Vermicompost Creation and Garbage(green waste) Tracking System

Abstract:

The Vermicompost Creation and Garbage Tracking System is a comprehensive solution aimed at promoting sustainable waste management by engaging users in the process of vermicompost creation. The system utilizes advanced technologies such as the Google Earth API and Google Maps API to ensure efficient and environmentally-friendly waste disposal. Users can upload images of raw materials, and the system, through vegetation analysis, determines the suitability of the location for vermicompost creation. Pickup requests are generated, and users are rewarded for their contributions. The system also provides detailed reporting for data analysis and management.

Functionalities:

1. Authentication/Login:

Users are required to register and authenticate themselves to access the system.

Secure authentication methods such as Login using the unique number and password can be implemented.

2. Raw Material Upload:

Users can upload images of raw materials(green waste or leaves or animal excreta) they want to dispose of.

Supported file formats include images (JPEG, PNG, etc.) for vegetation analysis.

3. Request for Pickup:

Users create pickup requests specifying details such as quantity, type of material, and pickup location.

Requests are subject to approval based on vegetation scan results.

4. Vegetation Verification (Google Earth API):

Images uploaded by users are analyzed using the Google Earth API.

The API identifies the presence of vegetation, determining the possibility of the waste generation.

5. Logistics Management:

User will be allowed to transport the raw material to the site of vermicompost. The user who intends to transport can accept the pickup of raw material.

Upon approval, user can transport the material to the vermicompost site.

6. Reward System:

Users are rewarded based on the quantity and type of material they contribute.

Rewards can be collected in the form of points. After collection of the points(milestones), the user is allowed to choose the reward later on.

7. Google Maps API:

Pickup points are generated using the Google Maps API based on user-provided addresses.

Optimal logistics routes are determined to facilitate material transportation.

8. Admin:

Admins have authentication and authorization mechanisms.

Admins review and approve/reject pickup requests based on vegetation scan results anytime.

9. Data Reporting:

Generate reports on the quantity of raw material received, types of materials, and other relevant statistics.

Reports assist in monitoring system performance and making informed decisions.

10. Additional Considerations:

Database:

Implement a secure and scalable database to store user information, pickup requests, rewards, and other relevant data.

Notifications:

Implement a notification system to keep users informed about the status of their requests.

Scalability:

Design the system to handle an increasing number of users and requests.

User Interface:

Develop an intuitive and user-friendly interface for both web and mobile platforms.

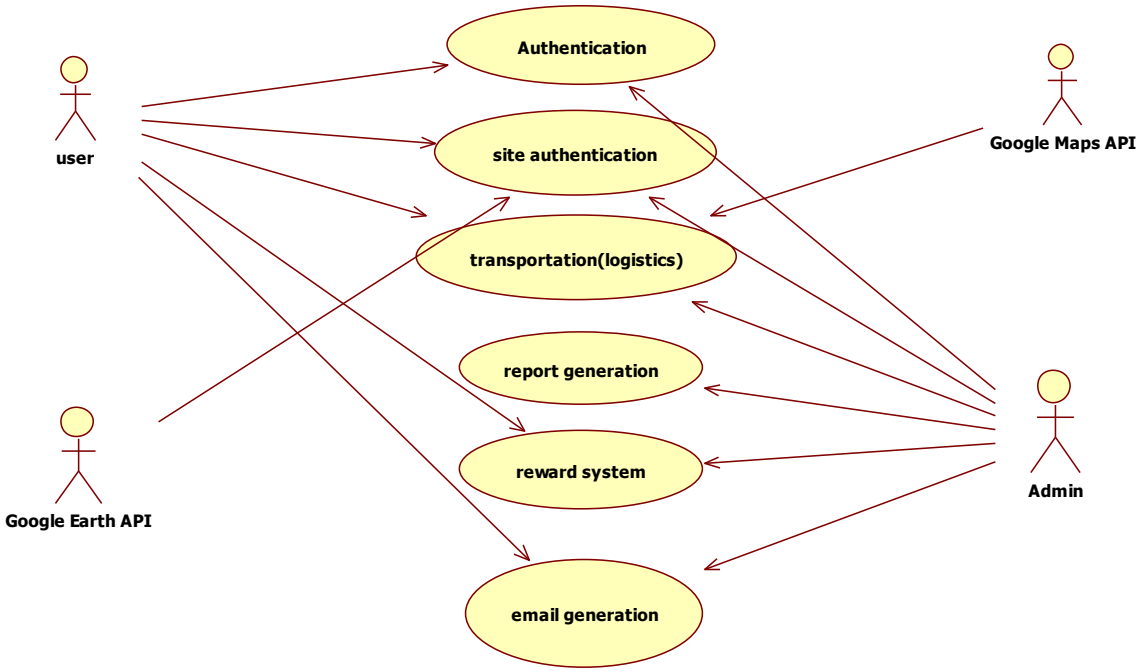
Feedback Mechanism:

Implement a feedback mechanism for users to provide suggestions and report issues.

Conclusion:

The Vermicompost Creation and Garbage Tracking System is a robust platform that empowers users to actively participate in waste management. By leveraging advanced technologies and a user-centric design, the system not only promotes environmental sustainability but also provides a rewarding experience for users contributing to the cause.

UML Diagram:


Authentication
site authentication
transportation(logistics)
report generation
reward system
email generation
user
Google Earth API
Google Maps API
Admin