

SOFTWARE INTERFACE

For connecting the voice signals with the Arduino, we had created an app named “Bluetooth”. The app sends the signals to the Arduino using the Bluetooth. It can be controlled manually by pressing the buttons or through voice commands.

The “Connect Bluetooth” button is to connect the app with the Bluetooth. Once connected it will show “Connected”.

When we give “**move forward**” command or press “**Forward**” button the transmitter of Bluetooth sends a character “**F**” to the receiver of Arduino. This will bring a clockwise movement of both the right and left motors. This makes the motor to move forward. Similarly for the rest of the commands or buttons. Similarly “**Stop**” command is used to stop the wheelchair. An LED control button is also provided. **LED ON** is used to turn on the LED and **LED OFF** is to turn off the LED.



RESULT

Design and implementation of the the smart wheel chair is completed. Now we have to test the implementation of the circuit. For this we initially powered the device by using a 9v battery separately for arduino and L298N.

After pairing our mobile phone with the bluetooth module connected to the arduino, we tried giving commands through the buttons through the android bluetooth app which was installed in our phones. Our device was moving in required directions as expected.

Sensor functionality of the device was tested and found to be properly working as required as any object that was sensed as an obstacle immediately caused our wheelchair to stop.

Then we moved on to giving voice commands through google voice detection software that was already preinstalled in our mobiles. And this feature was also working flawlessly as intended.

Also tested the functioning of the LED that was provided for improved visibility and this light on and off features using the voice commands were also found to be working.

The panic alarm feature which was implemented using a buzzer was successfully tested and found to be working.

