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Voice Controlled Wheelchair

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Abstract: *Speech signals are the most important means of communication in human beings. Almost every conversation to interact is done by means of voice signals. Sounds and various speech signals can be converted into electrical form using a microphone. Physical disability can occur due to multiple reasons like injuries from accident, age related & health problems. Wheelchair is used to provide a mode of transportation for such disabled people with impairments in hands and legs. People with such issues like paralytic people find it difficult to operate the wheelchair manually or using a remote assembly. For such people the project is designed to work on voice-based commands so that the paralytic or disabled person can give direction commands by just speaking into the microphone given. The system also includes directional buttons for wheelchair control using remote. The system consists of an Arduino UNO based circuit interfaced with an voice recognition module that takes speech commands from the user converts this speech into digital data which is then debugged by the micro-controller to get directional commands. The entire system consists of 2 circuits i.e., the transmitter circuit and a receiver circuit. Transmitter circuit comprises of the voice recognition module and the receiver circuit consist of the motor and driver assembly. We use a NRF trans-receiver module for the communication. A 16*2 LCD is used to display the command which is given to the wheelchair.*

Keywords: Arduino UNO, Voicemodule, Driver circuit, Microphone.

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