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Project Title: Energy Usage Tracker and Optimizer

Problem Summary: In the post-covid world, many tenants and homeowners are facing the challenges of rising energy costs. In states like California this challenge is especially difficult because the total cost of living is on the rise. Our project attempts to help solve this problem by giving users access to tools that make their energy usage maximally efficient thus reducing their costs.

- **Who** are the users who face this problem?
  - Residential users in California who pay electricity bills and are unaware of peak usage times.

- **What** is the problem they have? Please state this clearly and concisely.
  - Users are unaware of peak hour rates, lack real-time consumption tracking, and have no control over non-essential devices during peak times.

- **Where** and **when** do they have this problem?
  - In California, particularly from 4 PM to 9 PM when electricity rates surge.
- **Why** do they have this problem and **why** would it be good to solve it?
  - Users aren't tracking peak hour usage, leading to higher bills. Solving it would lower costs, save energy, and support sustainable consumption goals.

Approach: To tackle this problem, we'll start by talking to users through interviews and surveys to get a sense of how they currently manage their electricity usage and whether they're even aware of peak hours. From there, we'll work on developing a system that tracks real-time electricity use, lets users set a budget, and sends them alerts when their bill is on track to exceed that limit. We also want to try automating the shutdown of non-essential devices during peak hours to save energy, while giving users the option to turn this feature on or off. Finally, we'll focus on breaking down electricity consumption by device so users can easily see what's using the most power. These early steps will help us build a practical and user-friendly solution.