



Experiment 1

Name : Astik Joshi

UID : 23BCS10627

Branch: BE-CSE

Section/Group: KRG-3B

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1. Aim: To design and implement the foundational frontend architecture of the EcoTrack application using modern React practices, Vite tooling, and ES6+ JavaScript features.

2. Objective:-

- To understand about basic of React and Vite.
- To create a project using Vite with proper flow.
- To apply ES6 array methods (map, filter, reduce) for data-driven UI rendering
- To separate concerns using components, pages, and data modules

3. Implementation/Code:

- **Logs.js :-**
-

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

- **Dashboard.jsx :-**

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

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

  return (
    <div>
      <h2>Dashboard</h2>
      <p>Total Carbon Footprint: {totalCarbon} kgs</p>

      <ul>
        {logs.map((log) => (
          <li key={log.id}>
            {log.activity} = {log.carbon} Kg
          </li>
        ))}
      </ul>
    </div>
  );
};

export default Dashboard;
```

- **Logs.jsx :-**

```
import React from 'react'
import { logs } from '../data/log'

export const Logs = () => {
  const highCarbon = logs.filter(
    log => log.carbon >= 4
  )

  return (
    <div>
      <h2>High Carbon Activities more than 4</h2>

      {highCarbon.map((log, index) => (
        <p key={index}>
          {log.activity} - {log.carbon} kg
        </p>
      ))}
    </div>
  )
}

export const LowCarbon = () => {
  const LowCarbon = logs.filter(
    logs => logs.carbon <= 3
  )

  return (
    <div>
      <h2>Low Carbon Activities less than 3</h2>

      {logs.map((log, index) => {
        return (
          <p>
            {log.activity} - {log.carbon} kg
          </p>
        )
      })}
    </div>
  )
}
```



- App.jsx:-

```
import Header from "../components/header";
import Dashboard from "../pages/dashboard";
import Logs from "../pages/logs";
const App = () => {
  return (
    <>
      <Header title="EcoTrack Experiment 1" />
      <Dashboard />
      <Logs />
    </>
  );
};
export default App;
```

4. Output

The screenshot shows the output of the application. It features a green header with the title "EcoTrack Experiment 1". Below the header is a dark grey dashboard area. The dashboard displays the "Total Carbon Footprint: 17 kgs" and a list of activities with their respective carbon footprints: Car Travel (8 Kg), Electricity Usage (6 Kg), Cycling (0 Kg), Bus (3 Kg), and Walking (0 Kg). Below the dashboard is a "Daily Logs" section, which displays the same list of activities and their carbon footprints, but with the values highlighted in red for Car Travel, Electricity Usage, Bus, and Walking, and green for Cycling.

EcoTrack Experiment 1

Dashboard

Total Carbon Footprint: 17 kgs

- Car Travel = 8 Kg
- Electricity Usage = 6 Kg
- Cycling = 0 Kg
- Bus = 3 Kg
- Walking = 0 Kg

Daily Logs

- Car Travel = 8 kg
- Electricity Usage = 6 kg
- Cycling = 0 kg
- Bus = 3 kg
- Walking = 0 kg



5. Learning Outcome :-

- Created an Eco Tracker application using React to track carbon emissions.
- Displayed emission data through a dashboard built with reusable components.
- Applied JavaScript array functions to separate low and high emission activities.
- Organized the project using a component-based structure.
- Implemented dynamic rendering based on carbon emission values.
- Gained hands-on experience with data processing in React.