

BITS and Atoms II 2020

Luke Franzke

Lil Bud / Lil Bud Plants

Design Prototype Code

Background

D9E1F1 100%

Local Styles

Text Styles

Ag Mobile - Header

Ag Mobile - Small Text

Ag Mobile - Body

Ag Mobile - Body Links

Color Styles

- Lil Green
- Stone Grey
- Lil Coral
- Lil Red
- Lil Yellow
- Lil Lavender
- Lil Blue
- Lil Ultramarine

Jada Luis, PM

Working With Web Technology:
Wire Framing and Prototyping

Front End



Back End



Web Technology



The current relevance of the topic

A detailed world map showing the global network of submarine cables. The cables are represented by thin blue lines running along the continental shelves and across the ocean basins. The map highlights major routes such as the transatlantic cables connecting Europe and North America, and various routes in the Indian and Pacific Oceans.

Submarine Cables
1989-2023

READY FOR SERVICE

1992

NUMBER OF
CABLES LAID | 9

The Internet

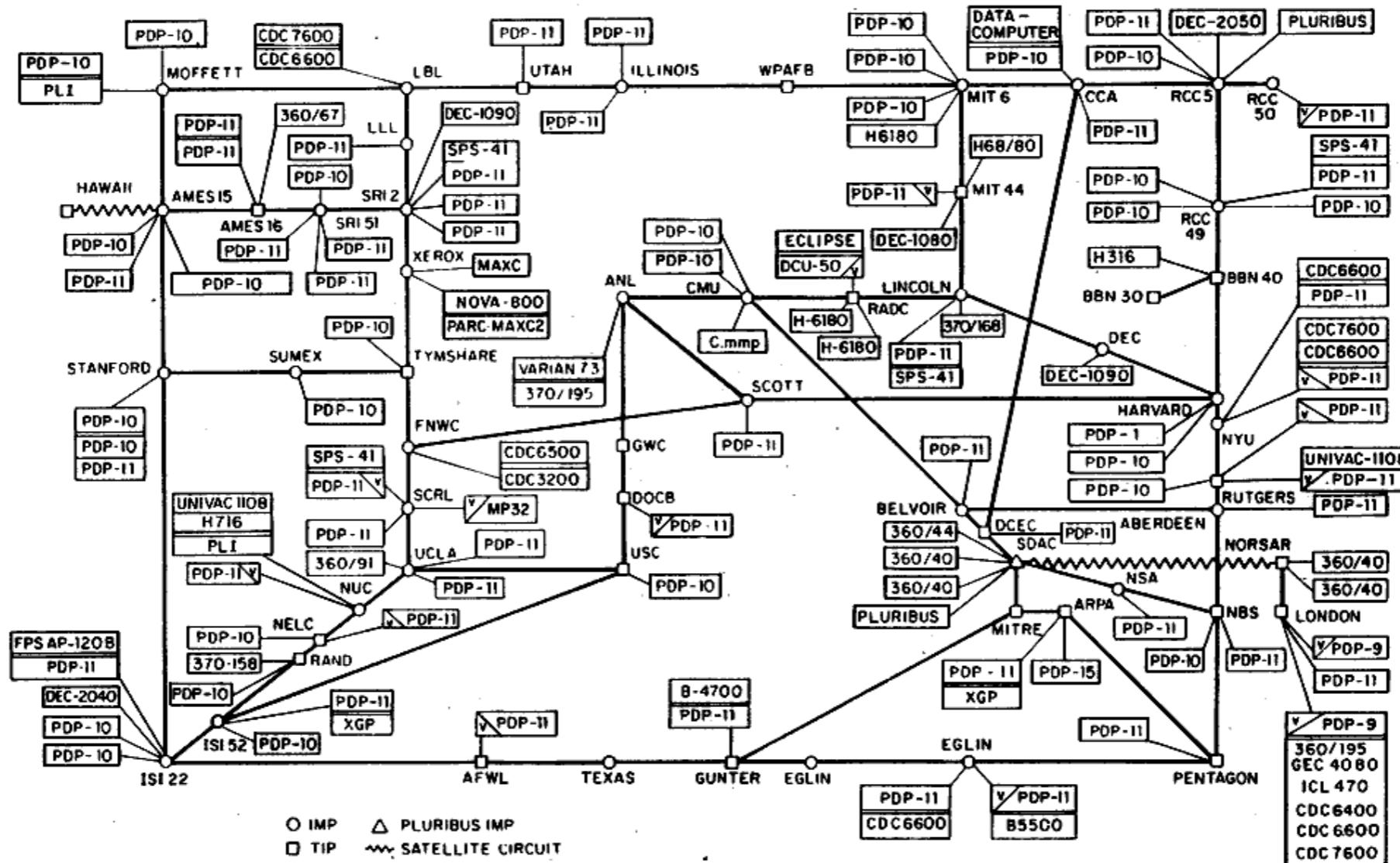
- **Transmission Control Protocol (TCP) ***
- **Internet Protocol (IP) ***
- **Hypertext Transfer Protocol (HTTP) / Hypertext Transfer Protocol Secure (HTTPS) ***
- User Datagram Protocol (UDP)
- FTP (File Transfer Protocol)
- Mail-Protocols (SMTP, POP3, IMAP)
- Secure Shell (SSH)

*the main WEB Protocols

VIDEO

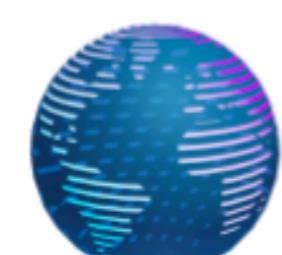
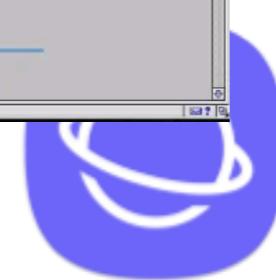
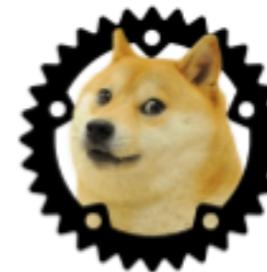
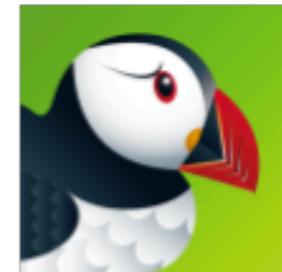
https://www.youtube.com/watch?v=XE_FPEFpHt4

ARPANET LOGICAL MAP, MARCH 1977



(PLEASE NOTE THAT WHILE THIS MAP SHOWS THE HOST POPULATION OF THE NETWORK ACCORDING TO THE BEST INFORMATION OBTAINABLE, NO CLAIM CAN BE MADE FOR ITS ACCURACY)

NAMES SHOWN ARE IMP NAMES, NOT (NECESSARILY) HOST NAMES



The World Wide Web



Nov. 17, 1970

D. C. ENGELBART

3,541,541

X-Y POSITION INDICATOR FOR A DISPLAY SYSTEM

Filed June 21, 1967

3 Sheets-Sheet 1

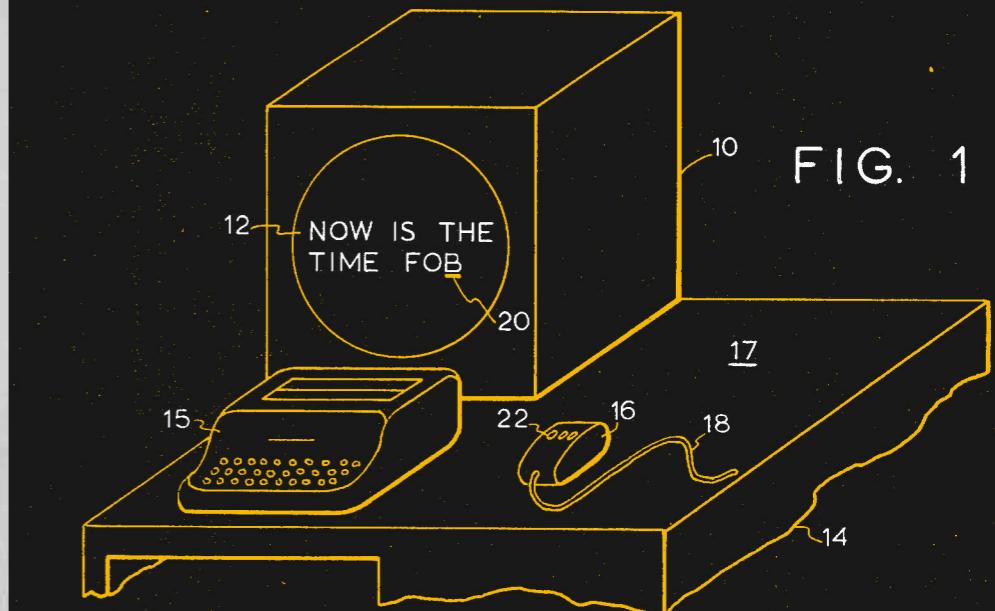


FIG. 1

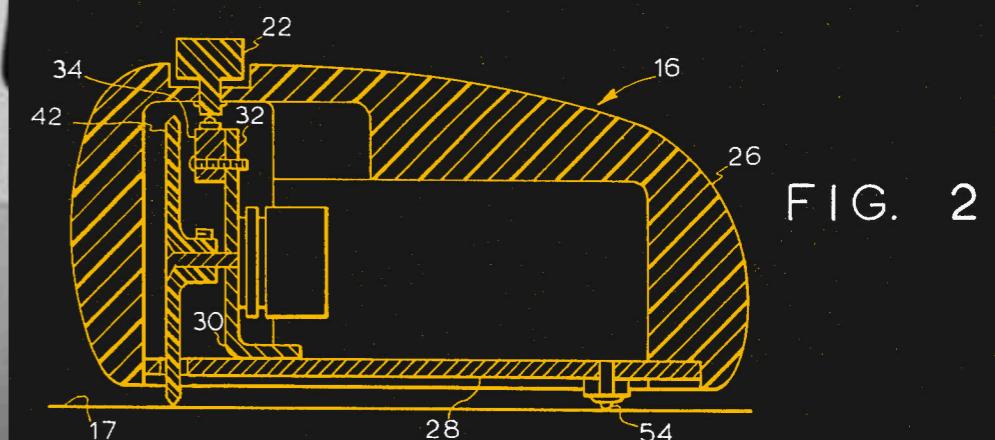


FIG. 2

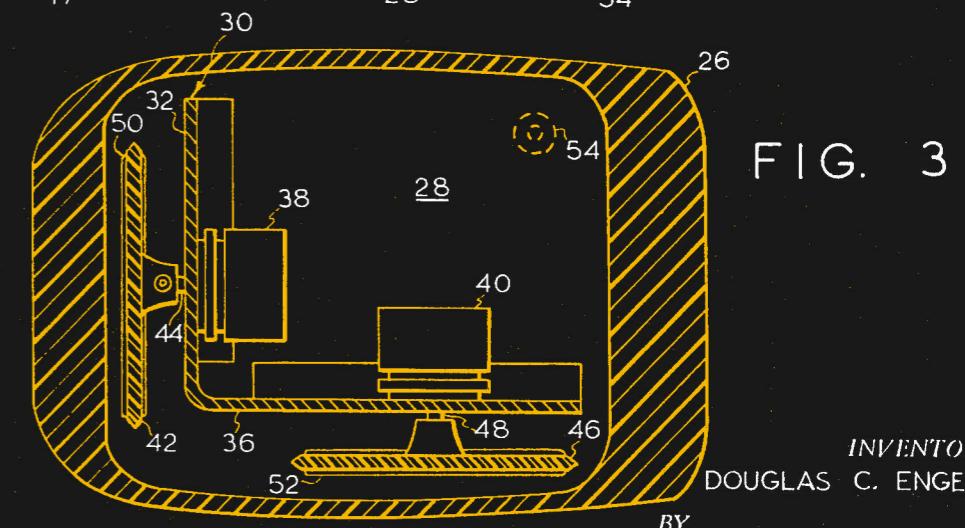


FIG. 3

INVENTOR.

DOUGLAS C. ENGELBART

BY
Lindenborg + Freilich



The World Wide Web

Tim Berners Lee

VIDEO

https://www.youtube.com/watch?v=_mNOXDbXr9c

The World Wide Web

Tim Berners Lee

WEB AND INDUSTRY

Automotive

Entertainment (TV and Broadcasting)

Publishing

Web Payments

Web of Data

Web and Telecommunications

Web of Things

WEB FOR ALL

Accessibility

Internationalization

Web Security

Privacy

W3C WORK GROUPS

Code of Ethics and Professional Conduct

W3C Groups

Participant guidebook

Current W3C Community Groups

Proposed W3C Community Groups

DEV RESOURCES**W3C DEVELOPERS**

Validators

W3C cheatsheet

More C

Web P

W3Cx /Training

More v

The World Web Consortium

Tim Berners Lee

MEMBER-ONLY HOME**W3C Team interim travel restrictions and guidance for continuity of operations**11 March 2020 | [Archive](#)

2020-03-25 Update: W3C Management resolved to renew and extend until July 15, 2020 the interim W3C Team travel policy and the guidance to not hold in-person meetings of W3C Groups.

Effective immediately and through **15 May July 15, 2020**:

- The W3C Team travel policy prescribes that all international travel is suspended and staff are urged to consider the importance of any domestic travel before agreeing to domestic travel other than commuting. Remote teleconferencing is recommended in place of travel.
- W3C Management also recommends that all W3C groups not hold physical face-to-face meetings and should instead plan virtual equivalents.
- W3M plans on updating the guidance as conditions continue to evolve.

To that effect the W3C Team has published a first version of: [Continuity of Operations under Travel Restrictions](#).

With travel restrictions, the world relies even more on online interaction and the World Wide Web is a crucial part of the human society.

Our primary concern is individual and community health. Slowing the spread of the COVID-19 virus improves the chances that health systems will have the capacity to treat usual health issues plus those affected.

- Individual and community health: take care of yourselves and those around you. Even if an individual is not personally at-risk, COVID-19 may be contagious before symptoms appear.
- Unpredictability of border measures and quarantines: international travelers risk getting caught far from home or facing quarantine.
- Unpredictability of meeting plans: many conferences are being canceled, and many localities are canceling large gatherings.

W3C Invites Implementations of Time Ontology in OWL26 March 2020 | [Archive](#)**W3C Invites Implementations of TTML Profiles for Internet Media Subtitles and Captions 1.2**24 March 2020 | [Archive](#)**First Public Working Draft: RTC Accessibility User Requirements (RAUR)**19 March 2020 | [Archive](#)**DOM Review Draft 18 June 2019 Endorsed as a W3C Candidate Recommendation**17 March 2020 | [Archive](#)**Macmillan Learning and Fondazione LIA win the ABC 2020 Awards**12 March 2020 | [Archive](#)**Join us in celebrating the 31st birthday of the World Wide Web**10 March 2020 | [Archive](#)**Public Working Drafts for Pronunciation**10 March 2020 | [Archive](#)[More news...](#)**ABOUT W3C**

The World Wide Web
standards to ensure

DONATIONS

Become a Friend

W3C BLOG

W3C Distributed
31 March 2020 by

RTC Accessibili
19 March 2020 by

Listen to the Pe
18 March 2020 by

W3C IS HIRIN

- A Privacy

W3C MEMBER**PEER****Peer5**

Peer5 solves the
We operate a W

WEB ACCESS

Watch our video

		Chrome	Edge	Firefox	Internet Explorer	Opera	Safari	Android webview	Chrome for Android	Firefox for Android	Opera for Android	Safari on iOS	Samsung Internet
	Bluetooth	56 ★ ▼	≤79 ★ ▼	No	No	43 ★ ▼	?	No	56	No	43	?	6.0
	getAvailability	56 ★ ▼	≤79 ★ ▼	No	No	43 ★ ▼	?	No	56	No	43	?	6.0
	onavailabilitychanged	56 ★ ▼	≤79 ★ ▼	No	No	43 ★ ▼	?	No	56	No	43	?	6.0
	referringDevice	56 ★ ▼	≤79 ★ ▼	No	No	43 ★ ▼	?	No	56	No	43	?	6.0
	requestDevice	56 ★ ▼	≤79 ★ ▼	No	No	43 ★ ▼	?	No	56	No	43	?	6.0

What are we missing?

Full support

No support

Compatibility unknown

Experimental. Expect behavior to change in the future.

* See implementation notes.

User must explicitly enable this feature.

It all comes down to the browser..

Database



Server Side Code



CMS



Joomla!™



PRESTASHOP



Drupal



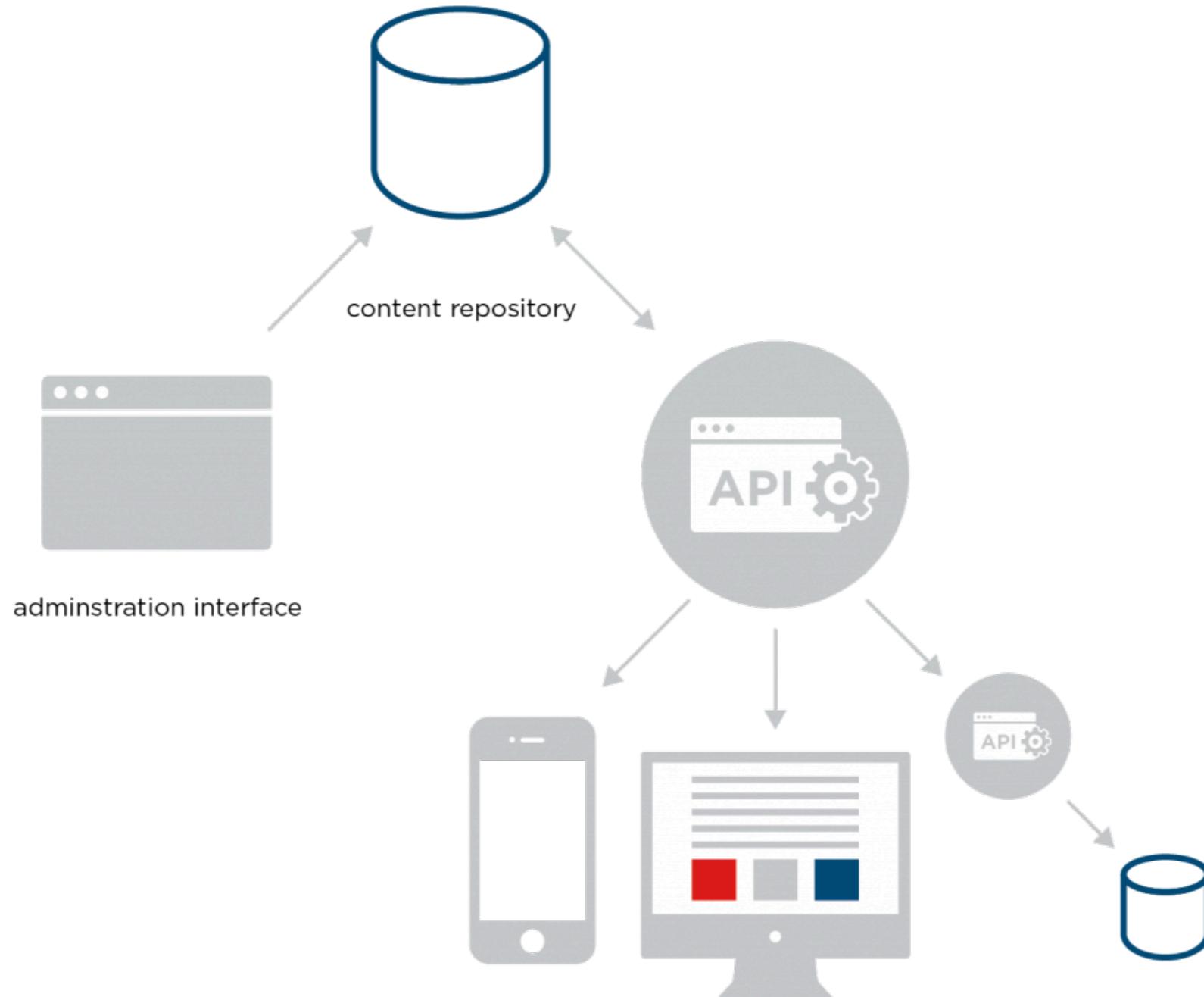
Magento®



WORDPRESS

Web Technology

Server Side



Web Technology

Server Side

```
<body class="web-dev-101">

  <h1 id="week-1">Building a Solid Foundation with HTML</h1>

  <ul class="stuff-covered">
    <li>Tags, Elements, and Attributes</li>
    <li>Forms, Links, Images, and Lists</li>
    <li>HTML Document Structure, Sectioning, etc.</li>
  </ul>

</body>
```

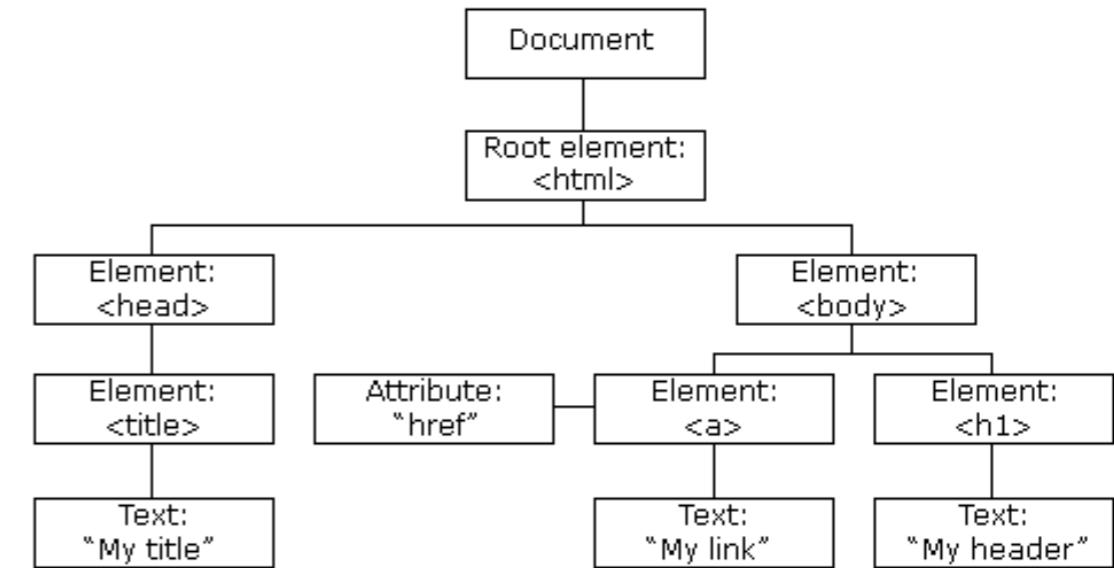
HTML



Client Side

Hypertext Markup Language (HTML) and CSS

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My title</title>
5  </head>
6  <body>
7      <p>My header</p>
8      <a href="url">My link</a>
9  </body>
10 </html>
11 |
```



Client Side

The HTML DOM (Document Object Model)



```
label {  
  font-family: 'Montserrat', sans-serif;  
  margin-top: 1em;  
  display: inline-block;  
}  
  
input {  
  font-family: 'Courgette', cursive;  
  font-size: 1em;  
  width: 100%;  
  line-height: 2em;  
}
```

Client Side

CSS (Cascading Style Sheets)

JS

Client Side
Javascript

```
const global = 'global'
const anotherGlobal = 'also global'

function fn() {

    const global = 'function scoped'
    console.log(global) // function scope
    const scoped = 'also function scoped'

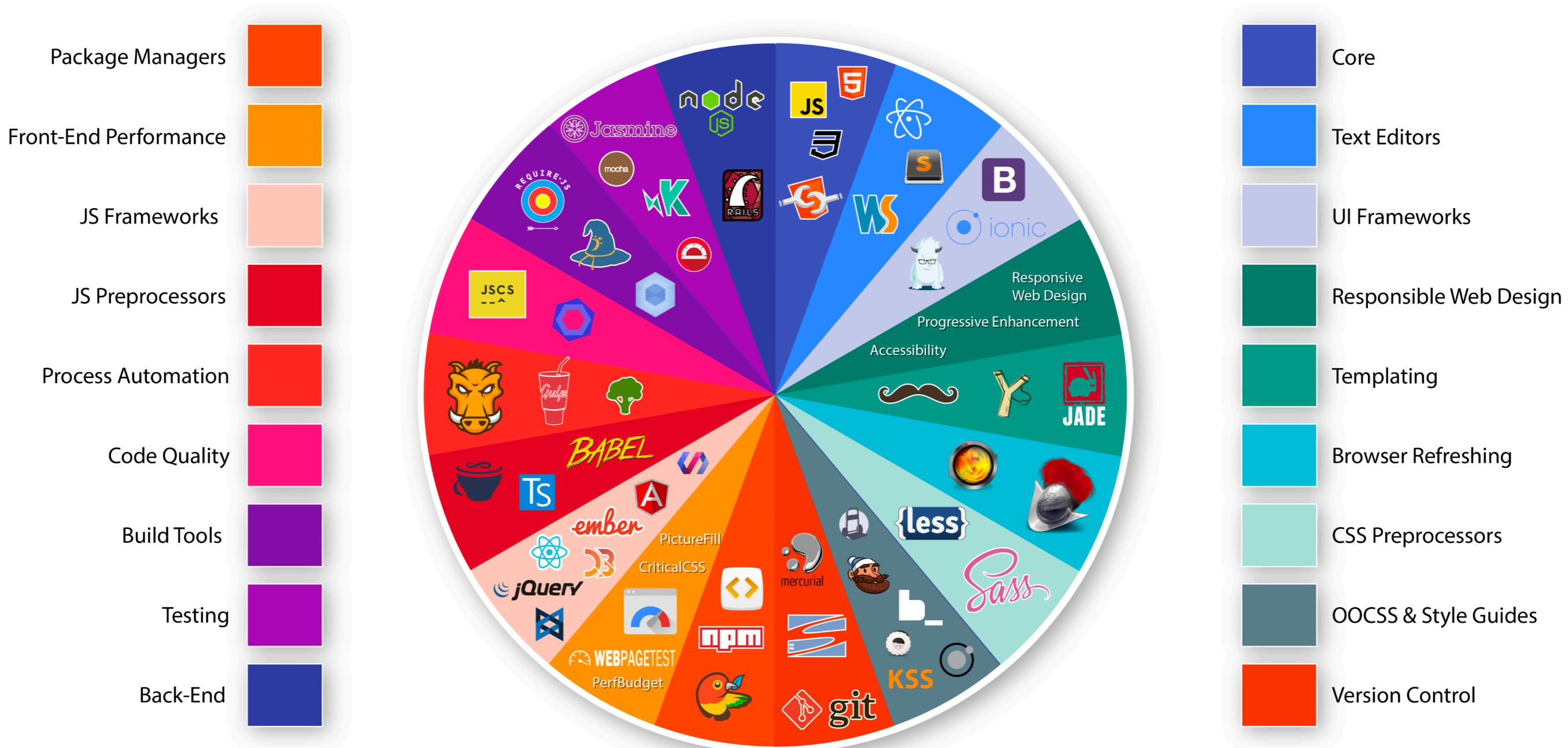
    function inner() {
        console.log(scoped); // also function scope
        console.log(anotherGlobal) // also global
    }

    inner();
}

console.log(global) // global
console.log(anotherGlobal) // also global
console.log(scoped) // ReferenceError

fn();
inner(); // ReferenceError
```

THE FRONT-END SPECTRUM



The Front End - Theres a little more to it...

EXAMPLE 1

<https://www.katemoross.com/>

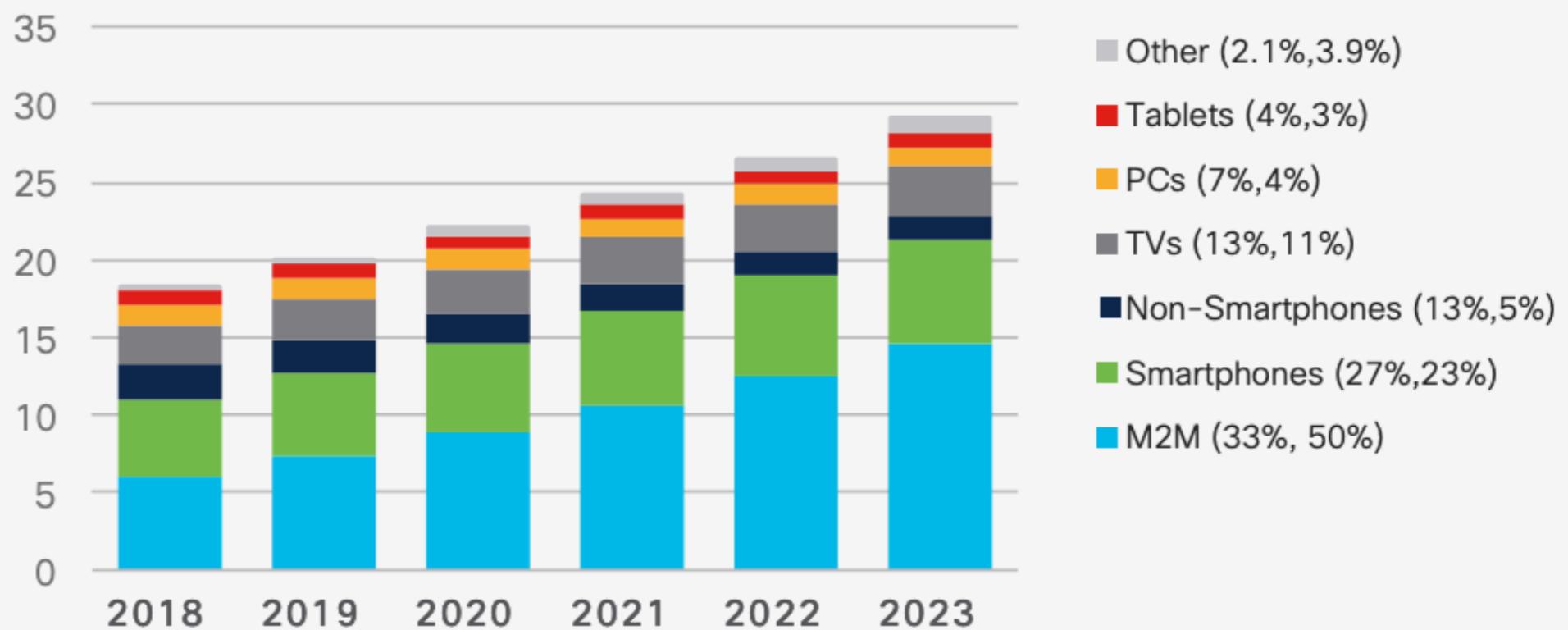
EXAMPLE 2

https://www.washingtonpost.com/graphics/2020/world/corona-simulator/?fbclid=IwAR1WBxrEnSHy7nh1IqhSz82lVVlRzC-enzHkQhqMdkBxddN1HPwm0t1EwoE&utm_campaign=wp_main&utm_medium=social&utm_source=facebook

Putting it all Together (using inspector in browser)

**10% CAGR
2018-2023**

Billions of
Devices



* Figures (n) refer to 2018, 2023 device share

Source: Cisco Annual Internet Report, 2018-2023

The Decreasing dominance of WWW