🔑 NutriLink – Project Roadmap

Tech Stack:

- Frontend: **Flutter (Android first, scalable to iOS & Web)**
- Backend: **Node.js + Express**
- Database: **MongoDB**
- Hosting: **VPS (Ubuntu, Nginx, PM2)**
- Auth: **JWT-based authentication**

🎯 PRODUCT GOAL

To reduce food waste and hunger by connecting surplus food providers to food-insecure households through a digital, community-based food redistribution platform.

□ FUNCTIONAL REQUIREMENTS

1□User Management

- User registration & login
- Role-based access:
    - Food Provider
    - Beneficiary
    - Delivery Agent
    - Admin
- Profile management

2□Food Listing & Management

- Providers can:
    - Add surplus food listings
    - Set quantity, expiry time, location
    - Update or remove listings

- System automatically flags expired food

3️⃣ Food Discovery & Request

- Beneficiaries can:
    - View nearby food listings
    - Request food
    - Track request status

4️⃣ Delivery & Distribution

- Delivery agents can:
    - Accept delivery tasks
    - View pickup & drop-off details
    - Confirm delivery completion

5️⃣ Notifications

- Push notifications for:
    - New food availability
    - Request approval
    - Delivery status updates

6️⃣ Admin Dashboard (Basic)

- Manage users
- Monitor food listings
- View impact statistics

7️⃣ Impact Tracking

- Meals delivered
- Food waste reduced
- Beneficiaries served

📦 PRODUCT BACKLOG (PRIORITIZED)

🔥 MUST-HAVE (MVP)

- User authentication
- Food listing creation
- Food request system
- Delivery workflow
- Basic notifications
- Admin moderation

⭐ SHOULD-HAVE

- Impact analytics
- Rating system (provider & agent)
- Location-based filtering

💡 NICE-TO-HAVE

- In-app messaging
- Offline mode
- AI-based food matching (future)

🤝 USER STORIES

👨‍🍳 Food Provider

- *As a food provider, I want to list surplus food so that it doesn’t go to waste.*
- *As a provider, I want to know when my food has been collected.*

👩👩👧 Beneficiary

- *As a beneficiary, I want to see available food near me so I can access meals easily.*
- *As a beneficiary, I want to request food and track its delivery.*

🚴 Delivery Agent

- *As a delivery agent, I want to accept delivery tasks to earn income.*
- *As an agent, I want clear pickup and drop-off instructions.*

💼 Admin

- *As an admin, I want to monitor platform activity to ensure food safety and fairness.*
- *As an admin, I want to see impact data for reporting and partnerships.*

🗓️ 2-MONTH DEVELOPMENT ROADMAP

🧱 PHASE 1: Planning & Design (Week 1)

- Finalize requirements
- Define user roles
- Database schema design
- App wireframes (Figma)
- API structure planning

🧱 PHASE 2: Backend Development (Weeks 2–3)

- Node.js + Express setup
- Authentication (JWT)
- User & role management APIs
- Food listing & request APIs

- MongoDB integration
- Deploy backend to VPS (PM2 + Nginx)

📱 PHASE 3: Flutter App Development (Weeks 3–5)

- Authentication screens
- Provider dashboard
- Beneficiary feed & request flow
- Delivery agent dashboard
- API integration
- State management (Provider / Riverpod)

📱 PHASE 4: Integration & Testing (Week 6)

- End-to-end testing
- Bug fixing
- Performance checks
- Security review

📱 PHASE 5: Impact & Pitch Prep (Week 7–8)

- Add impact dashboard
- Prepare demo data
- Record demo video
- Pitch deck preparation
- Final UI polish

💰 MONETIZATION (TECH-ALIGNED)

- Subscription for food providers
- Small delivery/service fees

- NGO & CSR partnerships
- Institutional dashboards (future)

🏆 WHY THIS IMPRESSES HULT PRIZE JUDGES

✓ Clear SDG alignment (SDG 2 & 12)
✓ Realistic MVP scope
✓ Strong tech foundation
✓ Scalable business model
✓ Clear social impact metrics