Final Project: Proof of Concept

Web Application for GreenLab

Course: Transactional Web Applications 1 (420-430-LE)
Semester: Winter 2023

Context

Your team of web application consultants is approached by GreenLab, a firm specializing in greenhouse gas emissions technology. They are opening a new branch and need a web application to showcase the benefits of their technology. Successfully impressing GreenLab could land you a high-paying contract.

Technology Stack

- MERN stack, REST API

- Python, ETL

- Cloud computing with AWS

Proof of Concept

You need to develop a proof of concept with the following views:

Registration Page

- Fields:

    - Email
    - Password
    - Confirm Password
    - Date of Birth
    - Field of Work (dropdown with options like Education, Information Technology, Health and Social Services, Manufacturing)

Login Page

- Fields:

    - Email
    - Password

Home Page

- Accessible only to logged-in users

- Allows access to the Graph View Page

Graph View Page

- Displays a graph on greenhouse gas emissions with:
    - Title
    - Labels (x and y-axis)
    - Data plot

- Example: Graph showing CO2 emissions comparison between coal and gas for Canada

Team Responsibilities

Team of Two

- **Web Application Developer**:
    - Focus on UI/UX
    - Synchronize front-end and back-end

- **Data Analyst**:
    - Specialize in data manipulation
    - Extract, transform, and load data

Team of Three

- **Front-End Specialist**:
    - UI/UX

- **Back-End Specialist**:
    - Architecture and deployment
    - Front-end to database connection

- **Data Analyst**:
    - Data manipulation
    - Extract, transform, and load data

Deliverables

- **Proof of Concept Analysis** (due April 25th):
    - Detailed document exploring the technologies
    - Graph workflow (from CSV to graph display)
    - Cloud solutions

- **Proof of Concept Web Application**:
    - Registration and login pages
    - Home page
    - Graph view page