

TEMA 5:
ECMAScript, DOM, NAVEGADOR
EI1042 - TECNOLOGÍAS Y APLICACIONES WEB
EI1036- TECNOLOGÍAS WEB PARA LOS SISTEMAS DE
INFORMACIÓN
(2018/2019)

Universitat Jaume I

TABLA DE CONTENIDOS

1. INTRODUCCIÓN EMACSCRIPT

EVOLUCIÓN ECMASCRIPT

DIALECTOS/API

JAVASCRIPT

EDITORES EN LÍNEA:

<http://jsfiddle.net/>

<https://codepen.io/idesi/pen/rLgaJO>

OBJETOS

CREACIÓN DE OBJETOS

```
personObj = {nombre: "Carlos Sempere", apodo: "Doe", edad: 50};
```

```
var Autor = new Object();  
Autor.nombre = "Carlos Sempere";  
Autor.apodo = "Doe" ;  
Autor.edad = 50;  
//objeto 'Autor' con atributos
```

```
function Persona(nombre, apodo, edad) {  
    this.nombre=nombre;  
    this.apodo=apodo;  
    this.age=edad;  
}  
var Autor= new Persona("Anas Sempere", "Doe", 50);
```

DECLARACIÓN VARIABLES /AMBITOS

EJEMPLO JS

```
var z; // sin inicializarla
var x = 42
y = 42 // sin declarar variable
let y = 13
const PI = 3.14;
let arr = [ 3 , 5 , 7 ];
arr.foo = "hola";

for (let i in arr) {
    console.log(i); // logs "0", "1", "2", "foo"
}

for (let i of arr) {
    console.log(i); // logs "3", "5", "7"
}
```

TIPOS DE DATOS

ARRAY

```
var colors = ["red", "green", "blue"];
```

```
var colors = new Array();  
colors[0] = "red"; colors[2] = "blue";  
colors[1] = "green";
```

```
var colors = new Array(3,2,1,0);
```

FUNCIONES

```
function NombreFuncion (parametro1, ..., parámetro N )  
{...  
    return valor;  
}
```

FUNCIONES

```
function grado() {  
  function titulo(name) {  
    return "Dr. " + name; }  
  return titulo; //una funcion!  
}  
var phd = grado();  
phd("Turing"); //Dr Turing
```

EJEMPLOS JAVASCRIPT(1) TRY-THROW-CATH

```
function getMonthName(mo) {  
    mo = mo - 1 ; // Adjust month number for array index (1  
    var months = ["Jan", "Feb", "Mar", "Apr", "May", "Jun", "Jul"  
    "Aug", "Sep", "Oct", "Nov", "Dec"];  
    if (months[mo]) { return months[mo]; }  
    else { throw "InvalidMonth"; // Lanzamos una excepción.  
}  
myMonth=5;  
try { // statements to try  
    monthName = getMonthName(myMonth); // function could th  
}catch (e) {  
    monthName = "unknown";  
    console.log(e); // pass exception object to error han  
}
```


EJEMPLOS JAVASCRIPT(2)

```
function Primera(p1, p2) {  
    p1(p2);}  
// Función Literal  
var Segunda = function (m1) {  
    console.log(m1 / 10 );  
};  
// Pasando la Función Segunda como parámetro de Primera  
Primera(Segunda, 20 );
```

FUNCIÓN ANÓNIMA

```
function (parametro1, ..., parametro N )  
{ ...  
return valor;  
}
```

```
/* funcion anónima sin parámetros*/  
(function() { alert("hola mundo") })()  
/* funcion anonima como un parametro*/  
(function(quien) {alert("hola "+quien)})( "mundo" )
```

```
return function(quien) {alert("hola "+quien)} ( 'mundo' )
```

EJEMPLOS JAVASCRIPT(3)

```
var f1=function(x,y)
{
    var s=x+y;
    return s;
}
console.log(f1( 4 , 6 ));
var f2=f1;
console.log(f2( 3 , 3 ));
```

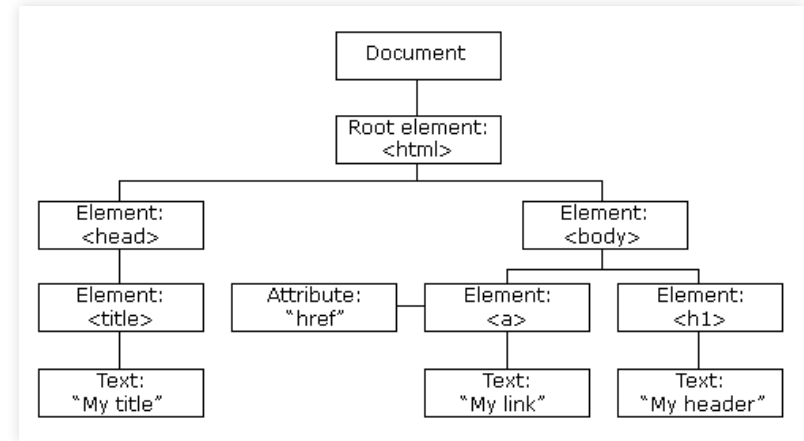
JAVASCRIPT EN EL NAVEGADOR

```
<button onclick="return handleClick(event, this);">
```

```
<script > console.log('hola');</script>
```

```
<script src="url"></script>
```

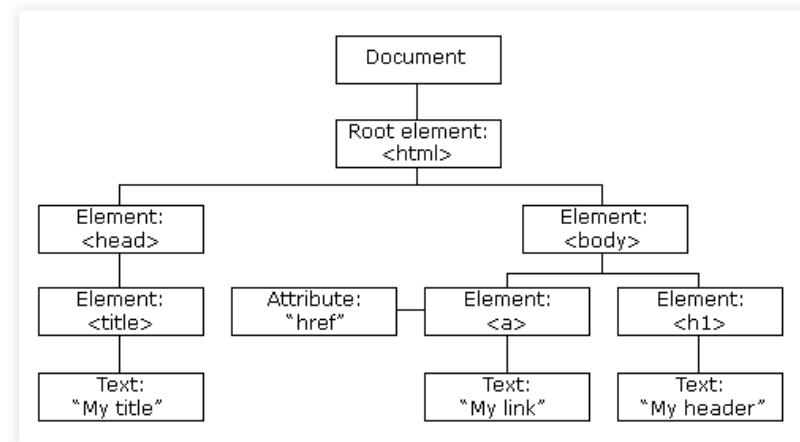
DOM (DOCUMENT OBJECT MODEL)



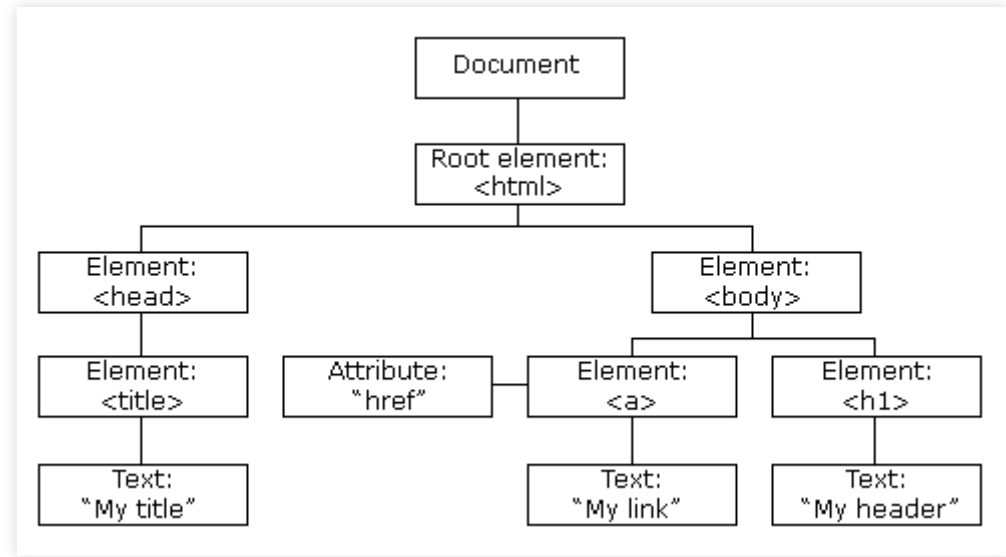
ORIGEN

<https://www.w3.org/DOM/DOMTR>
<https://dom.spec.whatwg.org/>

ÁRBOL DEL DOM: CORE DOM



TIPOS DE NODOS



ATRIBUTOS DE LOS NODOS

DOCUMENT NODE

ELEMENT NODE

PHP DOM

EJ:DOM PHP

```
<?php
$doc = new DOMDocument();
$root = $doc->createElement( 'html' );
$doc->appendChild($root);
$head = $doc->createElement( 'head' );
$root->appendChild($head);

$title = $doc->createElement( 'title' );
$title->appendChild ( $doc->createTextNode( 'Este es el título' );
$head->appendChild($title);
$body = $doc->createElement( 'body' );
$root->appendChild($body);
$h1 = $doc->createElement( 'h1' );
$root->appendChild($h1);
$h1->appendChild( $doc->createTextNode( 'Esto es el cuerpo' );
$doctype="<!DOCTYPE html >";
echo $doctype.$doc->saveHTML( );
?>
```

<https://piruletas.000webhostapp.com/teoria/T5/HTMLDOM.php>

EJ: DOM PHP LOAD FROM STRING

```
<?php
$html='<html><head> <meta
charset="utf-8"><title>PHP_WEB</title></head><body>
<div><h1>Web page parsing</h1>
<p>This is an example Webpage.</p></div></body></html>';
$doc = new DOMDocument();
$doc->loadHTML ($html);
$h2 = $doc->createElement( 'h2' );
$h1= $doc->getElementsByTagName( "h1" )[ 0 ];
$h1->parentNode->appendChild($h2);
$h2->appendChild($doc->createTextNode( 'Esto es el H2' ));

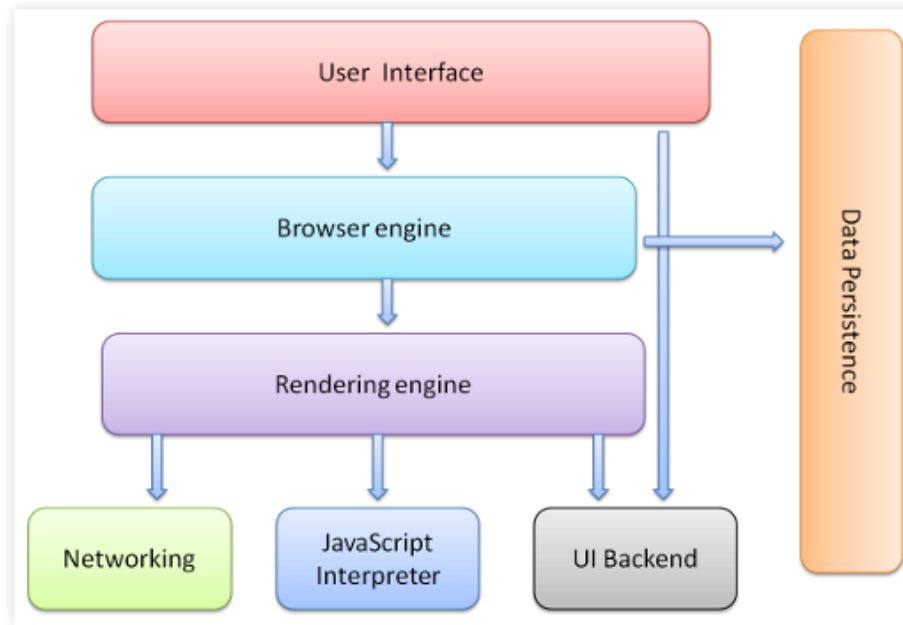
$doctype="<!DOCTYPE html >";
echo $doctype.$doc->saveHTML( );
?>
```

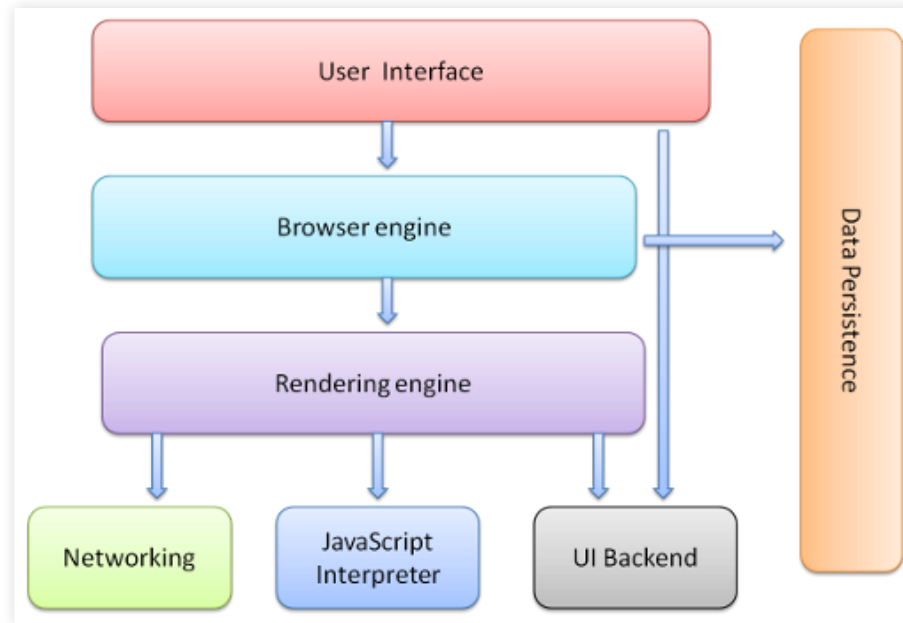
https://piruletas.000webhostapp.com/teoria/T5/HTMLDOM_Load.php

DOM JS NAVEGADOR

```
var doc = document.implementation.createHTMLDocument  
var p = doc.createElement("p");  
p.innerHTML = "This is a new paragraph.";   
  
doc.body.appendChild(p);  
p = doc.createElement("p");  
p.textContent = "This is a Other new paragraph";  
doc.body.appendChild(p);  
  
// Replace the new HTML document  
Nuevo = doc.documentElement  
Ori = document.documentElement;  
document.replaceChild(Nuevo, Ori);
```

COMPONENTES NAVEGADOR WEB






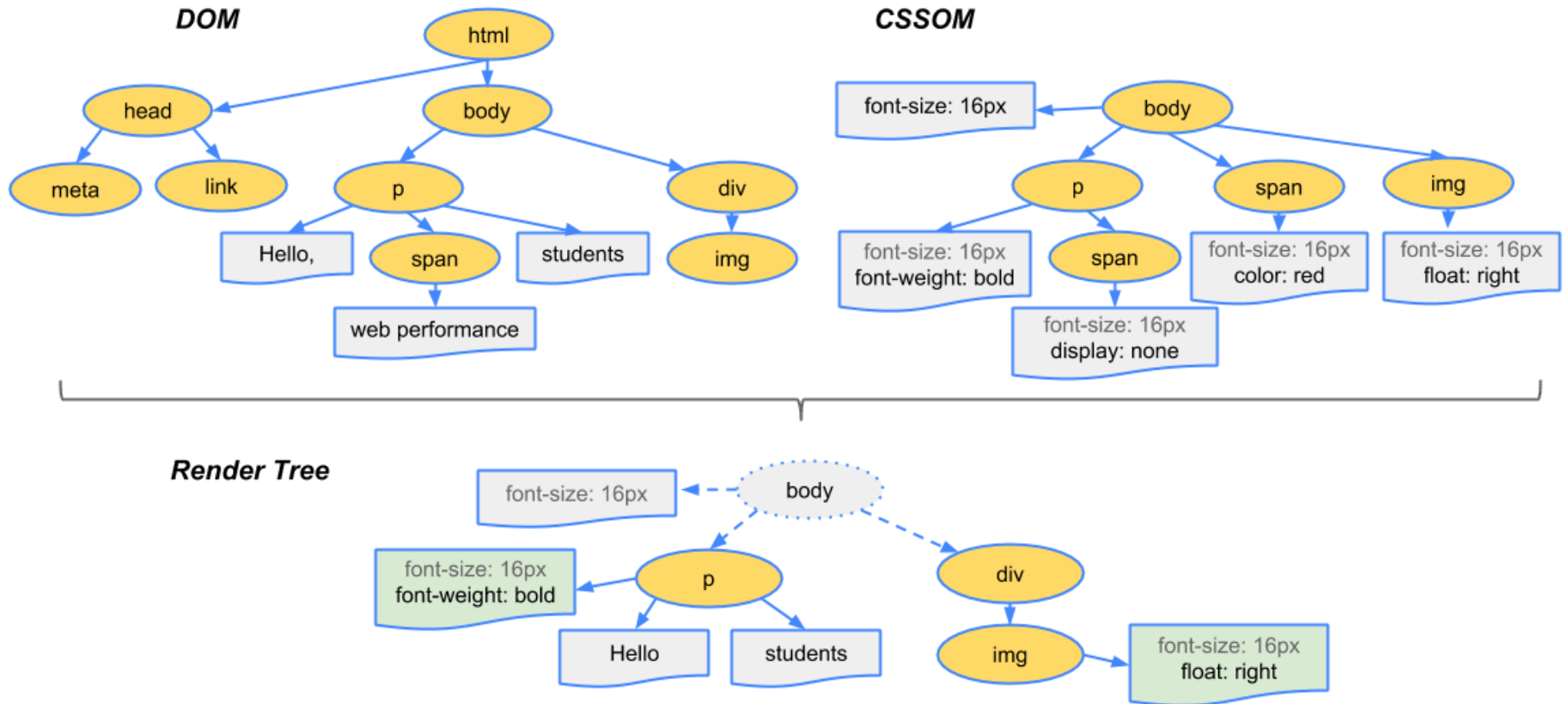
<https://www.html5rocks.com/es/tutorials/internals/howbrowserswork/>

MOTOR DE RENDERIZADO

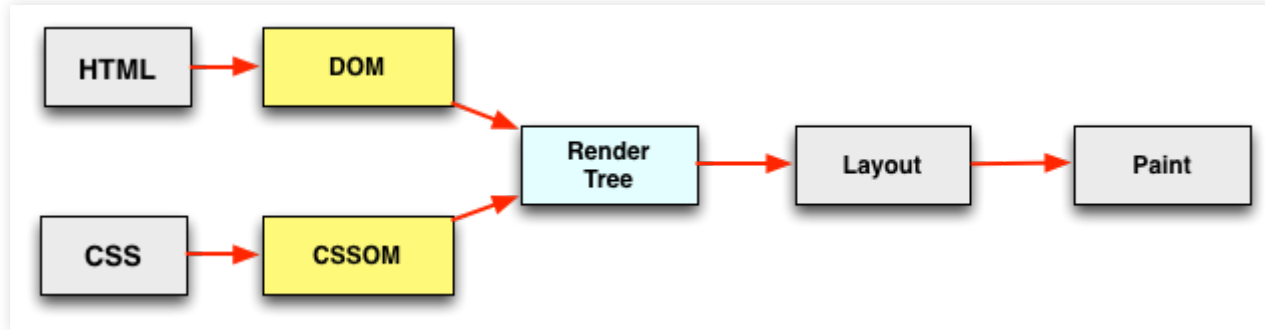
COMPONENTES NAVEGADORES

<input type="checkbox"/>	 A Browser ▾	A Rendering / Layout Eng... ▾	A Scripting Engine ▾
1	Chrome	Blink (C++)	V8 (C++)
2	Mozilla Firefox	Gecko (C++)	SpiderMonkey (C/C++)
3	IE Edge	EdgeHTML (C++)	Chakra JavaScript engine (...)
4	Opera	Blink (C++)	V8 (C++)
5	Internet Explo...	Trident (C++)	Chakra JScript engine (C++)
6	Apple Safari	WebKit (C++)	JavaScript Core (Nitro)

RENDER TREE



FLUJO BÁSICO DEL MOTOR DE RENDERIZACIÓN



<https://developers.google.com/web/fundamentals/performance/critical-rendering-path/render-tree-construction?hl=es-419>

CSS RENDER

<https://developer.mozilla.org/en-US/docs/Web/CSS/Reference>

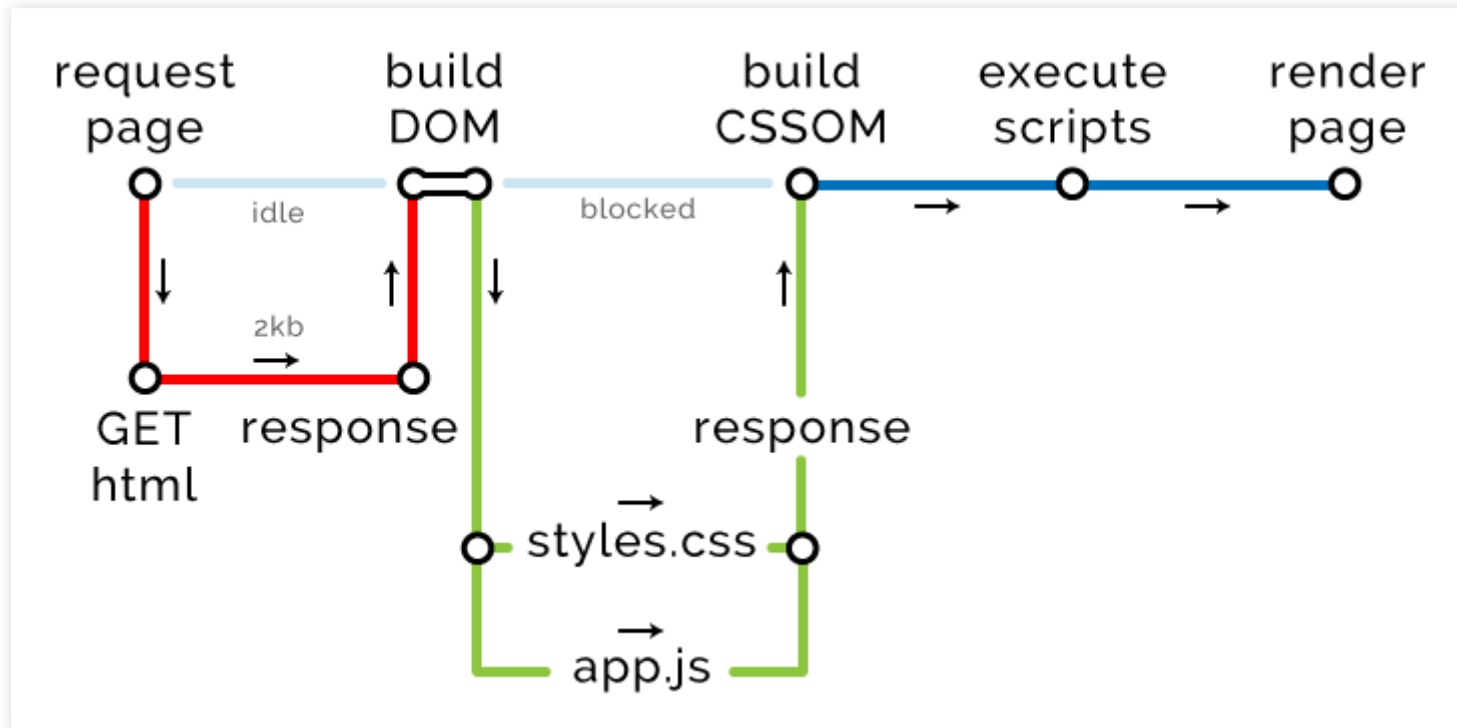
```
div.error-label{  
  color: #fff;  
  background-color: #DA362A;  
  -webkit-border-radius: 5px;  
  -moz-border-radius: 5px;  
  border-radius: 5px;  
}
```

Mozilla CSS extensions

WebKit CSS extensions

Microsoft CSS extensions

CRP: CRITICAL-RENDERING-PATH



<https://hackernoon.com/optimising-the-front-end-for-the-browser-f2f51a29c572>