

Elderly Care Monitoring System

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Abstract: *The Arduino-based Smart knee pad System for Elderly People is a cutting-edge wearable device meticulously designed to enhance the safety, health monitoring, and emergency response for senior citizens. This innovative knee pad integrates multiple technologies to cater to the specific needs of the elderly, ensuring their well-being and providing peace of mind to their families. The system features a heart rate sensor that continuously monitors the user's pulse and identifies irregularities in real-time. Upon detecting any anomaly, the system promptly sends an alert message to preconfigured contacts using a GSM module, facilitating immediate medical attention. Additionally, the knee pad incorporates an ultrasonic sensor for obstacle detection, which activates a buzzer if any object is detected within a 50 cm range, thereby preventing falls or collisions that are a common risk for the elderly. The device also includes a panic button, empowering users to summon help instantly during emergencies by sending an SMS alert to their caregivers or relatives through the GSM module. Designed for reliability and ease of use, this smart knee pad seamlessly combines health monitoring, preventive safety measures, and emergency alert systems into a single, compact solution. It empowers elderly individuals to navigate their daily lives with greater confidence and independence, while also allowing their caregivers to remain informed and prepared to respond to critical situations. By integrating advanced sensors, real-time communication capabilities, and intuitive controls, the smart knee pad serves as a comprehensive assistive technology, addressing key challenges faced by senior citizens in their quest for a safer and healthier lifestyle*

Keywords: Elderly Care Monitoring System

