Title: Wheeled Bluetooth Controlled Robotic Arm Edge with Collision Detection Using Infrared

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ABSTRACT

Robotics have been acknowledged as a mainstay in the industrial automation domain for decades. It is gradually making its headway into the domains of military, medical and vehicle applications domain. But the only problem might face is in controlling the robot. The aim of this project is to enhance the interactivity for controlling the robotic arm by adding collision detection by enabling the users to interact with the real world and making the entire process user friendly. The robotic arm edge that can be controlled with Bluetooth technology using the mobile phones and able to detect forward collision. The robotic arm edge is develop using PIC controller which serves as the main circuit board of the system. This serves as the brain of the robot. The robot movement can be controlled using the mobile phone. The system is developed using Java eclipse tool. The design of the Wheeled Bluetooth Controlled Robotic Arm Edge with Collision Detection is based on what does the application looks like based on the user's point of view. The user shall key-in commands to the robotic arm. Then the PIC performs the process of converting the binary so that it can be understood and now will be executed by the robotic arm. With the use of Bluetooth, the android phone sends a command for example the left command, to the pic controller, and the pic controller shall follow the First in First out algorithm in accepting command, so the first command that pic receive it will be executed by the robotic arm.

Keywords: Wheeled Robotic Arm Edge, Bluetooth Controlled, Collision Detection, Infrared