

Voice Controlled Car For Physically Challenged

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Abstract: *Mobility challenges significantly affect individuals with severe physical disabilities, particularly those who cannot control their limbs. This project presents the design and implementation of a cost-effective, voice-controlled robotic vehicle integrated with obstacle detection capabilities. The system facilitates autonomous movement based on spoken commands received through a smartphone application. These commands are transmitted wirelessly via Bluetooth to an Arduino-based microcontroller, which controls the vehicle's movement through a motor driver circuit. The prototype features real-time voice command processing, wireless communication, and safety enhancements using Infrared (IR) sensors to detect obstacles. The proposed solution emphasizes safety, independence, and affordability for users with mobility impairments.*

Keywords: Assistive mobility, Arduino, Voice-controlled vehicle, Physically disabled, Obstacle avoidance, Bluetooth communication

