ECE 575 Group 4 Task Progress Report 5: 31-10-2023

The meeting held on October 28, 2023, at 12:00 noon was convened to discuss key aspects such as the energy audit objectives that were laid down during the first meeting and check out one by one if they are met. We also looked at the progress made on the PWA development.

Objectives met:

1. Facility and utility data analysis

We collected the historic utility data and identified the patterns of energy use in the facility

2. Walk through survey

We identified electrical equipment that have high energy consumption

Also identified the operating procedures within the library and its associated facilities

3. Baseline for building energy use

Inspected the facility's equipment ie. light bulbs for efficiency, reliability and performance

4. The following pages of the energy audit app have been completed:

- Loads
- Analytics Page
- Dashboard
- Limitations and Recommendations

This week we will be:

- evaluating the energy use using the data collected
- prepare list of energy conservation measures
- see the measures that are pertinent to MTL as a facility
- evaluate cost effectiveness of each measure

Application Development Report

The application is organized into 5 main pages: Analytics, Loads, Report, Recommendations and Data entry.

Dashboard

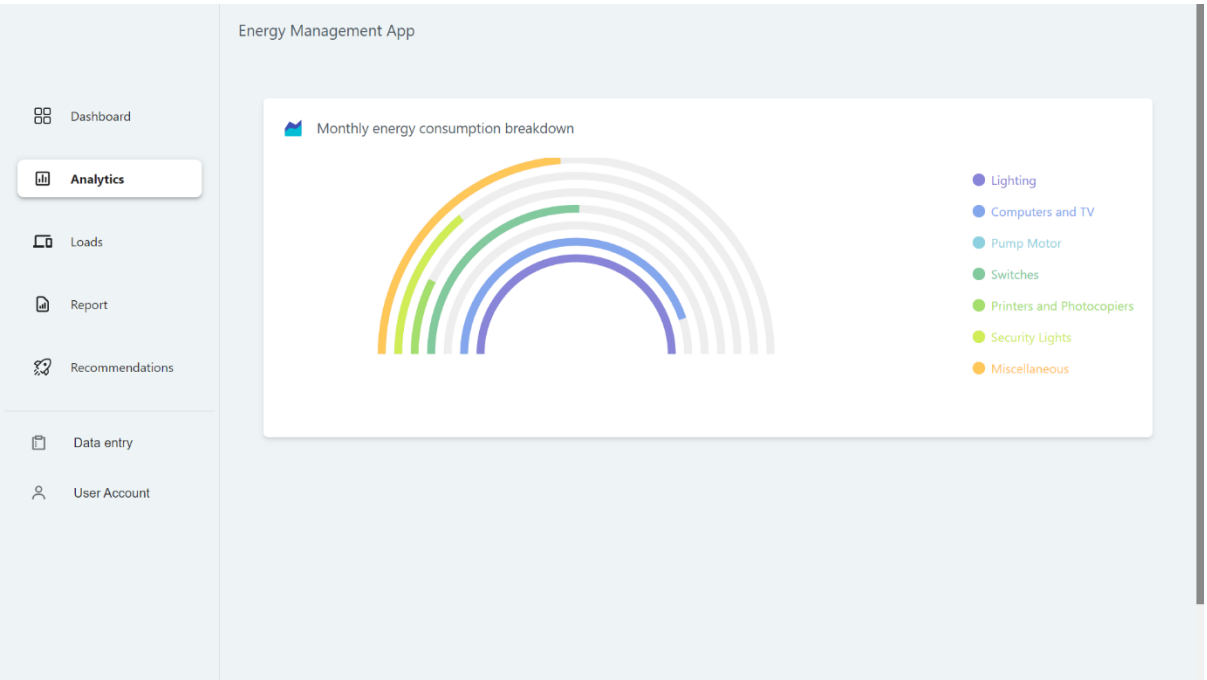
The dashboard screen displays a summary of energy consumption metrics and key performance indicators. It also shows the current energy usage compared to recent data for quick insights.

The data includes metrics such as average monthly power consumption, daily power consumption, and a graph showing the energy consumption trends for both the library and the School of Information Science. The section also includes a graph that shows the daily user statistics, average daily users, and peak operating hours.

Analytics

The analytics section currently shows the Breakdown of energy usage by categories (e.g., lighting and, appliances) to identify major contributors.

It will also contain a visual representation (charts, graphs) of energy consumption trends over time (daily, weekly, monthly), it will provide the functionality to query energy usage on specific days and make comparisons on the data.



Loads

The loads section will display the loads in the facilities, their energy rating, running time (on time), energy efficiency, and projected energy losses from each load.

Recommendations

The Recommendations section will display energy-saving recommendations from the energy audit, categorized by priority and potential impact.

It will also provide detailed descriptions of each recommendation, including expected energy savings, implementation steps, and associated costs. It will also include tips and best practices for users to reduce energy consumption in the library.

Report

The report section will provide a comprehensive analysis of the energy consumption of the two facilities - the library and the school of IS. It will include the following information:

A description of the facilities, including their size, energy usage, user traffic, and associated loads.

A summary of the analysis of the energy consumption patterns of the facilities, including energy bills, meter readings, and other data, and a brief overview of the audit results and recommendations.

Data entry

It will include a form section to allow the users to key in data such as energy bills, new loads (whenever there are new installations), and consumption details for recording and future analysis