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 3, June 2025
Impact Factor: 7.67

IOT based Intelligent Cradle and Remote Monitoring System for Baby using Raspberry Pi

Prof. Rajesh Bhambare, Badakh Kirti Suresh, Mirpagar Prerna Daniyal
Assistant Professor, Department of Electronics & Computer Engineering
Pravara Rural Engineering College, Loni

Abstract: *This project presents an IoT-based intelligent cradle and remote baby monitoring system designed to enhance infant care through automation and real-time supervision using a Raspberry Pi microcontroller. The Raspberry Pi serves as the central unit, managing sensor data and hosting a secure web interface for remote access. A USB camera enables live video streaming of the baby, allowing parents or caregivers to visually monitor the infant from any location. The system also integrates a DHT11 temperature and humidity sensor to ensure the baby's surroundings remain comfortable, with environmental data displayed in real-time on the web dashboard. For automated soothing, a voice sensor detects crying and activates a relay-connected DC motor that gently swings the cradle without manual assistance. Additionally, a soil moisture sensor is ingeniously repurposed to monitor diaper wetness, and this status is also updated live on the website. By combining environmental monitoring, video surveillance, automated response to crying, and diaper condition tracking into a single unified platform, this smart cradle system offers a holistic and innovative approach to infant care. It highlights the potential of IoT and embedded systems in improving safety, convenience, and peace of mind for modern parents.*

Keywords: IoT, Raspberry Pi, Baby Monitoring, Smart Cradle, Remote Surveillance.

DOI: 10.48175/568