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Hand Gesture Controlled Wheelchair

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Abstract: According to the World report on disability by World health organization (WHO), about 15% of the world's population lives with some form of disability, of whom 2-4% experience significant difficulties in functioning. So, they needa wheelchair for their mobility. These days there are various wheelchairs available in the market such as joystick-controlled wheelchair, voice recognition-controlled wheelchair, head gesture-controlled wheelchair, whose cost range between 80,000 to 1,50,000. In this case disabled people faces more difficulty due to unidirectional use of wheelchair control system. To overcome this problem, we have tried to develop "Hand gesture-controlled wheelchair". This can be used in both hands and can be controlled by his/her companion, if the person is not able to operate it. This current work is implemented with Arduino based device such as Arduino Uno and Nano as Arduino is the open source electronic platform, easy to use in hardware and software section.

Keywords: Handicapped, Wheelchair, Arduino UNO, Arduino NANO, Gesture, Accelerometer, Gyroscope

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