

FSD

Assignment - (4)

Aim:

Enhance web page developed in earlier assignment by rendering lists and portals, error handling Routers and style with React CSS also make it a responsive design to scale well across PC, tablet and Mobile phone.

Objective:

Enhance User Interface and experience
Improve Application Robustness and Navigation

Theory:

Q) ~~Q1~~ How do lists and keys work in React?
List are used to render multiple elements dynamically from arrays

For example

```
const items = ['Apple', 'Banana', 'Cherry'];
```

return

```
<ul>
```

```
  {items.map(item => <li key = {item}>{item}>
```

```
    </li>)}>
```

```
</ul>
```

```
};
```

Keys are unique identifiers assigned to list items to help React efficiently update and render only the elements that change.
React uses keys to track which items have been added or reordered.

Q) What is a React Portal and when would you use a React Portal allow you to order / render a component's DOM hierarchy
Modals, pop-ups, tooltips, or dropdown that need to visually "break out" of parent containers
Portals let you keep your component logic in React while rendering elsewhere in the DOM

Q) Importance of Error Boundaries in React?
Error Boundaries are React components that catch JavaScript errors in their child component tree and display a fallback UI instead of breaking whole app
They catch errors during rendering in lifecycle methods and in constructors of child components

Q) How does react router enable single page Application (SPA) functionality?
React Router manages navigation without loading the page, giving illusions of multiple pages inside a single page application
It listens to change in URL
When path changes, it dynamically renders the matching React components without a full page reload

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