PROJECT TITLE:

GARBAGE COLLECTION MANAGEMENT APPLICATION

***DESCRIPTION OF THE PROJECT***

This project tends to be a mobile application that would be able to manage the collection of garbage for tenants especially in populated area. Residents have a graphical interphase to interact with the system. A resident is first required to create an account so as to access the applications features. On creation is able to log in into the system by entering the username and password. He can be able to request for garbage collection in the app and able to view the status of the request based on his location Also, the resident can add a reminder to a schedule that would be updated in the system so that he/she can remove his/her wastes. The tenants also need to make payment via the app

Also, the sanitization would be able to login in the system as officers located in various areas so as to respond to request of collection and be able to respond to them.

The officers will need to apply for the job and be able to be approved by the management of the system based on qualification after registering

The system will assign the relevant officer that is nearer to the resident that has requested the collection to collect in the location of the tenant

Also, the officers would be able to receive payments via the system automatically

***OBJECTIVE OF THE PROJECT***

The app will tend to streamline the collection and management of garbage especially concentrated areas.

It automates the whole process of collection and payment for collection making it efficient to control the waste disposal for a cleaner city.

To control the waste disposal. An effective garbage collection system should be implemented which this app will undertake.

***FEATURES AND FUNCTIONS THAT I WILL IMPLEMENT***

1. **User Registration and Authentication**

Residents will be able create individual accounts within the app, enabling them to personalize their experience and access exclusive features. Secure authentication mechanisms will protect users' personal information and ensure data privacy.

Also, the sanitization officers would be able to create an account in the system to be able to receive the request and confirm to the collection

1. **Garbage Collection Schedule**

The app will provide resident users with a comprehensive garbage collection schedule, which includes dates, times, and specific waste collection method The app will provide functionalities for users to set reminders to ensure they never miss a collection day, contributing to a more organized waste management process.

1. **Collection Request and Status Updates**

Residents will be able to request for garbage collection for specific items or bulky waste through the app. The app will send real-time updates, notifying users of their request status, estimated collection time, and any changes or delays in the schedule. This feature will enhance transparency and ensures residents are informed throughout the process.

1. **Reporting and Feedback**

The app will allow users to report any issues related to garbage collection, such as missed pickups, overflowing bins, or damaged collection points. Users can provide feedback, attach photos, and share precise location details, facilitating quick resolutions by the concerned authorities.

1. **Navigation Feature**

To optimize collection routes, the app will be integrated with navigation services, enabling sanitation workers to efficiently navigate through neighborhoods. This integration will reduce fuel consumption, minimize travel time, and will ensure optimal resource allocation for garbage collection.

1. **Analysis Features**

The app would be able to provide data that will be able to assist authorities to make decisions to better the management like hiring sanitization officers in areas where there is increased requests

1. **User-friendly Interface**

The app will feature a graphical user interface that will ensure a user experience. It will allow users to easily navigate through various sections and access the app's functionalities effortlessly.

***RISKS***

1. **User Adoption:** Encouraging residents and sanitization officers to adopt and actively use the application can be a challenge. Some users may be resistant to change or may prefer traditional methods of garbage collection. Convincing them of the app's benefits and ensuring a smooth onboarding process will be crucial.
2. **Technical Challenges:** Developing a large user-friendly mobile application involves various technical challenges. These may include data synchronization, handling large amounts of user data, integrating payment gateways, ensuring app security, and addressing compatibility issues across different devices and operating systems.
3. **Data Privacy and Security:** Ensuring strong data encryption, secure payment processing, and complying with relevant data protection regulations is essential to protect user information from unauthorized access or breaches. This is a challenge
4. **Resistance from Existing Systems:** Overcoming resistance from existing systems or gaining necessary permissions and partnerships might pose a challenge.