

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Experiment 1

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Subject Name: Full Stack II

Subject Code: 23CSH-382

1. Aim:

To design and develop a web-based Environmental Impact Tracker (Eco Track) that calculates and categorizes carbon footprint based on different daily activities using ReactJS.

2. Objective:

The main objectives of this experiment are:

- To understand the use of React components for UI development
- To calculate total carbon footprint using JavaScript logic
- To classify activities into High Carbon and Low Carbon emissions
- To design a minimalist and user-friendly dashboard UI
- To improve understanding of arrays, filter, reduce, and conditional rendering

3. Implementation/Code:

=>App.jsx

```
import './App.css'  
import Dashboard from './pages/dashboard'  
import Dashboard1 from './pages/dashboard1'
```

```
import Header from './components/Header'
```

```
const App=()=>> {  
  return (  
    <>  
    <Header title="Ecotrack-Dashboard"></Header>  
  
    <main style={{padding: '1rem'}}>  
      <Dashboard></Dashboard>  
      <Dashboard1></Dashboard1>  
    </main>  
    </>  
  );  
};  
  
export default App
```

=>logs.js

```
const logs = [  
  { id: 1, activity: "Car Travel", carbon: 4 },  
  { id: 2, activity: "Electricity Usage", carbon: 6 },  
  { id: 3, activity: "Cycling", carbon: 0 },  
  { id: 4, activity: "Bus Travel", carbon: 3 },  
  { id: 5, activity: "solar Energy Usage", carbon: 3 },  
  { id: 6, activity: "Flight travel", carbon: 8 },  
];  
export default logs;
```

=>dashboard1.jsx

```
import logs from "../data/logs"
```

```
const Dashboard = () => {
```

```
const totalCarbon = logs.reduce((sum, log) => sum + log.carbon, 0)
```

```
const containerStyle = {  
  display: "flex",  
  justifyContent: "center",  
  marginTop: "2rem"  
}
```

```
const boxStyle = {  
  border: "1px solid #ccc",  
  borderRadius: "8px",  
  padding: "1rem",  
  maxWidth: "400px",  
  backgroundColor: "#f9f9f9"  
}
```

```
return (  
  <div style={containerStyle}>  
    <div style={boxStyle}>  
      <h2>All activities</h2>  
      <p>Total Carbon FootPrint: {totalCarbon} kg</p>
```

```
    <ul>  
      {logs.map((log) => (  
        <li key={log.id}>  
          {log.activity}: {log.carbon} kgs  
        </li>  
      ))}  
    </ul>  
  </div>  
</div>  
)
```

```
}
```

```
export default Dashboard
```

=>**dashboard2.jsx**

```
import logs from '../data/logs';
```

```
const Dashboard1 = () => {  
  const lowCarbon = logs.filter(log => log.carbon < 4);  
  const highCarbon = logs.filter(log => log.carbon >= 4);
```

```
  const boxStyle = {  
    border: '1px solid #ccc',  
    borderRadius: '8px',  
    padding: '1rem',  
    width: '45%',  
    backgroundColor: '#f9f9f9'  
  };
```

```
  const containerStyle = {  
    display: 'flex',  
    gap: '1rem',  
    flexWrap: 'wrap'  
  };
```

```
  return (  
    <div>  
      <h2>Carbon Emissions Dashboard</h2>  
  
      <div style={containerStyle}>  
        { /* LOW CARBON */ }  
        <div style={boxStyle}>  
          <h3>Low Carbon Activities (< 4 kg)</h3>  
          <ul>  
            {lowCarbon.map(log => (  
              <li key={log.id}>  
                {log.activity}: {log.carbon} kg  
              </li>
```

```

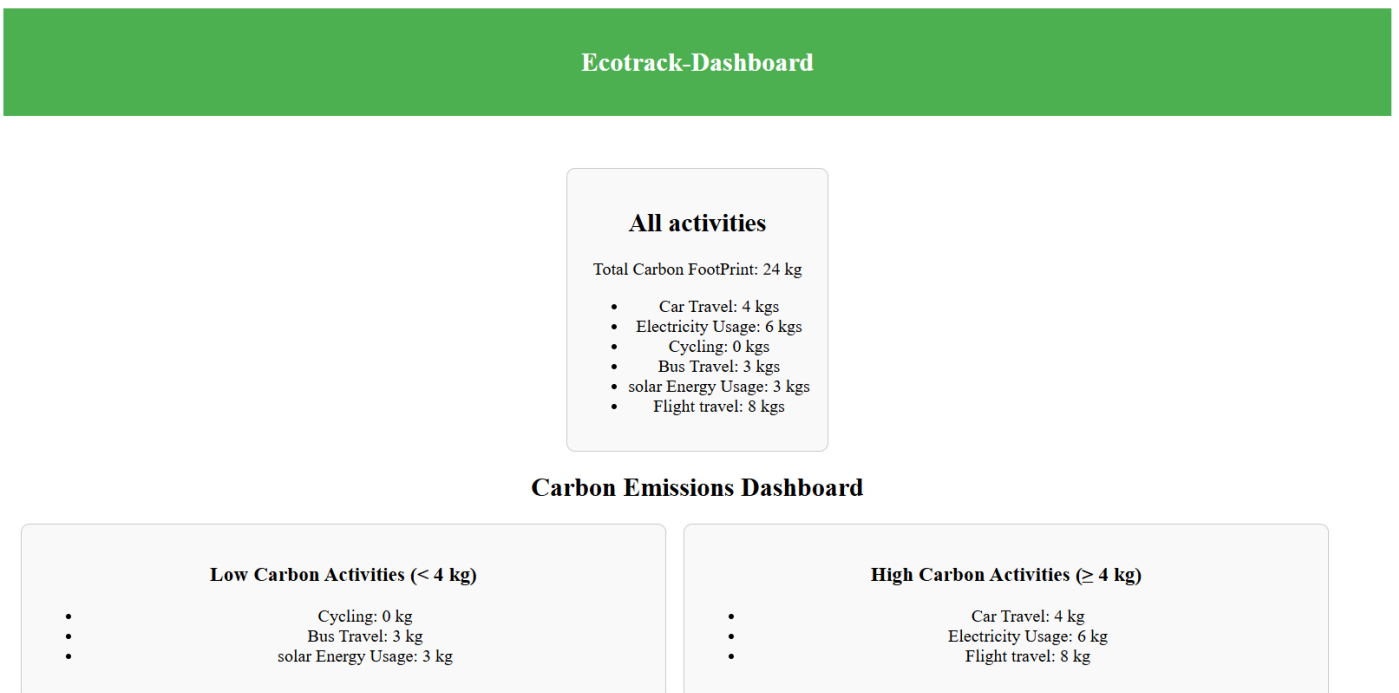
    )))}
  </ul>
</div>

{ /* HIGH CARBON */}
<div style={boxStyle}>
  <h3>High Carbon Activities (≥ 4 kg)</h3>
  <ul>
    {highCarbon.map(log => (
      <li key={log.id}>
        {log.activity}: {log.carbon} kg
      </li>
    ))}
  </ul>
</div>
</div>
</div>);};

```

```
export default Dashboard1;
```

4. Output



5. Learning Outcome

- How to build reusable UI using **React components**
- Practical use of **map(), filter(), and reduce()**
- How to manage and display data dynamically in React
- Basics of **dashboard UI design** with CSS
- Understanding of **environmental impact awareness through technology**