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| **ch6.ReactJS Pros and Cons** | **Date: 22-02-2022** |

**Topics**

React Pros and Cons

**React Pros/Advantages**

1. Easy to Learn and Use
2. Creating Dynamic Web Applications Becomes Easier
3. Reusable Components
4. Performance Enhancement
5. The Support of Handy Tools
6. Known to be SEO Friendly
7. The Benefit of Having JavaScript Library
8. Scope for Testing the Codes

**React Pros/Disadvantages**

1. The high pace of development
2. Poor Documentation
3. View Part
4. JSX as a barrier

**In Brief Explanation**

**React Pros/Advantages**

1. **Easy to Learn and Use**

* ReactJS is much easier to learn and use.
* It comes with a good supply of documentation, tutorials, and training resources.
* Any developer who comes from a JavaScript background can easily understand and start creating web apps using React in a few days.
* It is the V(view part) in the MVC (Model-View-Controller) model, and referred to as ?one of the JavaScript frameworks.? It is not fully featured but has the advantage of open-source JavaScript User Interface(UI) library, which helps to execute the task in a better manner.

1. **Creating Dynamic Web Applications Becomes Easier**

* To create a dynamic web application specifically with HTML strings was tricky because it requires a complex coding, but React JS solved that issue and makes it easier.
* It provides less coding and gives more functionality. It makes use of the JSX(JavaScript Extension), which is a particular syntax letting HTML quotes and HTML tag syntax to render particular subcomponents.
* It also supports the building of machine-readable codes.

1. **Reusable Components**

* A ReactJS web application is made up of multiple components, and each component has its own logic and controls.
* These components are responsible for outputting a small, reusable piece of HTML code which can be reused wherever you need them.
* The reusable code helps to make your apps easier to develop and maintain.
* These Components can be nested with other components to allow complex applications to be built of simple building blocks.
* ReactJS uses virtual DOM based mechanism to fill data in HTML DOM. The virtual DOM works fast as it only changes individual DOM elements instead of reloading complete DOM every time.

1. **Performance Enhancement**

* ReactJS improves performance due to virtual DOM. The DOM is a cross-platform and programming API which deals with HTML, XML or XHTML.
* Most of the developers faced the problem when the DOM was updated, which slowed down the performance of the application.
* ReactJS solved this problem by introducing virtual DOM. The React Virtual DOM exists entirely in memory and is a representation of the web browser's DOM. Due to this, when we write a React component, we did not write directly to the DOM. Instead, we are writing virtual components that react will turn into the DOM, leading to smoother and faster performance.

1. **The Support of Handy Tools**

* React JS has also gained popularity due to the presence of a handy set of tools.
* These tools make the task of the developers understandable and easier.
* The React Developer Tools have been designed as Chrome and Firefox dev extension and allow you to inspect the React component hierarchies in the virtual DOM.
* It also allows you to select particular components and examine and edit their current props and state.

1. **Known to be SEO Friendly**

* Traditional JavaScript frameworks have an issue in dealing with SEO.
* The search engines generally having trouble in reading JavaScript-heavy applications. Many web developers have often complained about this problem.
* ReactJS overcomes this problem that helps developers to be easily navigated on various search engines. It is because React.js applications can run on the server, and the virtual DOM will be rendering and returning to the browser as a regular web page.

1. **The Benefit of Having JavaScript Library**

* Today, ReactJS is choosing by most of the web developers. It is because it is offering a very rich JavaScript library.
* The JavaScript library provides more flexibility to the web developers to choose the way they want.

1. **Scope for Testing the Codes**

* ReactJS applications are extremely easy to test. It offers a scope where the developer can test and debug their codes with the help of native tools.

**React Pros/Disadvantages**

1. **The high pace of development**

* The high pace of development has an advantage and disadvantage both.
* In case of disadvantage, since the environment continually changes so fast, some of the developers not feeling comfortable to relearn the new ways of doing things regularly.
* It may be hard for them to adopt all these changes with all the continuous updates. They need to be always updated with their skills and learn new ways of doing things.

1. **Poor Documentation**

* It is another cons which are common for constantly updating technologies.
* React technologies updating and accelerating so fast that there is no time to make proper documentation.
* To overcome this, developers write instructions on their own with the evolving of new releases and tools in their current projects.

1. **View Part**

* ReactJS Covers only the UI Layers of the app and nothing else. So you still need to choose some other technologies to get a complete tooling set for development in the project.

1. **JSX as a barrier**

* ReactJS uses JSX. It's a syntax extension that allows HTML with JavaScript mixed together.
* This approach has its own benefits, but some members of the development community consider JSX as a barrier, especially for new developers. Developers complain about its complexity in the learning curve.