

SAFE CHILDREN PROJECT

SAFETY BRACELET SYSTEM

An innovative solution focused on child safety in public environments, prioritizing immediate notifications and universal accessibility.

Technical Presentation 2026



Core Technology Stack



Web-Responsive Architecture

Mobile-first design ensuring zero-friction access without app downloads or complex installs.



Webhook & API Engine

Real-time event-driven notifications for security point managers and institutional entities.



QR Identification

Unique pre-printed QR codes for instant child-to-system binding and secure data retrieval.



Multi-Channel Fallback

Automated SMS and Email alerts ensuring 100% delivery reliability in critical situations.



Integrated Safety Ecosystem

QR Identification Technology

The Binding Logic



Unique ID Generation

Each bracelet features a pre-printed, cryptographically unique QR code linked to a secure database entry.



Profile Association

Parents scan the QR to bind the child's digital profile—including photo and emergency contacts—to the physical ID.



Location Activation

Scanning a Security Point QR activates the child's status at a specific geographic coordinate for real-time tracking.

Technical Specs

Data Format

Encrypted System URL

Access Protocol

HTTPS / SSL Secure

Durability

Waterproof Coating

Security

Tamper-Evident ID

Infrastructure & Network Architecture

Network Hierarchy



Institutional Entities

Centralized management by Police and Fire Departments for high-level oversight.



Security Points

Physical hubs located at beach kiosks and lifeguard stations for local response.



Public Access Nodes

Distributed QR scanning points for community-driven reporting and activation.

Technical Management

API-Driven Distribution

Centralized API manages kiosk networks and distributes alerts to specific zones.

RESTful API Architecture

Status Tracking

Real-time "On Duty" status management for all security personnel across the network.

Real-time WebSockets

Zone Management

Geofenced alert distribution based on the child's last known location and proximity.

Geofencing Protocol

Security Force Interface

Dynamic Mapping

Visualizes the last known location of missing children with real-time GPS coordinates and search perimeters.

Incident Timers

Automated countdown timers tracking the duration of each active case to prioritize response urgency.

Proximity Filters

Smart filtering system that displays only cases within a specific radius of the security personnel's current location.

Critical Alerts

Instant audio and visual cues triggered by the system whenever a new missing child report is received.

Data exclusively displays active cases; resolved incidents are automatically moved to historical archives.

Alert Engine & Webhook Integration

➔ Input Channels

Multi-Channel Trigger

Authenticated Web App
Public QR Scan
Emergency Call Center

↔ Output Channels

Fallback Protocol

Direct SMS Alerts
Automated Email Logs
Voice Call Escalation

</> Data Payload

JSON / HTTPS

```
{ "id": "QR_8829", "status": "MISSING" }
```

☰ Core Infrastructure

The LOSS System

Webhook Engine

- ⚡ Instant Push Notifications
- 📍 Zone-based Distribution
- 🔄 Real-time Data Synchronization
- 🔗 Event-Driven Architecture

Automated Communication & Archiving

Reunion Automation

Instant SMS Protocol

Automated SMS delivery to parents containing the finder's contact details and GPS-linked location.

Finder Identification

Mandatory data capture (Name/Phone) for all public finders before emergency data access is granted.

System Cleanup

Data Archiving

Automatic recording of resolution times and case history for institutional auditing and performance metrics.

Global Synchronization

Real-time removal of resolved alerts from all active dashboards and security point interfaces system-wide.
