

## GHOST FINDER - PROJECT CONTEXT & IMPLEMENTATION GUIDE (REVISED MVP)

### COVER PAGE

App Name: Ghost Finder

Type: Offline-first decentralized device tracking app

Platform: Android (Kotlin, Jetpack Compose)

Intent: Secure, private, offline device recovery using BLE

### APP INTENT

Ghost Finder helps users locate a paired device without internet or cloud services.

The app focuses on privacy, low power usage, and resilience against casual tampering.

### CORE GOALS

- Offline tracking using BLE
- Secure device bonding
- Rolling identifiers for privacy
- Battery-aware background operation
- Simple find mode for users

### PHASE 1: SECURE BONDING

- ECDH key exchange using Keystore
- 6 digit verification code
- Rolling UUID derived from shared secret
- Encrypted storage in Room

### PHASE 2: BACKGROUND TRACKING

- Foreground service for tracking
- AlarmManager for rendezvous
- BLE advertise and scan cycles
- Breadcrumb logging

### PHASE 3: FIND MODE

- Radar style proximity UI
- RSSI smoothing
- Active scan mode
- Optional sound and vibration

#### PHASE 4: GHOST MODE (REVISED MVP)

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- Auth gated settings
- Foreground service resilience
- Tamper alerts
- Optional app hiding without system interception

#### SECURITY NOTES

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- No cloud or telemetry
- Keystore backed keys
- Rolling identifiers
- No accessibility abuse

#### PLAY STORE COMPLIANCE

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- No fake system UI
- No power button interception
- No notification shade blocking

#### SUCCESS CRITERIA

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- App runs reliably in background
- Find mode works offline
- Pairing is secure
- Ghost Mode does not violate platform policy