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Vigil-Eye: AI-Enabled Smart Glasses for Women's Safety and Real-Time Navigation

Vigil-Eye is a smart wearable system that empowers women with real-time safety alerts, facial threat detection, GPS tracking, and AR-based navigation — all packed into a hands-free AI-enabled eyewear device.

Problem Statement


Women's safety remains a critical concern worldwide. Most safety apps require manual activation and smartphones, which may not be accessible in emergencies.

Solution

Vigil-Eye smart glasses provide an intelligent, hands-free safety solution using:

- AI-powered facial recognition
 - Gesture/voice-activated SOS alerts
 - Real-time GPS tracking
 - Cloud-connected emergency messaging
 - AR navigation via Heads-Up Display
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Key Features

-  Facial threat detection using AI

- 🗣️ Voice-triggered emergency alerts
 - 🖐️ Gesture control for discreet activation
 - 📍 GPS + GSM module for real-time location tracking
 - 🕶️ OLED HUD for navigation
 - 🔊 Bone conduction speakers & vibration alerts
 - ☁️ Cloud storage for video/audio backup
 - 🔗 Bluetooth phone sync
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🧠 Technology Stack

Hardware:

- Arduino / Raspberry Pi
- Voice recognition sensor
- GPS + GSM module
- Bone conduction speakers
- OLED HUD
- Thin-film battery
- Bluetooth module

Software & Tools:

- Python (AI, OpenCV, facial detection)
 - C/C++ (Embedded programming)
 - Arduino IDE
 - Firebase / AWS (cloud alerts)
 - Optional: Kotlin (Android app)
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📁 Files Included

- Vigil-Eye_Hackathon_Submission_SweetyKumari.docx – Full documentation
 - Vigil-Eye_PitchDeck_SweetyKumari.pptx – Project overview presentation
 - Patent_Draft_Vigil-Eye_SweetyKumari.docx – Draft for patent filing
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Demo / Video (Optional)

Coming Soon on YouTube...

Instructions to Review the Project

1. Open the .docx file for full details on system design, features, and innovation.
 2. Review the .pptx file for a summarized visual flow of the project.
 3. No executable code is provided; this is a concept-stage, hardware-ready innovation.
 4. Judges may contact the innovator for further explanation or demonstration.
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Let's make the world safer — one smart glass at a time.  