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 12, April 2025
Impact Factor: 7.67

Motion-Activated Surveillance System Using Raspberry PI

Prof. Sagar. M. Panghvane, Mr. Akshay P. Patil and Miss. Jayashree P. Navle
Pune Vidyarthi Griha's College of Engineering & S. S. Dhamankar Institute of Management, Nashik
pakshay536@gmail.com and Navlejayashri@gmail.com

Abstract: *This research presents the development of a motion-activated surveillance system using a Raspberry Pi microcontroller. The primary motivation is to provide an affordable, real-time monitoring solution for security applications in residential or small-scale commercial settings. The system integrates a PIR (Passive Infrared) sensor to detect motion and instantly activates a camera to stream and record video footage. An audio alert via a buzzer is triggered simultaneously to notify occupants. Captured videos are stored on USB for offline viewing. Testing showed that the system responded within one second of motion detection and performed reliably under indoor and low-light conditions. This approach demonstrates a cost-effective and efficient way to enhance security infrastructure using open-source hardware.*

Keywords: Raspberry Pi; PIR Sensor; Motion Detection; Surveillance System; Real-Time Monitoring

DOI: 10.48175/IJARSCT-25975