

CSS

CSS FUNDAMENTALS

Context



IN A ROCKET

Learn front-end development at *rocket speed*

PAST

+

PRESENT

+

FUTURE



+



MATURITY OF SPECIFICATIONS BY STATUS CODE

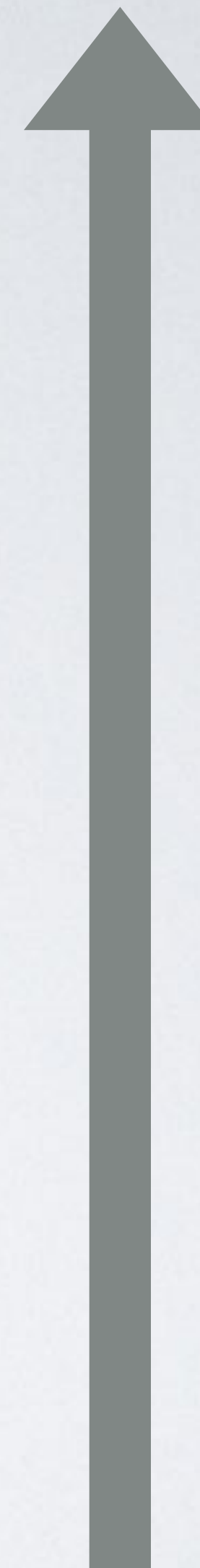
REC RECOMMENDATION

PR PROPOSED RECOMMENDATION

CR CANDIDATE RECOMMENDATION

WD WORKING DRAFT

FPWD FIRST PUBLIC WORKING DRAFT



- ◆ Box properties
- ◆ Cascade
- ◆ Color + background
- ◆ CSS syntax
- ◆ Font properties
- ◆ Pseudo-classes
- ◆ Text properties



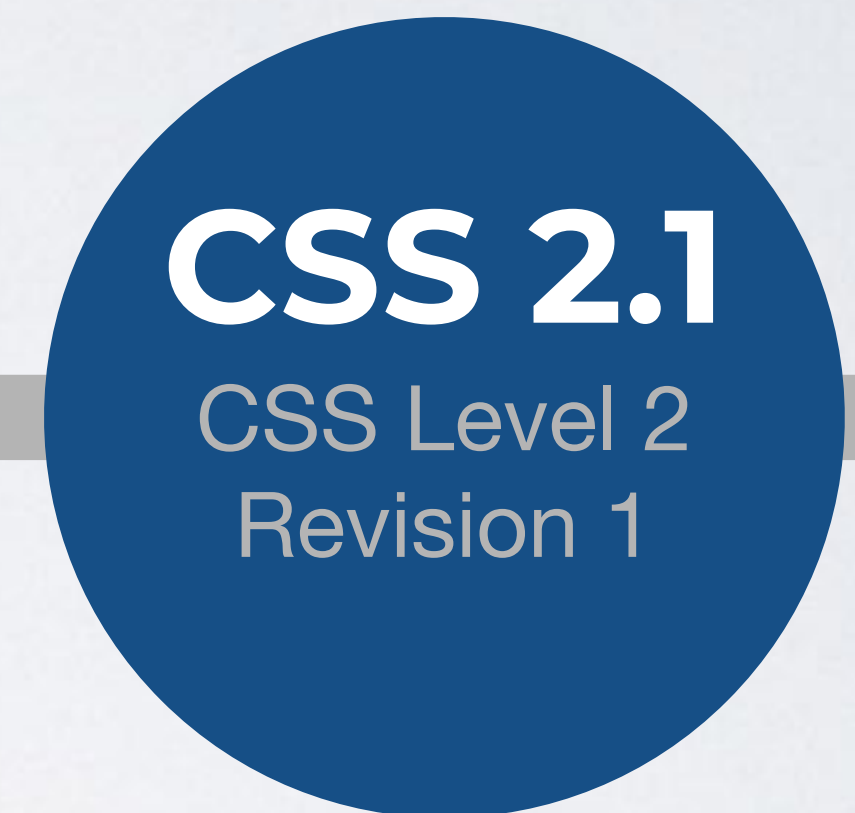
DEC 1996



MAY 1998

CSS 1 + **CSS 2** +

- ◆ Box model
- ◆ Generated content
- ◆ Media types
- ◆ Paged media
- ◆ Selectors
- ◆ Tables
- ◆ Visual effects



JUN 2011

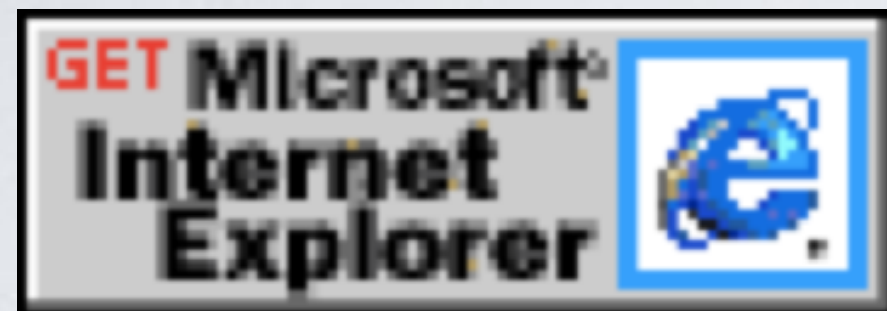


+



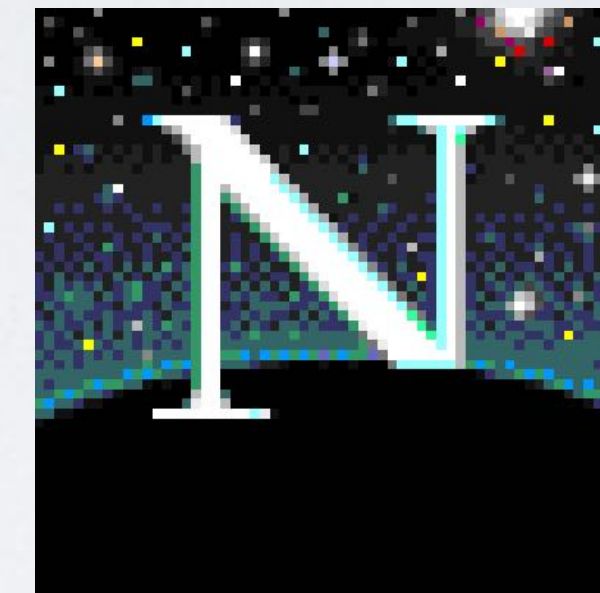
STANDARDS WERE OFTEN IGNORED

SITE OPTIMIZED FOR:



etc.

BROWSERS REQUIRED MANUAL UPDATES



PAST

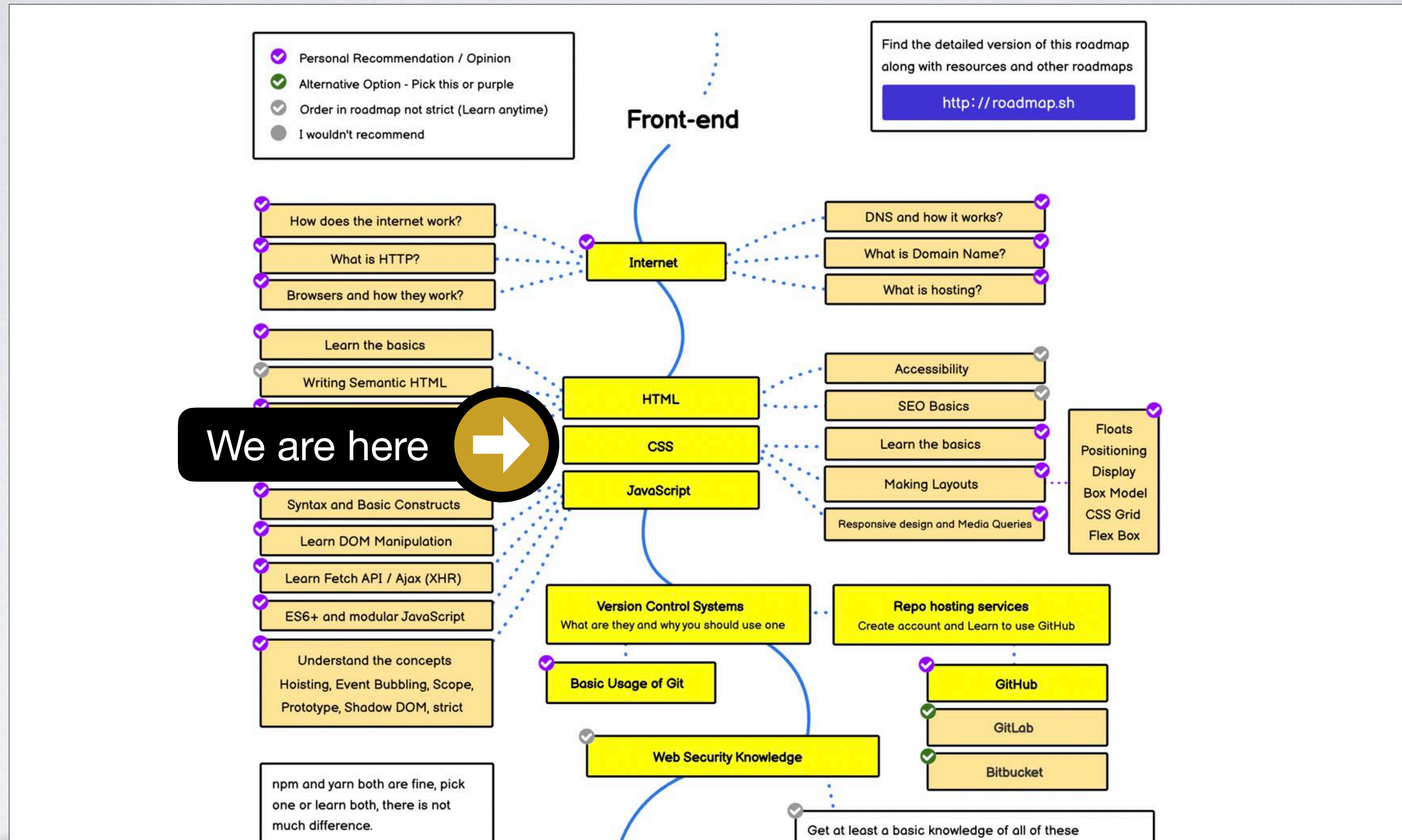
+

PRESENT

+

FUTURE

FRONT-END DEVELOPER ROADMAP



SOURCE: [Front-end developer roadmap by Kamran Ahmed.](#)



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CSS3

CSS4+

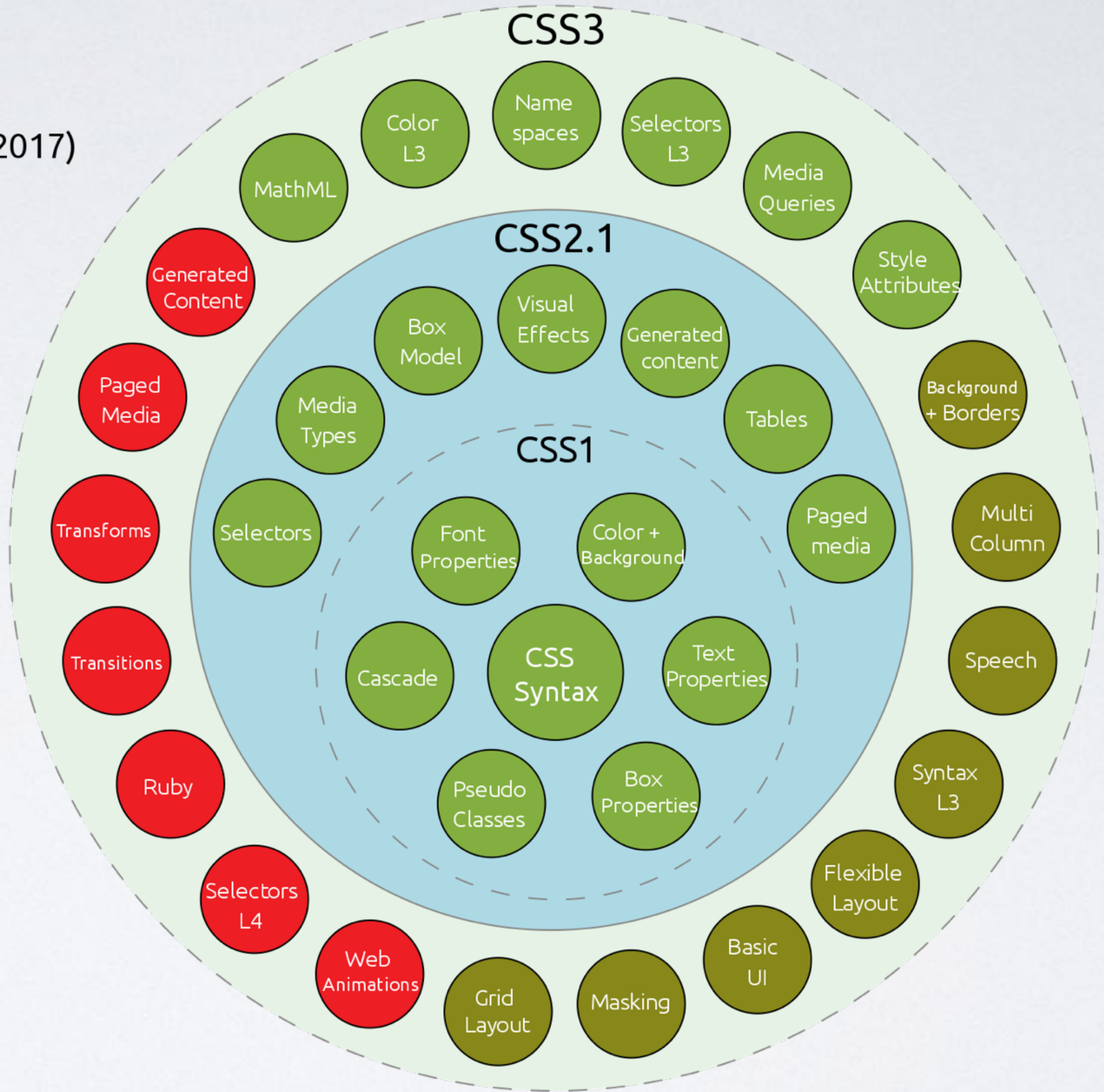
CSS?

CSS3: TAXONOMY AND STATUS BY SERGEY MAVRODY

CSS3

Taxonomy & Status (September 2017)

- W3C Recommendation
- Candidate Recommendation
- Last Call
- Working Draft
- Obsolete or inactive



SOURCE: [HTML5 & CSS3: Quick Reference by Sergey Mavrody](#).

+80

SPECIFICATIONS

The screenshot shows a web browser window titled "All CSS specifications". The page header includes the W3C logo, the text "Descriptions of all CSS specifications", and a "Languages" section with flags. A navigation menu contains "CSS HOME", "LEARN & USE", "SOFTWARE", and "PARTICIPATE / DRAFTS". A search bar is located on the right. The main content area features a blue box with the heading "CSS SPECIFICATIONS" and a paragraph: "This page contains descriptions of all specifications that the [CSS WG](#) is working on. See the 'current work' page for a compact view and [how to give feedback](#)." Below this, the "MEDIA QUERIES" section is visible, with a paragraph: "Media Queries is an enhancement of the @media rules of CSS and the 'media' attribute in HTML. It adds parameters such as size of display, color depth and aspect ratio. This is because within a class of media (such as TV sets) there can still be important variations. It is related to the work on CC/PP, but is a much more light-weight and limited solution." To the right of this text are two icons: a pushpin labeled "Tests" and a clock labeled "History". Below the text, the editors are listed: "Editors: Florian Rivoal, Håkon Wium-Lie, Tantek Çelik, Daniel Glazman, Anne van Kesteren". The "CSS FLEXIBLE BOX LAYOUT LEVEL 1" section is also visible, with a paragraph: "The Flexible Box Layout Module defines the 'flex' and 'inline-flex' keywords for the 'display' property, which cause an element to be displayed as either a column or a row of child elements. Additional properties determine the order of the child boxes (left to right, bottom to top, etc.) and how space is distributed over the children and the spaces between them. The module is primarily intended for forcing rows of controls in a GUI to equal height or width." To the right of this text is a clock icon labeled "History". Below this, the "CSS IMAGE VALUES AND REPLACED CONTENT MODULE LEVEL 3" section is visible, with a paragraph: "The Image Values Module defines how properties can refer to images by URI. All properties that can take". To the right of this text is a clock icon.

CSS current work & how to participate

W3C CSS current work & how to participate Languages

CSS HOME LEARN & USE SOFTWARE PARTICIPATE / DRAFTS

CSS SPECIFICATIONS

This page contains a list of all completed specifications and drafts by the [CSS WG](#) (formerly 'CSS & FP WG'). If you want to follow the development of CSS3, this is the place to start. You have ideas? Contributions? See 'If you want to help' on this page.

A specification is not a manual. There is no excuse for badly written drafts and please complain if you find one. But specs do target a specific audience. See fantasai's *Understanding the CSS Specifications..* J. David Eisenberg has written another useful *How to read W3C specs*. Or you can read about 'modules,' 'levels,' 'snapshots' and the CSS process.

Worklets Level 1	FPWD	WD	i	○
CSS Color Level 4	FPWD	WD	i	○
CSS Fonts Level 4	WD	WD	i	○
CSS Rhythmic Sizing Level 1	FPWD	WD	i	○
CSS Image Values and Replaced Content Level 4	WD	WD	i	○
CSS Fill and Stroke Level 3	FPWD	WD	i	○
CSS Logical Properties and Values Level 1	FPWD	WD	i	○
CSS Overflow Level 4	FPWD	WD	i	○
CSS Grid Layout Level 2	FPWD	WD	i	○
CSS Text Decoration Level 4	FPWD	WD	i	○
CSS Layout API Level 1	FPWD	WD	i	○

WHAT'S NEW?

- 2018-07-03 Updated Candidate Recommendation: *CSS Text Decoration Level 3*.
- 2018-06-28 Updated Working Draft: *CSS Grid Layout Level 2*.
- 2018-06-26 Updated Candidate Recommendation: *CSS Fonts Level 3*.
- 2018-07-01 New Recommendation: *CSS Basic User Interface Level 2*.

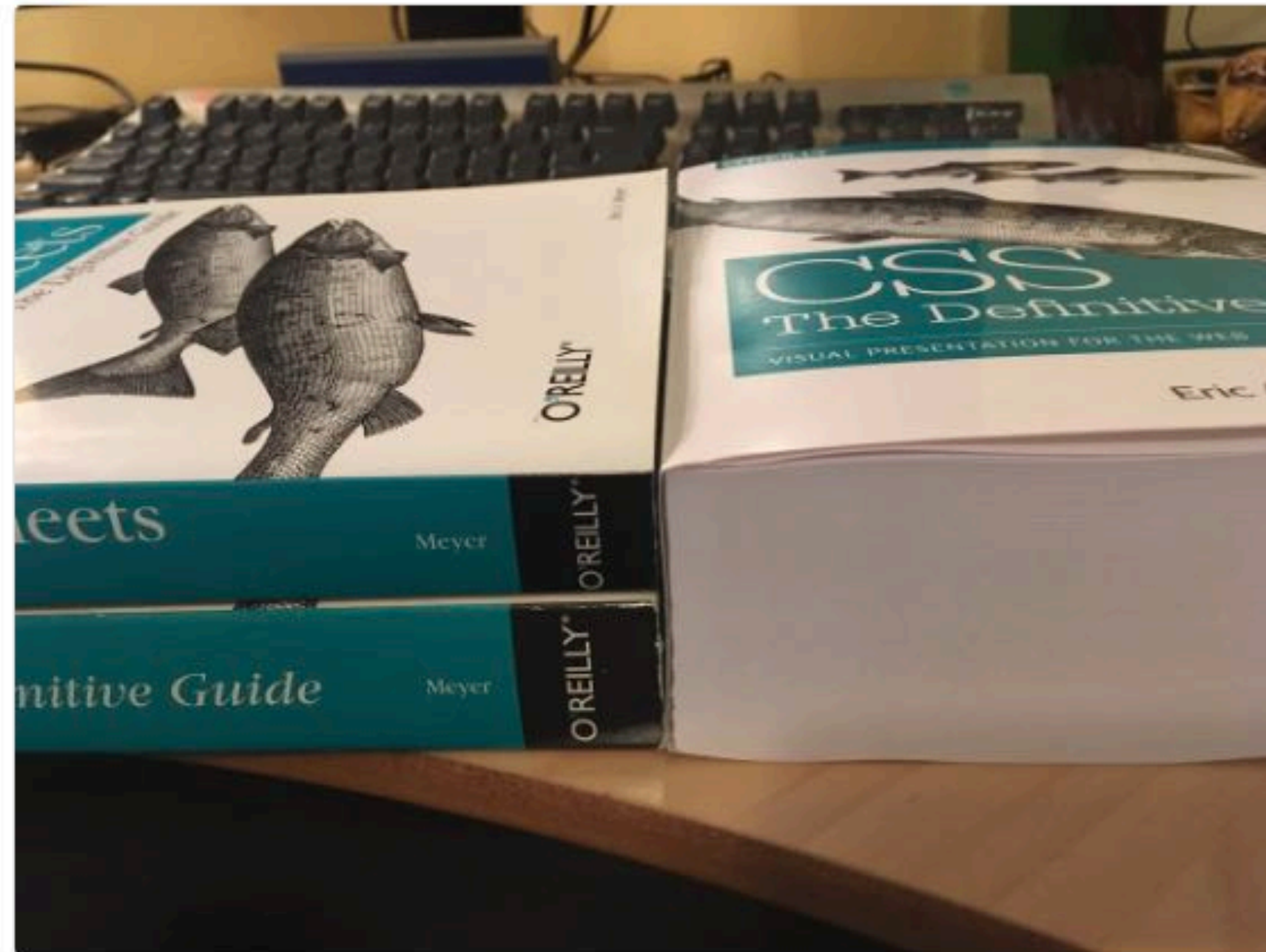
	Cur- rent	Up- com- ing	Notes	i	○
Rewriting				i	○
CSS Basic Box Model Level 3	WD	WD	Dangerously outdated; see CSS 2.1	i	○



Eric Meyer
@meyerweb

Following

On the left: the 2nd and 3rd editions of “CSS: The Definitive Guide”. On the right, a single copy of the fourth edition.



4:25 PM - 10 Nov 2017

1,316 Retweets 3,303 Likes





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Evergreen browsers

PAST

+


PRESENT

+

FUTURE



**POSTCSS
PRESET ENV**



**CSS
HOUDINI**

postcss-preset-env

Use tomorrow's CSS today.



Features



Try It Now



Support



GitHub

PostCSS Preset Env lets you convert modern CSS into something most browsers can understand, determining the polyfills you need based on your targeted browsers or runtime environments, using [cssdb](#).

```
npm install postcss-preset-env
```

You can write future CSS syntax, and the plugin will convert it to CSS that browsers will understand (using polyfills).

The screenshot shows the PostCSS Preset Env website. The top navigation bar includes the site name 'postcss-preset-env', 'Features', 'Try It Now', and 'Support'. A left sidebar contains a search bar set to 'Stage 0+' and a list of features. The main content area displays three feature entries, each with a title, a description, a code example, and a set of tabs for 'STAGE', 'SPECIFICATION', and 'PLUGIN'.

postcss-preset-env Features Try It Now Support

Stage 0+

- all property
- :any-link pseudo-class
- :blank empty-value pseudo-class
- break properties
- case-insensitive attributes
- functional color notation
- custom media queries
- custom properties
- custom selectors
- :dir pseudo-class
- double position gradients
- custom environment variables
- :focus-visible pseudo-class
- :focus-within pseudo-class
- font-variant property
- gap properties
- gray() function
- alpha hex colors
- hwb() function
- image-set() function
- lab() function

all property

STAGE 3 SPECIFICATION PLUGIN

A property for defining the reset of all properties of an element

```
a {  
  all: initial;  
}
```

:any-link pseudo-class

STAGE 2 SPECIFICATION PLUGIN

A pseudo-class for matching anchor elements independent of whether they have been visited

```
nav :any-link > span {  
  background-color: yellow;  
}
```

:blank empty-value pseudo-class


STAGE 1 SPECIFICATION PLUGIN

A pseudo-class for matching form elements when they are empty

```
input:blank {
```




**POSTCSS
PRESET ENV**



**CSS
HOUDINI**

CSS HOUDINI

Group of APIs for direct access to the CSS Object Model

Box Tree API

Layout API

Painting API

Parser API

Properties & values API

Font metrics API

Typed OM




























Worklets









Animation worklet

CSS HOUDINI: W3C EDITOR DRAFTS

W3C Home Login

CSS-TAG Houdini Editor Drafts

Specification	Last Update	By	
Box Tree API 1	2018-08-14 05:14:43 PDT	philip_j_genstedt	 
CSS Animation Worklet 1	2019-08-12 06:57:43 PDT	majidvp	  
CSS Layout API 1	2019-02-20 20:05:55 PST	philip_j_genstedt	  
CSS Painting API 1	2019-07-23 13:59:26 PDT	tabatkins	   
CSS Parser API 1	2017-11-09 13:05:45 PST	dbaron	  
CSS Properties and Values API 1	2019-07-31 10:34:16 PDT	tabatkins	 
css-typed-om			
CSS Typed OM 1 (Current Work)	2019-08-21 22:35:09 PDT	kagami_sascha_rosylight	  
CSS Typed OM 2	2018-05-10 15:34:50 PDT	tabatkins	 
Font Metrics API 1	2019-02-11 05:11:49 PST	philip_j_genstedt	  
Worklets 1	2019-08-20 09:04:58 PDT	kagami_sascha_rosylight	 

Other Documents	Last Update	By	
CODE OF CONDUCT	2018-05-23 13:15:48 PDT	plh	 
CONTRIBUTING	2018-05-23 13:15:47 PDT	plh	 
LICENSE	2018-05-23 13:15:46 PDT	plh	 
README	2018-06-11 07:23:45 PDT	astearns	 

Please send comments, questions, and error reports to www-style@w3.org

CSS HOUDINI: EXPERIMENTS

CSS HOUDINI experimental showcase by @iamvdo Need latest Chrome with flag! [Support?](#)

BACKGROUNDS

- [Conic gradient](#)
- [Corners gradient](#)
- [Slanted backgrounds](#)
- [Checkboxes](#)
- [Background properties](#)
- [JS-in-CSS](#)

BORDERS

- [Simple tooltip](#)
- LAST** [Inner borders](#)
- [Rough boxes](#)
- [Non-rectangular separators](#)

MASKS

- [Corner shapes](#)
- [Avatar polygons](#)
- [Smooth corners](#)
- [Dynamic hover masks](#)
- [Random bubbles mask](#)

ANIMATIONS

- [Animating a gradient](#)
- [Ripple animation](#)
- [Highlighter marker annotations](#)
- [Double rainbow](#)
- [Wobble animation](#)

LAYOUT

- [EQ: Responsive background](#)
- [Random irregular grid](#)

CSS Houdini Experiments

Here is my experiments with the latest CSS Houdini spec. You'll need the latest Chrome (with Web Platform flag enabled). See [support](#)

[Source code on GitHub](#)

Let's do it!

First, see [how to register a new custom property](#) (and why). Then, check [how to write your own custom paint](#) to use with `background-image`. Or [borders](#). Or [CSS masks](#).

At the end, [interact with user inputs](#) and [animate it!](#)

Learn Houdini

- [Houdini on Smashing Mag](#)
- [Houdini and the paint API](#)
- [Working with the new CSS Typed Object Model](#)
- [Awesome CSS Houdini](#)




Specification links

- [CSS Properties & Values API](#)
- [CSS Typed OM](#)
- [CSS Painting API](#)
- [CSS Layout API](#)
- [All other Houdini specs](#)

CSS HOUDINI: BROWSER SUPPORT

July 2019








Is Houdini ready yet?

	 Google Chrome	 Mozilla Firefox	 Opera	 Microsoft Edge	 Samsung Internet	 Apple Safari	 Spec
Layout API (Explainer Demos)	Partial support (Canary) Details	Intent to implement Details	No signal	No signal	No signal	No signal	First Public Working Draft Spec
Paint API (Explainer Demos Article)	Shipped (Chrome 65) Details	Intent to implement (Servo) Details	Shipped (Opera 52) Details	No signal	Shipped (Internet 9.2) Details	In Development Details	Candidate Recommendation Spec
Parser API (Explainer)	No signal	No signal	No signal	No signal	No signal	No signal	No spec
Properties & Values API (Demos)	Partial support (Canary) Details	In Development Details	No signal	No signal	No signal	Partial support (Safari TP 67) Details	Working Draft Spec
AnimationWorklet (Explainer Demos Article)	Partial support (Canary) Details	No signal	No signal	No signal	No signal	No signal	First Public Working Draft Spec
Typed OM (Explainer Article)	Shipped (Chrome 66) Details	Intent to implement Details	Shipped (Opera 53) Details	No signal	Shipped (Internet 9.2) Details	In Development Details	Working Draft Spec
Font Metrics API (Explainer)	No signal	No signal	No signal	No signal	No signal	No signal	No spec

CSS HOUDINI: BROWSER SUPPORT

February 2022

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	Partial support (Safari TP 67) 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	In Development 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) Details	Partial support (Opera 58) Details	Partial support (Internet 10.2) Details	No signal	Under consideration Details	First Public Working Draft Spec
Parser API (Explainer Demos Article)	No signal	No signal	No signal	No signal	No signal	No signal	Proposal Spec

PAST



PRESENT

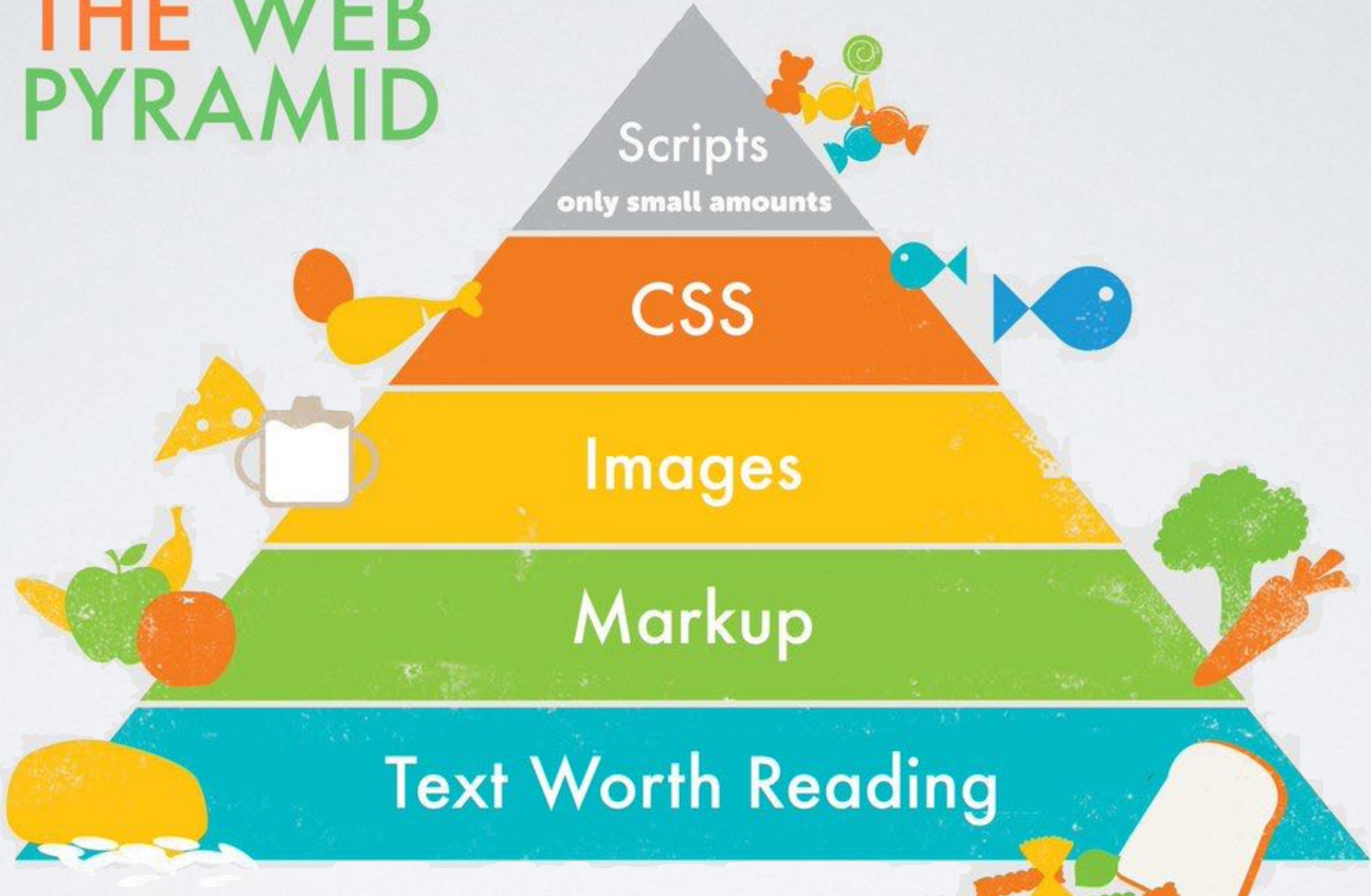


FUTURE



CONTENT IS KING, NOT CSS

THE WEB PYRAMID



SOURCE: [The Web Pyramid](#) by @pinboard.

CSS

CSS FUNDAMENTALS

Context



IN A ROCKET

Learn front-end development at *rocket speed*