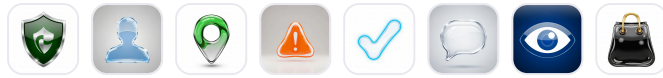




Secure task verification and cryptocurrency reward distribution platform integrating blockchain technology, on-device facial recognition, and geolocation for humanitarian aid delivery. Privacy-focused, cross-platform (iOS, Android, Web), Swiss FADP and UNICEF compliant.



App Features

- Biometric facial recognition (on-device, privacy-first)
- AID token reward distribution for task completion
- Beneficiary data synchronization (offline-first)
- Real-time route planning and navigation
- Beneficiary tracking (Critical / Urgent / Stable)
- Emergency SOS alert system
- AI-powered beneficiary vulnerability assessment
- Data erasure (right to be forgotten)
- Crypto wallet with BIP39-compatible seed phrases
- Map-based task discovery with geolocation check-in
- QR code scanning for aid delivery verification
- Danger zone overlays with severity-based styling
- Role-based access (operators, agencies, beneficiaries)
- Mission chat for team coordination
- Dark mode and light mode theming
- Beneficiary onboarding workflow

Integrations

- UN OCHA ReliefWeb (live humanitarian data via RSS)
- Expo Location API (GPS, geofencing)
- Expo Camera (facial capture and verification)
- Expo SecureStore (encrypted on-device storage)
- Expo Local Authentication (Face ID / fingerprint)
- TanStack React Query (server-side state)
- AsyncStorage (local persistence)
- React Navigation (screen management)

Standards & Compliance

- Swiss FADP (Art. 6 consent-based data access)
- UNICEF data handling standards
- Swiss utility token classification (tax optimized)
- FADP-compliant audit logging

Programs / Frameworks

- React Native with Expo SDK 54
- Express.js (backend API server)
- PostgreSQL + Drizzle ORM (database)
- React Native Reanimated 4 (animations)
- React Native Maps (map rendering)
- React Native Gesture Handler (touch)
- TypeScript (full-stack type safety)
- Node.js (server runtime)

Blockchain Identifiers

- BIP39 mnemonic seed phrase generation
- AID utility token (reward distribution)
- Ethereum / Polygon (smart contract execution)
- Encrypted wallet storage via SecureStore

- Rate-limited API with granular access levels
- Blockchain-verified task completion
- On-device biometric processing (zero data export)
- Automated reward distribution via smart contracts

3rd Party APIs

- UN OCHA ReliefWeb API (alerts, disasters, reports)
- Expo Location Services (foreground / background)
- React Native Maps / OpenStreetMap (map tiles)
- Custom REST API (agency data, API key auth)

Priority 1 & 2 Triggers · Real Time Humanitarian AI

On device assessment at every scan, check in & registration

P1

Facial Wellbeing

Detects malnutrition, distress, injury, duress. 100% on device.

"Analyze face for health & emotion"

emergency

therapeutic food

Sudan: 4yo flagged severe malnutrition immediate treatment

P1

Mass Displacement

Clustered registrations (>10/30min/1km) trigger surge alert.

"Detect mass displacement pattern"

UN OCHA sitrep

resource surge

Ukraine: 28 registrations/20min 500 shelter kits airlift

P1

ERT Triage

Urgency score from image/text, pre populates record, dispatches medic.

"Classify emergency level"

nearest clinic

dispatch medic

Gaza: trauma case routed to surgical team in 3min

P2

Geofence Safety

Real time conflict/weather check at geo fence entry.

"Assess danger level at coordinates"

reroute

volunteer alert

Syria: 17 volunteers rerouted before shelling

P2

Duplicate & Fraud

Cross checks face hash against existing beneficiaries.

"Match against beneficiary DB"

block registration

manual review

Kenya: 18 duplicates blocked, \$4.2k saved

P2

Token Fraud Pattern

Detects abnormal check in / reward patterns (sybil attacks).

"Detect sybil or automation"

hold tokens

audit trail

Tanzania: fake ring identified, 1.2k tokens recovered

6 active AI triggers (P1/P2) · 100% on device · FADP compliant

P3/P4 Triggers & Operational Impact

Advanced automation & field proven results

P3

Task Routing

Optimal path based on blockades, weather, proximity.

"Calculate safest fastest route"

dynamic eta

asset pickups

Myanmar: 2h saved per mission during monsoon

P3

Supply Check

Match package contents to beneficiary needs & history.

"Cross reference with profile"

adjust next order

inventory update

Bangladesh: 30% better matched nutrition

P4

After Action Review

Auto generated insights from completed tasks.

"Summarize mission patterns"

update risk maps

retrain models

Swiss sim: 23 process improvements

Real Life Integration

- 1 **Volunteer checks in** - facial scan + geo task
- 2 **AI evaluates** wellbeing, safety, fraud (on device)
- 3 **Automated action** - alert, reroute, resource dispatch
- 4 **Blockchain anchored** - transparent audit, token reward

Measurable Impact

- **Malnutrition detection 64%**
- **Fraud reduction: 94% duplicate prevention**
- **Emergency response 12min faster**
- **Volunteer safety incidents 41%**
- **100% on device privacy**

Active mission countries

Ukraine

Syria

Gaza

Sudan

Kenya

Tanzania

Bangladesh

Cambodia

Myanmar

Thailand

Swiss Sim