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TO  
ENLIGHTEN

**45**  
YEARS



**MUFFAKHAM JAH**  
**COLLEGE OF ENGINEERING & TECHNOLOGY**  
( THE SULTAN UL ULOOM EDUCATION SOCIETY )  
Affiliated to Osmania University & Recognised by AICTE  
Banjara Hills, Hyderabad 500 034



**ACES**

# HACK REVOLUTION



INSTITUTION'S  
INNOVATION  
COUNCIL  
(Ministry of Education Initiative)



**E CELL**  
**MJCET**



# Team Details

1

**Selected Track**

-

**Waste Management**

2

**Project Name**

-

**Smart Waste Management: Engaging  
Citizens for Cleaner Communities**

3

**Team Name**

-

**CleanCodeCrew**

4

**Team Lead**

-

**Mohammed Mudasir Ahmed**

5

**Institute Name**

-

**Muffakham Jah College Of  
Engineering and Technology**

# Idea & Solution

Improper waste disposal causes environmental and health issues, with authorities struggling to manage illegal dumping. Our AI-powered waste detection platform, coupled with community engagement, addresses these challenges and supports the Swachh Bharat Mission.

Our proposed solution addresses these issues by:-

- **User-Driven Waste Reporting:** Users can upload images of waste in public areas, which are analyzed to detect waste and is sent to the concerned municipal corporation of the area for timely action.
- **CCTV Integration:** Real-time waste detection and automated alerts to authorities.
- **Engaging users with rewards:** A leaderboard and reward system encourage users to participate actively in waste reporting.
- **Provide insights** on type of waste disposed and their impact on the environment.
- **Raising Awareness:** Educating users on proper disposal methods for different types of waste
- **Promote Upcycling:** Using GenAI to suggest creative ways to upcycle waste into useful products.

# Tech Stack

Frontend:

- HTML
- CSS
- JavaScript

Backend:

- Flask
- Node.js with Express.js

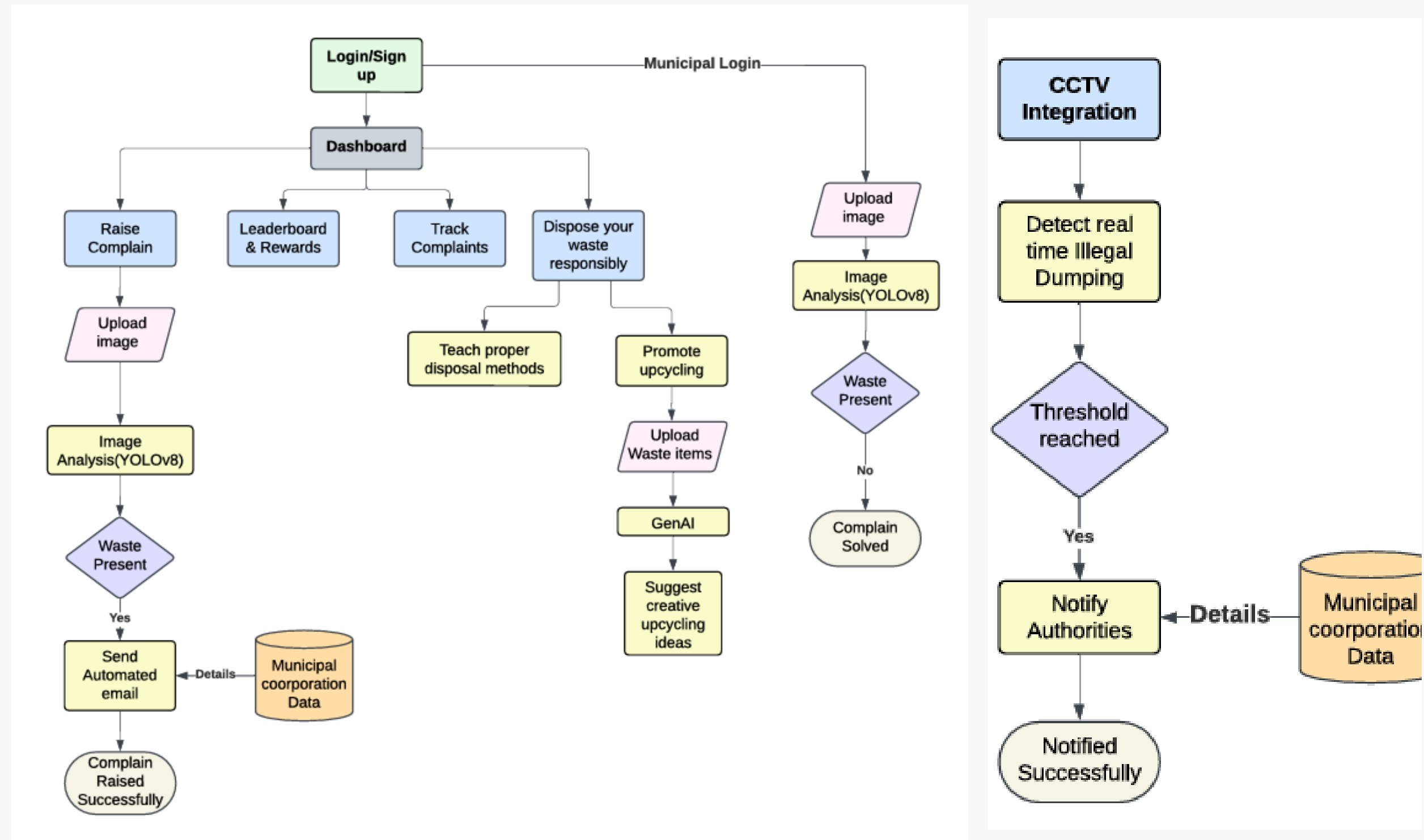
Machine Learning:

- YOLOv8

Database:

- MS SQL

# Process FlowChart



# Use Cases

- **Waste Reporting by Citizens:** Users upload images of waste, which are analyzed by AI. The system detects waste and sends an automated report to concerned municipal authorities.
- **Automatic Roadside Waste Detection & Notification:** Detect waste accumulation along roadside and alert the authorities when it exceeds a threshold.
- **Awareness on waste upcycling:** GenAI provides suggestions on how to responsibly upcycle waste making them into
- **Identifying High-Waste Areas:** Authorities can identify high-waste areas through aggregated data from user reports, improving waste management strategies.
- **Health & Environmental Impact Tracking:** Highlights how waste cleanup links to reduced disease risks, minimizes pollution and improves overall community well-being.
- **User Engagement through Leaderboards:** Users reward earn points for reporting waste, displayed on a leaderboard to encourage participation.
- **Automatic Location Detection:-**The software Uses Geolocation to provide accurate location of the waste

# Team Members' Information

Team Leader Name: Mohammed Mudasir Ahmed

Year: 3rd      Department: AI&ML      College Name: Muffakham Jah College Of Engineering and Technology

Team Member 1 Name: Shaik Danish Hussain Farazi

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Team Member 2 Name: Mohammed Idrees Kazimi

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Team Member 3 Name: Ozair Ali Jinnah

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