



DEPARTMENT OF

COMPUTER SCIENCE & ENGINEERING

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Experiment 1

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Subject Name: Full Stack - II

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Section/Group: KRG_3B

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Aim: To develop a web-based **Carbon Footprint Monitoring Dashboard** that tracks daily activities, calculates total carbon emissions, and categorizes data to help users identify high-emission behaviors and promote environmental awareness.

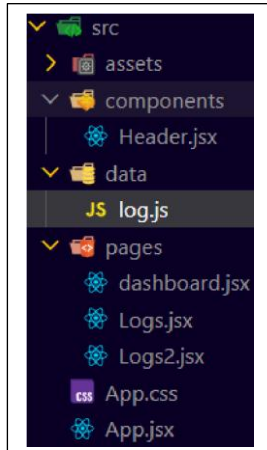
Objective:

- To calculate the total carbon footprint using efficient data aggregation techniques.
- To identify and highlight high carbon-emission activities for better decision-making.
- To present activity-wise emission data in a clear and organized format.
- To apply visual indicators (color-based segregation) for quick emission analysis.
- To implement a clean, modular React architecture using functional components.
- To strengthen understanding of JavaScript array methods like `map()`, `filter()`, and `reduce()` in a real-world use case.

Input/Apparatus Used:

- Programming Language: JavaScript (ES6+)
- Framework / Library: React (Functional Components)
- Build Tool: Vite
- Code Editor: Visual Studio Code
- Web Browser: Google Chrome

Files Structure



File Used

1.Log.js

```
JS logs.js ×
experiment-1-ecotrack > ecotrack > src > data > JS logs.js > ...
1  export const logs = [
2    { id: 1, activity: "Car Travel", carbon: 3 },
3    { id: 2, activity: "Electricity Usage", carbon: 6 },
4    { id: 3, activity: "Cycling", carbon: 0 },
5    { id: 4, activity: "Bus Travel", carbon: 2 },
6    { id: 5, activity: "Flight Travel", carbon: 12 },
7    { id: 6, activity: "Train Travel", carbon: 1 },
8    { id: 7, activity: "Air Conditioner Usage", carbon: 5 },
9    { id: 8, activity: "Solar Energy Usage", carbon: 0 },
10   { id: 9, activity: "Cooking with Gas", carbon: 4 },
11   { id: 10, activity: "LED Lighting", carbon: 1 },
12   { id: 11, activity: "Laptop Usage", carbon: 2 },
13   { id: 12, activity: "Meat Consumption", carbon: 7 },
14   { id: 13, activity: "Recycling Waste", carbon: 0 },
15 ]
```

2.Header.jsx

```
Ecotrack > src > components > Header.jsx > default
1  const Header=({title})=>{
2    return(
3      <header style={{padding:"0.5rem",
4        backgroundColor:"#4CAF50",color:"white"}}>
5        <h1>{title}</h1>
6      </header>
7    )
8  }
9
10
11  export default Header;
```

3.dashboard.jsx

```
1
2  import {logs} from '../data/log.js';
3  const Dashboard=()=>{
4    const totalCarbon=logs.reduce((sum,i)=>{
5      return sum+i.carbon;
6    },0);
7    return(
8      <div>
9        <h2>Dashboard</h2>
10       <p>Total Carbon Footprint: {totalCarbon}Kgs</p>
11       <ul>
12         {logs.map(i=>{
13           <li key={i.id}>
14             {i.activity}: {i.carbon}Kgs
15           </li>
16         })}
17       </ul>
18     </div>
19   )
20 }
21
22
23
24
25  export default Dashboard;
```

4.log.jsx

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

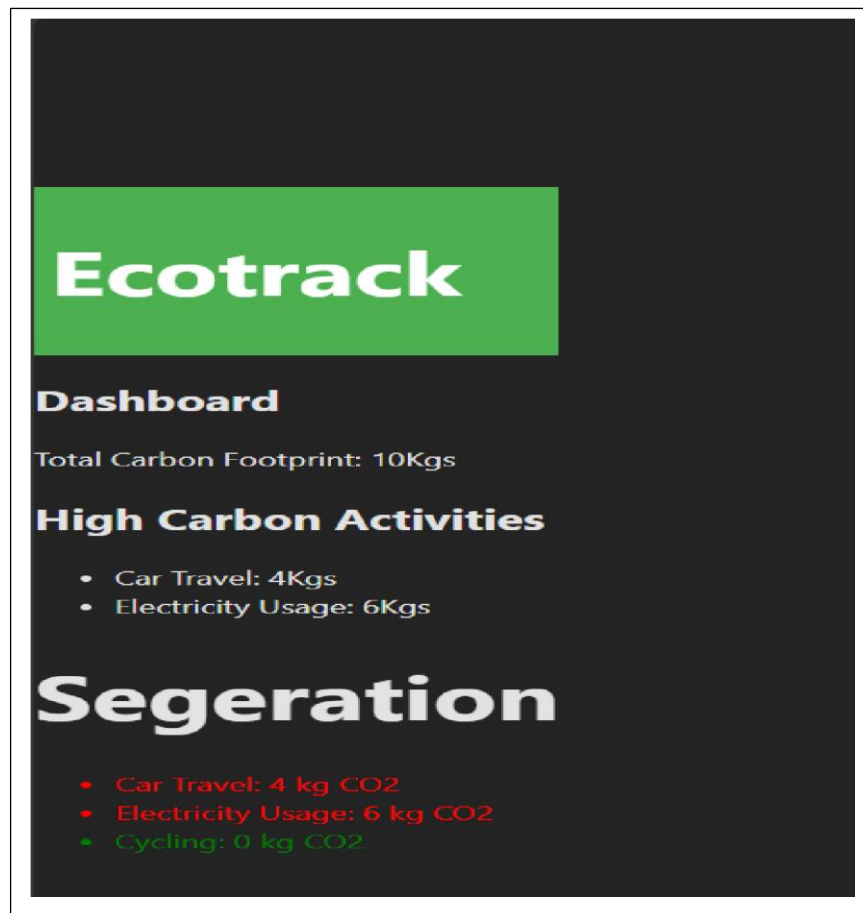
const Logs = () => {
  const highCarbon = logs.filter(i => i.carbon >= 4);
  return (
    <div>
      <h2>High Carbon Activities</h2>
      <ul>
        {highCarbon.map(i => (
          <li key={i.id}>
            {i.activity}: {i.carbon}Kgs
          </li>
        ))}
      </ul>
    </div>
  )
}

export default Logs;
```

5.App.jsx

```
ecotrack > src > App.jsx > App
1  import Header from './components/Header';
2  import DashBoard from './pages/dashboard';
3  import Logs from './pages/Logs';
4  import Logs1 from './pages/Logs2';
5
6  function App() {
7    return (
8      <div>
9        <Header title={"Ecotrack"}
10         main={true}/>
11        <DashBoard/>
12        <Logs/>
13        <Logs1/>
14      </div>
15    )
16  }
17
18  export default App;
```

Output



Learning Outcomes

- Built a **React-based web application** using functional components and clean component architecture.
- Applied **JavaScript array methods** (map, filter, reduce) to process and analyze real-world data.
- Implemented **conditional rendering and dynamic styling** for better UI clarity.
- Gained hands-on experience with **modern development tools** like Vite and ES6+ JavaScript.