**React Presentation Intro Part**

**What is React?**

React, also known as React.js, is a JavaScript Library for building user interfaces in web development. It is maintained by Facebook and a community of individual developer and companies. React can also be used as a base in the development of sing-page or mobile applications.

React was created by Jordan Walke, a software engineer at Facebook. It was first deployed on Facebook's newsfeed in 2011 and later on Instagram.com in 2012. It was open-sourced at JSConf US in May 2013.

**Why is React so popular?**

While other technologies such as Angular were available when Facebook developed ReactJS, most developers were forced to do a lot of coding. Developers using other frameworks have the challenge of having to rework on most codes even when crafting components that changed frequently. What they wanted was a framework that could allow them to break down complex components and reuse the codes to complete their projects faster.

ReactJS provided the solution that developers were looking for. It uses JSX (a unique syntax that allows HTML quotes as well as HTML tag syntax application for rendering specific subcomponents) This is very helpful in promoting construction of machine-readable codes and at the same time compounding components into a single-time verifiable file.

Today, ReactJS has become highly popular because of its extra simplicity and flexibility. Part of this huge popularity also comes from the fact that top corporations such as Facebook, PayPal, Uber, Instagram, and Airbnb use it to solve user interface related issues.

**Why should we use React?**

* It allows developer to write applications using JavaScript.

SX is one of the greatest features that not only makes ReactJS easy but fun too. Developers can easily make a new UI feature and see it appear in real time. It brings HTML directly into your JS.

* Components allow developers to break down complex UI.

The idea of components is what makes ReactJS unique. Instead of worrying about the entire web app, it makes it possible to break the complex UI/UX development into simpler components. This is crucial in making every component more intuitive.

* It uses Virtual DOM that makes the app fast.

When ReactJS was crafted, the designers rightly predicted that updating old HTML would become extra crucial and expensive. Therefore, the idea of Virtual DOM helps allows ReactJS to know when exactly to re-render or when to ignore some specific pieces of DOM because it can detect when the data has changed. A UI that reacts promptly is crucial in enhancing the user experience.

**Notable Features**

* One-way data binding with props

Unlike other JavaScript frameworks, ReactJS follows unidirectional data flow or one-way data binding.

Properties (or props) are passed to a component from the parent component. Components receive props as a single set of immutable value (a JavaScript object). The major advantage of one-way data binding is that throughout the application, the data flows only in one direction which gives the programmer a better control.

* Stateful Component

Because of the one-way data flow, application’s state is contained is specific stores. States hold values throughout the component and can be passed to child components through props:



**How is React different from other frameworks?**



* React vs Vue
* Runtime Performance

Both ReactJS and VueJS are exceptional when it comes to speed. In ReactJS, every time a component change, a re-render is triggered for the entire component sub-tree. If you do not want re-rendering, consider using PureComponents. In VueJS, components’ dependences are tracked automatically during rendering. This means that the system knows the components that require re-rendering after the state changes.

* HTML and CSS application

Everything in ReactJS is JS. Every HTML structure is expressed through JSX while the latest trends add CSS management inside JS as well. However, VueJS embraces classic web technologies and improves on them.

* React vs Angular
* Runtime Performance

On performance, Angular vs React assessment reveals that ReactJS yields better performance. AngularJS becomes relatively slow when there are very many users because anything in its scope changes. Besides, the digest cycle in AngularJS requires running multiple times before stabilizing if a user triggers an update. ReactJS does not experience this issue because it has a dependency tracking system that uses a async queuing. Though after the arrival of Angular 4, the Angular community has improved this to a lot better extent.

* The Learning Step

For a new developer to get started with ReactJS, the learning step is less steep compared to AngularJS. One only needs to get familiar with JS and HTML in the case of ReactJS. However, learning AngularJS is a lengthy process that requires following very many concepts. Less experienced developers often find it very difficult to get started with AngularJS compared to ReactJS.

**React VS JQuery?**

React is a JavaScript library for designing and rendering user interfaces, it only focusses on the "V" of MVC. jQuery is a library used to add more interactivity (i.e. animations) to the webpages and manipulate the DOM, i.e. to access and modify existing HTML elements on a webpage.

A big difference between the two is that React works through the "virtual DOM", which is basically just the data about the HTML elements rather than the elements themselves, whereas jQuery interacts with the DOM directly. The idea is that DOM elements carry around too much unnecessary data, and the virtual DOM abstracts the relevant parts, allowing for faster performance. In React, you modify the virtual DOM, which it then compares to the existing DOM elements and makes the necessary changes/updates.

**What is going on with the React community right now?**