

# COMPUTER SCIENCE & ENGINEERING

## Experiment 1

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**Branch:** AIT\_CSE

**Semester:** 6<sup>th</sup>

**Subject Name:** Full Stack II

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**Section/Group:** 23AIT\_KRG\_G2

**Date of Performance:** 15/01/26

**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";

const App = () => {
  return (
    <div style={{ textAlign: "center" }}>
      <Header title="EcoTrack - Environmental Impact Tracker" />
    </div>
  )
}
```

```

        <Dashboard />
      </div>
    );
  };

export default App;

```

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 },
];

```

```

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

const Logs = () => {
  return (
    <div>
      <h2>Daily Logs</h2>

      <ul>
        {logs
          .filter(log => log.carbon > 0)
          .map(log => (
            <li
              key={log.id}
              style={{
                color: log.carbon > 4 ? "red" : "green",
                fontWeight: "bold"
              }}
            >
              {log.activity} → {log.carbon} kg
            </li>

```

```

    ))}

    </ul>
  </div>
);
};

export default Logs;

```

export default logs;

---

### =>dashboard.jsx

```

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

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

  const highCarbon = logs.filter(log => log.carbon > 4);
  const lowCarbon = logs.filter(log => log.carbon < 4);

  const boxStyle = {
    border: "1px solid #ddd",
    borderRadius: "10px",
    padding: "16px",
    width: "320px",
    margin: "15px auto",
    boxShadow: "0 4px 8px rgba(0,0,0,0.1)",
    textAlign: 'left'
  };

  const listStyle = {
    listStyle: "none",
    padding: 0
  };

  const headingStyle = {
    textDecoration: "underline"
  };

  return (
    <div style={{ textAlign: "center" }}>

```

```

<h2>Dashboard</h2>

<p><strong>Total Carbon Footprint:</strong> {total} kg</p>

{/* ALL ACTIVITIES */}
<div style={boxStyle}>
  <h3 style={headingStyle}>All Activities</h3>
  <ul style={listStyle}>
    {logs.map(log => (
      <li key={log.id}>
        {log.activity} → {log.carbon} kg
      </li>
    ))}
  </ul>
</div>

{/* HIGH CARBON */}
<div style={{ ...boxStyle, borderColor: "red" }}>
  <h3 style={{ ...headingStyle, color: "red" }}>
    High Carbon Emissions (&gt; 4 kg)
  </h3>
  <ul style={listStyle}>
    {highCarbon.map(log => (
      <li
        key={log.id}
        style={{ color: "red", fontWeight: "bold" }}
      >
        {log.activity} → {log.carbon} kg
      </li>
    ))}
  </ul>
</div>

{/* LOW CARBON */}
<div style={{ ...boxStyle, borderColor: "green" }}>
  <h3 style={{ ...headingStyle, color: "green" }}>
    Low Carbon Emissions (&lt; 4 kg)
  </h3>
  <ul style={listStyle}>
    {lowCarbon.map(log => (
      <li
        key={log.id}
        style={{ color: "green", fontWeight: "bold" }}

```

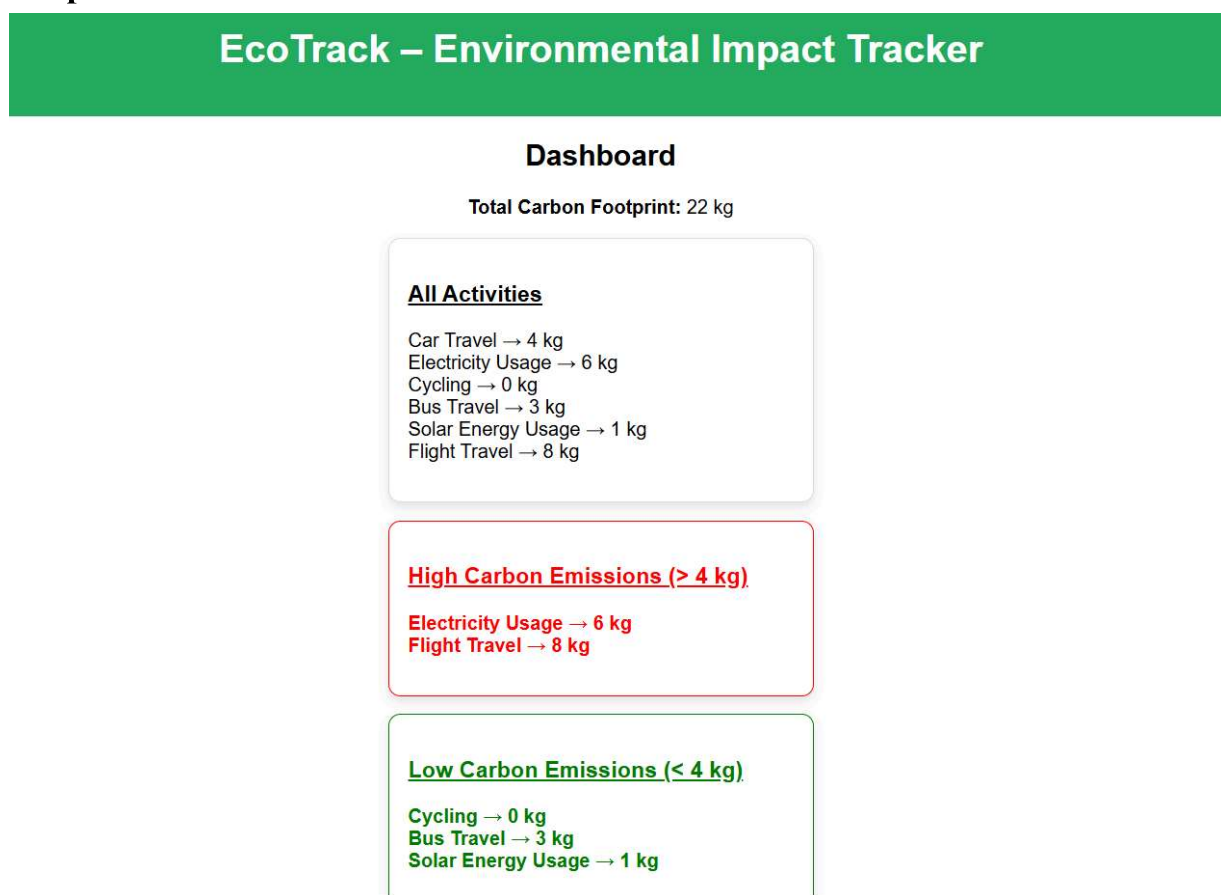
```

    >
    {log.activity} → {log.carbon} kg
  </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**