IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 1, December 2025
Impact Factor: 7.67

A Unified Smart Solution for Child Security and Parental Insights

Prarthana V Gunakimath[1], Harshitha U[2], Sanjitha C[3], Sanjana Shetty N[4], Sharath Gowda A[5]
[1]Assistant Professor, Department of Information Science and Engineering
[2,3,4,5]Undergraduate, Department of Information Science and Engineering
Global Academy Technology, Bengaluru, India

Abstract: *Child safety has become a major priority in today's rapidly evolving, technology-oriented society, where parents often find it difficult to maintain constant awareness of their children's activities and overall well-being. Conventional monitoring approaches are proving inadequate in settings marked by frequent mobility, unpredictable health conditions, and rising environmental risks. To overcome these limitations, this paper presents an Internet of Things (IoT)-enabled child monitoring and protection framework that delivers dependable real-time location tracking, continuous health observation, and intelligent emergency response capabilities. Implemented using embedded C, the system incorporates essential hardware components, including GPS for accurate positioning, temperature and heart-rate sensors for vital health monitoring, GSM for instant communication, and an ESP32-CAM module for real-time visual feedback. The device continuously evaluates the child's condition and automatically transmits SMS-based and app-based alerts to parents or guardians whenever abnormal health parameters, unusual movement patterns, emergency-button triggers, or geo-fence violations are detected. Advanced functionalities such as live video streaming, a panic-alert feature, energy-efficient operation, and secure data handling further enhance system reliability and timely intervention. Through the integration of IoT sensing and proactive alert mechanisms, the proposed solution aims to reinforce parental oversight, minimize emergency response time, and promote a safer and more supportive environment for children in contemporary living conditions*

Keywords: Child Safety, Internet of Things (IoT), GPS Tracking, Heartbeat Monitoring, Geo-fencing, ESP32-CAM, Real-time Alerts, Emergency Response

DOI: 10.48175/IJARSCT-30144