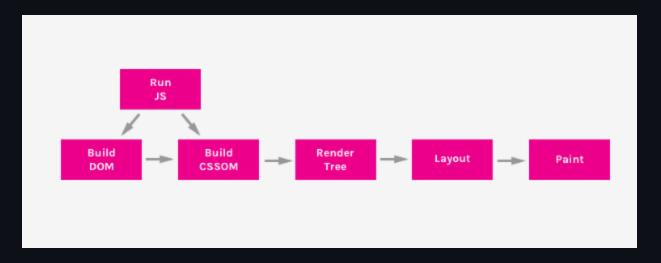
# Understanding the Critial Rendering Path

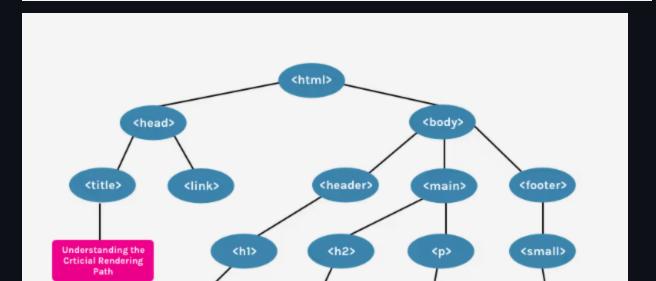
Minha Sohn

## A Sequence of Critical Rendering Path (CRP)

- 1. Constructing the DOM Tree
- 2. Constructing the CSSOM Tree
- 3. Running JavaScript
- 4. Creating the Render Tree
- 5. Generating the Layout
- 6. Painting



```
<html>
<head>
 <title>Understanding the Critical Rendering Path</title>
 <link rel="stylesheet" href="style.css">
</head>
<body>
 <header>
     <h1>Understanding the Critical Rendering Path</h1>
 </header>
 <main>
     <h2>Introduction</h2>
     Lorem ipsum dolor sit amet
 </main>
 <footer>
     <small>Copyright 2017
 </footer>
</body>
</html>
```



## **Constructing the CSSOM Tree**

#### Render blocking resource

Render Tree cannot be constructed without fully parsed CSS resources.

#### Script blocking

• JavaScript files must wait until the CSSOM has been constructed.

```
<link rel="stylesheet"> tag
```

## **Running JavaScript**

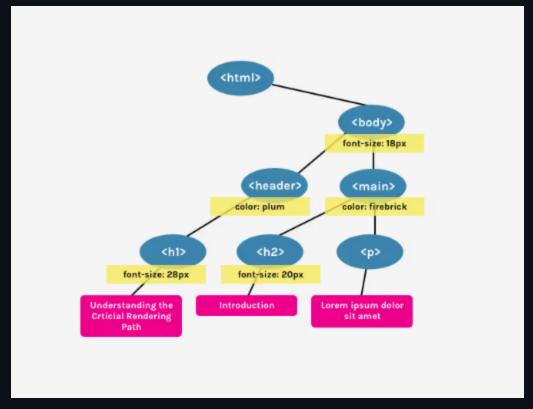
#### parser blocking resource

• parsing of the HTML document itself is blocked by JavaScript.

```
<script> tag
```

## **Creating the Render Tree**

- A combination of both the DOM and CSSOM.
- A tree that represents what will be rendered on the page.



## Generating the Layout and Painting

Determines what the size of the viewport.

```
<meta name="viewport" content="width=device-width,initial-scale=1">
```

- If no tag is provided, the default viewport is 980px.
- In the painting step, the visible content of the page can be converted to **pixels** to be displayed on the screen.