A Major Project Report on

IoT-Powered Smart Pendant for Women's Safety: A Next-Gen Protective Solution

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Abstract :

According to the National Crime Records Bureau (NCRB), 93.3% of victims are solitary female travelers, highlighting the persistent safety challenges women face despite advancements in societal roles. While technological solutions for women's safety exist, gaps remain in the seamless integration of user-friendly, real-time, and responsive security systems that align with modern lifestyles. Existing solutions often lack portability, immediate response mechanisms, and the ability to integrate IoT-based monitoring tools effectively. Addressing these gaps, this study aims to develop a comprehensive Women Safety Device that combines a smartphone application and a wearable smart pendant leveraging the Internet of Things (IoT). The objectives of this study are to design a reliable and user-friendly safety system that ensures real-time monitoring, immediate response, and enhanced communication features, thereby fostering a safer environment for women. The study employs a multi-faceted approach involving the integration of advanced sensors, GPS, and IoT connectivity into a discreet wearable device, supported by a smartphone application. Methods include system design, hardware development, software implementation, and performance testing under simulated conditions to ensure reliability and usability.

Key findings demonstrate that the Women Safety Device successfully provides real-time tracking, instant alert mechanisms, and seamless communication with emergency contacts, significantly enhancing the sense of security for female users. The wearable's discreet design ensures comfort and usability in diverse scenarios. This study holds critical implications for women's safety by offering an innovative, proactive solution that aligns with modern technological advancements and urban lifestyles. It contributes to ongoing efforts to create a secure, inclusive society while inspiring future innovations in personal security systems.

Keywords: Women Safety, Internet of Things (IoT), Real-Time Monitoring, Wearable Device, Personal Security Systems