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React JS –JavaScript Library

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ABSTRACT:

The first created webpage is made up of using HTML,CSS is the common basic entity of the structure of the webpage. By adding JS the JavaScript function enabled the browser's to work dynamically. Then the development of the technical structure helped in the including of the library functions in the website to have a rich view and more UI design. Every User needs an iconic design and fresh varied styles of webpage. React JS helps in the library function invoking in the website. It is the Front-end Framework that is available for Developers. For Front-end Developers React JS will be providing library functions to create new technical apps. We consuming the technology framework to make a better application. The Developed and Developing companies had made use of the React JS. Facebook developed the React JS, it's a java script library function that supports both the front-end and back-end server. It provide User interface for Web Applications. View of the module is depended in the structural development of the invoked functions using React JS. React JS is single-page application .Moreover it is easy to learn and use. This paper will be Viewing the different Quality of the Reacts JS along with how these are utilized in building web applications. It additionally this paper covers some more about the React JS component libraries. It is widely used Java Script library for Better UI web applications and has varied Library functions to be utilized.

KEYWORDS:- *ReactJS, Components, JSX, Routers, ReactDOM, Node JS , Material UI, Single-Page Applications, Web Frameworks*

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I. INTRODUCTION

React JS creates interactive User Interface. It provides varied options to be implemented according to the need and satisfaction of the user with its new updated features. The developer just need to render the resource from the React JS library and just implement the idea of their own. React JS is component based. There are many Components and styling methods available in React JS. The Once we learn This We don't need to think about other technology stack. We can develop new features from the inheritance of the existing code. The Declarative view of the Coding and it's easier to Debug.

II. LITERATURE REVIEW

React JS is one of the most famous front end framework used by many of the developers. Since its launch by Facebook in 2013. In M-V-C (Model View Controller) design, it consolidates the view (V) layer.^[1] React is only concerned with rendering data to the Document Object Model (DOM).^[2] The JavaScript changed the handling method of the websites and made it into web applications. Our major eye view is in the making of complex UI Design using Updated Techniques. We will be including the dependencies that need to be included in the developing environment to make the application work. Modules have been created to make required templates in the web application. The development has first been made and now it has no end its still growing and being developing with new upgraded versions.

III. FEATURES

The React JS has some unique and essential features that can be utilized for web app development. Utilization and making our idea to get more powerful implementations to make our app more secure and powerful. These specific features will be enhancing and proves why React JS is worth to be considered. Making some knowledge about these will be helping in our environment. The specific functions will be having certain reasonable functionalities to be performed in the web app development. They are mentioned below in the Fig 1.0,

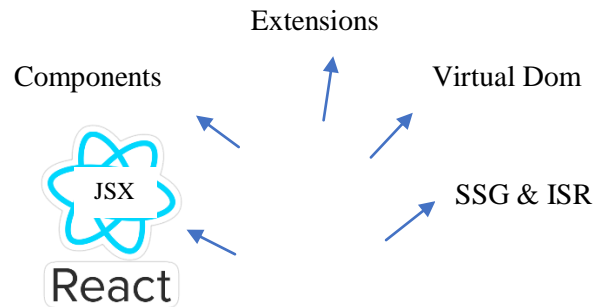


Fig 1.0 Features of React JS

JSX (JavaScript Syntax Extension): JSX is a collaboration of the ‘HTML’ and ‘XML’ used as a syntax in React JS. Input data will be passed into the component ,that passed input data can be accessed by the render() through props. JSX is an optional feature and its not required to use React. It shows as same as the HTML and make it an easier one to be learned even for newbies. If a person learnt the basics of website development its easy to understand JSX too.

Ex:

```
class Welcome extends React.Component {  
  render() {  
    return<div>Welcome {this.props.name}</div>;  
  }  
}  
root.render(<Welcome name="" />);
```

Output:

Welcome Shiva

Components: Web Applications of React JS are made up of poly-components. The available components in React JS has its special logic and controls. JavaScript will be helping to run faster and efficiently. Moreover Components are reusable.

Ex: Component using external plugin

Server Component: The RSC (React Server Component) dependencies will be updated with frequent changes. The idea has been abandoned having forked libraries for better compatibility. The use of

routers for data fetching reaching stable functioning. They are typically preloaded and loaded using External system. The directional flow of data of the React JS in one – way helps in being modular and fast.

EX: Parent to Child Components

Virtual Dom: Dom is an abbreviation of Document Object Model. It is nothing but the representation of the Dom Object in the entire global environment. There will no wasting of the available memory everything will be managed better for performing faster and smoother experience.

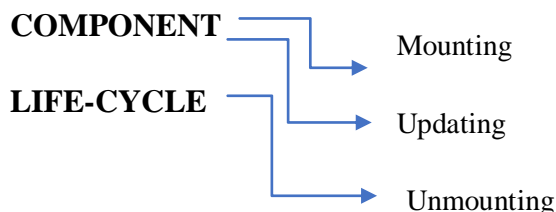
SSG and ISR: The performance and rendering utilization can be possible using the Static Server Generation (SSG) and Incremental Static Regeneration (ISR) these are use to optimal the rendering and utilization service.

Extensions: React is packed with worthy extensions that will be surely hit the modern architecture to be developed soon. Some of the well known is the Flux, Redux, React-Native ,Type-Script etc.. These are the common and well known factors that will be not only supporting web development ,Mobile app development but also Server-side manipulation operations. There are many such extensions that will be provided by React for creation of UI based applications. It will be helping both the beginners and the Designers a great start with more practical understanding more unique innovative developments can be made. Thinking and Mastering the advanced concepts of React will be giving much deeper understanding.

Reusability: Code reusability makes life easier for each developer. It also reduces the time need to work .All the frameworks have good amount of support for reusable code.But ant design and Grommet have more reusable code resources when compared to Material UI.

IV. LIFE-CYCLE OF COMPONENTS

React Has a valid lifecycle ,it can be monitored and further manipulated during the main three phases of the life cycle of components.



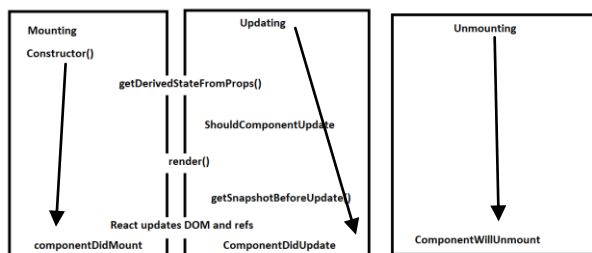
Mounting: It means pushing elements into the DOM. The react mounting has four built-in methods .

- 1.constructor() :** It is called before anything and when its initiated it is the area for other initial values
- 2.getDerivedStateFromProps() :** It takes state as argument and returns an object with changes to the state.
- 3.render() :** The render() method is foremost and important than the others.
- 4.ComponentDidMount():** It is called after the component is rendered .

Updating :Next stage where there is change in the component’s state or props. It has five built-in methods.

- 1.getDerivedStateFromProps() :** It takes state as argument and returns an object with changes to the state.
- 2.shouldComponentUpdate() :**It can return a boolean value that specifies continue rendering or abort in React.
- 3.render() :**It has to re-render to make changes.
- 4.getSnapshotBeforeUpdate() :**we have to access the props and state before updating the new values. attribute of the passed value and state of the update changes.
- 5.componentDidUpdate() :**It is executed to check whether is done or not with a message. It triggers the action stage.

Unmounting :The final phase of the life-cycle of Component. The connected component gets disconnected and is successfully removed from there as unmount. The component will unmount by the method componentWillUnmount().



V. COMPONENT LIBRARIES:

1.Material UI : There are many component libraries available one of the faster and simpler is the Material UI. It is Highly customizable apt for developers. It will be providing vast amount of tools and API for enhanced app creation.

2.Ant Design : Ant Design the top component library gives a flexible design according to the designer thought. It can Develop a full sized app. It has more than 50 components for a better customization.

3.React –Bootstrap : HTML,CSS,JS UI elements will be presented with bootstrap. It is a JS library , with React together. We can import needed parts from the entire library.

4.React Router : Declarative programming model, it's a best idea the react router. It helps in adding urls and making route to varied modules in RJS and RN.

5.Semantic UI React : Customized library its fully jQuery because it doesn't have react DOM . There is no Virtual Dom. There will full access to the elements with uninterrupted creativity. But it's a little bit complex.

VI. CONCLUSION

React JS is a well maintained and developed library its much more capable of doing many UI responsive and thus better than any other available UI designer frameworks. We can create single page UI pages with more ideal features. Learning is easy as compared to any other like Angular, Vue . We can surely say that react will be ruling there for more than years that it can develop with more subsequent features in the working methods in fastening and secure and more attractive UI features. This newly finding of technology will rely on the race to the first in the web app development.

VII. REFERENCE:

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