DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

NAME OF THE SUBJECT : REACT JS
NAME OF THE TOPIC   : Advantages & Disadvantages of React JS

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React JS

- React JS is a JavaScript library for designing and developing the UI of websites and web apps.

- It allows you to create interactive elements on websites.

- JavaScript is a scripting language that enables users to build and manage dynamic content on their websites (such as slideshows, animated graphics, interactive forms, etc.).

- For example, when you hover your cursor on the 'Courses' button on a homepage, a drop-down menu appears.

- That's an interactive component, and you can build one through JavaScript.

Why React?

- Alternatives of React :-Angular.js.
- More control over the flow of application.
- Reusing the components(optimization).
- Easy to learn.
- Trusted by some leading companies -Facebook, Netflix, PayPal, Tesla etc.
- More job opportunities.
- Mainly used for single page applications.

Single Page Application

- Single request to server.

- HTML, CSS and JS as response from the server.

- Virtual DOM is created then any further requests are handled by React.

- React only updates that object in actual DOM.

- Saves a lot of time, bandwidth, etc.

- Improves performance.

- Some SPA are Gmail, Facebook, Twitter etc.

The History

- In 2011, Jordan Walke, a Facebook engineer, built React JS to simplify UI development.

- It is the 'view' layer of a Model View Controller (MVC) application.

- An essential highlight of React is that it allows you to make components.

- Those components are reusable HTML elements.

- This means you can reuse them to create a user interface much quickly and efficiently.

- Apart from components, React has state and props that allow it to streamline data storage and handling.

History behind React evolution?

- The history of ReactJS started in 2010 with the creation of **XHP**.

- XHP is a PHP extension which improved the syntax of the language such that XML document fragments become valid PHP expressions and the primary purpose was used to create custom and reusable HTML elements.

- The main principle of this extension was to make front-end code easier to understand and to help avoid cross-site scripting attacks.

- The project was successful to prevent the malicious content submitted by the scrubbing user.

- But there was a different problem with XHP in which dynamic web applications require many roundtrips to the server, and XHP did not solve this problem.

- Also, the whole UI was re-rendered for small change in the application.

- Later, the initial prototype of React is created with the name **FaxJ** by Jordan inspired from XHP.

- Finally after sometime React has been introduced as a new library into JavaScript world.

- **Note:** JSX comes from the idea of XHP

What are the major features of React?

- The major features of React are:

- Uses **JSX** syntax, a syntax extension of JS that allows developers to write HTML in their JS code.

- It uses **Virtual DOM** instead of Real DOM considering that Real DOM manipulations are expensive.

- Supports **server-side rendering** which is useful for Search Engine Optimizations(SEO).

- Follows **Unidirectional or one-way** data flow or data binding.

- Uses **reusable/composable** UI components to develop the view.

What are the various features of React JS?

- Let's take a look at some of the most important features of the React JS.

- JSX- Also known as JavaScript syntax eXtension, it is one of the newly added features of React JS. Although it is not mandatory to use JSX in the development of React, it is recommended.

- **Components**- Yet another major feature of React is the components. Needless to say, that React is all about its components. It helps to maintain code, especially when working on large-scale projects.

- **Flux and Data Flow** - React follows a uni-directional data flow, thus making it easier for you to reason about your app.

- Flux, on the other hand, is a pattern that helps to keep this data flow in one direction.

What are the advantages of React JS?

- Advantages Of React
- Efficient on both client and server side, as well as in other frameworks.
- Improves readability, which in turn helps in the maintenance of larger apps.

What are the disadvantages of React JS?

- Disadvantages Of React
- Might not be too comfortable for some developers since it uses inline templating and JSX.
- Takes into account only the view layer of the app, therefore, you might need other technologies, for development.

Thank you

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