

# Arduino-Based Bluetooth-Controlled Multidirectional Forklift Robots

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**Abstract:** *This project presents the design and development of an Arduino-based Bluetooth-controlled multidirectional forklift robot, aimed at enhancing automation in material handling systems. The robot integrates a robust chassis with mecanum wheels to enable omnidirectional movement, allowing precise navigation in constrained environments. An HC-05 Bluetooth module facilitates wireless communication between the robot and an Android smartphone, providing real-time control via a custom mobile application. The Arduino Uno microcontroller serves as the core of the system, managing motor control through an L298N motor driver and actuating the forklift mechanism via servo motors.*

**Keywords:** Arduino, Bluetooth Control, Motor Driver, Multidirectional Movement

