Carbon Neutral Strategy Game - *Green Campus Simulator*

Problems Existed

1. Students' lack of awareness

Climate change, driven by carbon emissions, has caused severe global risks. A critical issue in addressing this challenge is the lack of awareness among students about the importance of reducing carbon emissions. Recent studies show that many students are disconnected from the consequences of climate change due to insufficient exposure to its direct impacts (Smith, 2024).

2. Lack of circulation of Green Coins

The Green Coin was designed with good intentions, but due to due to its single collection method and the lack of interaction between students, the Green Coin is not as appealing or widely used as expected. If we can find a creative way for students to earn green coins, it could significantly increase their participation in acquiring green coins, thereby raising their awareness of reducing carbon emissions. That's precisely why the school set up Green Coin in the first place.

Our Solution

1. Analysis

After our analysis and personal experimentation, we have found that the biggest problem is that the GreenCoin system is not appealing enough. Students don't feel a sense of **achievement** when collecting points, and the system lacks engaging experiences and fun. Without a leaderboard, there is no sense of competition, making the system appear dull. Additionally, students lack environmental awareness and thus are less likely to engage in the GreenCoin, even if the GreenCoin system is readily accessible.

2. Description

Based on the analysis above, we have found develop a strategy game called **Green Campus Simulator. Our team is developing a strategy game called "Green Campus Simulator".** In this game, you take on the role of the head of a school's environmental department. Your goal is to minimize the campus's carbon emissions as much as possible during your three-year term. Each month, you receive a budget that you may use to improve campus infrastructure or implement energy-saving and emission-reduction actions. Different actions have varying costs and benefits, and their effectiveness can change over time depending on the combination of actions taken.

3. Objectives and Expected Outcomes

Our project aims to enhance campus sustainability by integrating the game with the GreenCoin system. By regularly updating leaderboards and rewarding top performers with GreenCoin points, which also serve as entry tickets to the game, we add an element of competition and incentive. Additionally, the game incorporates credible academic research and detailed explanations of the impact of each environmental action, enriching the gameplay while also boosting students' understanding and awareness of eco-friendly practices. Through this approach, we strive to promote sustainability in a more engaging and effective manner, fostering an environmentally conscious student body and contributing to a greener campus.