

# Voice Controlled Wheel Chair

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**Abstract:** *Freedom rolls on electric wheels. Yet that stick near the armrest? A brick if fingers won't obey. When quadriplegia locks limbs, when muscles waste away, small movements vanish. So does self-reliance. Gone. Not built a regular seat. This one hears you. Inside lives an ESP32 chip. Connects via Bluetooth to a phone tool. Say something - like "Forward." Or try "Back." Even local terms work. Try "Chal" meaning go. Or "Tham" when it must halt. Moves on sound alone. Hands stay free. Fingers do nothing. Voice runs everything. Starting things off, the L298N chip moves the wheels - clean motion, quick replies. Up front, an HC-SR04 listens into space, stops everything when objects pop up too close, under 30 cm away. Your words fire it up, while quiet sensors guard each turn. All parts work without fuss. Testing shows the device understands spoken commands correctly 94 percent of the time, responding in under three hundred fifty milliseconds. When something comes within thirty centimeters, the system hits the brakes in two hundred milliseconds - every single time. So far, tests are underway with help from the City Rehabilitation Center for Locomotor Disabilities, watching how well people with spinal cord injuries can use it while moving around inside buildings.*

**Keywords:** Assistive Technology, Voice Control, ESP32, Obstacle Avoidance, Bluetooth Communication, Smart Wheelchair, Motor Control

