

Capstone Project Submission

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Project Title: Ngong Smart Waste Management and Reporting System

Client Type: Government

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1. Project Identity

Client Problem Statement

The county government struggles with inefficient waste collection and illegal dumping due to: Lack of real-time reporting from residents Poor coordination between residents and waste collection teams No centralized system to track complaints, locations, and response status

2. Phase 1: Discovery & Research

Client Background Summary

The Kajiado County Government is responsible for environmental cleanliness in Ngong town, including: Garbage collection Managing dumping sites Deploying waste collection trucks and field workers Currently, most complaints are made verbally or through phone calls, making them hard to track and resolve efficiently.

Target Users

Residents of Ngong – report uncollected waste or illegal dumping Field waste collection staff – receive tasks and update status County supervisors/admin staff – monitor performance and plan routes

Pain Points Identified

- Residents don't know where or how to report waste issues
- Complaints get lost or ignored due to lack of tracking
- Waste collection teams lack clear daily task assignments
- Supervisors can't track response time or problem hotspots
- Illegal dumping continues due to slow response

3. Phase 2: Solution Design

Proposed Solution

A mobile-friendly waste reporting and management system with:

- A public reporting interface
- A field worker task dashboard
- An admin monitoring dashboard

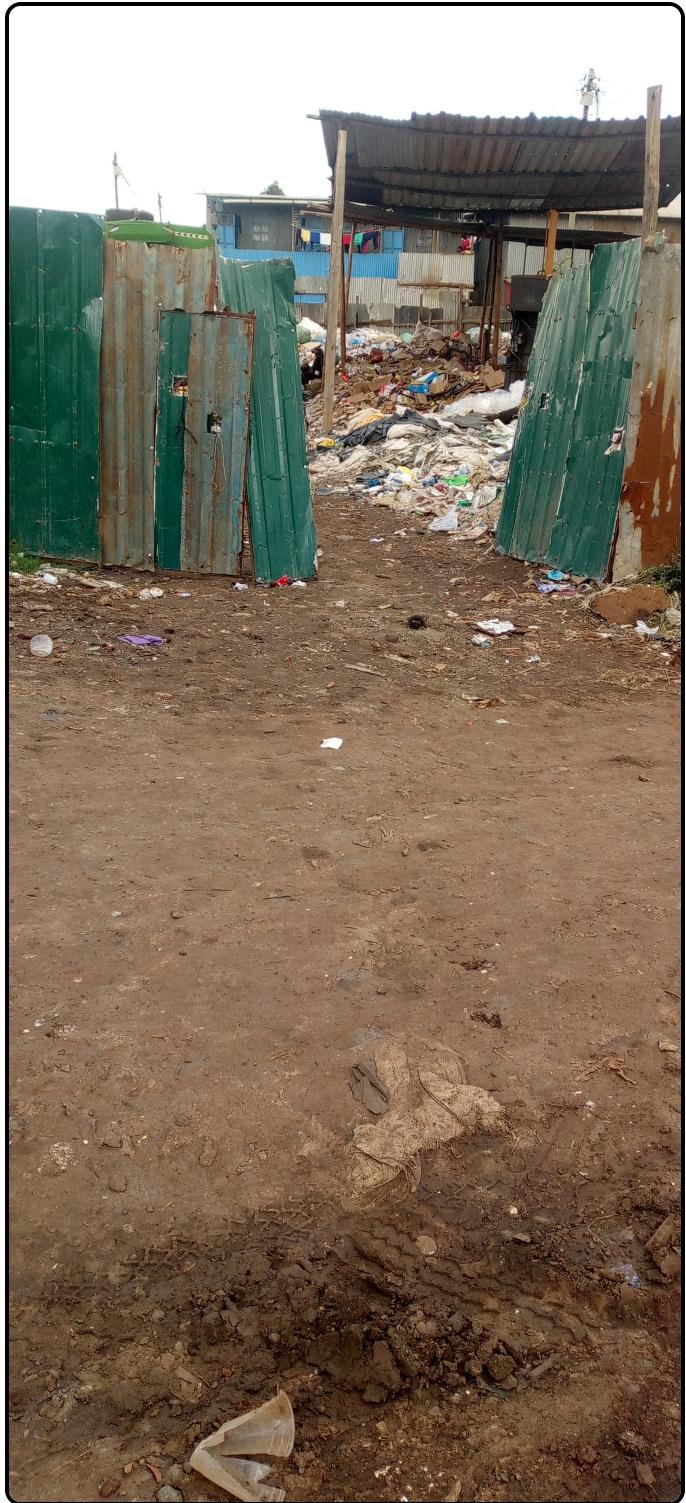
Core Features

- Resident reporting form(location +photo+ description)
- Interactive map showing reported waste hotspots in ngong
- Task Assignment System for field workers
- Status Updates (Pending, In Progress, Resolved)
- SMS Notifications to residents when issues are resolved
- Admin Dashboard with analytics and response tracking time and response time

4. Skill-in-Action Evidence



Caption: Geopoint skill



Caption: Hand on experience on gis



Caption: Environmental conservation