



# ZeroBite

“From surplus to service, one scan at a time.”



# Novelty

## Real-Time Food Surplus Distribution – What Makes It Unique

- **Software-First Approach:** QR-coded donations + expiry countdown + audit log. (Donor → QR Code → Volunteer → Beneficiary → Dashboard)
- **Tamper-Evident Audit Trail:** Signed digital receipts for transparent, traceable food handling.
- **Gamified Rewards System:** Points for donors & volunteers; encourages engagement (students/citizens). volunteers →
- **Real-Time Logistics:** Matching donors beneficiaries with notifications & route optimization.

### Data/Stats to Highlight:

Global food waste = ~8–10% of GHG emissions (UNEP, 2021).

Existing platforms (Too Good To Go, Olio) lack auditability and reward mechanisms.

# National Significance

## -Why This Matters for India

- India wastes ~21 million tons of food annually (FAO, 2020).
- Organized redistribution can save thousands of meals per month per city.



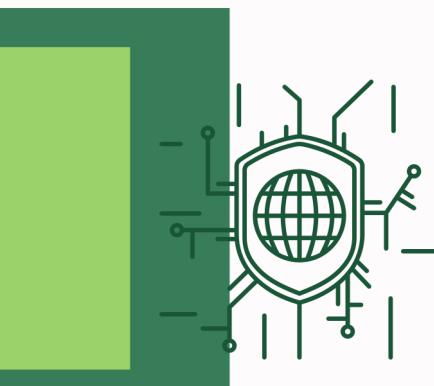
**Food Security:** Supports NGOs, shelters, and community kitchens.



**Environmental Impact:** Reduces methane & CO<sub>2</sub> from landfills.



**Corporate Social Responsibility:** Businesses get measurable impact metrics (meals saved, CO<sub>2</sub> avoided).



**Digital Adoption:** Mobile/web apps coordinate surplus collection efficiently.



# Problem & Solution



## Problem Statement

- Surplus food appears unpredictably; charities can't absorb efficiently.
- Manual coordination → delays, wastage, lack of accountability.
- Donors hesitate due to safety & liability concerns.



## Solution Overview

- **Donor:** Create donation → auto-generated QR → expiry countdown.
- **Volunteer:** Scan QR → confirm pickup → points rewarded.
- **Admin Dashboard:** Track donations, pickups, meals saved, CO<sub>2</sub> avoided.



## Impact Metrics

- Meals saved per donation, total CO<sub>2</sub> avoided, volunteer engagement points.
- Visual workflow: Donor → QR → Volunteer Scan → Dashboard Update

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## Impact Highlights

- Reduce food waste by 30% on campus
- Feed hundreds daily at zero extra cost
- Cut down carbon emissions through redistribution
- Promote equity & sustainability in student communities

## Outputs for Donor



Token  
Rewards



Secure QR  
Tracking

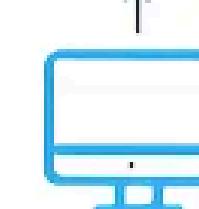
## Main Entities



Donor  
(Food Provider)



Receiver  
(Student/NGO)



Frontend  
(for both)  
Donor &  
Receiver



## Technical Architecture

### Frontend

- React.js • Next.js • Tailwind

### Backend

- Express.js + Typescript
- API Routing
- Request Handling

### Database Layer

- MongoDB: Food listings, user info
- Cloudinary: Food images

### Blockchain Layer

- Ethereum + Solidity • Ethers.js



Outputs for  
Receiver



Real-time food  
availability  
alerts



# Market Potential



- 1. Target Users:** Restaurants, supermarkets, events, households → NGOs, shelters, community kitchens.
- 2. Existing Market:** Too GoodTo Go, Olio, FoodRescueUS, FoodCloud → proof of demand.
- 3. Differentiator:** Transparent, trackable, gamified rewards system.
- 4. Scalability:**
  - Software-first: cloud-based, real-time updates, multi-city.
  - Operational: hub-and-spoke model with local NGO partnerships.
- 5. Consumer-facing surplus food market** > \$50B globally (Too Good To Go, 2023).
- 6. Measurable KPIs** (meals saved, CO<sub>2</sub> avoided) can attract CSR funding.

**Thank You**

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