Dr. N.G.P. Institute of Technology, Coimbatore – 641048

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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ABSTRACT

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SEM / SECTION: II /B	COURSE CODE/NAME: 22UOC205 - STEM PROJECT

PROJECT TITLE: BABY MONITORING SYSTEM

BATCH NUMBER : 3

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The Baby Monitoring System is an cutting-edge and innovative solution designed to enhance infant safety and provide peace of mind for caregivers and parents, particularly for those with busy and demanding lifestyles. This web-based application utilizes advanced technology to detect the baby's actions in real-time, ensuring that caregivers can monitor their child's behavior even when they are not physically. It uses AI-powered video analysis to alert caregivers when the baby shows signs of distress or unusual activity. This helps minimize the risk of the baby falling while sleeping or playing, making the baby safer. The Baby Monitoring System integrates Internet of Things (IoT) technology, high-definition cameras, and motion detectors to offer a comprehensive monitoring solution. The IoT aspect allows various devices to work together seamlessly, ensuring smooth communication and real-time updates. High-definition cameras provide clear video footage of the baby, allowing for precise detection of any unusual behavior or distress signals. The system employs EAR (Eye Aspect Ratio) and MAR (Mouth Aspect Ratio) technologies to assist parents and caregivers when the baby wakes up and cries. EAR and MAR are metrics used to analyze facial features: EAR measures the degree of eye closure, and MAR measures mouth opening. Using EAR metrics, the system can assess the baby's state (woke up) and notify the parents accordingly. Using MAR metrics, if the baby is crying, the system can play soothing music to comfort the baby. Motion detectors add another layer of protection, as they can identify when the baby moves outside a predefined safe zone. In such cases, the system will trigger an alert, typically in the form of a beep sound, to notify caregivers that the baby may be in potential danger.This solution enhances the baby monitoring system, promoting safer and more responsive childcare environments.Ultimately, it brings peace of mind to parents, knowing that they can monitor their baby's actions and be alerted to any potential concerns, even from a distance.

Guide's Signature