

Requirement Analysis

Functional Requirements

(What the system will DO)

A. User Management

- 1. User Registration/Login:**
 - a. Sign up via email, phone, or social media.
- 2. Pet Profiles:**
 - a. Create/edit profiles with photos, age, breed, and medical history.
 - b. Mark pets as “available for adoption” or “missing.”
- 3. Role-Based Access:**
 - a. Pet owners, adopters, vendors, vets, and NGOs have tailored dashboards.

B. Adoption & Rehoming

- 1. Adoption Listings:**
 - a. Post/search pets using filters (location, breed, age).
 - b. Delete or update listings after adoption.
- 2. Adoption Matching:**
 - a. Suggest compatible pets based on user preferences (e.g., “good with kids”).

C. Emergency Features

- 1. Amber Alerts:**
 - a. Broadcast missing pet alerts via SMS/push notifications to users in a 10km radius.
 - b. Allow users to submit sightings with photos.
- 2. Help Requests:**
 - a. Post urgent needs (e.g., “Need vet funds”) with geo-tags.
 - b. Notify nearby volunteers/shelters.
- 3. Abuse Reporting:**
 - a. Submit reports with photos, location, and descriptions.
 - b. Route reports to local animal welfare authorities.

D. Marketplace & Services

- 1. Vendor Listings:**
 - a. Vendors can showcase products (food, toys) with prices and stock status.
 - b. Users can order in-app or visit external store links.

2. Vet Directory:

- a. Search vets by specialty (e.g., surgery) and book appointments online.
- b. Add ratings and reviews.

E. Health & Safety

1. Health Alerts:

- a. Send push notifications about disease outbreaks (e.g., rabies) using WHO/CDC data.

2. Vaccination Reminders:

- a. Automatically remind users of upcoming pet vaccinations.

F. Community Tools

1. In-App Messaging:

- a. Chat with adopters, vets, or volunteers.

2. Event Creation:

- a. Organize adoption drives or pet meetups with RSVP options.

Non-Functional Requirements

(How the system will PERFORM)

A. Performance

1. Speed:

- a. App loads within 2 seconds on 3G/4G networks.
- b. Amber Alerts delivered within 30 seconds of posting.

2. Scalability:

- a. Support 10,000+ concurrent users during peak adoption campaigns.

B. Security

1. Data Privacy:

- a. Encrypt user data (e.g., payment info, location) using AES-256.
- b. Anonymize abuse reports to protect whistleblowers.

2. Authentication:

- a. Two-factor authentication (2FA) for vendors and vets.

C. Usability

1. Intuitive Design:

- a. 90% of users can post an adoption listing within 3 clicks.
- b. Bengali language support with simple icons for rural users.

- 2. **Accessibility:**
 - a. Voice-to-text for users with disabilities.

D. Reliability

- 1. **Uptime:**
 - a. 99.9% uptime for emergency features (Amber Alerts, abuse reports).
- 2. **Backup:**
 - a. Daily backups of critical data (e.g., pet profiles, reports).

E. Compatibility

- 1. **Devices:**
 - a. Work on Android (version 8.0+) and iOS (version 12+).
 - b. Optimized for low-RAM devices (2GB RAM).
- 2. **Payment Gateways:**
 - a. Integrate bKash, Nagad, and Visa/Mastercard.

F. Compliance

- 1. **Legal:**
 - a. Follow Bangladesh’s Digital Security Act for user data.
 - b. Partner with registered NGOs for abuse report handling.
- 2. **Content Moderation:**
 - a. Auto-flag fake adoption posts or abusive language using AI.

Key Metrics for Success

Requirement Type	Example Metrics
Functional	<ul style="list-style-type: none">• 500 adoption posts/month• 80% Amber Alert response rate
Non-Functional	<ul style="list-style-type: none">• <2-second load time• 95% user satisfaction with UI