



Experiment 1

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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:

logs.js:

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

App.jsx:

```
1 import Dashboard from "./pages/dashboard";
2 import Logs from "./pages/logs";
3 import Header from "./components/Header";
4
5
6 const App = () => {
7
8     return (
9         <>
10            <Header title="EcoTrack - Environment Impact Trackery" />
11
12            <main style={{ padding: "1rem" }}>
13                <Dashboard />
14                <Logs />
15            </main>
16        </>
17    );
18};
19
20 export default App;
21
```

Dashboard.jsx:

```
1 import { logs } from "../data/logs";
2
3 const Dashboard = () => {
4     const totalCarbon = logs.reduce((sum, log) => sum + log.carbon, 0);
5
6     return (
7         <div>
8             <h2>Dashboard</h2>
9             <p>Total Carbon FootPrint: {totalCarbon} Kgs</p>
10
11            <ul>
12                {logs.map((log) => (
13                    <li key={log.id}>
14                        {log.activity} : {log.carbon} Kgs
15                    </li>
16                ))}
17            </ul>
18        </div>
19    );
20}
21
22 export default Dashboard;
23
```

Logs.jsx:

```
1  import { logs } from "../data/logs";
2
3  const Logs = () => {
4      const highCarbonLogs = logs.filter(log => log.carbon >= 4);
5
6  return (
7      <div>
8          <h2>HIgh Carbon Activities</h2>
9          <ul>
10         {highCarbonLogs.map(log=>(
11             <li key={log.id}
12                 style={{color: "red"}}
13                 {log.activity} : {log.carbon} Kgs
14             </li>
15         ))}
16     </ul>
17   </div>
18 );
19 }
20
21 export default Logs;
22
```

4. Output:

The screenshot shows a dark-themed dashboard titled "EcoTrack - Environment Impact Trackery". The main title is displayed in a large, bold, white font at the top of the page. Below the title, there is a section titled "Dashboard" in a smaller white font. Under the "Dashboard" section, the text "Total Carbon FootPrint: 22 Kgs" is shown. A bulleted list follows, detailing various carbon emissions: Car Travel : 4 Kgs, Electricity Usage : 6 Kgs, Cycling : 0 Kgs, Bus Travel : 3 Kgs, Solar Energy Usage : 1 Kgs, and Flight Travel : 8 Kgs. In the bottom left corner of the dashboard area, there is a heading "HIgh Carbon Activities" followed by a bulleted list of activities, all of which are colored red: Car Travel : 4 Kgs, Electricity Usage : 6 Kgs, and Flight Travel : 8 Kgs.

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**