Week 13 Research Assignment:

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

The virtual DOM is a programming concept where a virtual presentation of a UI is kept in memory and synced with the real DOM with a library such as React. This process is known as reconciliation. This abstracts out the attribute manipulation, event handling, and manual DOM updating that otherwise needs to be done to build an app.

React uses elements (objects representing user interface) and internal objects called fibers to hold additional information about the component tree. These may also be considered part of the virtual DOM implementation in React.

What is Webpack and what problem does it solve?

"Webpack takes modules with dependencies and generates static assets representing those modules", says the official documentation.

Webpack focuses on the files the end user receives (such as HTML, CSS, and Javascript), but it also can process anything if you explain to Webpack how to proceed.

Webpack allows developers to organize code in different files rather than one file with several thousand lines of code. However, computers operate faster and more efficient with all the code in one file. Webpack helps with this by packing all the code in a way that makes sense for both developer and efficiency of the computer to operate.

Sources:

https://x-team.com/blog/webpack-for-absolute-beginners/#:~:text=Webpack%20applies%20automatic%20transformations%20on,process%20and%20stuff%20keeps%20tidy.

https://reactjs.org/docs/faq-internals.html#:~:text=What%20is%20the%20Virtual%20DOM,This%20process%20is%20called%20reconciliation.