PROJECT REPORT: SUSTAINABILITY TRACKER

Introduction:

The Sustainability Tracker project aims to empower individuals to monitor and enhance their sustainability efforts in their daily lives. With a growing global focus on environmental conservation, this software provides a simple yet effective tool for users to track their actions and make positive contributions to the planet.

Project Objectives:

1. Develop a user-friendly terminal application for tracking sustainability activities.

2. Enable users to calculate daily sustainability scores by introducing a “sustainability index” based on their recorded activities.It tracks various activities and assigns points accordingly,that is positive activities gets assigned with points and negative activities incur deduction of points.

3. Calculate a "sustainability index" as a unified metric based on user activities, providing a comprehensive assessment of their environmental impact.

4. Offer personalized recommendations to users for improving their sustainability practices.

5. Create an intuitive user interface accessible via the terminal, ensuring ease of use for all users.

Implementation Details and Tools Used:

- Programming Language: *Java*
- Development Environment: *IntelliJ IDEA*
- Build Automation Tool: *Maven*
- Data Storage: *CSV files (Chosen for simplicity and ease of implementation)*
- Version Control: *Git*
- Terminal Interface: *Command-line interface (CLI)*
- Testing Framework: *JUnit*

Maven is utilized for managing project dependencies and streamlining the build process, while Git facilitates version control and collaborative development. The terminal interface provides a straightforward means of interaction, enhancing accessibility for users.

Core Modules:

1. **User Registration and Login**: Users can create accounts and securely log in.
2. **Activity Tracking**: Users can input sustainability activities, such as planting trees, using bicycle, reducing shower time,use of automobile etc

3. **Score Calculation**: The system calculates users' daily sustainability index scores based on their recorded activities according to the weight assigned to each activities, A positive or negative score is generated based on net impact.
4. **Recommendation Engine**: Personalized recommendations are provided to users to improve their sustainability score.
5. **User Profile Management**: Users can view and update their profile information easily.
6. **Environmental Achievement References**: Provides users with contextual feedback Users receive concise feedback such as "Your recycling efforts have saved enough energy to power a small household for a day!", inspiring continued eco-friendly actions based on their daily sustainability score, fostering engagement and motivation.

Conclusion:

The Sustainability Tracker project offers a practical solution for individuals seeking to monitor and enhance their sustainability efforts. By leveraging Java, Maven, and a terminal interface, the application provides an accessible platform for users to track their environmental impact and make informed choices towards a more sustainable future. The addition of the Environmental Achievement References module further enhances user engagement and motivation.

In future iterations, the project can be extended by incorporating a graphical user interface (GUI) and database functionality, offering users an even more comprehensive and user-friendly experience.