**Problem Statement**

Imagine that your group is a professional software engineering team. You have been hired to meet the needs of a client who would like to make their business more sustainable (https://sdgs.un.org/goals).

Businesses can leverage software in various ways to become more sustainable. Here are some examples, courtesy of ChatGPT:

1. **Energy Management Software**: Implementing energy management software helps businesses monitor and optimise their energy consumption. This software can track energy usage in real time, identify areas of inefficiency, and suggest strategies for reducing energy consumption, ultimately leading to cost savings and environmental benefits.
2. **Supply Chain Management Software**: Sustainable supply chain management software allows businesses to track and manage their supply chains more efficiently. It can help identify suppliers with environmentally friendly practices, track the carbon footprint of products throughout the supply chain, and optimize transportation routes to reduce emissions.
3. **Green Building Software**: For businesses with physical facilities, green building software can be used to design and manage environmentally friendly buildings. This software helps optimize building designs for energy efficiency, track resource consumption, and manage waste more effectively.
4. **Virtual Collaboration Tools**: Virtual collaboration tools enable remote work and reduce the need for employees to commute to a physical office, thereby lowering carbon emissions associated with transportation. These tools include video conferencing software, project management platforms, and document-sharing platforms.
5. **Waste Management Software**: Waste management software helps businesses track and manage their waste generation more effectively. It can facilitate waste tracking, recycling initiatives, and compliance with waste management regulations, leading to reduced waste generation and lower environmental impact.
6. **Sustainable Product Design Software**: Software tools for sustainable product design assist businesses in creating environmentally friendly products. These tools analyze product lifecycle impacts, assess materials for sustainability, and optimize product designs for reduced environmental footprint.
7. **Data Analytics for Sustainability Reporting**: Businesses can use data analytics software to analyze and report on their sustainability performance. These tools help collect and analyze sustainability data, track progress towards sustainability goals, and generate reports for stakeholders and regulatory compliance.
8. **Renewable Energy Management Software**: For businesses investing in renewable energy sources such as solar or wind power, renewable energy management software can help optimize energy production and consumption. These tools monitor renewable energy systems, forecast energy generation, and optimize energy usage to maximize the benefits of renewable energy investments.

By integrating these software solutions into their operations, businesses can streamline processes, reduce resource consumption, minimize waste, and lower their environmental impact, ultimately contributing to a more sustainable future.

The business owners are very new to the idea of becoming more sustainable. They have hired your team so that you can make recommendations to them. You should be innovative and creative in your approach to this project. However, please keep in mind that whatever software you develop needs to be available for testing remotely i.e. from Ireland. You must also use the VMs that we are providing you with to host any software that you develop. We will discuss your ideas with you as the semester progresses.

**Special notes:**

The focus of COMP3030J is developing your project management and soft skills, it is strongly recommended that you use the programming and web development skills you already know instead of learning a new framework for your project. In addition to your programming and web development skills, you have completed modules in Distributed Systems, Mobile Computing, Computer Graphics, Computer Networks and Databases and Information Systems. We would love to see you demonstrate these skills in your projects.

During the assessment of your projects, we will take into consideration the following:

* How well have you addressed the needs of the customer in terms of making their business more sustainable?
* Is your solution creative and innovative?
* Have you demonstrated the skills that you have learned in your other modules in your project?
* Is your project available for testing remotely? Is this straightforward?
* Have you demonstrated good project management throughout the semester?
* Have you demonstrated good teamwork throughout the semester?

Usernames/passwords for customer and staff accounts need to be supplied for testing purposes. Although you may have a way for new customers to register, etc. this should not be the only way that your solution is tested. In other words, when we test your solution, we should not need to register new accounts.

For more ideas, you could read this article:

What are the most pressing world problems?

https://80000hours.org/problem-profiles/?utm\_source=Live+Audience&utm\_campaign=d9ad4e8e7d-briefing-dy-20240226&utm\_medium=email&utm\_term=0\_b27a691814-d9ad4e8e7d-48942559