DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

CHANDIGARH UNIVERSITY

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Experiment 1

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Subject Name: Full-Stack II

Subject Code: 23-CSH-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. **Code:**

   Dashboad.jsx

```
import { logs } from "./logs";

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

    return (
        <div style={{ padding: "20px", color: "white", backgroundColor: "#1a1a1a" }}>
            <h2>Dashboard</h2>
            <div style={{ backgroundColor: "#333", padding: "15px", marginBottom:
"20px", borderRadius: "8px" }}>
```

```
                <p style={{ fontSize: "18px", fontWeight: "bold" }}>Total Carbon
Footprint: <span style={{ color: "lime" }}>{totalCarbon} kgs</span></p>
            </div>

            <h3>Activity Breakdown:</h3>
            <ul>
                {logs.map((log) => (
                    <li key={log.id}>
                        {log.activity} : {log.carbon} kgs
                    </li>
                ))}
            </ul>
        </div>
    );
};

export default Dashboard;
```

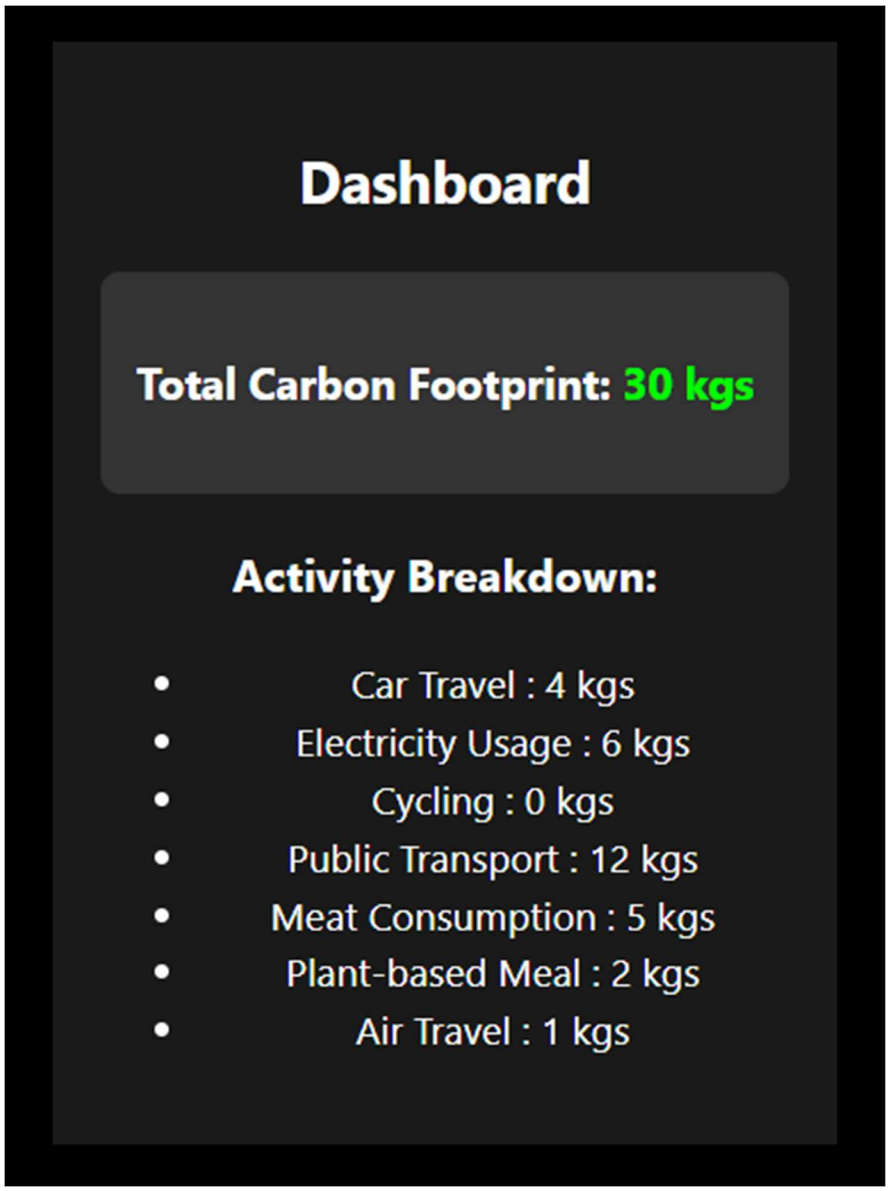
Logs.jsx

```
export 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: "Public Transport", carbon: 12 },
  { id: 5, activity: "Meat Consumption", carbon: 5 },
  { id: 6, activity: "Plant-based Meal", carbon: 2 },
  { id: 7, activity: "Air Travel", carbon: 1 }
];

export const HighImpact = () => {
  const highCarbonLogs = logs.filter(log => log.carbon <= 4);

  return (
    <div style={{ color: "red", padding: "20px", backgroundColor: "#000000" }}>
      <h2>Daily Logs</h2>
        <p style={{ color: "skyblue" }}>These are the given carbon emmission</p>
      <ul>
        {highCarbonLogs.map(log => (
          <li key={log.id}>
            {log.activity} : {log.carbon} kgs
          </li>
        ))}
      </ul>
    </div>
  );
};
```

Main.jsx

```
import ReactDOM from "react-dom/client";
import { StrictMode } from 'react';
import { createRoot } from 'react-dom/client';
import Dashboard from './pages/dashboard.jsx';
import './index.css';
import './App.css';

ReactDOM.createRoot(document.getElementById('root')).render(
  <StrictMode>
    <Dashboard/>
  </StrictMode>,
)
```

4. **Outcome**



5. Learning Outcome

How to build reusable UI using React components

- Practical Application of map(), filter(), and reduce() functions.
- Learn't how to manage and display data dynamically in React
- Learn't the basics of UI for dashboard design with CSS
- Understanding of environmental impact awareness through technology.