

HAND GESTURE VEHICLE - A SMALL PROTOTYPE

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ABSTRACT

In this modern era where everything is technical, human efforts are being reduced with machines. Every small work is tried to be done with the modern system, so is our project. Moving from one place to another can be done by using our model and does not need much man power. Moving up to some distance manually needs human efforts but this project is made keeping in mind of people who aren't able to do so. A person can move just by tiny movement of hands making it easy and convenient for a disabled person. The model can be use daily for day to day purpose making life much comfortable also providing easy sense of living. We developed an IOT based gesture control wheel chair which takes reading with the help of the accelerometer equipped by a human hand. The wheel chair can move in a desired direction by moving the hand in that specific direction, each gesture generates the values in its corresponding alliance. Accelerometer generates the values and send it to Arduino UNO, encoder joined to Arduino, it encodes the values and send to recipient through nrf24101 transmitter. Decoder position on the wheel chair will decrypt the merit and give it to the L298 motor driver, which will command the motors to proceed the vehicle accordingly. An ultrasonic sensor helps the model to detect an obstacle that comes on its way and find an alternate path to move. Rather than moving the model from hand signal a person can also control it with entreaty programming interface (API) by connecting it to model with the help of Bluetooth module. This project can also been enhanced by adding Line follow mode and voice control mode [1].

KEYWORDS: Arduino, Accelerometer, Bluetooth, Encoder, Decoder.

1. INTRODUCTION

IoT is an advanced automation technique which trade with artificial intelligence, sensor, networking, electronic etc. The system developed by IoT has larger transparency, authority, and performance. The Internet of Things describes the network of physical objects with the help of sensors, software for the purpose of exchanging the data and provide a proper connectivity. With the help of IOT we can make different projects that are beneficial for humans as well. The main motive of this project is to command the wheel chair using hand movement and various other methods. The human hand gesture activates the model with the help of an accelerometer. The signal accept from the hand movement are prepared than sent to the receiver through transmitter and the wheel chair perform the required motion, this way the wheel chair is build and the required task is finalized . Thus, this proposed model will be helpful by providing an ease of movement for physically challenged people. The wheel chair can be used in fields such as healthcare and use in a person's day to day life. It might be dangerous or difficult for a human to walk who is not physically fit or is physically challenged, so this model can help out these people this is also helpful in treating patients with physical disorder such that they should not be dependent on someone else omitting themselves as they can move the wheel chair on their own with simple hand gestures [3].