NAAN MUDHALVAN
PROJECT PHASE - I

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PROBLEM DEFINITION & DESIGN THINKING

Phase 1: Energy Consumption Tracker App

Problem Definition & Design Thinking

Title: Energy Consumption Tracker App

Problem Statement: In today's world, many households are unaware of their energy consumption patterns, leading to higher energy bills and unnecessary waste. There is a need for a simple tool that allows users to log and track the energy usage of their appliances, helping them make informed decisions about their energy consumption and identify opportunities for savings.

Target Audience:

- Homeowners and renters looking to monitor their energy usage.
- Environmentally conscious individuals wanting to reduce their carbon footprint.
- Families aiming to lower their energy bills.

Objectives:

- To create a user-friendly web application that allows users to log energy consumption data for various appliances.
- To calculate and display the total energy consumed over time.
- To visualize energy consumption data through charts for better understanding and analysis.

Design Thinking Approach

Empathize: Understanding the challenges faced by users in tracking their energy consumption is crucial. Many individuals do not have a clear picture of how much energy their appliances use, leading to inefficient usage and higher costs. The goal is to create a solution that is easy to use and provides valuable insights.

Key User Concerns:

- Ease of data entry and tracking.
- Clarity in visualizing energy consumption trends.
- Ability to access historical data and insights.

Define: The solution will allow users to input energy consumption data for different appliances, calculate total energy usage, and visualize this data in a user-friendly manner. The app will be accessible via a web browser, making it easy for users to log their data from any device.

Key Features Required:

- User input form for appliance name, energy consumed (in kWh), and date of usage.
- Calculation of total energy consumption.
- Data storage using local storage or a simple JSON file.
- Visualization of energy consumption data using charts (e.g., bar chart or line graph).

Ideate:

Potential ideas for enhancing the app include:

- Adding user authentication to save data across devices.
- Implementing reminders for users to log their energy consumption.
- Providing tips for reducing energy usage based on logged data.

Prototype:

The initial prototype will consist of:

- A simple HTML form for data entry.
- JavaScript functionality to handle data storage and calculations.
- A charting library (e.g., Chart.js) to visualize energy consumption data.

Key Components of Prototype:

- HTML structure for the user interface.

- CSS for basic styling.
- JavaScript for functionality, including data logging, calculations, and chart rendering.

Test:

The prototype will be tested by a small group of users who will interact with the app and provide feedback on usability and functionality.

Testing Goals:

- Assess the ease of data entry and overall user experience.
- Evaluate the clarity and usefulness of the visualizations.
- Gather suggestions for improvements and additional features.

This structured Phase 1 document outlines the key components of your Energy Consumption Tracker App project, providing a clear roadmap for development and testing. You can expand on each section as you progress through the project.