



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

## Experiment 1

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**Subject Name:** Full Stack - II

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**Subject Code:** 23CSH-309

**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.

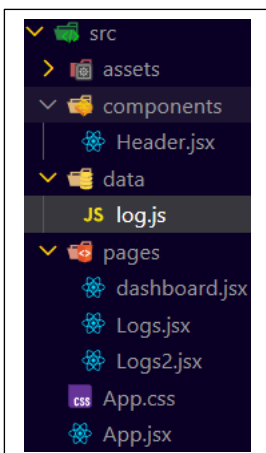
### Objective:

- 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

```
Ecotrack > src > data > JS log.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 ];
```

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

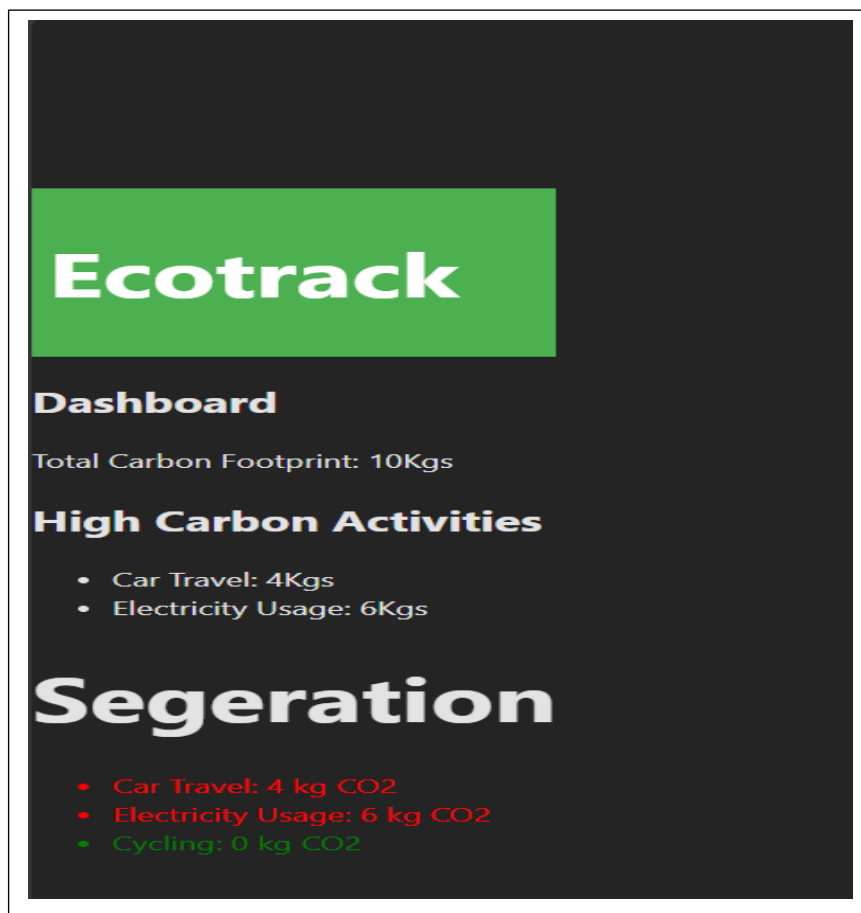
### 4.log.jsx

```
1 import {logs} from '../data/log.js';
2
3 const Logs=()=>{
4   const highCarbon=logs.filter(i=>i.carbon>=4);
5   return(
6     <div>
7       <h2>High Carbon Activities</h2>
8       <ul>
9         {highCarbon.map(i=>{
10           <li key={i.id}>
11             {i.activity}: {i.carbon}Kgs
12           </li>
13         })}
14       </ul>
15     </div>
16   )
17 }
18 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.