

Community Waste Route

Capstone 51 · CleanTech · Talodabi Academy

1 · Project overview

One-community collection calendar and missed-stop resolution flow.

Deliverable	Full mobile MVP in Figma (not code)
Platform	Mobile app · Android-first · portrait
Screens	11 screens + 1 unhappy path (12 frames)
Features	3 core features
Bottom navigation	Routes · Report · Notices · Profile
Prototype	4 linked flows

Build order: Auth (screens 1–4) → nav tabs (5–8) → core flow (9–11) → unhappy path → link prototypes.

2 · Problem & primary user

Residents in underserved communities may not know when a collector will arrive or whether a missed stop has been recorded. Complaints in group chats are difficult for operators to group by route, resolve, and report back.

Primary user

"Amina, a 36-year-old food seller who needs to know when the shared waste point near her street will be cleared."

Geographic scope: State-level (Lagos (one pilot LGA))

3 · Goals

User goal: See the next collection window and report a missed stop without repeated phone calls.

Business goal: Waste operators, resident associations, LGAs, and sanitation programs pay for route visibility.

Success: Resident reports a missed stop and sees the operator update its status.

4 · Market context

QUESTION	ANSWER
Who pays	Waste operators, resident associations, LGAs, and sanitation programs pay for route visibility.
Why not WhatsApp	Residents post complaints in group chats, but operators cannot group missed stops by route or close the loop.
Design focus	Low-data route calendar, missed-stop report, and operator resolution status for one community.

Competitors to check:

- **Printed pickup rota** (quickly outdated)
- **Community WhatsApp group** (unstructured)
- **Phone call to operator** (no shared status)

5 · Validate before you design

Interview 3–5 people who match your primary user. Update this brief if interviews contradict it. Do not start hi-fi until you complete the confirmation below.

FIELD	YOUR ANSWER
Validated user (name, age, city)	
Problem in one sentence	
One interview quote	
Success metric for your test	
Primary colour and tone	
One competitor you checked	

Interview prompts

- "Walk me through the last time this happened."
- "What did you use instead? WhatsApp, paper, or nothing?"
- "What would make you trust this on a cheap Android phone?"
- "What would stop you from using this every week?"

6 · Features & scope

v1 · three features

1. View collection calendar for a saved community
2. Report a missed stop with landmark and optional photo
3. Track reported, assigned, and resolved status

Out of scope

- Owning collection trucks
- Citywide route optimisation
- Emergency sanitation dispatch

7 · Screens

Design every row in wireframe, high-fidelity UI, and prototype (where the flow applies).

#	LAYER	SCREEN	WHAT TO SHOW
1	Auth	Splash Screen	App logo, name, and tagline for Community Waste Route.
2	Auth	Onboarding (1 screen)	Explain the app in one sentence. One Get Started button.
3	Auth	Sign Up Screen	Name, phone number, state, and PIN. No email required.
4	Auth	Sign In Screen	Phone number and PIN. Forgot PIN link.
5	App shell	Routes (tab)	Next collection window, saved area, and recent route status. Show bottom nav with Routes active.
6	App shell	Report (tab)	Missed-stop form with landmark, waste-point type, and optional photo. Show bottom nav with Report active.
7	App shell	Notices (tab)	Operator updates: delayed, assigned, completed, or schedule changed. Show bottom nav with Notices active.
8	App shell	Profile (tab)	Resident name, phone, saved community, and notification preference. Show bottom nav with Profile active.
9	Core flow	Route · Collection window	Saved community and next collection time visible. Show bottom nav on post-sign-in screens.
10	Core flow	Report · Missed stop sent	Landmark and optional photo submitted or queued offline. Show bottom nav on post-sign-in screens.
11	Core flow	Notice · Resolved	Operator marks the missed stop completed with time. Show bottom nav on post-sign-in screens.

8 · Prototype flows

Link these in Figma. Examiners should click through without your voice-over.

Flow 1 · App entry

Splash → Onboarding → Sign Up or Sign In → first main tab

Flow 2 · Core task (all three features)

Sign In → Routes tab → Collection window → Report tab → Missed stop sent → Notices tab

Core flow screens: Route · Collection window · Report · Missed stop sent · Notice · Resolved

Flow 3 · Navigation

Link every nav tab so examiners can tap each bottom nav item. Tabs: Routes · Report · Notices · Profile

Flow 4 · Unhappy path

Trigger the unhappy path edge case and link to that screen.

9 · Unhappy path

Design this as its own screen state (frame 12):

User submits while offline. Save locally and show: Report pending. It will send when your connection returns.

Link in **Flow 4**.

10 · Design system

RULE	DETAIL
Colour	You choose. Keep it simple and readable.
Type	You choose. Keep body text easy to read on a phone.
Tone	Design for your user, not for a tech audience.

Reuse on every screen:

- Primary button (active and disabled states)
- Input field (empty, filled, and error states)
- Card or list item used across the app
- Navigation bar with correct labels and icons
- Empty state: what the screen looks like with no data

11 • Submit & defense

Deliverables

#	DELIVERABLE	WHAT GOOD LOOKS LIKE
1	Wireframes	Every screen in this brief, plus the unhappy path. Layout and labels clear.
2	High-fidelity UI	Same frames polished. You choose colour and type. Bottom nav on every post-sign-in screen.
3	Prototype	Four linked flows (entry, core task, navigation, unhappy path). Examiners can use the app without your voice-over.
4	AI prototype	Figma Make: at least 2 screens. Share link.
5	Case study (1 page)	Problem · User · Who pays · Competitors · Solution · One design decision
6	Presentation (6–8 slides)	Name · Problem · User · Solution · Key screens · Flow demo · One decision

Before you present

- ☐ Every screen designed in wireframe and hi-fi
- ☐ Unhappy path screen designed and linked in the prototype
- ☐ Four prototype flows linked end to end
- ☐ At least one empty state on a list tab
- ☐ Shared components reused: button, input, card or row, bottom nav
- ☐ Case study names who pays and one competitor you checked
- ☐ You can explain one design decision in critique (why, not what)
- ☐ Completed 5 user interviews or 1 usability test
- ☐ Checked at least one competitor listed under Market context

