

EnerFlow

smart energy tracking

SEMESTER EXPO-24

Overview

- The smart energy tracking project is developed in c programming language and provides a foundation for energy management system.
- In future several enhancements can be done like integrate it with smart meters or develop a mobile application version of this or expand the mechanism to also advance the production of energy.

Key features

The key features of this energy consumption tracking project include user friendly interface, modularity, real time tracking, data security, data storage and insightful reporting.

Achievements

- Smart energy tracking not only promotes efficient energy use but also aligns with several SDGs:

 Affordable and Clean Energy, Responsible

 Consumption and Production.
- This project also aligns with the goals of the UNFCCC by reducing greenhouse gas emissions through management of energy consumption.

Limitations

- •With out proper encryption and mechanism there is a risk of unauthorized access to user data and data tampering.
- Implementing real time tracking requires hardware sensors and compatible devices.
- The reporting functionality is limited based on the recorded consumption data. More advanced analytics are required for deeper insights.

Team members:

Syed Muhammad Sarim(23-AI-57)

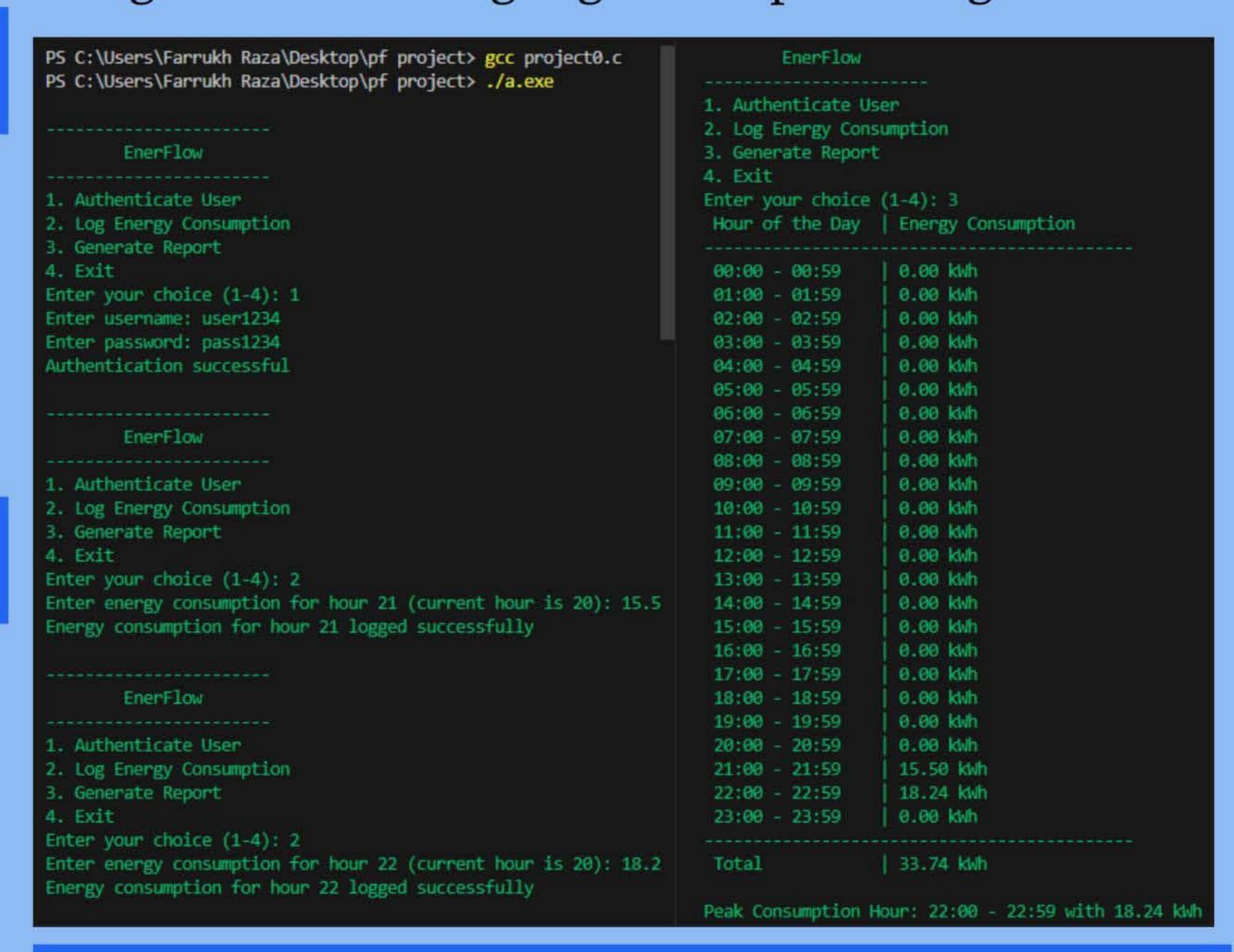
Muhammad Raza (23-AI-49)

Hamza Asif (23-AI-93)

Alishba Khan (23-AI-79)

Working

- •User log in to the program with username and password.
- •Once authenticated, user can input energy consumption data for every hour from the current time period.
- The system processes the stored data to generate report displaying every hour of the day with energy usage values and highlights the peak usage hour.



Implementation

- Modules are implemented for user authentication, real time tracking, data storage, reporting, and user interface.
- Several libraries and functions (stdlib.h, string.h, time.h, stdio.h) are used for string manipulation, memory allocation, time handling, and file operations.

References

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