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 (EcoTrack) 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 React from "react";
import Header from "./components/Header";
import Dashboard from "./pages/Dashboard";
import Logs from "./pages/Logs";

const App = () => {
  return (
    <div>
      <Header title="EcoTrack – Environmental Impact Tracker" />
      <main className="app-container">
```

```
      <Dashboard />
      <Logs />
    </main>
  </div>
 );
};

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: 1 },
  { id: 6, activity: "Flight Travel", carbon: 8 },
];

export default logs;
```

=>Log.jsx

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

function Log() {
  return (
    <div>
      <p>High Carbon Emission Activities:</p>
      <ul>
        {
          logs.map((log) => {
            if( log.carbon >= 4){
              return (<li key = {log.id} style = {{color: 'red'}}>
                {log.activity}: {log.carbon} kg CO2
              </li>)
            }
            return null;
          }

          )
```

```
            }

          </ul>
          <p>Low Carbon Emission Activities:</p>
          <ul>
            {
              logs.map((log) => {
                if( log.carbon < 4){
                  return (<li key = {log.id} style = {{color: 'green'}}>
                    {log.activity}: {log.carbon} kg CO2
                  </li>)
                }
                return null;
              }

              )
            }

          </ul>
        </div>
    )
}

export default Log;
```

=>DashBoard.jsx

```
import React from "react";
import logs from "../data/logs";

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

  const highCarbonLogs = logs.filter(log => log.carbon > 4);

  return (
    <div>
      <h2>Dashboard</h2>

      <h3 className="section-title">Total Carbon Footprint</h3>
      <p className="metric">
```

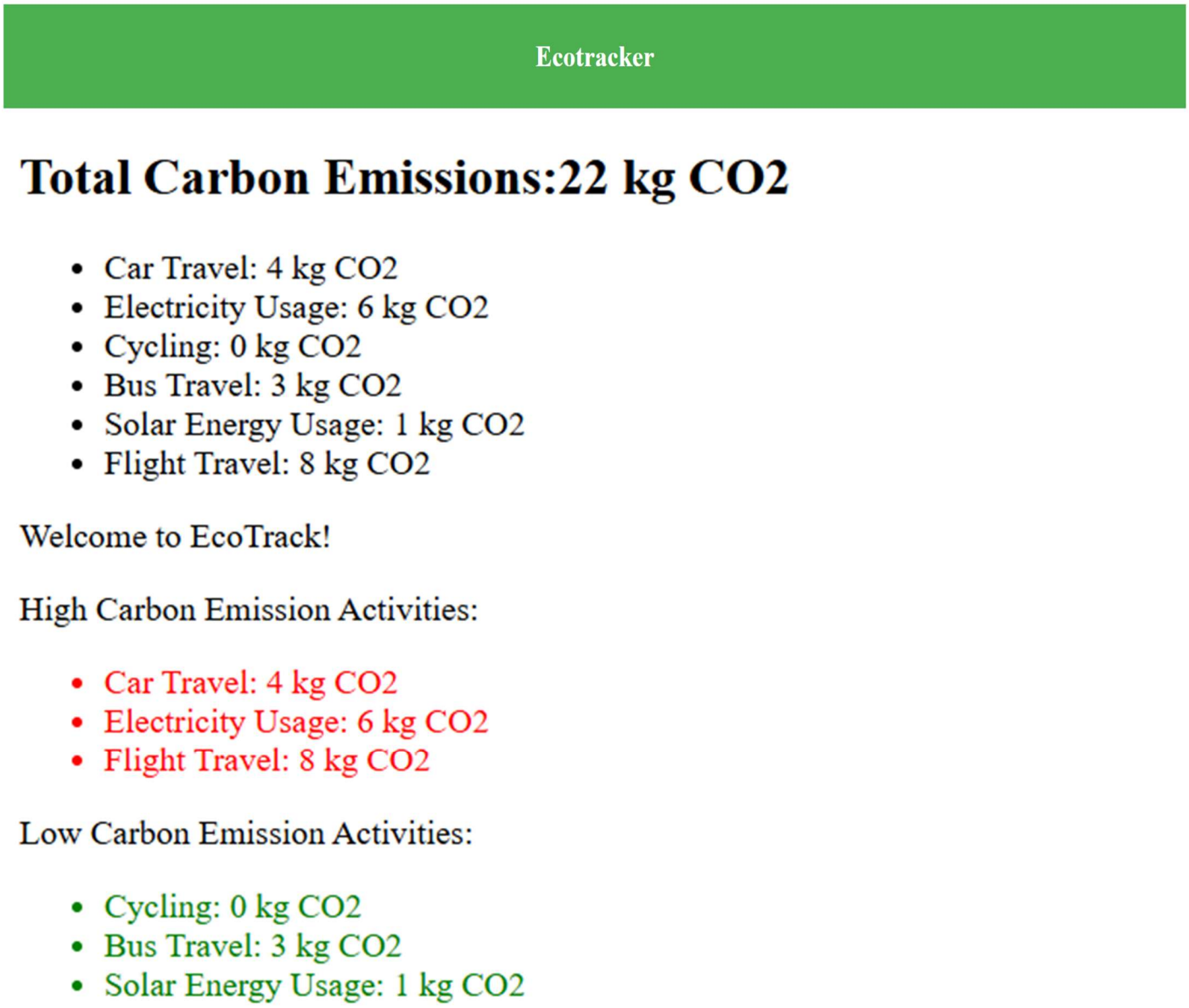
```
      <span className="metric-value">{total} kg</span>
    </p>

    <div className="section-card">
      <h3 className="section-title">All Activities</h3>
      <ul>
        {logs.map(log => (
          <li
            key={log.id}
            style={{ color: "#000" }}
          >
            {log.activity} → <span className="list-value" style={{ color: "#000"
}}>{log.carbon} kg</span>
          </li>
        ))}
      </ul>
    </div>

    <div className="section-card">
      <h3 className="section-title section-title--danger">High Carbon Emissions (
&gt; 4 kg )</h3>
      <ul>
        {highCarbonLogs.map(log => (
          <li
            key={log.id}
            style={{ color: "red" }}
          >
            {log.activity} → <span className="list-value">{log.carbon} kg</span>
          </li>
        ))}
      </ul>
    </div>
  </div>
 );
};

export default DashBoard;
```

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**