

Experiment No:1

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

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

Implementation/Code:

1. Log.js:-

```
export const logs = [  
  { id: 1, activity: "Car Travel", carbon: 50},  
  { id: 2, activity: "Electricity Usage", carbon: 60},  
  { id: 3, activity: "Cycling", carbon: 0 },  
  {id :4,activity:"Coal",carbon:400},  
];
```


2. EcoTrack.jsx (Dashboard) :-

```
src > EcoTrack.jsx > EcoTrack
1  import Header from "../header";
2  import { logs } from "../logs";
3  import Logs from "../sumanyu";
4
5  const EcoTrack = () => {
6    const totalCarbon = logs.reduce((sum, log) => sum + log.carbon, 0);
7
8    return (
9      <div>
10        <Header title="EcoTrack Experiment-1" />
11
12        <h2>DASHBOARD</h2>
13        <p>Total Carbon Footprint: {totalCarbon} kg</p>
14
15        <ul>
16          {logs.map((log) => (
17            <li key={log.id}>
18              {log.activity} = {log.carbon} kg
19            </li>
20          ))}
21        </ul>
22
23        <Logs />
24      </div>
25    );
26  };
27
28  export default EcoTrack;
29
```


3. Sumanyu.jsx:

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

const Logs = () => {
  const highCarbon = logs;

  return (
    <div>
      <h2>Daily Logs</h2>
      <ul>
        {highCarbon.map((log) => (
          <li
            key={log.id}
            style={{
              color: log.carbon < 3 ? "green" : "red"
            }}
          >
            {log.activity} = {log.carbon} kg
          </li>
        ))}
      </ul>
    </div>
  );
};

export default Logs;
```


4. App.jsx:

```
c > App.jsx > default
1  import EcoTrack from "../EcoTrack.jsx";
2
3  const App = () => {
4    return (
5      <div>
6        <EcoTrack />
7      </div>
8    );
9  };
10
11 export default App;
```

OUTPUT:

EcoTrack Experiment-1

DASHBOARD

Total Carbon Footprint: 510 kg

- Car Travel = 50 kg
- Electricity Usage = 60 kg
- Cycling = 0 kg
- Coal = 400 kg

Daily Logs

- Car Travel = 50 kg
- Electricity Usage = 60 kg
- Cycling = 0 kg
- Coal = 400 kg

Learning Outcome :-

- Developed an **Eco Tracker application** using React to analyze carbon emissions.
- Implemented a **Dashboard component** to display emission data from JavaScript logs.
- Used **map(), filter(), and reduce()** to classify low and high carbon emission elements.
- Applied **component-based architecture** for better code organization.
- Achieved **dynamic data rendering** based on emission levels.
- Enhanced understanding of **data processing and state-driven UI in React**.