School of Computer Engineering & Technology
Class: Third Year B.Tech CSE (Semester V)
Course: Full Stack Development

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FSD Laboratory 05

Aim: Design and develop an interactive user interface using React.

Objectives:
1. Articulate what React is and why it is useful.
2. Explore the basic architecture of a React application.
3. Use React components to build interactive interfaces

Theory:

1. What is React? Steps to run React app using create-react-app.
- React is a JavaScript library for building user interfaces, particularly single-page applications. It allows developers to create reusable UI components that reflect data changes in real-time. React's component-based architecture makes it highly efficient and modular, enabling complex UIs to be developed with reusable parts that manage their own state.
- **Features of React:**
  - **Component-Based:** UI is broken down into reusable components.
  - **Declarative:** Define what the UI should look like, and React updates the actual DOM.
  - **Virtual DOM:** React creates a virtual representation of the DOM to make efficient updates.

Steps
npx create-react-app my-app
cd my-app
npm start

2. Passing data through props (Small example)

In React, **props** (short for "properties") allow data to be passed from one component to another. Props are used to pass data from a parent component to a child component.

```jsx
// Parent Component: App.js
import React from 'react';
import Greeting from './Greeting';

function App() {
  const name = "John";
  return (
    <div>
      <Greeting name={name} />
    </div>
  );
}

export default App;

// Child Component: Greeting.js
import React from 'react';
```
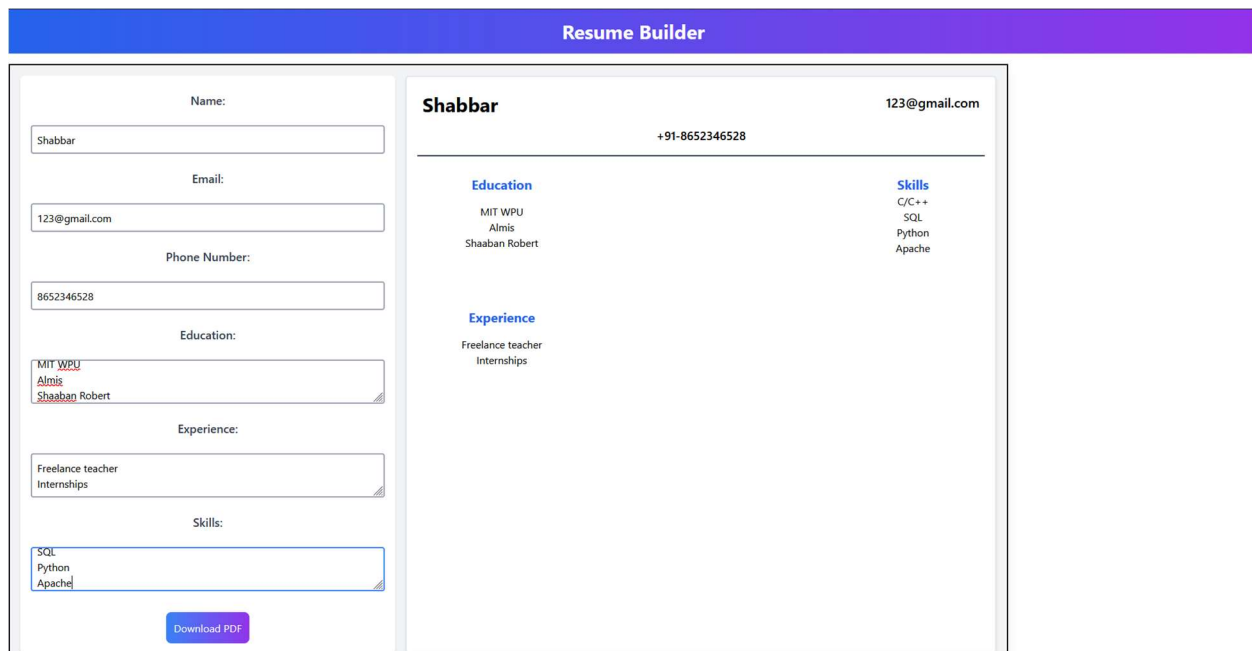
```
function Greeting(props) {
  return <h1>Hello, {props.name}!</h1>;
}

export default Greeting;
```

FAQ:

1. What are React states and hooks?

- **State**: State in React represents the dynamic data within a component. When state changes, React re-renders the component to reflect the new state.

- **Hooks**: React introduced hooks as functions that allow developers to use state and other React features in functional components (previously, only class components could have state). Common hooks include:

Output: Screenshots of the output to be attached.