

# National Level Project Exhibition 2024

Smart WheelChair Control by Head Motion

–Team Techo

# Title :

- **Title:** Smart Wheelchair Using Motion Sensor and ESP32
- **Subtitle:** Controlled by Head Movements
- **Presented by:** Harshul Goswami
- **College/Institution:** SKIT College

# Introduction

- **Overview of the Project**

- The project involves building a smart wheelchair controlled by head motion.
- Technologies used: ADXL330 accelerometer, ESP32 microcontroller, and relays.

- **Objective**

- To help individuals with mobility impairments move with minimal effort using head gestures.



## Components Used

- **Main Components:**
  - **ADLX330 Accelerometer Sensor** – Detects head movements.
  - **ESP32 Microcontroller** – Processes the sensor data and controls the wheelchair.
  - **Relays** – Act as switches to control the motors.
  - **Motors** – Four 10rpm gear motors for wheelchair movement.
  - **Power Supply** – 12V power source.



# Applications

- **Real-World Use Cases:**
  - Healthcare Facility**
  - Public Places**
  - Telemedicine and Remote monitoring**
  - Assisted living facility**
  - Smart home integration**
  - Home use for elderly or disabled individuals**



# Thank You

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