SWOT Analysis Document

# Purpose

Before starting the project, it’s important to understand where we stand and what challenges and opportunities we face. This SWOT analysis helps us figure out what we do well, where we need to improve, the opportunities we can grab, and potential risks to be ready for.

# Project Overview

Project Name: Blockchain + AI Green Credit Marketplace

Project Objective / Goal: To build a prototype of a green credit marketplace where small businesses can issue and trade verified carbon credits using blockchain technology. An AI model will validate the authenticity of actions like tree planting.

Project Owner : Me

Planned Start Date: 11-09-25

Key Stakeholders: Small business owners, environmental organizations, sustainability funds, government regulators, and green credit buyers.

# SWOT Analysis

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| **Strengths (Internal, Positive Factors)** | **Weaknesses (Internal, Negative Factors)** |
| Blockchain guarantees that all credit transactions are transparent and can’t be tampered with. | Team has limited hands-on experience integrating blockchain and AI together. |
| Using a private blockchain (like Hyperledger) makes it easier to manage permissions and keep control. | 30-hour time limit may force us to focus on a basic prototype instead of a full-scale solution. |
| Automating green action validation with AI speeds up the process and reduces human bias. | Real-life data to train the AI isn’t available, so we’ll have to rely on simulated data for now. |
| The project is aligned with urgent sustainability needs and has meaningful social impact. | No ready infrastructure to test with real users, so results are based on simulations. |
| **Opportunities (External, Positive Factors)** | **Threats (External, Negative Factors)** |
| Big rise in demand for tools that help businesses become more eco-friendly. | Unclear regulations on how blockchain-based green credits are recognized legally. |
| Possibility of getting funding from sustainability grants or forming partnerships. | Other existing platforms may already dominate the green credit market. |
| Our prototype could become part of government dashboards or university sustainability programs. | Risk that the AI may misidentify green actions or that smart contracts may have bugs. |
| Chance to build a reputation in the growing field of green blockchain tech. | Dependence on third parties (like image data sources) might delay progress. |

# Next Steps / Strategic Actions

- Using My knowledge of blockchain and AI to build a simple yet functional prototype quickly.  
- Clearly assign roles: one person focuses on smart contracts, another handles AI model development, and a third designs the user interface.  
- Search for open-source image datasets to train the AI, or simulate images if needed.  
- Prioritize delivering a working prototype over trying to build a full product.  
- Perform thorough testing of smart contracts and AI models to avoid errors in credit verification.