REACT, VUE FUNDAMENTALS

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Lecture 10, Week 10

LAST WEEK

- ❏ JQUERY

- ❏ ANGULAR

TODAY

- ❏ REACT FUNDAMENTALS

- ❏ VUE FUNDAMENTALS

REACT FUNDAMENTALS

- ❏ React is a JavaScript library created by Facebook

- ❏ React is a User Interface (UI) library

- ❏ React is a tool for building UI components

- ❏ **React** is the most popular **JavaScript** library for building user interface (UI).

How Does React Work?

It offers excellent response to user input by utilizing a new method to render websites.

The components of this tool were developed by **Facebook**. It was launched as an open-source JavaScript tool in 2013. Currently, it remains ahead of its main competitors such as **Angular** and **Bootstrap**, two best-selling JavaScript libraries of its time.

React component is easier to write since it uses **JSX**, an optional syntax extension for JavaScript that allows you to combine HTML with JavaScript.

JSX is an excellent blend of JavaScript and **HTML**. It clarifies the entire website structure writing process. In addition, the extension also makes it much easier to render multiple functions.

While JSX may not be the most popular syntax extension, it has proven to be efficient in developing special components or high-volume applications.

You might be surprised to know that you can write **HTML codes in JavaScript**. But this is exactly how React works.

What is Babel?

Babel is a JavaScript compiler that can translate markup or programming languages into JavaScript.

With Babel, you can use the newest features of JavaScript (ES6 - ECMAScript 2015).

Babel is available for different conversions. React uses Babel to convert JSX into JavaScript.

What is JSX?

JSX stands for JavaScript XML.

JSX is an XML/HTML like extension to JavaScript.

JSX is not JavaScript nor HTML.

JSX is a XML syntax extension to JavaScript that also comes with the full power of ES6 (ECMAScript 2015).

Just like HTML, JSX tags can have a tag names, attributes, and children. If an attribute is wrapped in curly braces, the value is a JavaScript expression.

React DOM Render

The method ReactDom.render() is used to render (display) HTML elements

```
<div id="id01">Hello World!</div>

<script type="text/babel">
ReactDOM.render(
    <h1>Hello React!</h1>,
    document.getElementById('id01'));
</script>
```

JSX Expressions

Expressions can be used in JSX by wrapping them in curly {} braces.

React Elements

React applications are usually built around a single HTML element.

React developers often call this the root node (root element):

```
<div id="root"></div>
```

React elements are immutable. They cannot be changed.

The only way to change a React element is to render a new element every time:

React Components

React components are JavaScript functions.

This example creates a React component named "Welcome":

```
function Welcome() {
    return <h1>Hello React!</h1>;
}
ReactDOM.render(<Welcome />, document.getElementById('root'));
```

React can also use ES6 classes to create components.

This example creates a React component named Welcome with a render method:

```
class Welcome extends React.Component {
    render() { return(<h1>Hello React!</h1>); }
}
ReactDOM.render(<Welcome />, document.getElementById('root'));
```

VUE FUNDAMENTALS

Vue.js lets you extend HTML with HTML attributes called directives

Vue.js directives offers functionality to HTML applications

Vue.js provides built-in directives and user defined directives

Vue.js uses double braces {{ }} as place-holders for data.

Vue.js directives are HTML attributes with the prefix v-

The property el: binds the new Vue object to the HTML element with id="app".

```
<div id="app">

<h1>{{ message }}</h1>

</div>

<script>

var myObject = new Vue({

    el: '#app',

    data: {message: 'Hello Vue!'}

})

</script>
```

Assignment

Create a react application for a restaurant that will display the food on their menu and users can order for food on the website.

Ensure that your react application includes a sidebar component, a header component, a footer component and that it is responsive.

Host the application on Heroku and send me the link to the hosted application.