The flow of constructing the tree

1. **FrameConstructor resolves style and creates frames**

   — In Firefox, the presentation is registered as a listener for DOM updates.

   — The presentation delegates frame creation to the FrameConstructor and the constructor resolves style and creates a frame.

2. **Attachment in WebKit**

   — In WebKit the process of resolving the style and creating a renderer is called "attachment".

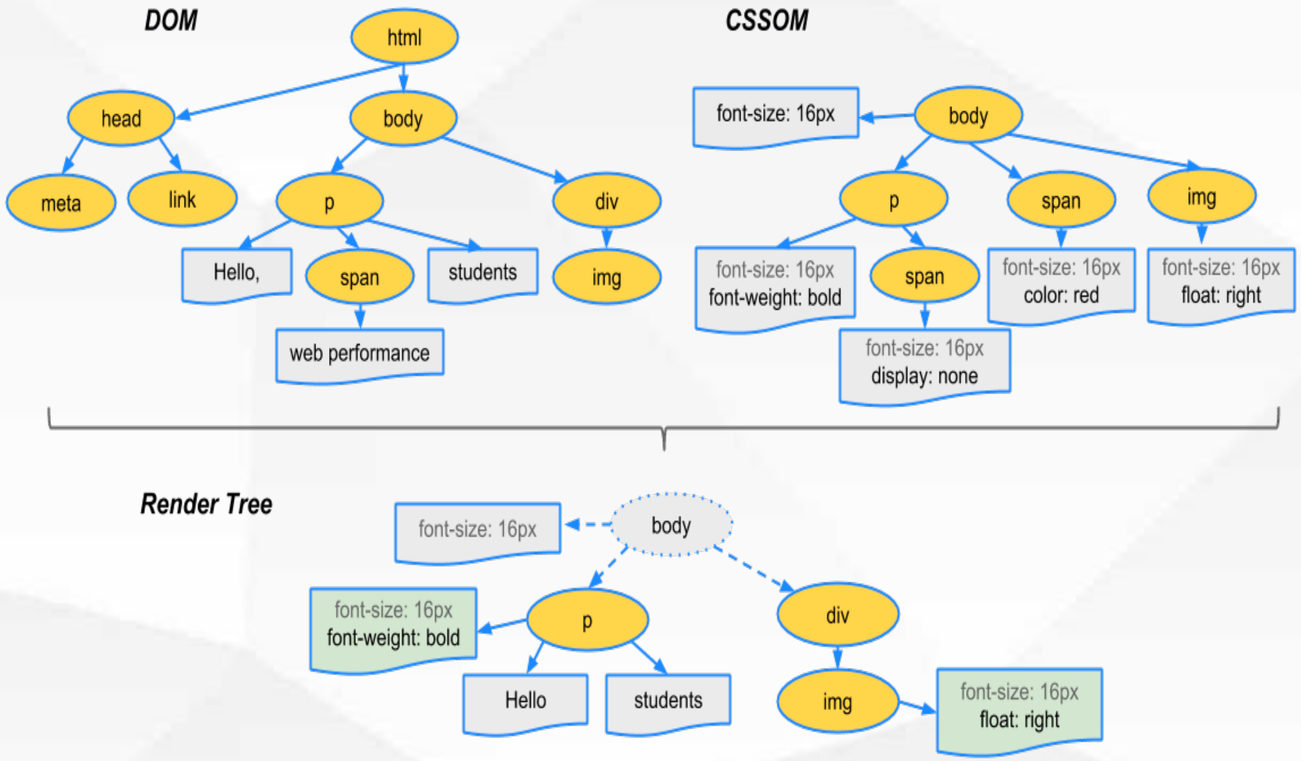
   — Every DOM node has an "attach" method. Attachment is synchronous, node insertion to the DOM tree calls the new node "attach" method.

3. **Viewport dimensions and DOM nodes insertion**

   — Processing the html and body tags results in the construction of the render tree root.

   — The root render object corresponds to what the CSS spec calls the containing block: the top most block that contains all other blocks. Its dimensions are the viewport: the browser window display area dimensions. Firefox calls it ViewPortFrame and WebKit calls it RenderView. This is the render object that the document points to.

   — The rest of the tree is constructed as a DOM nodes insertion.



Style Computation

1. **Some Difficulties of Style computation**
   - Style data is a very large construct, holding the numerous style properties, this can cause memory problems.
   - Finding the matching rules for each element can cause performance issues if it's not optimized.
   - Applying the rules involves quite complex cascade rules that define the hierarchy of the rules.
2. **how the browsers face these issues**
   - Sharing style data: WebKit style objects(style objects) can be shared by nodes in some conditions.
   - Firefox has two extra trees for easier style computation: the rule tree and style context tree.

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