Experiment 1

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Semester: 6th **Date of Performance:12/01/26**
Subject Name: Full Stack Development-II **Subject Code: 23CSH-309**

1. Aim:

To design and implement the foundational frontend architecture of the EcoTrack application using modern React practices, Vite tooling, and ES6+ JavaScript features.

2. Objective:

- To set up a React project using Vite with proper project structure
- To understand component-based architecture in React
- To apply ES6 array methods (map, filter, reduce) for data-driven UI rendering
- To separate concerns using components, pages, and data modules

3. Implementation/Code:

logs.js:

```
export const logs = [
{ id: 1, activity: "Car Travel", carbon: 1 },
{ id: 2, activity: "Electricity Usage", carbon: 6 },
{ id: 3, activity: "Cycling", carbon: 5},
];
```

Dashboard.jsx:

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

const Dashboard = () => {
   const totalcarbon = logs.reduce((total, log) => total + log.carbon, 0);

   return (
      <div className="dashboard">
         <header className="dashboard-header">

            <h2 className="dashboard-title">Dashboard</h2>
```

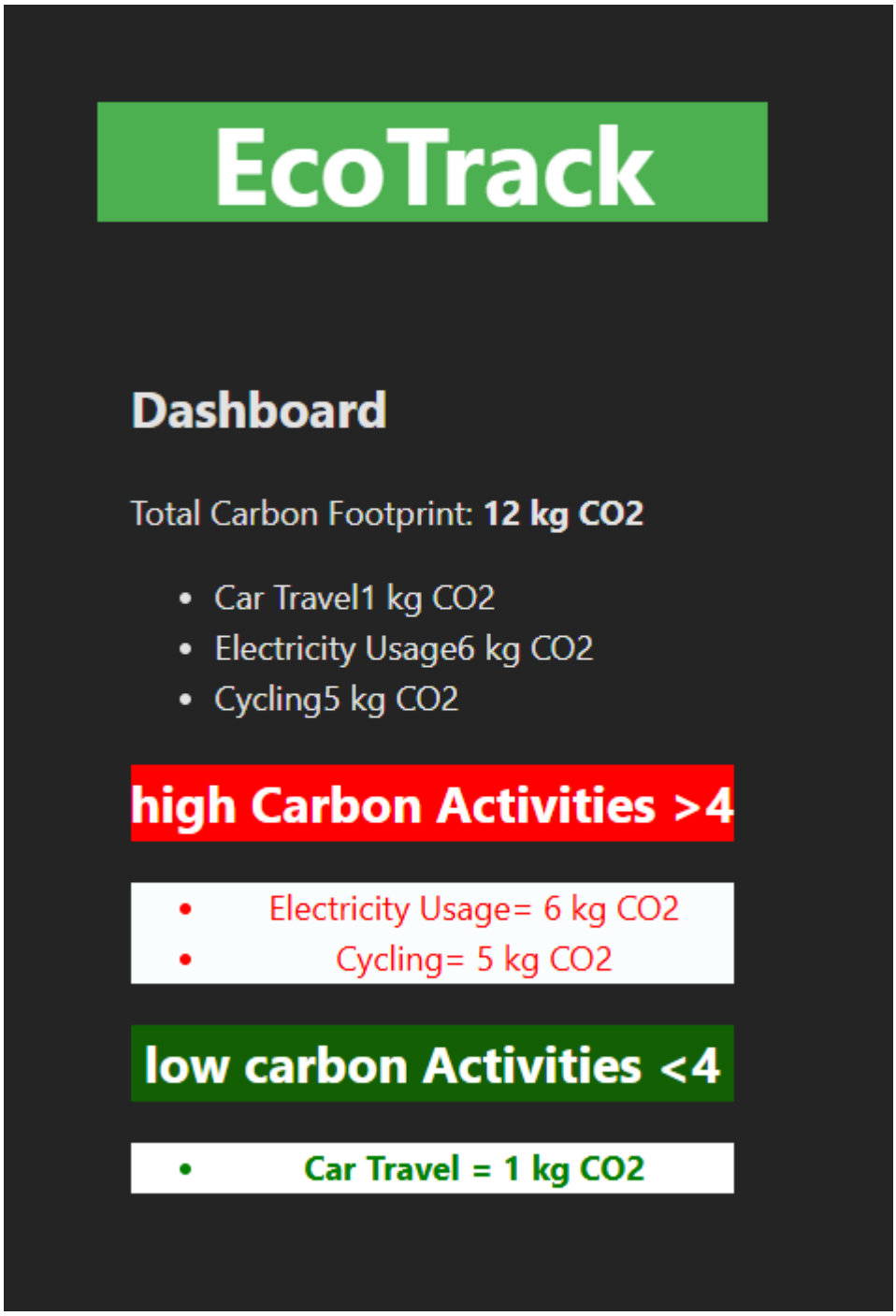
```
            <p className="dashboard-summary">Total Carbon Footprint:
<strong>{totalcarbon} kg CO2</strong></p>
          </header>

          <section className="logs">
            <ul className="log-list">
              {logs.map((log) => (
                <li className="log-item" key={log.id}>

                  <span className="activity">{log.activity}</span>

                  <span className="carbon">{log.carbon} kg CO2</span>
                </li>
              ))}
            </ul>
          </section>
        </div>
    );
};

export default Dashboard;
```

Logs.jsx

```
import{logs} from '../data/logs';
const Logs=()=>{
    const highimpactlogs=logs.filter(log=>(log.carbon>4))
    const lowimpactlogs=logs.filter(log=>(log.carbon<4))

    return(<>
    <div>
        <header style={{padding: "o.5 rem", backgroundColor: "#ff0000", color:
"white", textAlign: "center"}}>
        <h2>high Carbon Activities {'>'}4 </h2>
        </header>
        <ul style={{padding: "o.5 rem", backgroundColor: "#f9fdfd", color: "Red",
textAlign: "center"}}>
          {
            highimpactlogs.map(log=>(
              <li key={log.id}>
              {log.activity}= {log.carbon} kg CO2
```

```
                </li>
            ))
        }
    </ul>
</div>
<div>
    <header style={{padding: "o.5 rem", color: "white",backgroundColor:
"#135f04", textAlign: "center"}}>

    <h2>low carbon Activities {'<'}4 </h2>
    </header>
    <ul style={{padding: "o.5 rem", backgroundColor: "#ffffff", color: "green",
textAlign: "center"}}>
        {
            lowimpactlogs.map(log=>(
                // <li key={log.id} >
                // {log.activity}= {log.carbon} kg CO2
                // </li>

                <li key={log.id} style={{ color: "green", fontWeight: "bold" }}>

                {log.activity} = {log.carbon} kg CO2
                </li>

            ))
        }
    </ul>
</div>
</>
)
}
export default Logs;
```

4. **Output:**


EcoTrack
Dashboard
Total Carbon Footprint: 12 kg CO2
Car Travel1 kg CO2
Electricity Usage6 kg CO2
Cycling5 kg CO2
high Carbon Activities >4
Electricity Usage= 6 kg CO2
Cycling= 5 kg CO2
low carbon Activities <4
Car Travel = 1 kg CO2

5. Learning Outcome:

- Learned how to create and structure a React project using Vite with proper folders like components/pages/data.
- Understood component-based UI development by building separate pages like Dashboard and Logs.
- Implemented dynamic UI rendering using ES6 map() to display activity logs from an array.
- Used ES6 filter() to categorize high-carbon and low-carbon activities efficiently.
- Applied ES6 reduce() to calculate the total carbon footprint and show summarized results on the dashboard.