

Week 13 Research Assignment by Jason Naggles

What is React's virtual DOM, why is it important, and how does it work?

Virtual DOM in the React world is associated the React elements since they are objects representing the user interface. It performs faster and is efficient than updating the real ROM. The DOM represents the user interface of an application. When there is a change in the state of an application user interface, the DOM gets updated to represent the change. The problem is frequently manipulating the DOM affects performance, which makes it slow. When new elements are added to the user interface, a virtual DOM is represented as a tree when created. On the tree, each element is a node. If the state of any of these elements changes, a new virtual DOM is created. The tree is then compared to the previous virtual DOM tree. The virtual DOM calculates the best possible method to make the changes to the real DOM. This reduces performance cost of updating the real DOM.

What is Webpack and what problem does it solve?

Webpack simply applies automatic transformations to a developer's working files to make them into production files that are more useful to an end user. These production files are copies and they go into a different folder, so that the original files are not modified on this process and keeps things neat. It is great for maintenance to keep everything in its own file. A developer's files are correct, but not efficient on the inside. Say that a computer does not need comments, spaces, or line breaks in order for a file to be understood. This is for humans to be able to read the code, but for a computer, it is just fat.

- 1) React Virtual DOM Explained in Simple English:
<https://adhithiravi.medium.com/react-virtual-dom-explained-in-simple-english-fc2d0b277bc5#:~:text=React%20uses%20virtual%20DOM%20to,re%2Drendering%20of%20the%20UI.>
- 2) What is Webpack? (For Absolute Beginners): <https://x-team.com/blog/webpack-for-absolute-beginners/#:~:text=Webpack%20applies%20automatic%20transformations%20on,process%20and%20stuff%20keeps%20tidy.>