disadvantages of JavaScript :

- when we write code with plain JavaScript the problem is that we have to write lot of repetitive code .
- Example: if you observe any UI there is lot of things repeated in that UI and what react helps us to do is if there is any repeated things you do not need to write code again and again all you can do is you can identify what is reusable piece of code in UI and make it an component. In JS we have to write same code over and over again.
- if anything updates on page react will automatically handled that in JS we have to make lot of effort.

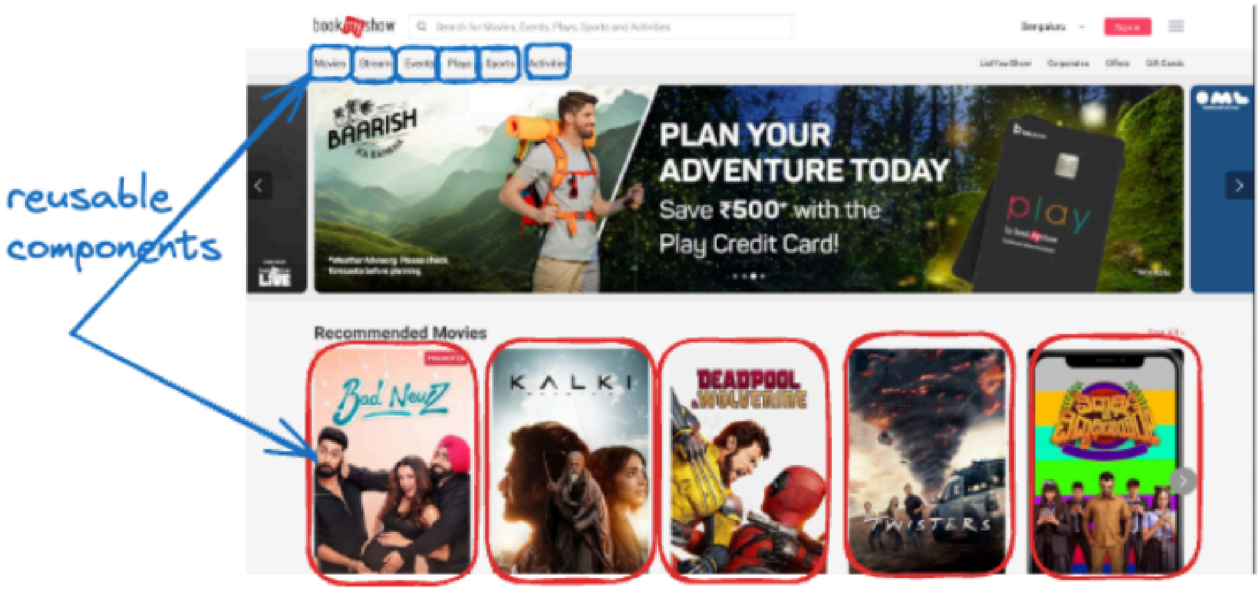
Single Page Applications(SPA)

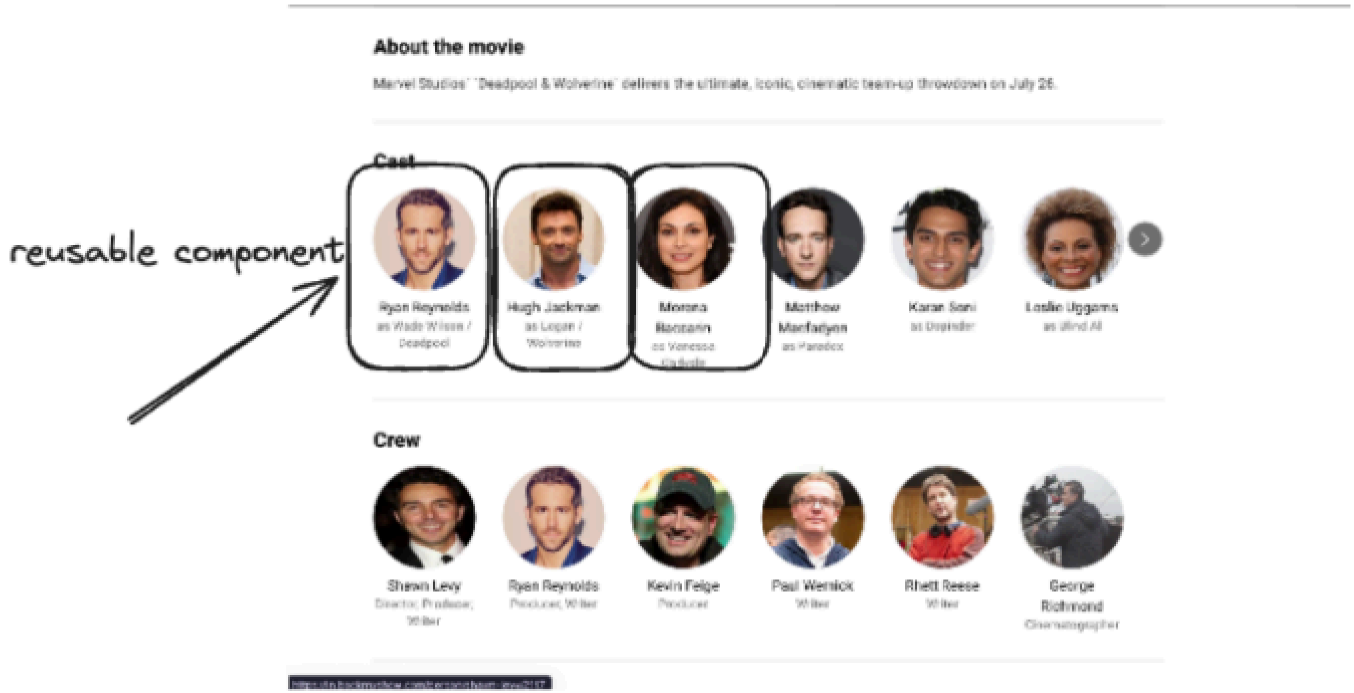
- These are special web apps in which we only have one HTML page that is rendered and dynamically updates the content as user interact with app. We don't make multiple html pages for different pages of the app.
- Means instead of refreshing whole page it is just modifying the existing page.
- when you first load a SPA the server send you one HTML page. This page contains the structure of app.
- SPA use (AJAX) to communicate with the servers when new data is needed app sends AJAX request to server and updates the page without refreshing the whole page.

What is react and how it fits into the picture?

- React is a JS library, it comes up with lot of functionalities using which we can make modern SPA with ease. It doesn't bring a lot of conventions or baggage with it,(means It doesn't impose strict rules or come with unnecessary features that might make development more complicated) and gives just required functionalities for an SPA.
- This is a problem of react also, that for a lot of things we have to reply on third party solutions/libraries.
  (frameworks are end to end solutions and libraries solve specific problem)

React helps us to divide our UI into set of reusable components
So React says , that just identify any piece of UI which is reusable in your page and make it a component. Component is nothing but a reusable piece of UI implemented using react that we just plug and play anywhere in out UI. Component follow the DRY principle(do not repeat yourself) heavily.





About the movie

Marvel Studios' 'Deadpool & Wolverine' delivers the ultimate, iconic, cinematic team-up throwdown on July 26.

There are more features that react brings into the picture:
managing states in a component
managing global states using context
handling events
conditional rendering

How to get started with react ?

There are now a days a lot of tools which give you a ready to start react project out of the box.

- create- react-app
- Next JS
- Vite (getting a lot of popularity and pretty stable ,fast as well)

Create element :

This function creates a brand new react element. React element is just an object that describes the property of DOM node.

- React element is going to tell how button should look like.
- it is a JavaScript object.
- It has two properties types and props
- TYPE : button etc;
- PROPS: props are extra property about that element

```
<script>
React.createElement('button',{},"Click Me");
</script>
```

TO learn About pure react check this [https://sanketsingh.hashnode.dev/getting-started-with-pure-react``](https://sanketsingh.hashnode.dev/getting-started-with-pure-react)

Lets create one button

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

<script>
 const root = document.getElementById("root"); %% this line will give us div
root %%
const rootNode =  ReactDOM.createRoot(root);
rootNode.render(React.createElement("button",{},"click"));

</script>

 </body>
```

- ReactDom.createRoot("root") : technically creates a new tree and inside that tree it create root node (means the node which has no parent) and we want to made root as root node this returns us the access to the root node.

if we observe here wrote so much of code to create button using react but in html we just write hello it is far more easy than this then why we use this react ?

soo what react says is if you don't like to write all these functions there is a technology called as JSX which is the html looking like html markup. In react project we can write JSX which will look like html syntax but eventually get converted it like above code automatically you don't have to write above code manually.