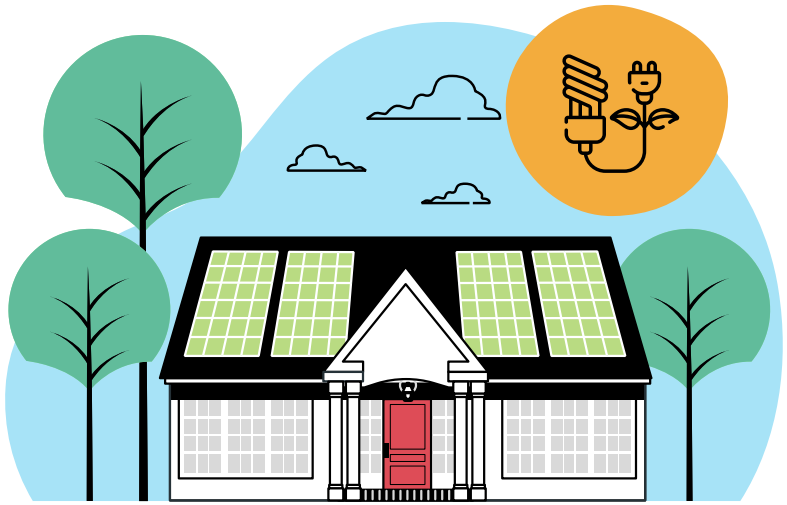


ENSE 405 Final Presentation:

EconergyCalc

By Archisha Bhattacharya

Project Reintroduction

Project Goal

Develop an interactive web application for users to log electrical appliances and calculate total energy consumption, get actionable recommendation and share their knowledge on sustainable energy in a forum.

Selected UN SDG(s)

UN SDG 7 – Affordable and Clean Energy

UN SDG 11 – Sustainable Cities and Communities

Overview of Communty Orientations

Primary Orientation(s)

Individual participation/
Serving a context community:

The members of the community are Canadian residences who wish to track and manage their household consumption as well as adopt sustainable practices.

Secondary Orientation(s)

Content:

Facilitating a space where users can share their knowledge, experiences, or even success stories in the form of posts to share tips on energy saving and efficiency.

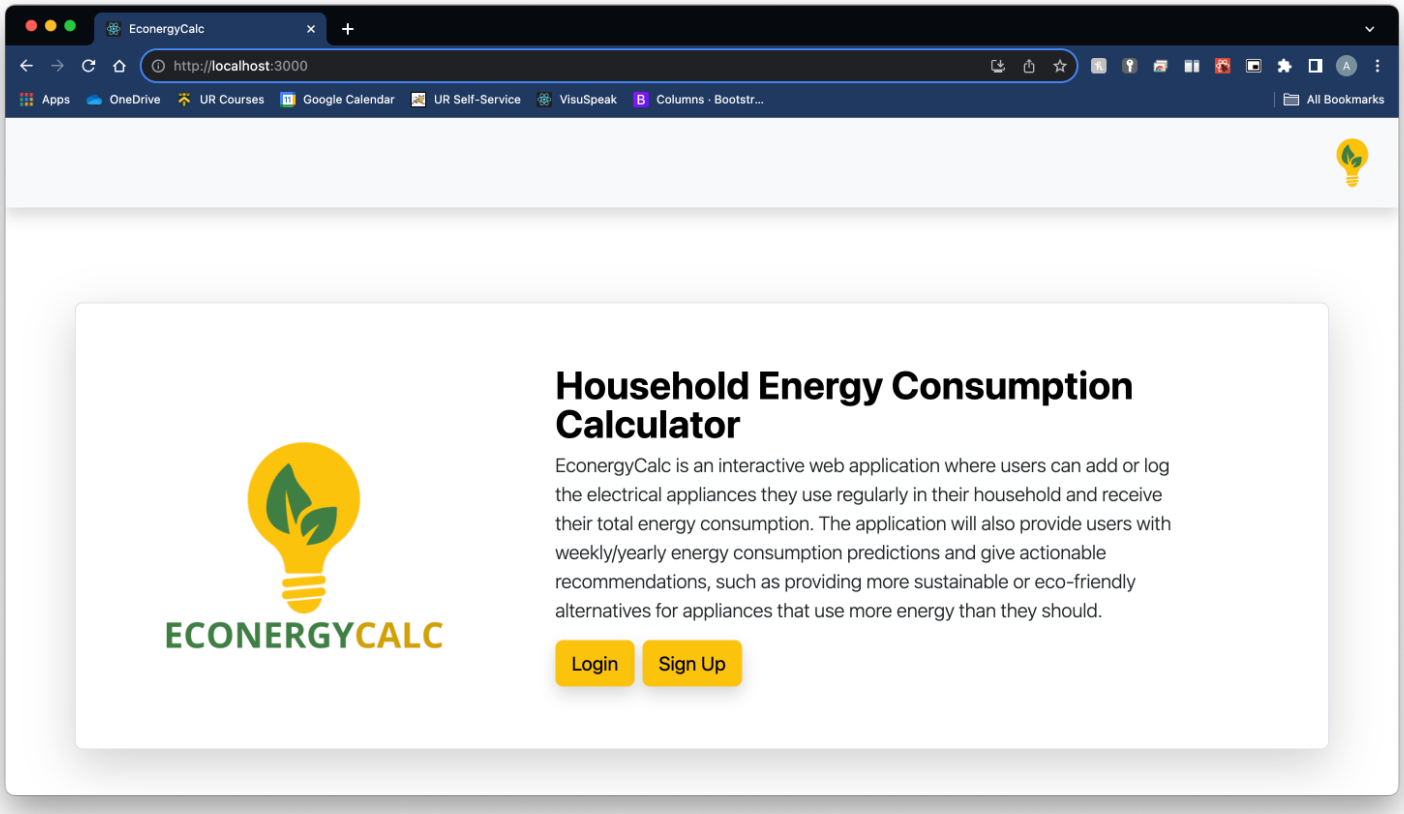
Current Technology Overview

Platform/Tool	Smart Home Application	Online Calculators	Online Forums
Description	Real-time monitoring of appliance usage	One-time calculation for one or multiple appliances	Interactive platform allowing users to generate topics or threads for discussion.
Drawback	• Can be complicated to use • Appliances need to be IoT enabled	• Doesn't reflect fluctuations in usage pattern • Doesn't have ability to keep an inventory of appliances	• Doesn't cater to niche topics such as sustainability in household energy consumption.

What EconergyCalc Offers

- **Previous Landscape:** Scattered platforms and tools for the community orientations which lacks integration and personalization
- **Solution:** Needs to be integrated under one platform for ease of use

Demo

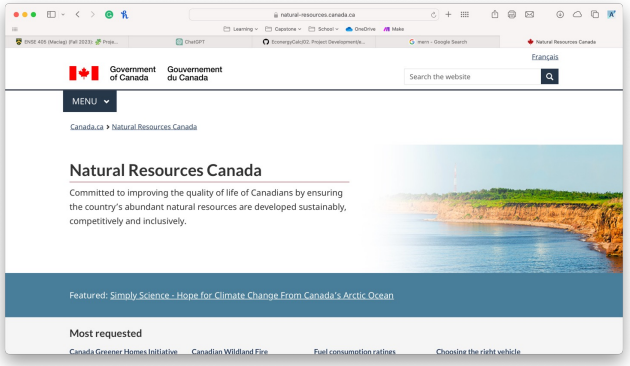

EconergyCalc
http://localhost:3000
Apps
OneDrive
UR Courses
Google Calendar
UR Self-Service
VisuSpeak
Columns · Bootstr...
All Bookmarks
ECONERGYCALC
Household Energy Consumption Calculator
EconergyCalc is an interactive web application where users can add or log the electrical appliances they use regularly in their household and receive their total energy consumption. The application will also provide users with weekly/yearly energy consumption predictions and give actionable recommendations, such as providing more sustainable or eco-friendly alternatives for appliances that use more energy than they should.
Login
Sign Up

Development Stack

MERN

mongo DB express React node JS

Technology Stack



API to Fetch Appliance Details

Reflection

Project Experience

I consider the project successful as I was able to complete my MVPs (Minimum Viable Products) and develop a working proof-of-concept while also learning a new technology stack which I was able to successfully use to implement the required functionalities in my application.

The documentation seemed like a huge task at first, however, in retrospect I think they were useful to connect the usefulness of the project to our selected UN SDG(s) and cherry-pick the functionalities to include to help us achieve the said SDG(s)

Accomplishments

The project was a very fulfilling experience, and I am proud that I was able complete all the MVPs that I had outlined during the planning and initialization phase.

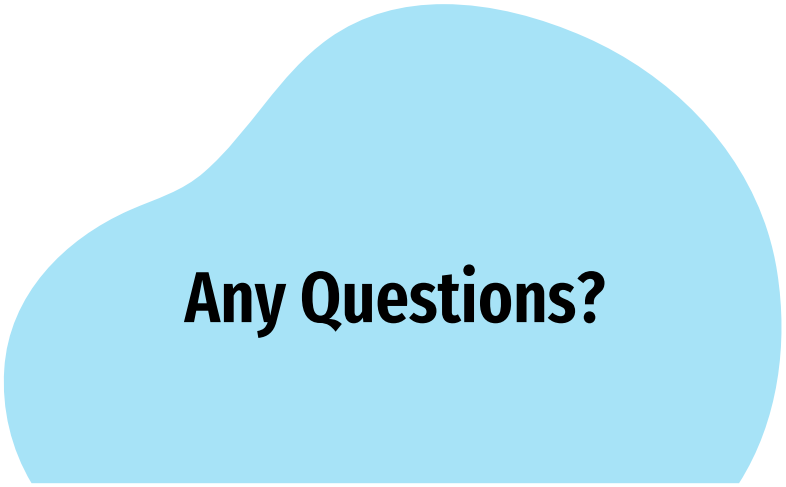
I was able to test my aptitude for learning and implementing a new technology stack within a limited time constraint.

Transferrable Skills

I learned React which was a new technology and was able to successfully implement React into my project can will be helpful in my capstone where we are using React for the front-end.

Future Work

- **Cost Estimation:** Provide cost estimation based on the user's energy consumption and their location
- **E-commerce Integration:** Integrate with e-commerce sites to offer alternate sustainable product recommendations.
- **Forum Enhancement:** Implement tags and search functionality in the forum for easier navigation and topic discovery.
- **Managing misinformation**: Implement checks in the forum to warn users about possible inaccurate or misinformed posts


Any Questions?