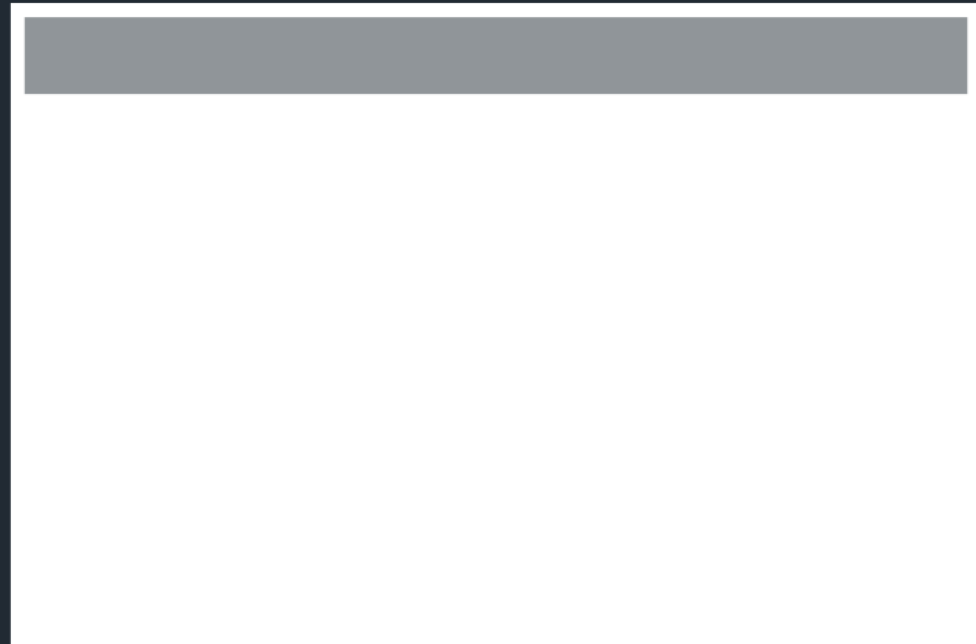
Even more traditional SSR problems we are
solving with features like Suspense



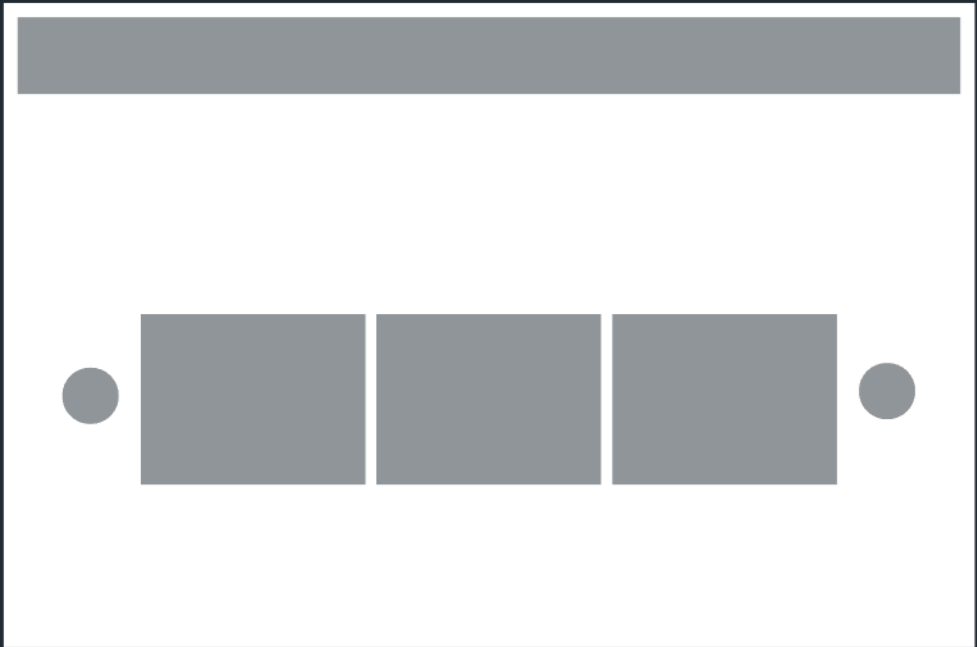
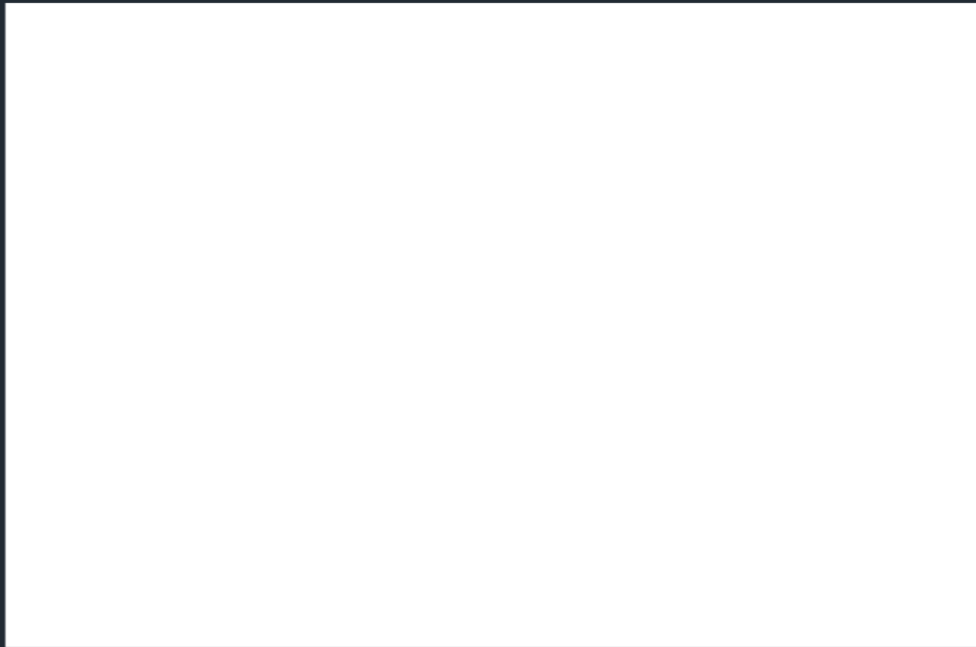
NO STREAMING



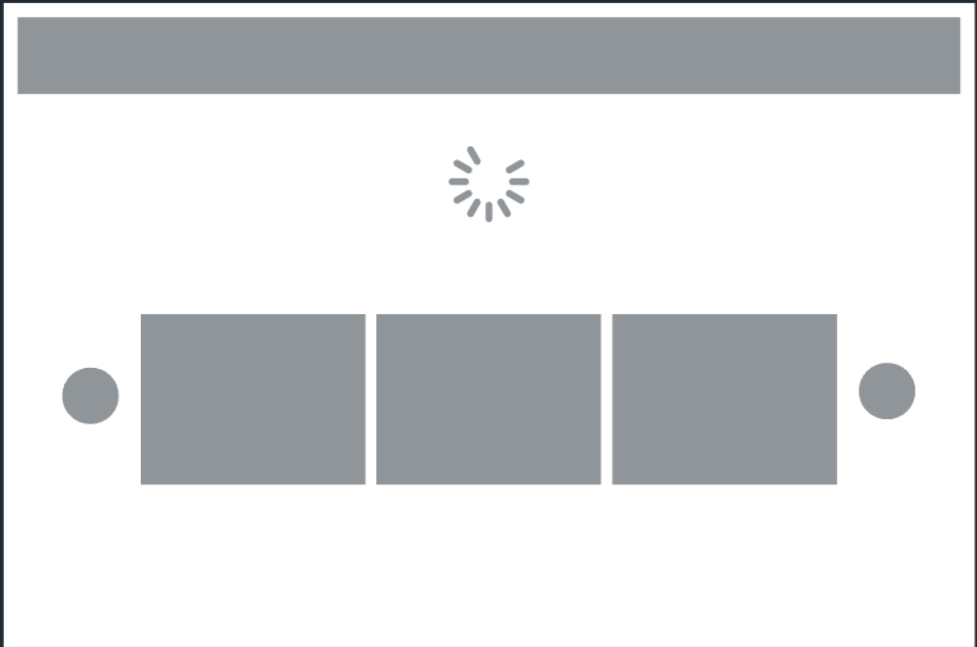
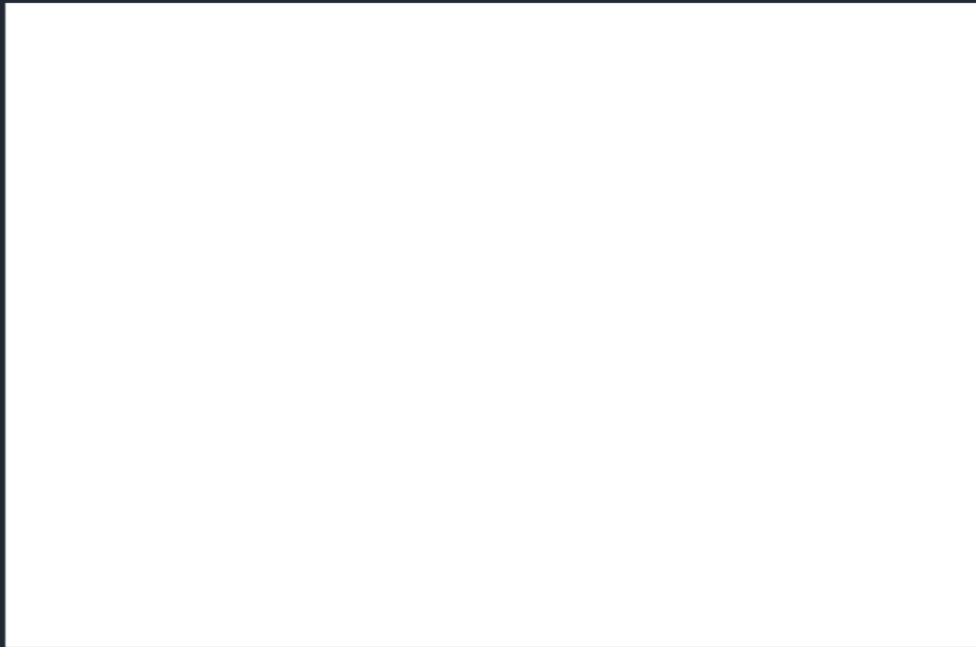
“CLASSICAL” STREAMING



“OUT-OF-ORDER” STREAMING

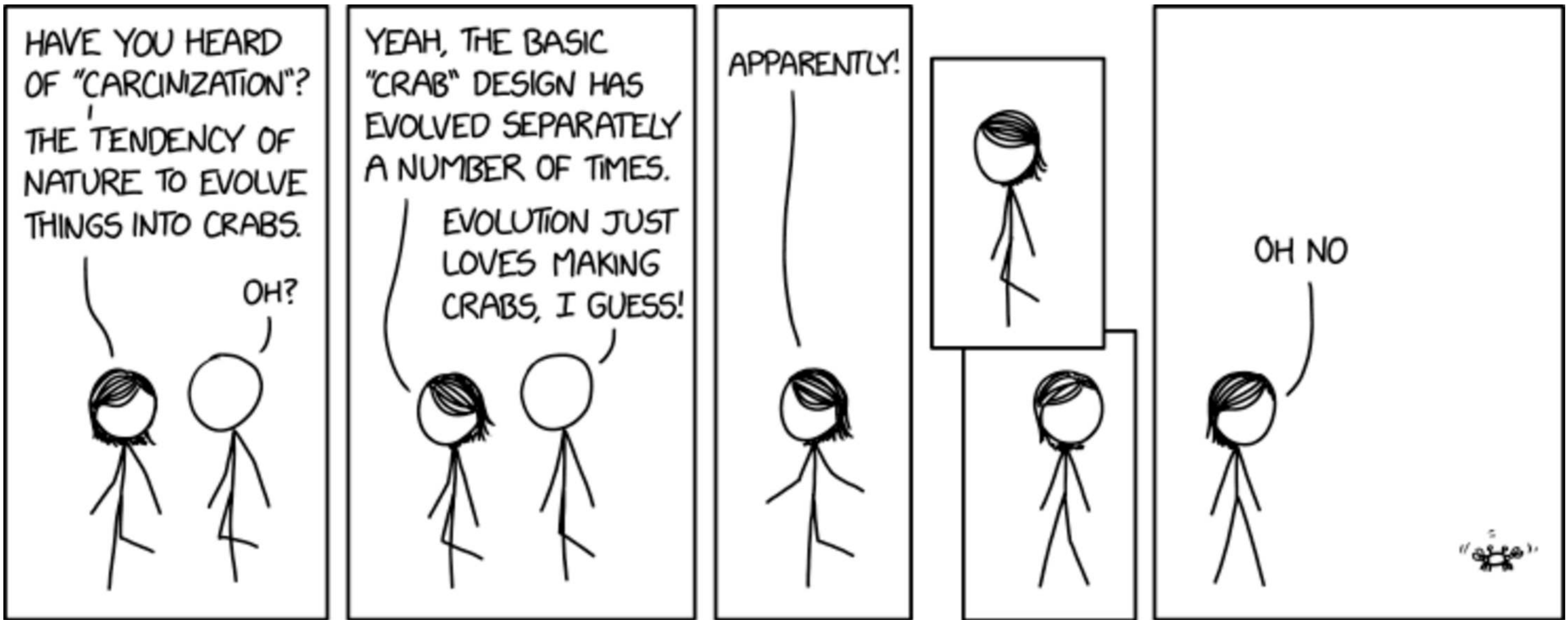


“OUT-OF-ORDER” STREAMING



The Carcinisation of frameworks

Vite emerging as the universal build tool
and what this means for the ecosystem







```
import { defineConfig } from "vite";
```

```
export default defineConfig({  
  plugins: [  
    tsConfigPath(),  
    react()  
  ]  
});
```

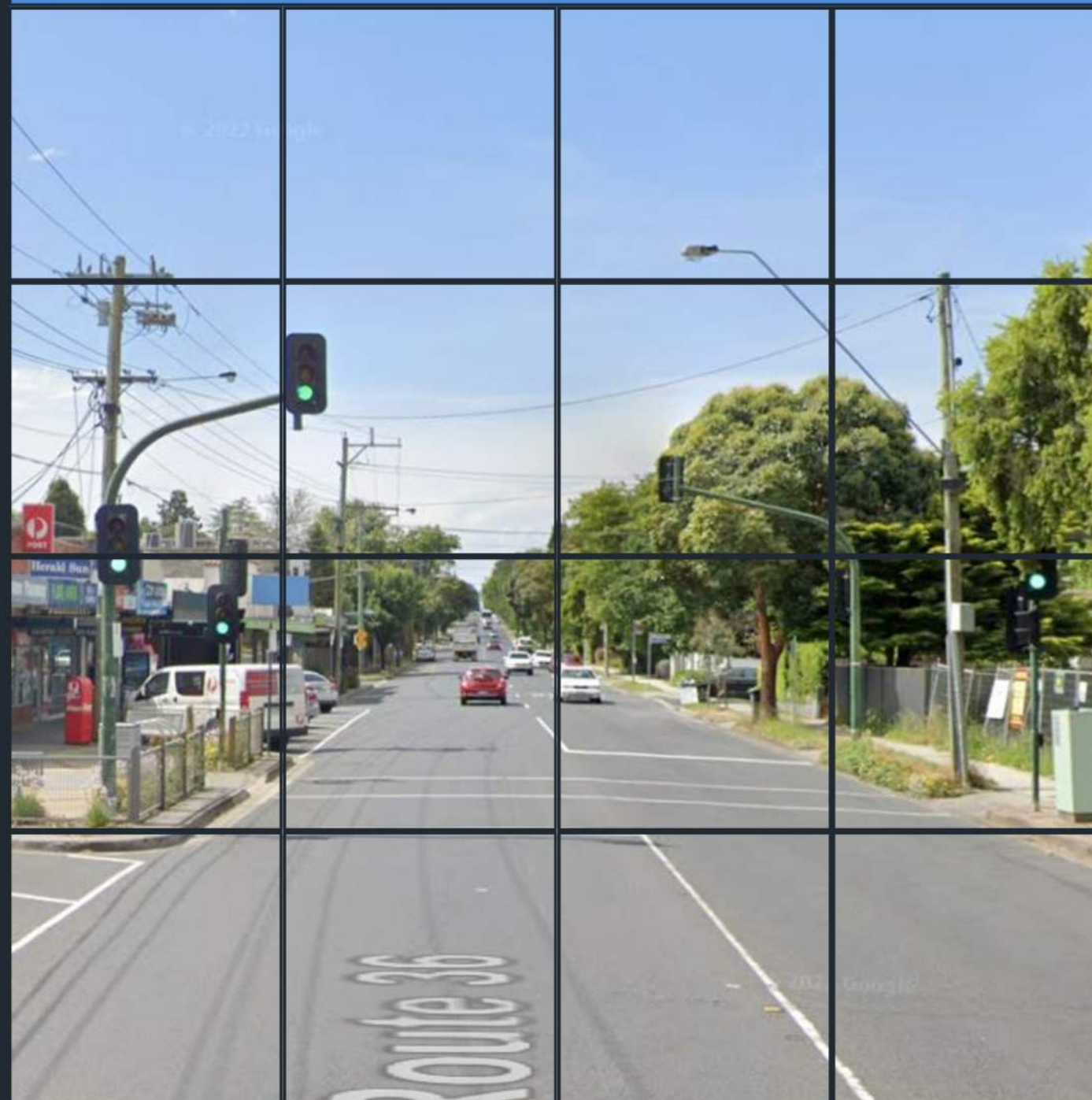


```
import { defineConfig } from "vite";
```

```
export default defineConfig({  
  plugins: [  
    tsConfigPath(),  
    reactRouter()  
  ]  
});
```

Select all the squares that contain

Signals



Select all the squares that contain

Signals



● ● ●

```
// Knockout - Observables
```

```
const conferenceName = ko.observable("DDD Melbourne");  
const greeting = ko.computed(() => `Welcome @ ${conferenceName}`);
```

```
// Vue - Refs
```

```
const conferenceName = ref("DDD Melbourne");  
const greeting = computed(() => `Welcome @ ${conferenceName}`);  
watchEffect(() => window.getElementById("main").innerHTML = greeting);
```

```
conferenceName = "DDD Melbourne 2025";
```

```
// ^ updates the DOM
```

```
// Svelte - Runes
```

```
const conferenceName = $state("DDD Melbourne");  
const greeting = $derived(`Welcome @ ${conferenceName}`);
```


<https://github.com/tc39/proposal-signals>



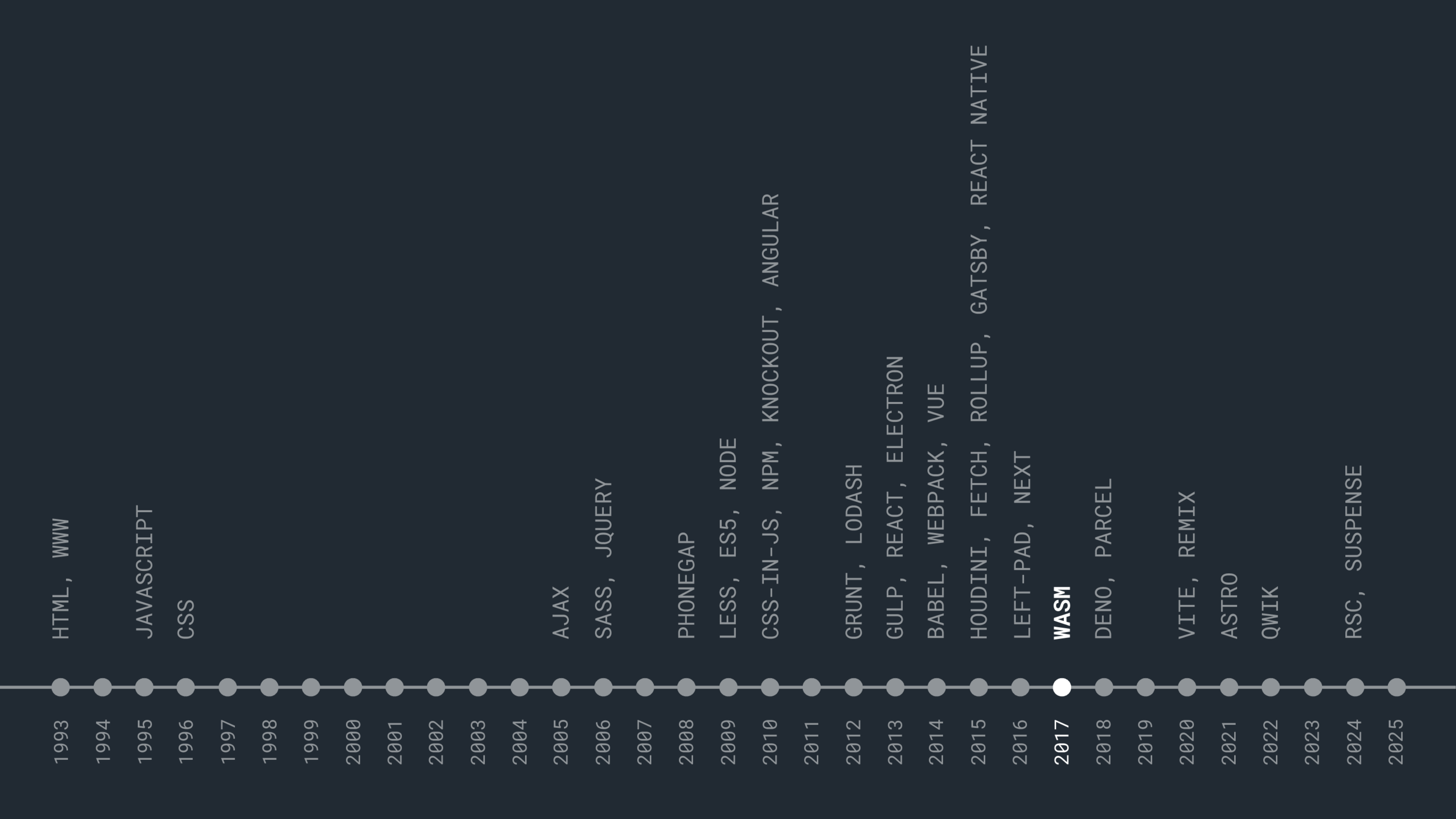
```
// TC39 proposal examples for standardising Signals
const conferenceName = Signal.State("DDD Melbourne");
const greeting = Signal.Computed(() => `Welcome @ ${conferenceName}`);

// Libraries or frameworks can then define what effects they want
// to run on changes
effect(() => element.innerText = greeting.get());

// Why not both? More concise API, with explicit getter and setter
conferenceName.set("DDD Melbourne 2025");
```

Web Assembly

How WASM is getting traction and how it might
change how we think about web development







```
// add.rs
use wasmbindgen::prelude::*;

#[wasm_bindgen]
pub fn add(a: i32, b: i32) -> i32 {
    return a + b;
}
```




```
$ wasm-pack build --target web
```


● ● ●

```
// index.js
```

```
import init from "../pkg/add.js";
```

```
const runWasm = async () => {  
  const pkg = await init("../pkg/add.wasm");  
  const addResult = pkg.add(24, 24);  
  element.textContent = `The sum is ${addResult}!`;  
}
```

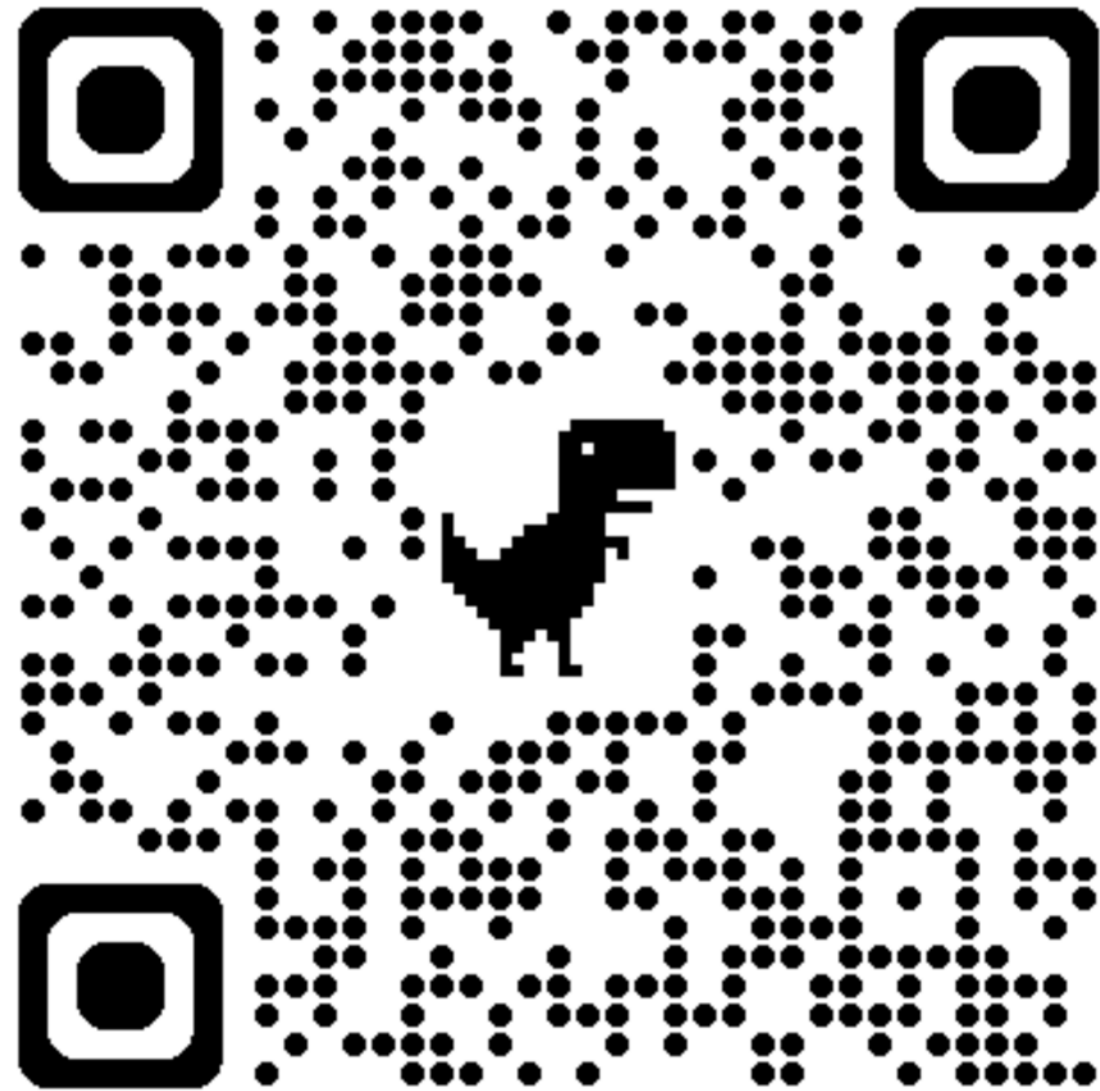
```
runWasm();
```



Houdini?

<https://ishoudinireadyyet.com/>

THANK YOU!



[https://www.julianburr.de/
ddd-melbourne-2025-slides.pdf](https://www.julianburr.de/ddd-melbourne-2025-slides.pdf)

<https://github.com/julianburr>

<https://www.linkedin.com/in/julianburr/>

<https://bsky.app/profile/julianburr.de>



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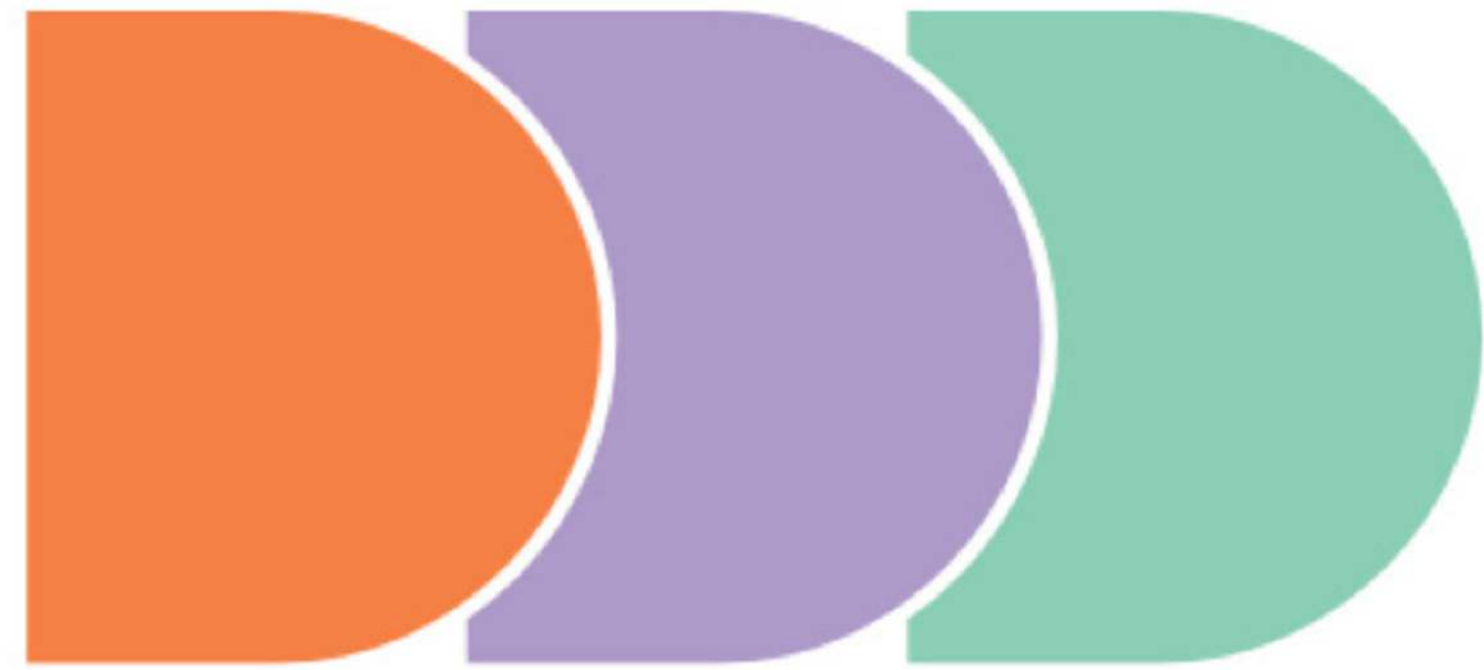


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