

Project presentation

# Waste Management system

Team 6



# Introduction

- Waste management or waste disposal includes the processes and actions required to manage waste from its inception to its final disposal .
- This includes the collection, transport, treatment, and disposal of waste, together with monitoring and regulation of the waste management process and waste-related laws, technologies, and economic mechanisms.





# Problem Statement

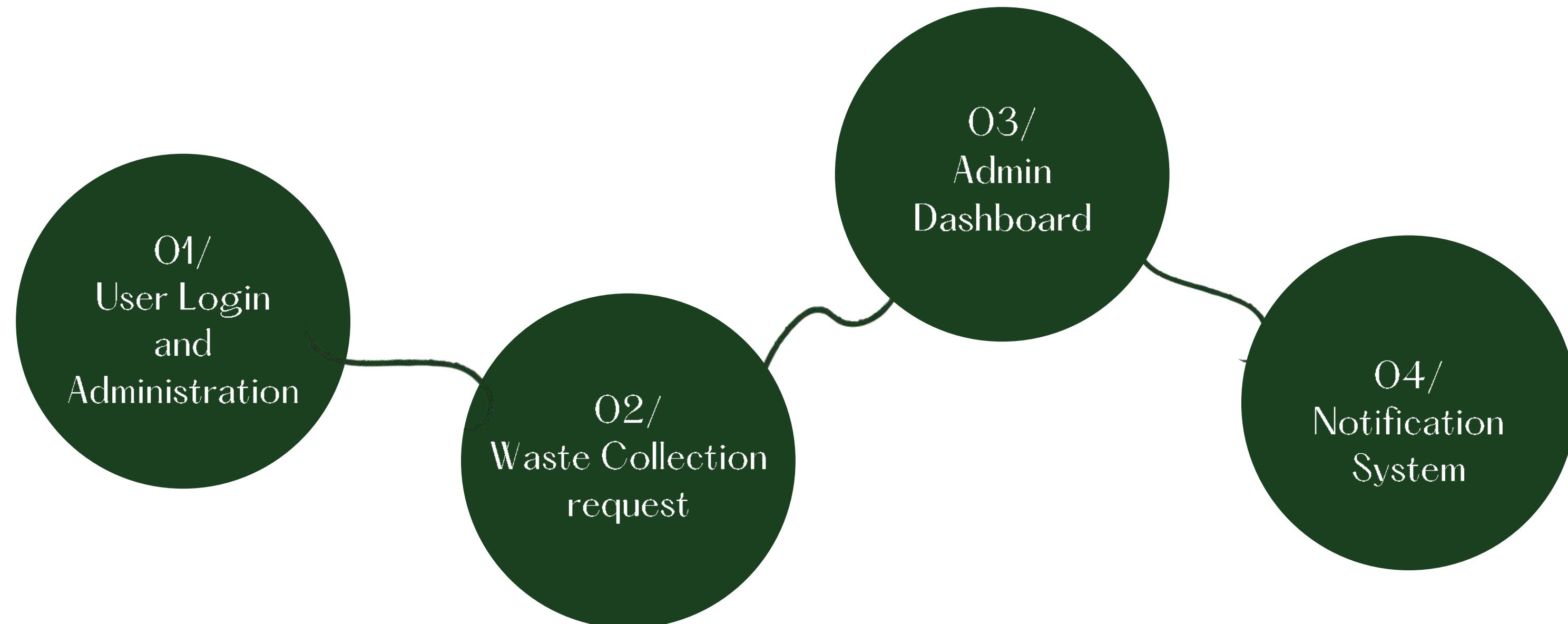
- Build an online platform for efficient waste management where users can register, log in, and request waste collection services.
- The platform will allow users to schedule waste collection, track the status of their requests, and provide realtime notifications.
- Additionally, the system will include admin functionalities to manage waste collection and monitor the process..



# OUTCOME

The main objective is to streamline waste management, providing users with a simple interface to manage their waste collection requests and receive updates on their collection status. Admins will be able to manage requests efficiently, ensuring proper collection and disposal of waste.

# MODULES



## User Registration and Login:

- Users should be able to register using email and password.
- Users should be able to log in to access the platform's functionalities.
- Redirect users to their respective dashboards based on their role (user or admin).



# Waste Collection Request Management

- Design the database schema for managing waste requests.
- Implement backend logic to manage waste collection requests and statuses.
- Allow users to submit waste collection requests.
- Users should be able to schedule waste collection time and location.



# Admin Dashboard

- Admins can manage user requests, assign tasks to workers, and monitor the progress of waste collection.
- The system will display real time tracking of waste collection.

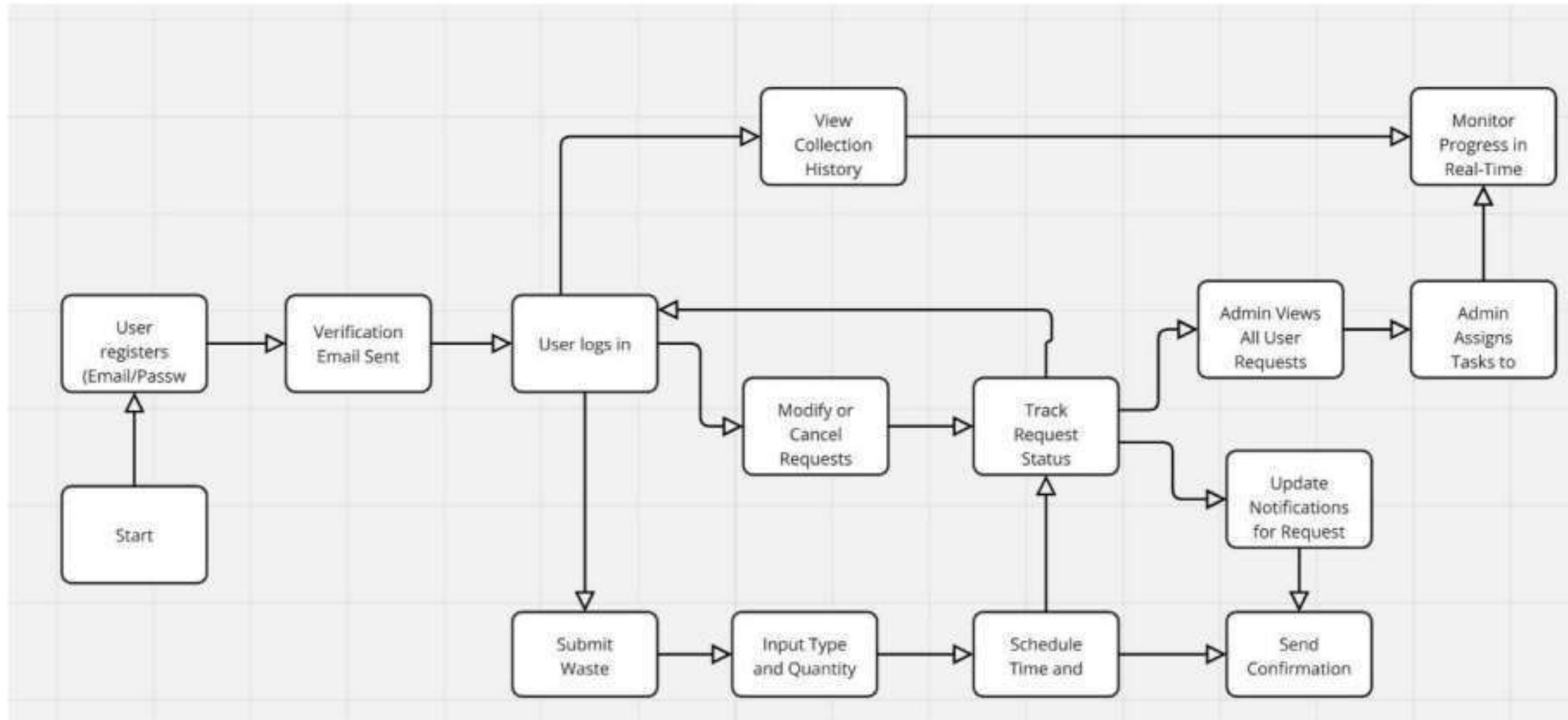


# Notification System

- Implement email/SMS notification triggers to update users on request statuses, including confirmations and collection reminders.
- Ensure notifications are sent in real time based on user actions.



# WORK FLOW





## Waste Management System

Full Name

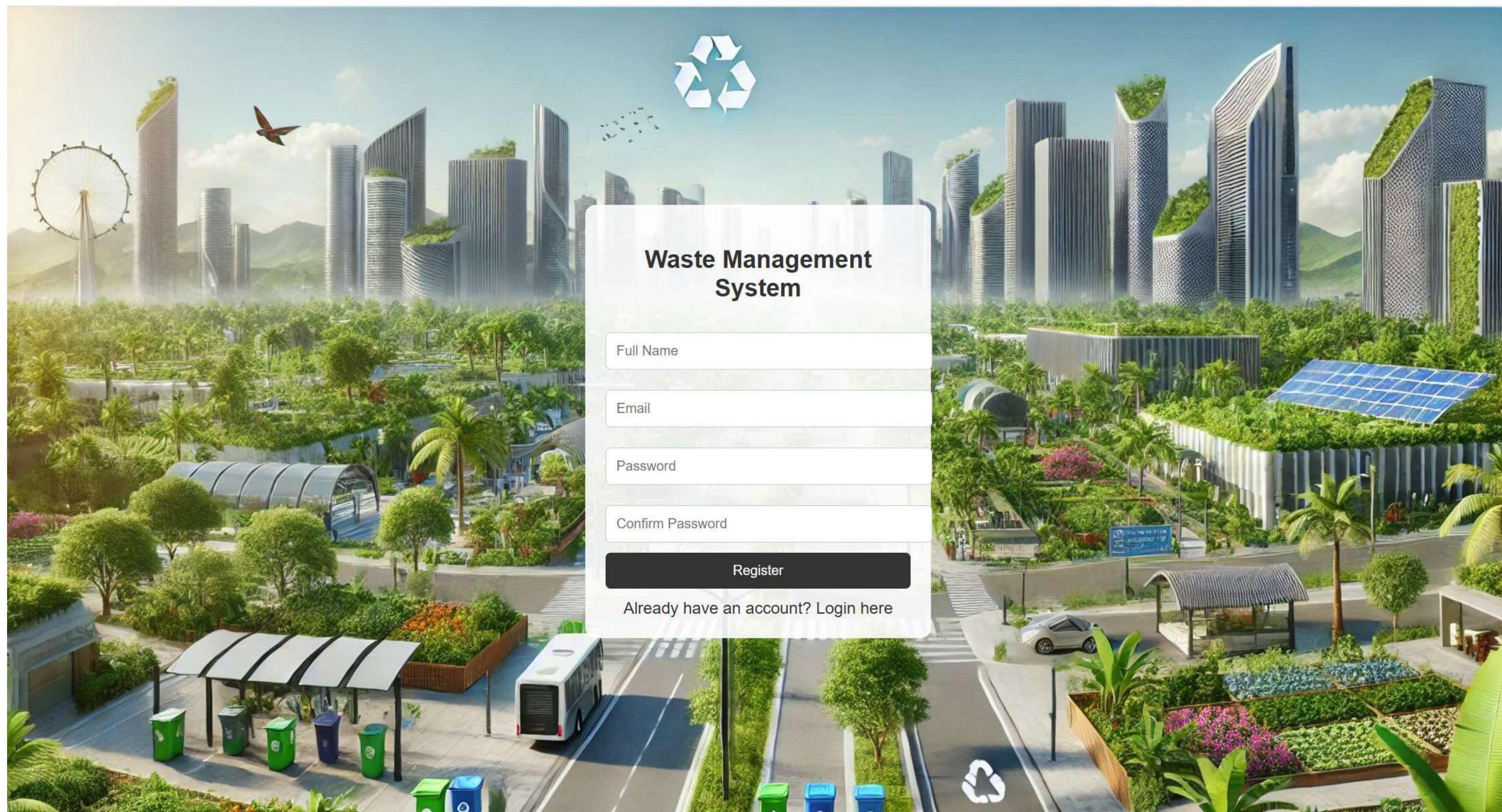
Email

Password

Confirm Password

Register

Already have an account? [Login here](#)



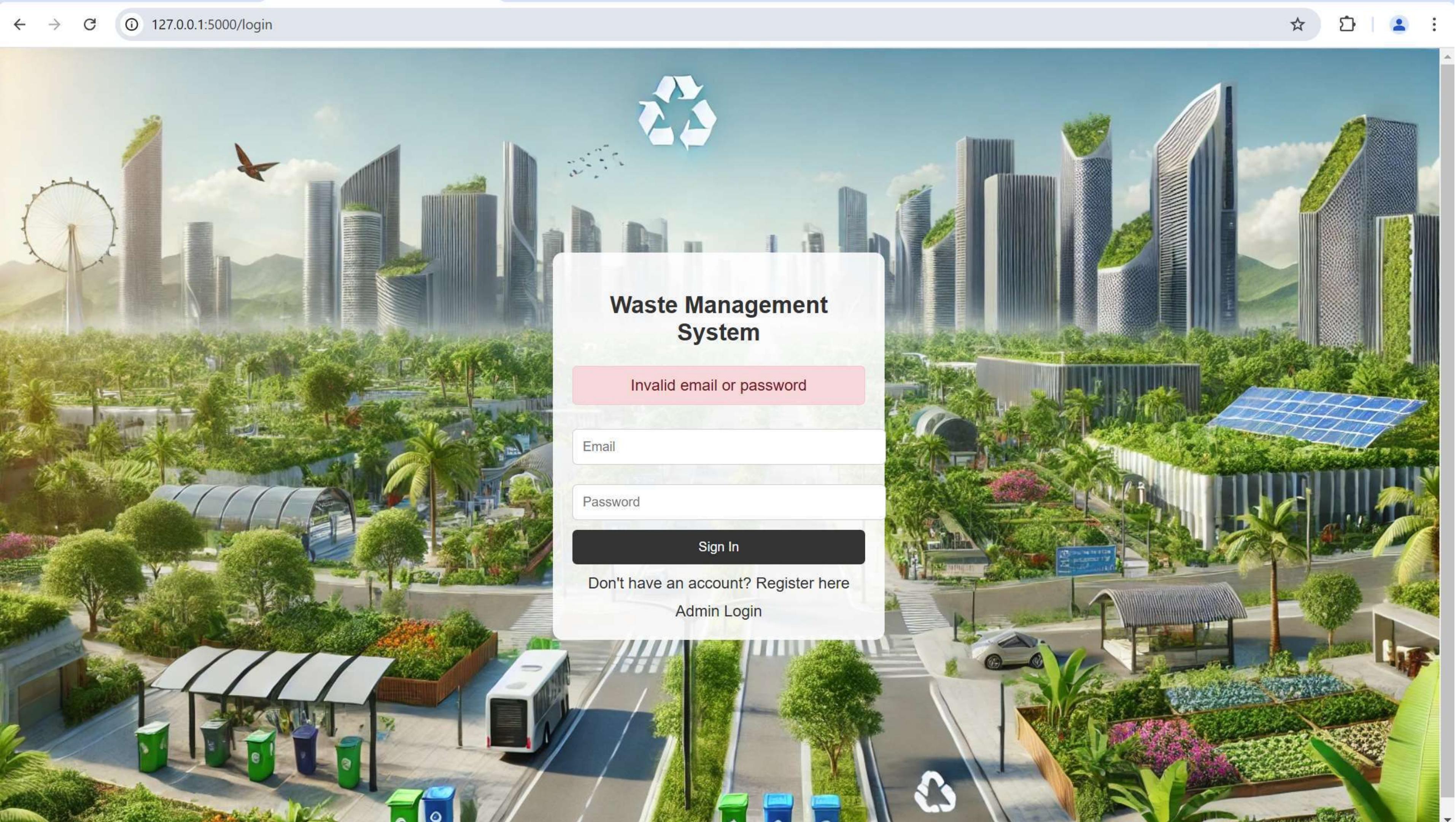


## Waste Management System

 Email PasswordSign In

Don't have an account? [Register here](#)

[Admin Login](#)



## Waste Management System

Invalid email or password

Email

Password

Sign In

Don't have an account? [Register here](#)

[Admin Login](#)

# Waste Management

Home Waste Collection Request Collection Route Info Logout

## Welcome to Waste Management

Efficient waste collection and management for a cleaner city

### Waste Collections

View and manage all the waste collection activities across the city.

### Request Collection

Submit a request for waste collection from your location.

### Route Information

Check the routes and schedules for waste collection services.

## Request Collection

Submit a request for waste collection from your location. Please fill out the details below:

**Collector Name:**

**Collector Email:**

**Waste Type:**

**Quantity:**

Enter quantity in kg or liters

**Collection Date:**

dd - mm - yyyy CALENDAR

**Collection Time:**

-- : -- CLOCK

**Address:**

## Request Collection

Submit a request for waste collection from your location. Please fill out the details below:

Collection request submitted successfully!

Collector Name:

Collector Email:

Waste Type:

Quantity:

Enter quantity in kg or liters

Collection Date:

dd - mm - yyyy

Collection Time:

-- : --

# Request Collection

Submit a request for waste collection from your location. Please fill out the details below:

**Collector Name:**

abc

**Collector Email:**

hi

**Waste Type:**



Please include an '@' in the email address. 'hi' is missing an '@'.

**Quantity:**

Enter quantity in kg or liters

**Collection Date:**

dd-mm-yyyy



**Collection Time:**

-- : --



**Address:**

Submit Request

## Waste Collection

**Collector Name:** hi

**Collector Email:** hi@gmail.com

**Waste Type:** wet

**Quantity:** 10

**Collection Date:** 2024-11-13

**Collection Time:** 19:52:00

**Address:** hyd

[Delete](#)

# Waste Management

Home Logout

## Waste Collection

Request deleted successfully!

**Collector Name:** abc

**Collector Email:** tvarshitha.123@gmail.com

**Waste Type:** wet

**Quantity:** 10

**Collection Date:** 2024-12-02

**Collection Time:** 12:46:00

**Address:** hyd

Delete

## Select a City to view Waste Collection Routes

Select City:

Hyderabad ▾

Select City

Select an Area in Hyderabad:

Banjara Hills

Madhapur

## Select a City to view Waste Collection Routes

Select City:

Hyderabad ▾

Select City

### Select an Area in Hyderabad:

Banjara Hills

**Route 1**

08:00:00

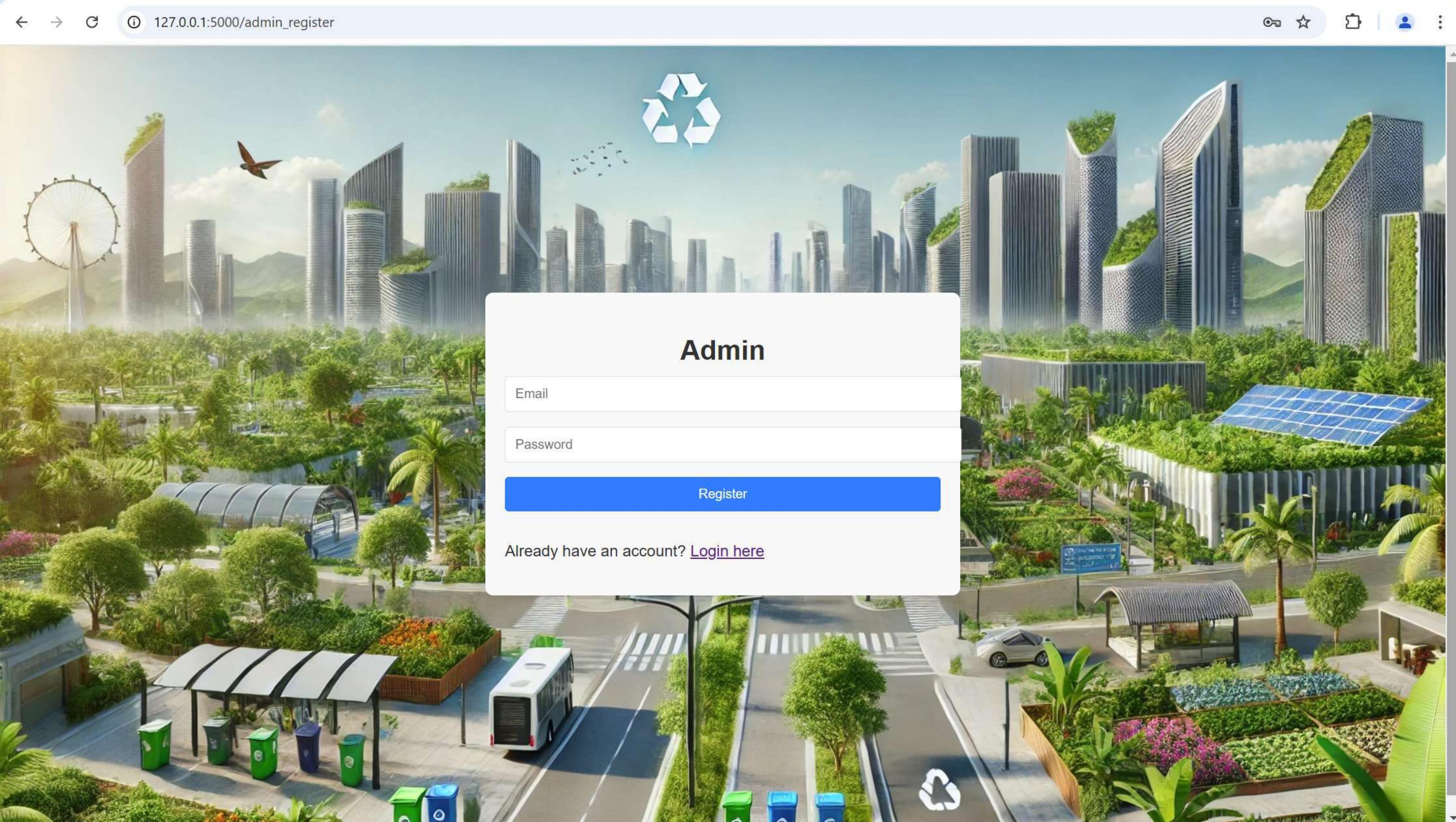
Necklace Road → Banjara Lake → Road No. 10 →  
Jubilee Hills

**Route 2**

09:00:00

Banjara Lake → Ameerpet → Madhapur →  
Gachibowli

Madhapur



## Admin

Email

Password

Register

Already have an account? [Login here](#)



## Admin

Email

Password

Sign In

Don't have an account? [Register here](#)

## Admin Dashboard

Tracking Logout

## Collection Requests

Collector Name	Collector Email	Waste Type	Quantity	Collection Date	Collection Time	Address	Status
abc	tvarshitha.123@gmail.com	wet	10	2024-12-02	12:46:00	hyd	Pending <input type="button" value="Update"/>
abc	hi@gmail.com	wet	10	2024-12-02	19:46:00	hyd	Assigned <input type="button" value="Update"/>
abc	tvarshitha.123@gmail.com	wet	3	2024-12-09	18:23:00	hyd	In Progress <input type="button" value="Update"/>
abc	tvarshitha.123@gmail.com	wet	3	2024-12-09	18:23:00	hyd	Completed <input type="button" value="Update"/>

## Collection Requests

Collector Name	Collector Email	Waste Type	Quantity	Collection Date	Collection Time	Address	Status
abc	tvarshitha.123@gmail.com	wet	1	2024-11-24	8:56:00	hyd	<input type="button" value="Completed"/> <input type="button" value="Update"/>

Search mail



← ↴ ⏺ ⏺ | ⏺ ⏺ ⏺

1 of 3 < >

## Waste Collection Status Update Inbox x



tvarshitha.123@gmail.com

to me ▾

17:54 (4 minutes ago)



Hello,

Your waste collection request (ID: 20) has been updated to 'Completed'.

Thank you for using our service!

Best regards,  
Waste Management System

Reply

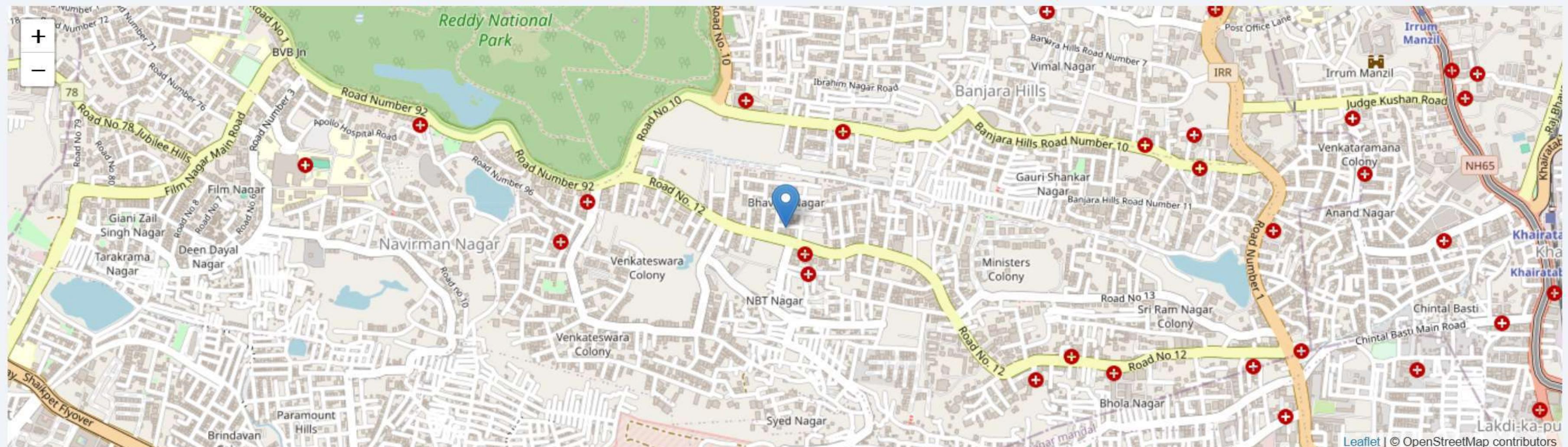
Forward



# Waste Management

[Admin Dashboard](#)[Logout](#)

## Track Waste Collection Vehicles





## Waste Management System

You have been logged out.

Email

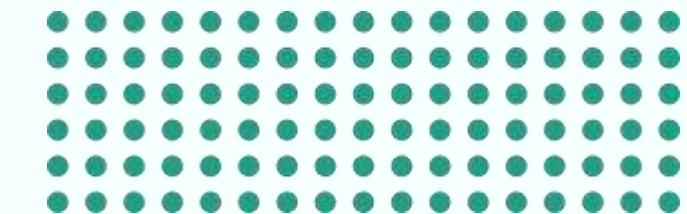
Password

Sign In

Don't have an account? [Register here](#)

[Admin Login](#)

# TECHNOLOGIES



## Backend:

**1. Flask:** Framework for handling routes and building the web application.

**Flask-SocketIO:** For real-time communication (e.g., tracking vehicles).

**Flask-Mail:** For sending email notifications.

**2. Werkzeug Security:** Used for securely handling user passwords

**3. MySQL:** Database for storing users, admins, collection requests, and other related information.

## Frontend:

**Jinja2 Templates:** Rendering HTML templates dynamically with data passed from the backend.

## DEPLOYMENT

I chose Render.com for deploying my Waste Management System for the following reasons:

- Ease of Use: Simple deployment with minimal configuration.
- Automatic SSL: Ensures secure HTTPS connection.
- Scalability: Auto-scaling to handle growing demand.
- Continuous Deployment: GitHub integration for automatic updates.
- Cost-Effective: Free tier with scalable paid plans.
- Reliable Performance: Consistent uptime and availability.
- Managed Databases: Simplified database management with MySQL support.

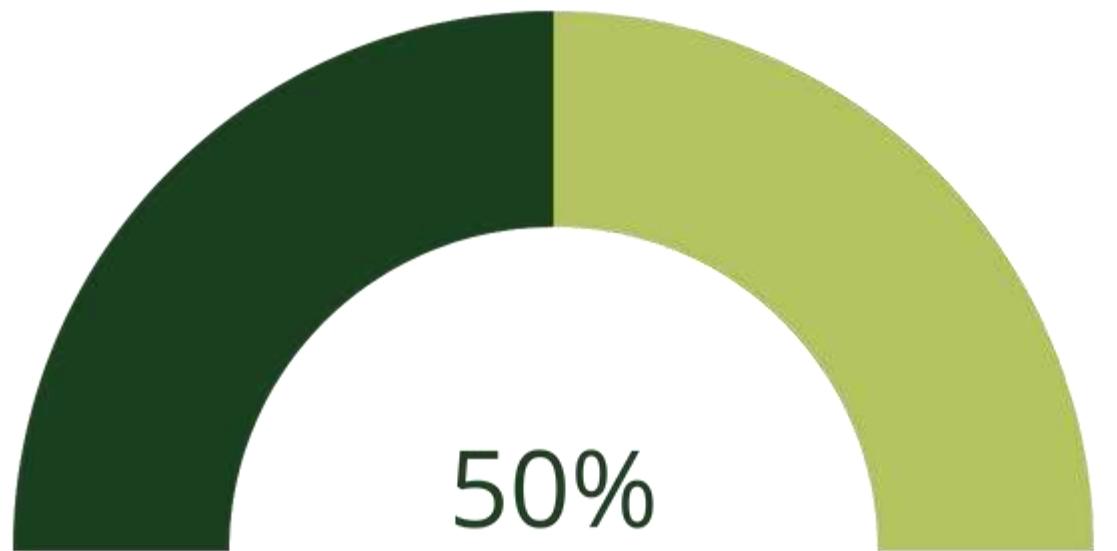
Render.com offers a seamless, secure, and scalable platform for deploying my project efficiently



# CONCLUSION

This project can highlight the system's potential to promote sustainable waste management practices and improve the environment:

- Sustainable development
- Efficiency and cost reduction
- Waste classification
- Community engagement
- Environmental sustainability



thank you