Helping Hand control by Android Phone

Abstract

Robot is a reprogrammable, multifunctional device which is primarily designed to do work like human such as pick and place, loading and unloading, surveillance, health care, industrial, aerospace application. Robots can perform dangerous and accurate work to increase the productivity as they can work 24 hours without rest. This paper deals with the design and control of automated vehicle type robot which can move in desired direction and captures pictures and videos of required location. An android application has developed using MIT App inventor and a Bluetooth communication is made with robot which interfaces with microcontroller to control its speed and direction. Aim of this work is to design and control the motion of robot using Bluetooth device of an Android phone.

INTRODUCTION

A robot is an electromechanical machine that is controlled by computer program to perform various operations. Industrial robots have designed to reduce human effort and time to improve productivity and to reduce manufacturing cost. Today human-machine interaction is moving away from mouse and pen and becoming much more pervasive and much more compatible with the physical world. Android app can control the robot motion from a long distance using Bluetooth communication to interface controller and android. Microcontroller ATMEGA328P-PU can be interfaced to the Bluetooth module though UART protocol and code is written in embedded C language. As per the commands received from android app the robot motion can be controlled. The output motion of a robotic vehicle is accurate and repeatable. Pick and Place robots can be reprogrammable and tool can be interchanged to provide for multiple applications. The purpose of this work is to design and implement an Android Controlled Bluetooth Robot which is used for Surveillance, home automation, wheelchairs, military and hostages Rescue applicant.

Block Diagram :