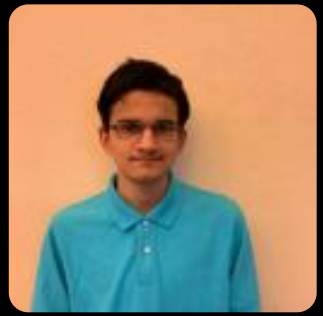
# Team 7: Energy Usage Monitor

Rimon Yacoub, Shashhank Seethula, Johnny Nguyen, Ravi Gadgil

# Meet the Team

Rimon

Login, Google Login, Charts, Profile



Ravi

Home Dashboard, Notifications, UI Design

Johnny

Register, 2FA, UI Prototype + Design

Shashhank

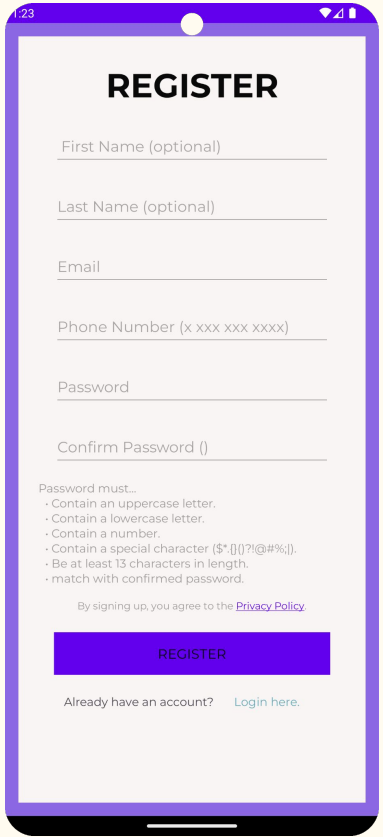
Usage, Energy Analysis, CI, Household Comparison, APIs

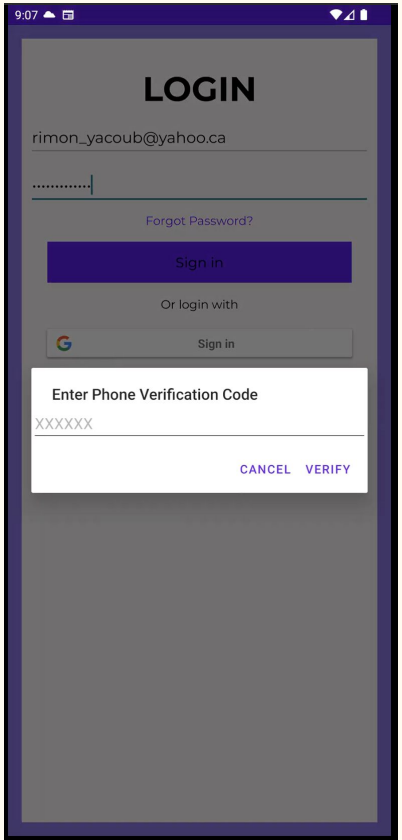
# Vision Statement

**FOR** environmentally conscious individuals and households **WHO** need an intuitive way to track, manage, and reduce their energy consumption, **THE** Energy Usage Monitor is a mobile application **THAT** provides real-time insights, predictive billing, and personalized tips to help users make data-driven decisions that lower their energy use and reduce costs. **UNLIKE** generic utility dashboards or static bill summaries, the Energy Usage Monitor offers integrated features such as PG&E data uploads, automated usage forecasting via linear regression, and proactive alerts through push notifications and in-app banners. **OUR** product empowers users to understand their energy usage through intuitive visualizations, receive personalized recommendations based on real data, and make meaningful changes that lower both costs and environmental impact. Designed to be secure, accessible, and adaptable, the Energy Usage Monitor encourages sustained engagement through intelligent features like predictive analytics, real-time alerts, and streamlined data integration. **TARGET USERS** include utility customers, sustainability-minded individuals, and budget-conscious households who seek more than just billing information, they want actionable insights and tools that help them take control of their energy habits, reduce dependence on fossil fuels, and contribute to a more sustainable future

# Registration and Login Pages

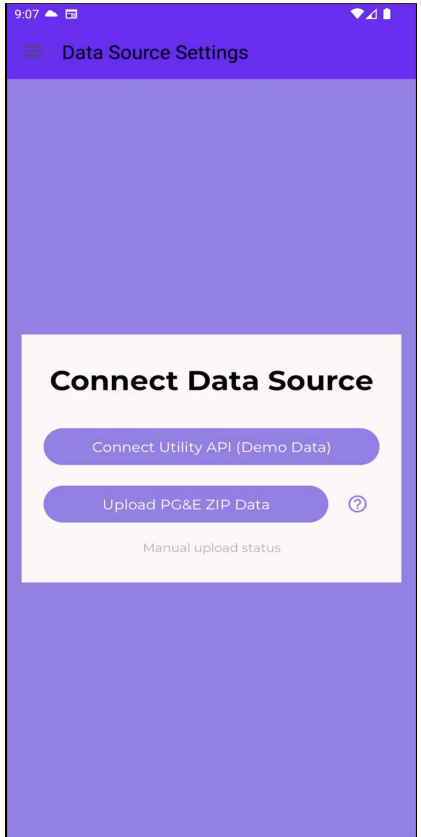
- Registration Page
  - Users enter their personal information.
  - System sends verification email and prompts user to enroll for 2FA.
  - Requires agreement to Privacy Policy.
- Login Page
  - Allows login via Google account sign-in.
  - Allows login for registered emails.
  - Prompts for 2FA code and redirects user to Settings Page.

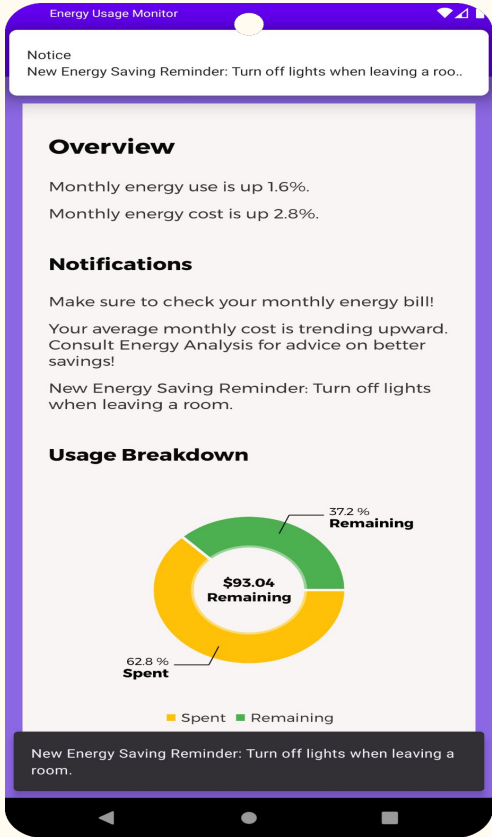


# Settings Page, Home Dashboard, and User Notifications

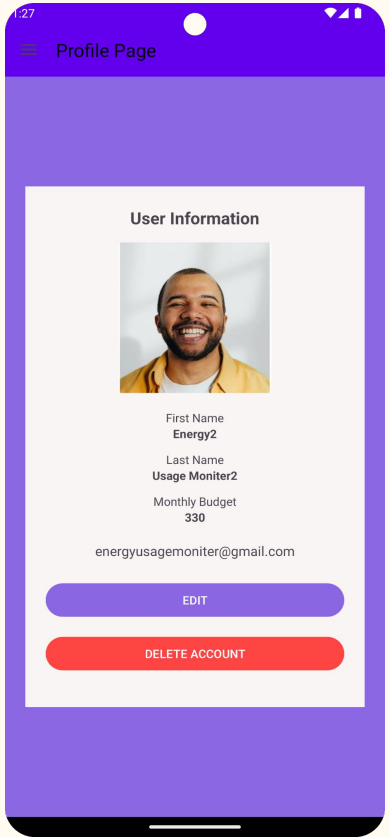
- Settings Page
  - Allows users to connect demo energy data or a zip file of their PG&E data.
- Home Dashboard
  - Textual and visual summary of the user's energy consumption, monthly trends, cost insights, and suggestions.
- User Notifications
  - Delivers important updates based on the latest user data through system-level Android notifications and in-app banners.



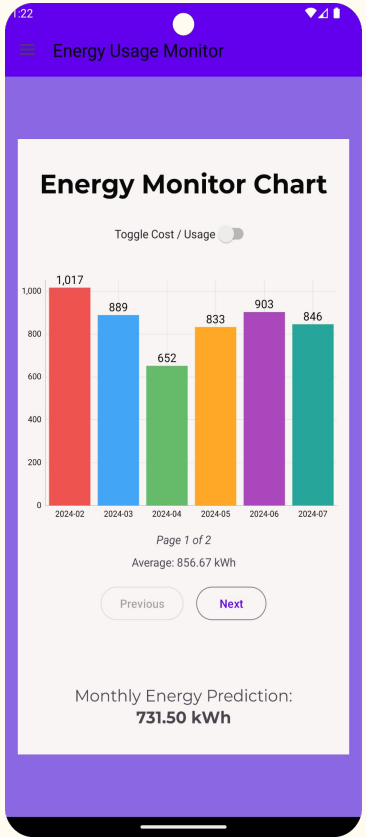
# Profile Page

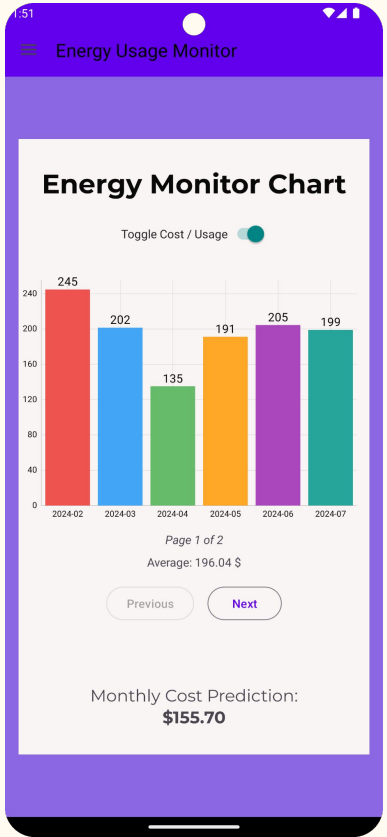
- Profile Page
  - Displays user’s personal details.
  - Enables users to upload and save a profile photo.
  - Allows users to edit their information.
  - Provides an account deletion option.



# Energy Monitor Charts and Monthly Predictions

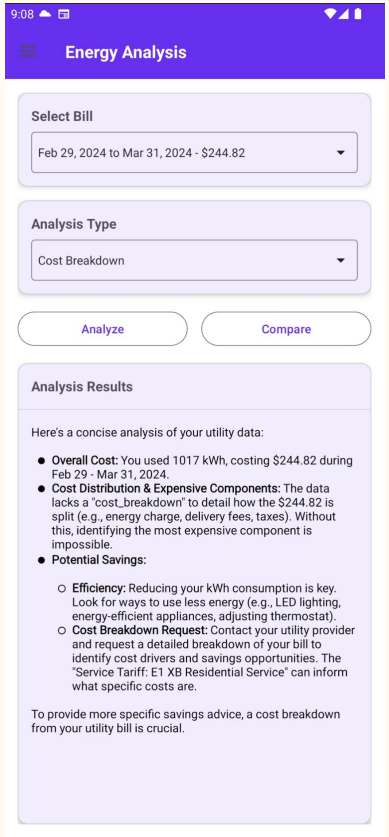
- Energy Monitor Charts
  - Shows a bar chart visualizing historical usage and cost data segmented by the billing month.
  - Enables users to look at their most recent and previous six-month datasets.
  - Shows helpful metrics, such as average consumption and expenditure, over each respective six-month period.
- Monthly Predictions
  - Analyzes past energy usage and cost patterns using linear regression.

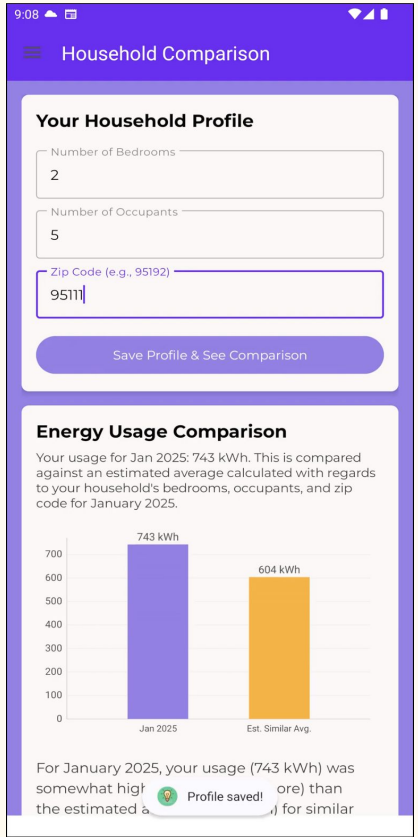


# Energy Analysis and Household Comparison

- Energy Analysis
  - AI used to generate various types of analytical content based on user data.
  - Allows comparison of two different billing periods.
- Household Profile
  - Has fields that allow users to enter information about their household profile.
  - Compares the user's energy consumption for the month to the average energy use of comparable households.



# Goal of our Product

- Our app aims to provide users with relevant actionable insights, monitoring tools, and incentives that motivate them to start conversing energy.
- Consequently, energy waste will be greatly reduced, as users will want to save money by using resources in a more sustainable manner.
- Thus, the app will achieve our primary goal of positively impacting the environment by reducing the amount of fossil fuels burned every year to produce energy, mitigating greenhouse gas emissions and climate change.

# Demonstration

Backup Video: