

AI-powered Waste Management System

# WASTE ZERO BANGLADESH

Presentation by  
IUT\_ACCESS\_DENIED



Definition of

# WASTE ZERO



Zero waste is an approach that aims to reduce waste as much as possible. This concept emphasizes practices such as waste report, collect, recycling and reuse to minimize the environmental impact of human consumption activities in Bangladesh



Why is

# ZERO WASTE IMPORTANT?

Bangladesh, which has one of the most challenging waste disposal systems, urgently needs zero waste initiatives to combat environmental degradation. The "Waste Zero Bangladesh" app aims to foster a sustainable, eco-friendly society, ensuring long-term environmental benefits for us.



# 6 CONCEPTS OF ZERO WASTE

report

collect  
waste

recycle

reuse

reward

certification

No.1

# REPORT

- Easy Waste Reporting: Upload a photo and specify the location to submit a waste report quickly and accurately.
- AI Classification: Our system detects the waste type and estimates its weight in real time, ensuring precise categorization.

No.2

# COLLECT



- **Seamless Collection:** Quickly claim a reported waste task with a single tap, contributing to a cleaner environment.
- **AI Verification:** Your collected waste photos are matched with the original report, ensuring authenticity and accountability.



No.4

# RECYCLE

- **AI-Powered Waste Analysis:** snap a photo and upload it, our AI will guide you on how to recycle it!
- **Tracking & Reporting:** Keeps a history of all analyses (waste location and time report), helps to keep track of collection and report
- **User-Friendly Interface:** Chatbot integration, and a clean, card-based UI, Toast Notification for seamless interaction.



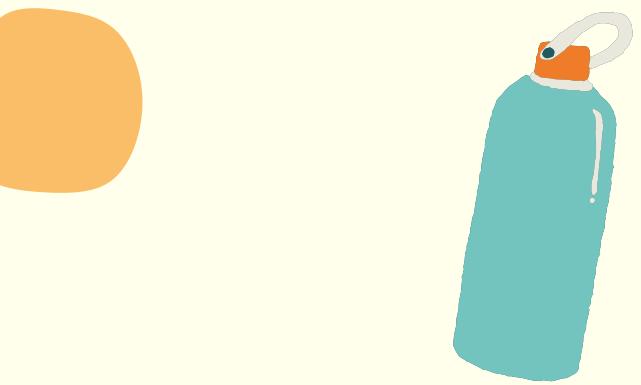
No.4

# REWARD

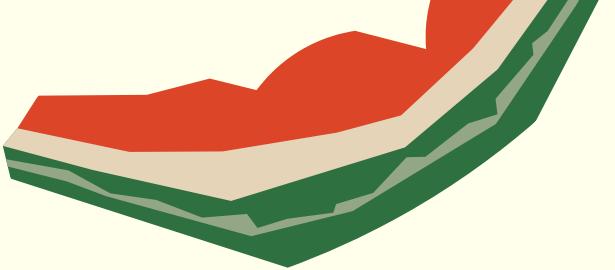


- We reward user (points) for reporting and collecting waste .
- This is to motivate others to take part in environmental impact
- We give certificates based on certificates too





CONSUME  
LESS



No.5

## RE-USE

- Implement buy and sell waste feature to encourage the use of recycled wastes and discouraging one-time uses



No.6

# CERTIFICATION

- Certification promotes credibility of eco-friendliness of the businesses so they are more likely to attract customers and build loyalty
- Certification is based on report number ,waste collection number and reward points



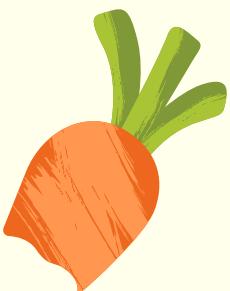
# TECH STACK:

**FRONTEND: NEXT.JS 14, TAILWIND CSS**

Fast, scalable, and visually appealing user interface.

**BACKEND: NODE.JS, DRIZZLE ORM**

Efficient backend for real-time data handling.

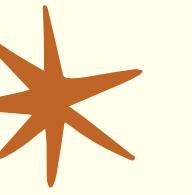




## **AI TOOL : GOOGLE GEMINI AI**

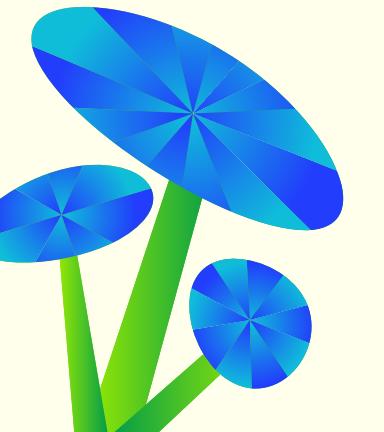
Accurate waste classification and weight estimation.

## **DATABASE: NEON DATABASE**



Scalable, secure, and serverless PostgreSQL.

## **AUTHENTICATION: WEB3AUTH**



Decentralized and secure user authentication

## **CHATBOT: CHATBASE.CO**

Accurate chatting system , making easy communication

## **PAYMENT SYSTEM : STRIPE**

a smooth payment experience

## **LOCATION API : LEAFLET, OPENSTREETMAP**

Provides interactive mapping and geolocation services.



**stripe**

# OUR IMPACT ON WASTEZERO

- Empowering communities to actively manage waste and reduce environmental impact.
- Enhancing recycling efficiency through streamlined collection and reporting waste.
- Driving sustainable practices with cutting-edge technology and data-driven solutions.

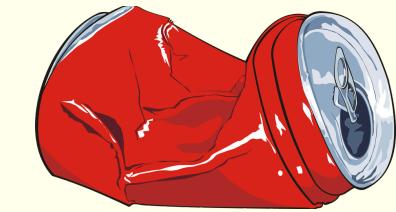


# MORE IMPACTS

- Strengthening local economies through efficient waste management and resource recovery.
- Awarding leaderboard points for recycling efforts, motivating communities to engage and develop responsible consumption habits.
- AI driven instant, personalized recycling guidance, boosting engagement and simplifying sustainable practices for users.



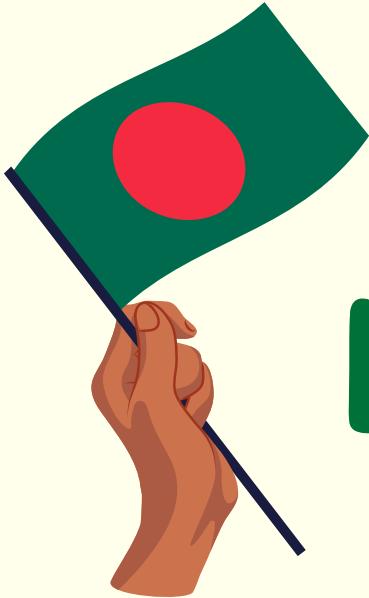
# FUTURE SCOPES:



- Advanced AI Integration to identify, classify, and recommend recycling for a wider range of waste training more data.
- Partnerships & Global Outreach to collaborate with NGOs, governments, and businesses to scale nationally and internationally.
- Enable the 'Buy & Sell' of recyclable materials, fostering a circular economy and improving resource efficiency.



THANK  
YOU



Let's Build a Sustainable  
Future  
For Bangladesh

