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SecureHER: A Tech-Driven Approach to Women's Safety

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Abstract: In an era where personal security, especially for women, remains a critical concern, the integration of modern technology into safety systems presents a promising solution. This project introduces an IoT-based Women Safety Device designed to provide real-time emergency response, location tracking, and audio-video evidence collection during distress situations. The system is built around the Raspberry Pi microcontroller and integrates essential components such as a panic button, GPS module, USB camera, microphone, and Twilio SMS service to offer a comprehensive safety mechanism. Once the panic button has been engaged the device initiates a multi-stage response: audio and video recording; fetching the GPS co-ordinates; and sending an alert message to one or more preconfigured emergency contacts. The software architecture for the device was designed to be modular, easily integrated into new devices, with reliable performance and low latency. The device will be a wearable, sleek and discreet accessory prioritizing privacy, data security, and seamless integration with personal accessories. Future improvements will include development of a mobile application, auto-detect and alert for threats, and biometric access to avoid false alarms

Keywords: Women Safety, IoT, Raspberry Pi, Emergency Alert System, GPS Tracking, Audio-Video Recording





597