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, October 2025
Impact Factor: 7.67

Wheel Chair Control System Wireless Control Using Accelerometer

Prof. Y. P. Sushir[1], Mr. Girish Patil[2], Mr. Atharv Bhole[3]
Mr. Mayur Rane[4], Mr. Jayesh Rane[5], Jayesh Dhangar[6], Pratik Patil[7]
Professor, Department of Electrical Engineering[1]
Students, Department of Electrical Engineering[2-7]
Dr. V. B. Kolte College of Engineering, Malkapur, India

Abstract: *The Wheelchair Control System using Wireless Accelerometer is an innovative project designed to assist physically challenged individuals in achieving greater mobility and independence. This system utilizes an accelerometer sensor to detect the tilt and orientation of the user's hand or head movements, which are translated into directional commands for controlling the wheelchair wirelessly. The accelerometer senses motion along multiple axes and transmits corresponding signals via a wireless module, such as Bluetooth or RF, to a microcontroller-based receiver circuit attached to the wheelchair. The microcontroller then drives the motors to move the wheelchair forward, backward, left, or right according to the user's gestures. This hands-free control mechanism eliminates the need for manual joystick operation, making it especially useful for users with limited hand or arm movement. The system offers advantages such as ease of use, low power consumption, and cost-effectiveness. Furthermore, safety features like emergency stop functionality and obstacle detection can be integrated to enhance user security. The proposed wireless accelerometer-controlled wheelchair thus provides a practical, smart, and affordable mobility solution for differently-abled individuals, enabling them to navigate their surroundings with minimal physical effort.*

Keywords: Wheelchair, Accelerometer, Wireless control, Microcontroller, Gesture recognition, Mobility assistance etc