



NAVODAYA INSTITUTE OF TECHNOLOGY

REACT LAB (BCSL657B)

PROGRAM – 5

Develop a React application that demonstrates component composition and the use of props to pass data. Create two components: FigureList: A parent component responsible for rendering multiple child components. BasicFigure: A child component designed to display an image and its associated caption.

Use the FigureList component to dynamically render multiple BasicFigure components. Pass image URLs and captions as props from the FigureList component to each BasicFigure component. Style the BasicFigure components to display the image and caption in an aesthetically pleasing manner. Arrange the BasicFigure components within the FigureList in a grid or list format. Allow users to add or remove images dynamically. Add hover effects or animations to the images for an interactive experience.

[Step 1: Create a New React Application](#)

First, you need to create a new React app using below command. Open your terminal and run:

```
npx create-react-app figure-gallery
```

```
cd figure-gallery
```

Step 2: Set Up the Folder Structure

1. Inside the src folder:
 - Create a components folder.
 - Inside components, create BasicFigure.js and FigureList.js.

[BasicFigure.js](#)

```
import React from 'react';

const BasicFigure = ({ imageUrl, caption }) => {

  return (

    <div className="figure">

      <img src={imageUrl} alt={caption} className="figure-image" />

      <p className="figure-caption">{caption}</p>

    </div>

  );

};

export default BasicFigure;
```

FigureList.js

```
import React, { useState } from 'react';
import BasicFigure from './BasicFigure';

const FigureList = () => {

  const [figures, setFigures] = useState([

    { imageUrl: 'https://picsum.photos/400', caption: 'Random Image 1' },
    { imageUrl: 'https://picsum.photos/400', caption: 'Random Image 2' },
    { imageUrl: 'https://picsum.photos/400', caption: 'Random Image 3' },
    { imageUrl: 'https://picsum.photos/400', caption: 'Random Image 4' },

  ]);

  const addFigure = () => {

    const newFigure = {

      imageUrl: `https://picsum.photos/400?random=${figures.length + 1}`,
      caption: `Random Image ${figures.length + 1}`,
```

```
};  
    setFigures([...figures, newFigure]);  
};  
const removeFigure = () => {  
    const updatedFigures = figures.slice(0, -1);
```

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```

        setFigures(updatedFigures);
    };

    return (
        <div className="figure-list-container">
            <div className='button-box'>
                <button onClick={addFigure} className="action-button">Add Image</button>
                <button onClick={removeFigure} className="action-button">Remove
Image</button>
            </div>
            <div className="figure-list">
                {figures.map((figure, index) => (
                    <BasicFigure key={index} imageUrl={figure.imageUrl} caption={figure.caption}
/>
                ))}
            </div>
        </div>
    );
};

export default FigureList;

```

App.js

```

import React from 'react';
import FigureList from './components/FigureList';
import './App.css';
const App = () => {
    return (

```

```
<div className="app">
```

```
<h1>Dynamic Image Gallery</h1>
```

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```
        <FigureList />
      </div>
    );
  };

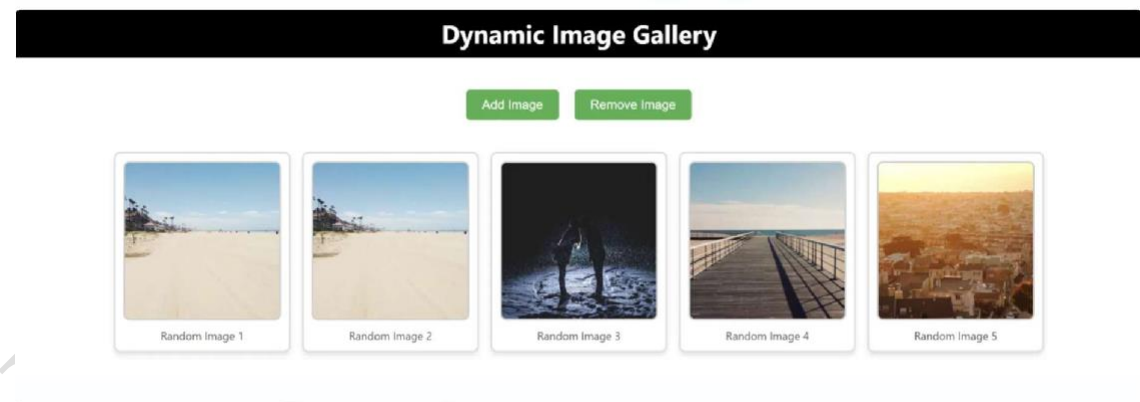
  export default App;
```

Step 4: Run the application

Back in your terminal, start the development server by running:

```
npm start
```

OUTPUT



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