QUANTUM BREAKERS

EVENT :VIBEAITHON

TEAM MEMBERS:

THOYESHWAR .L
SIVANESAN.P
THARUN K.S
SANJAY .U
SAYED RAMEEZ.A

CYBERSHIELD GUARDIAN

*Tagline: AI+BLOCKCHAIN –POWERED WOMEN SAFETY SYSTEM

*Subtitle: From Watch Band to Mobile Alert -Protecting Women, Preserving Proof

THE PROBLEMS

*Over 80% of women feel unsafe in public spaces at night.

*Current SOS apps depend on manual triggers or unreliable connections.

*Incidents often go unreported due to fear, lack of proof, or data tampering.

*Need a trustworthy, automatic, and privacy-respecting system that ensures proof of safety.


SOS


CyberShield
Guardian
SOS

The Solution — CyberShield Guardian

- Smart Watch Band + Mobile App ecosystem.

-AI-powered Silent Distress Detection: heart rate, motion, sound analysis.

- Blockchain-backed Proof-of-Incident NFTs: tamper-proof, encrypted evidence logs.

- Plausible Denial Mode: hidden distress signaling when attacker is present.

- Community Micro-Aid Network: nearby trusted users verified on-chain

Technology Stack & Workflow

Wearable Band:-

Sensors: Heart rate, accelerometer, microphone. ML model (TinyxML) detects abnormal

Mobile App: -

Receives Bluetooth signal ⟶ initiates alert. - Records short encrypted audio/video snippet. - Uploads to IPFS + stores hash on blockchain patterns.

3) Blockchain Layer: -

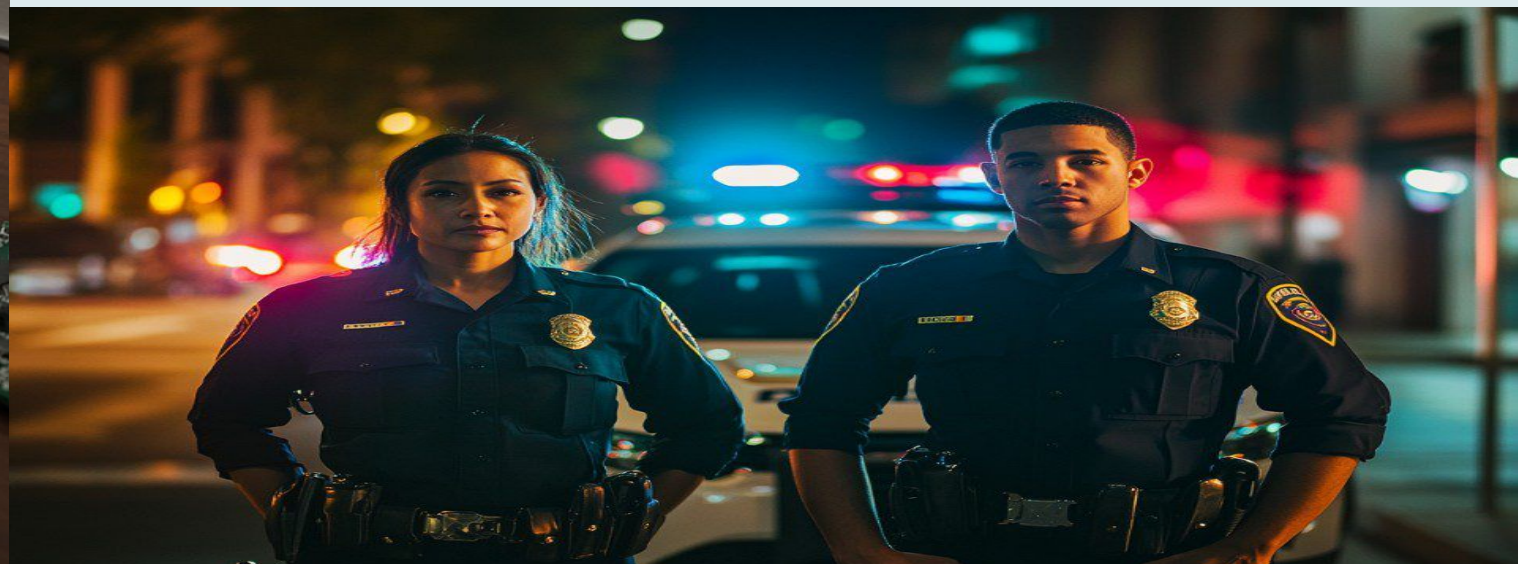
Smart contracts mint “Proof-of-Incident” NFT. - Controls evidence access (multi-sig + user consent).

4) AI Cloud Engine: -

Generates privacy-preserving timeline summary. - Sends alerts to trusted contacts + local responders

DEMO FLOW

User in danger → band detects stress → silent alert → mobile captures & encrypts → NFT proof created → emergency contacts & police notified



IMPACT

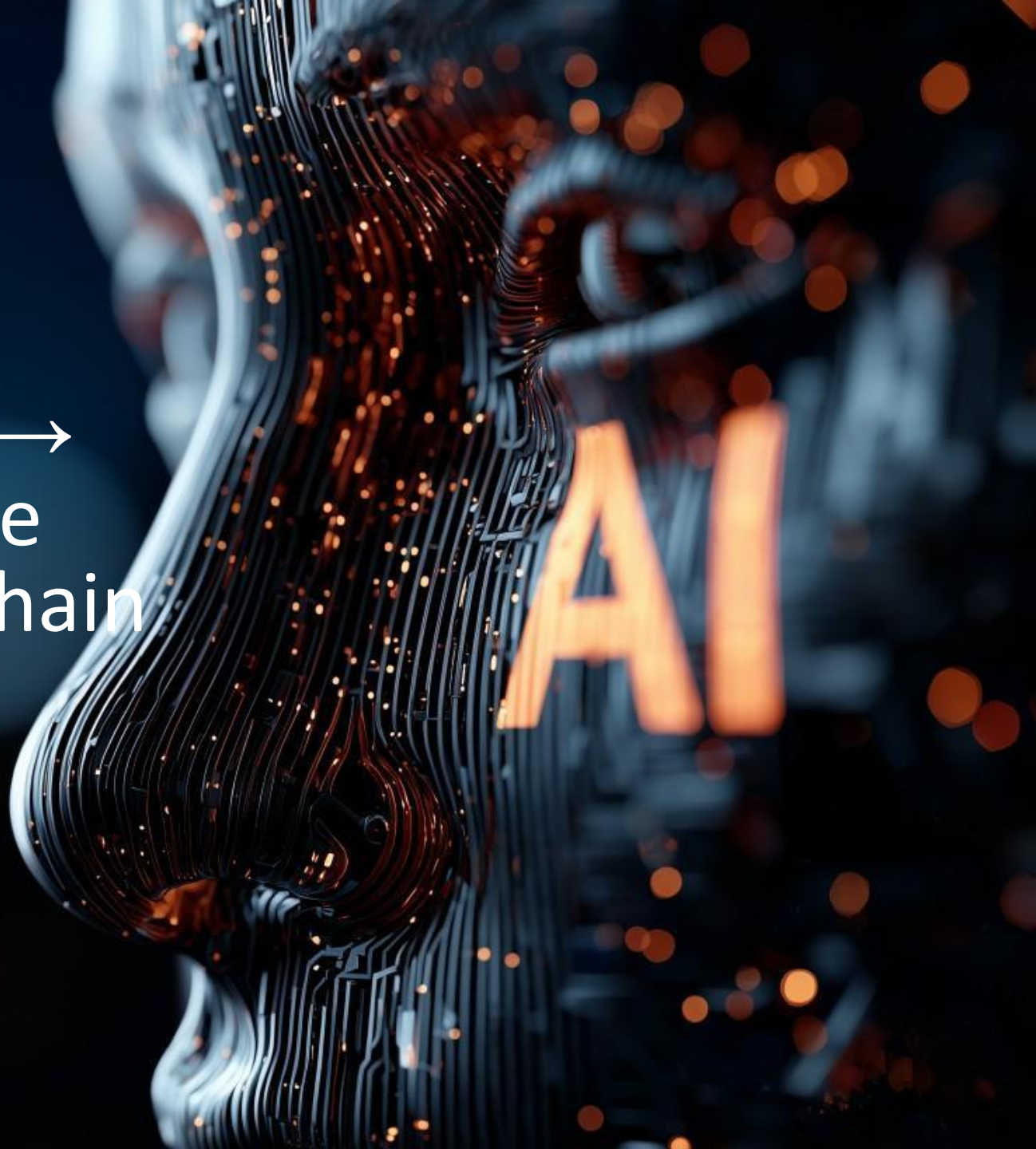
* Zero human error:
automatic + silent.
Immutable evidence for justice. -
Encourages reporting, ensures
privacy.

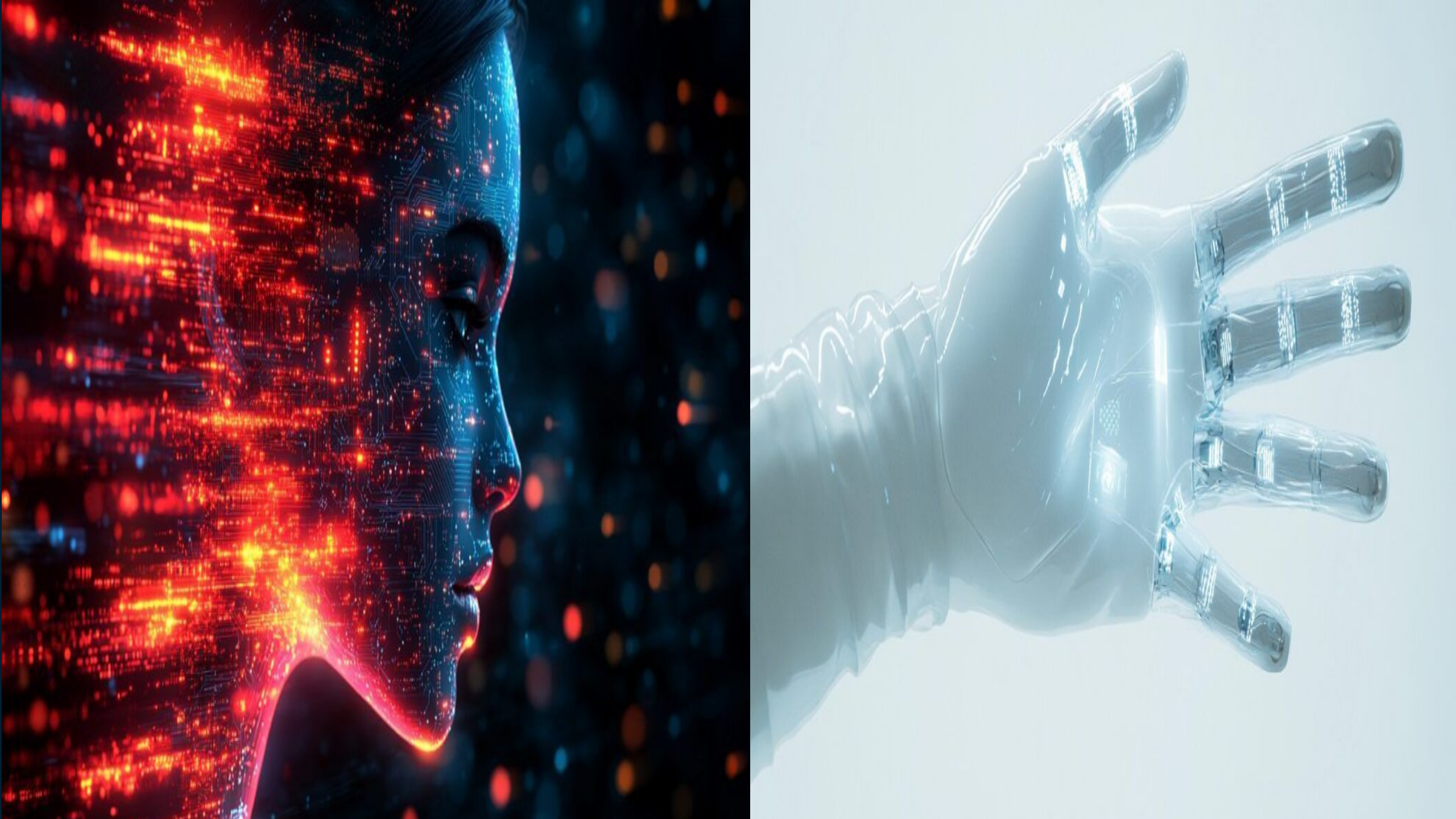
*Scalable for community and public
safety

Runnable Prototype (Simplified Demo)

Architecture Flow:

Wearable (simulated) → Mobile App → Firebase Realtime DB → Blockchain (testnet)

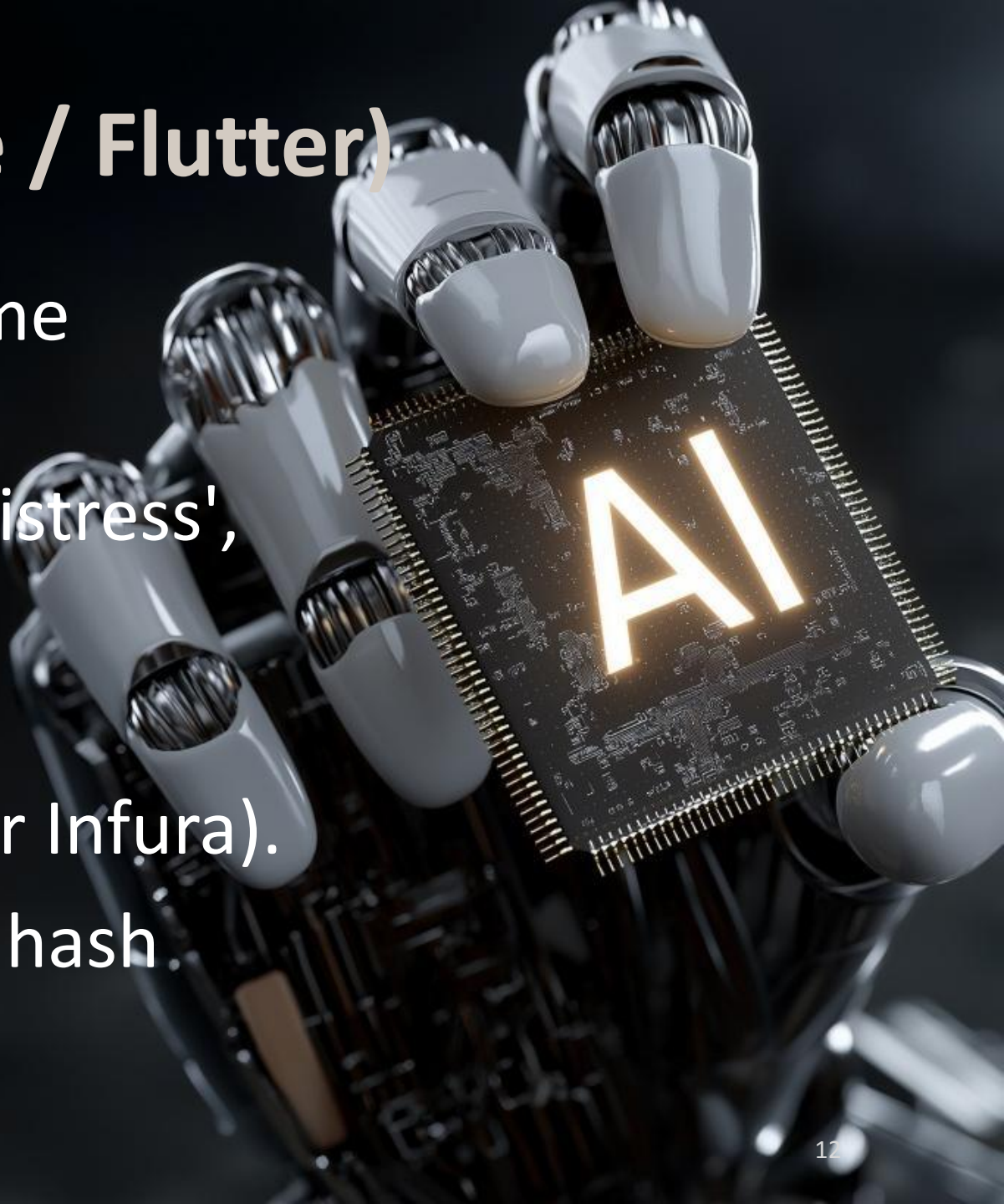




Mobile App (React Native / Flutter)

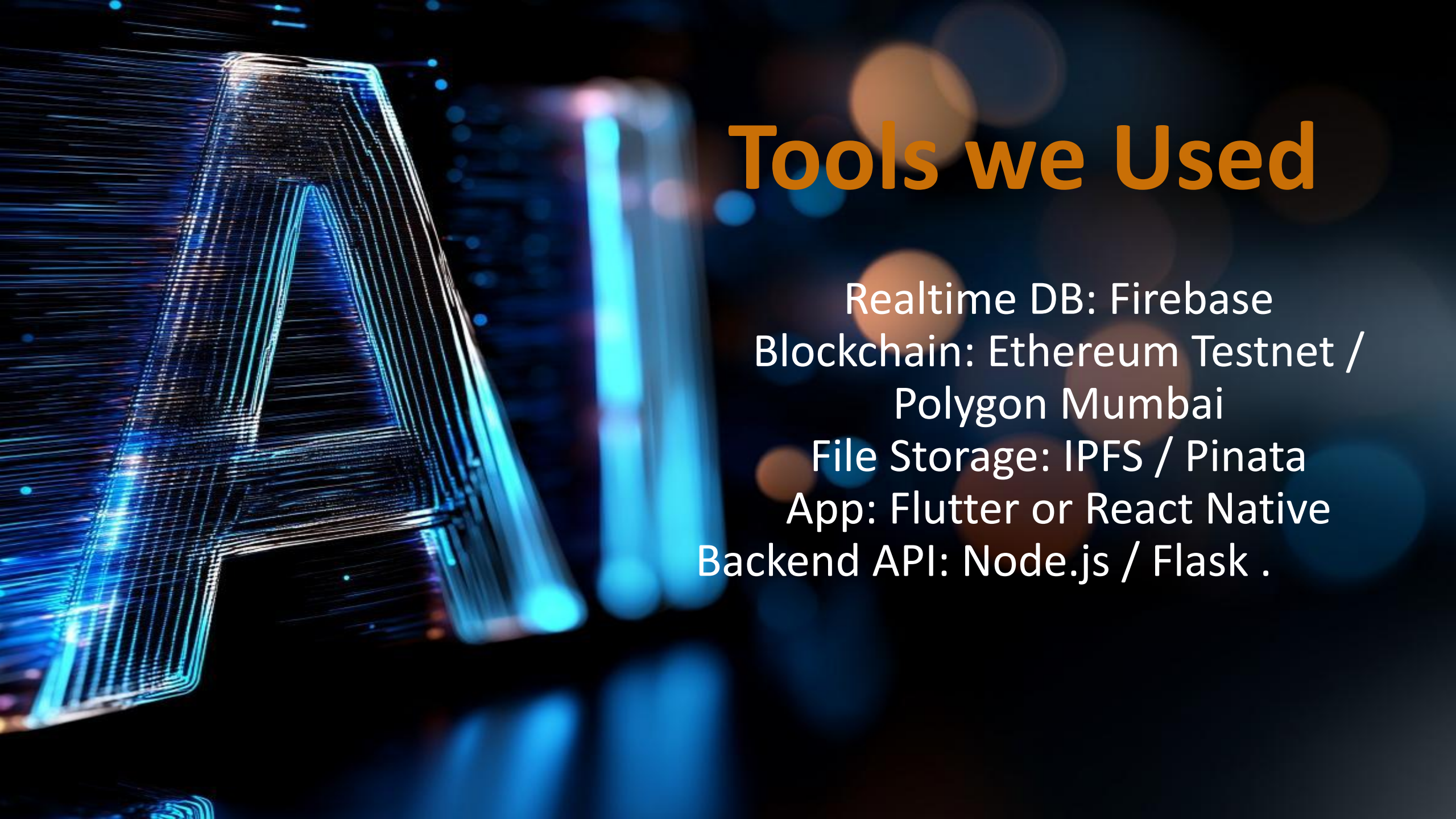
- Connect to Firebase Realtime Database.
- When new alert = status:'distress', trigger:
- Camera record 5 sec video.

  Upload file to IPFS (Pinata or Infura).
- Call smart contract to store hash



Mobile Alert Flow

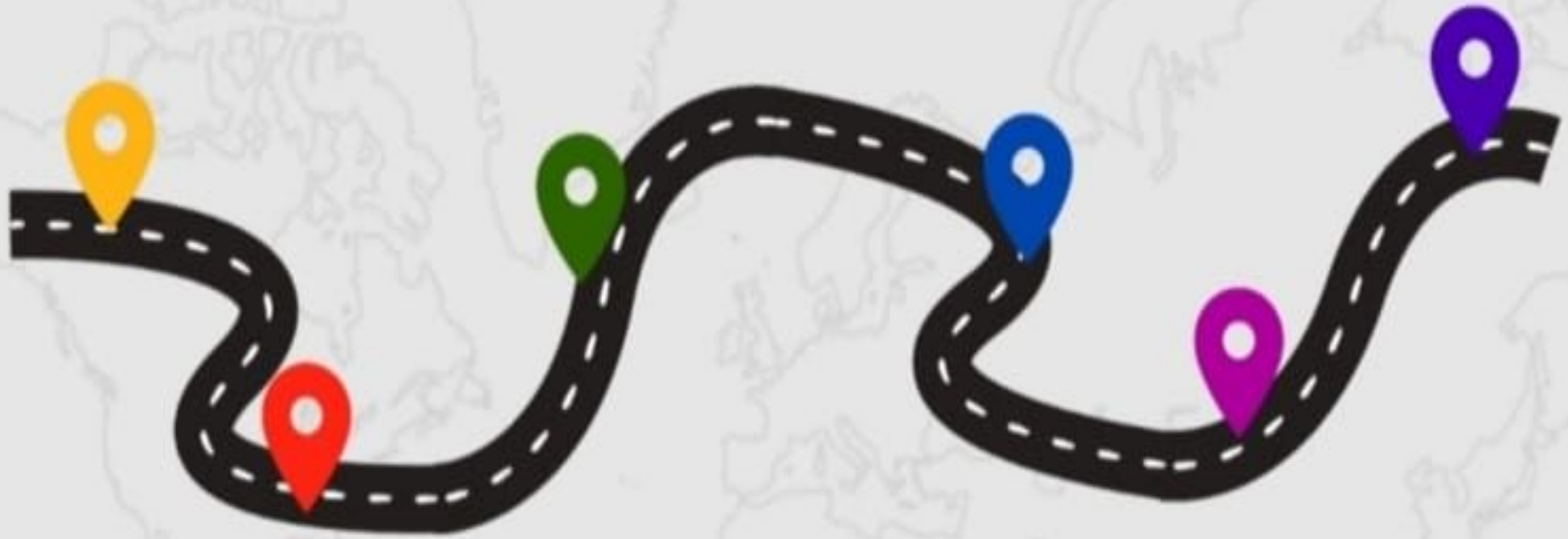
Watch script sends data → Firebase updates → mobile app triggers capture → blockchain stores hash → SMS/Email to emergency contacts.



Tools we Used

Realtime DB: Firebase
Blockchain: Ethereum Testnet / Polygon Mumbai
File Storage: IPFS / Pinata
App: Flutter or React Native
Backend API: Node.js / Flask .

ROADMAP



1 PHASE 1 - SETUP & PLANNING

1. Install Flutter and VS Code

2. Connect Firebase project

2 PHASE 2 BACKEND (FIREBASE)

1. Set up Firebase Realtime Database or Cloud Firestore

2. Configure Authentication (if you want users to sign in)

3 PHASE 3 - SENDER APP

1. Create Flutter project → cyber_guardian_sender

2. UI for sending data (e.g., text, alerts, location, etc.)

3. Firebase integration (write data to database)

4 PHASE 4 - RECEIVER APP

1. Create Flutter project →

cyber_guardian_receiver

2. Read data from Firebase in real-time

3. Display alerts or messages

5 PHASE 5 - UI & EXPERIENCE

1. Design clean interface (Material Design)

2. Add error handling and validation

6 Phase 6 - Testing & Deployment

1. Test on emulators or real Android phones

2. Fix bugs, performance issues

Bonus Feature (for demo)

Add voice command trigger: say 'Help me Guardian!'

system triggers alert instantly. Generated by ChatGPT

CyberShield Guardian Project Notes

problem statement

From fiction to function

Fictional Vision: A watch that “knows” when its wearer is in danger and automatically calls for help

Functional Implementation:

* Smart sensors + AI to detect abnormal movement or stress.

* Instant SOS alerts to guardians and authorities.

* Cloud-linked evidence recording and location tracking.

Unique features of our project

* The main goal is to **ensure personal safety** and provide **immediate help in emergencies** through a **smart, connected wearable** that women can use discreetly

* Alerts can be sent via **,app notification,or even a loud alarm** depending on the situation.

* Built-in **GPS module** continuously tracks the user's location

* This ensures **quick access** even under stress or danger.

*If abnormal readings (e.g., sudden heart rate spike or fall detection) occur, the system can **automatically trigger an alert**.

*Looks like a normal smart band, ensuring **discretion and privacy**.

***Voice command activation** (e.g., saying a danger ,it triggers help).

***Integration with police or local emergency networks** in advanced versions.

*Can be a **valuable companion for night shifts or remote areas**.


THANK YOU FROM CYBERSHIELD GUARDIAN FOR PROVIDING THIS OPPORTUNITY