**SCOPE FOR FUTURE WORK**

The control technique for speed control of DC motor can also be extended to

* Induction motor speed control
* Three phase induction motor speed control.
* Energy efficient motor controlling.
* AC voltage regulator both single phase and three phase.
* For multiple motors speed control.
* Multi level inverters can also be implemented using this method
* Fuzzy Logic based controllers can also be implemented by using Arduino
* We can use Arduino for practical implementation of rectifiers, converters (choppers), Inverters etc. using Simulink support packages.
* Since Arduino Simulink support package has support for serial communication, I2C, SPI communication blocks, many can be interfaced to it and even we connect Bluetooth, RF, ZIG-BEE modules to Arduino. These are used to control the stand alone system

**CONCLUSION**

The project proposes a new technique for speed control of DC motor. In this project the speed control of DC motor is done by varying the duty ratio of the H-Bridge coverter.

Conventional methods are reliable and accurate but these methods involve complex circuitry and control. Even though conventional methods are used for speed control. This method provides smooth control technique for speed control even upto rotor standstill position with less power dissipation, simple circuitry easy control with low cost.

Need for effective speed control of DC motor has become an important scenario in recent years for implementing mobile robots and robotic arms etc. Hence the proposed technique for speed control can be used effectively.

This technique achieves result with utmost accuracy as in case of conventional methods, this has been proved in this project. This project proposes a technique for speed control and direction control of DC motor.

This technique of programming Arduino, eliminated the use conventional C-code used by Arduino. External mode in Simulink provided a great opportunity to log real time data and change parameters of real time system.

Thus we conclude that the technique of using Simulink and Arduino together has overcome all the drawbacks of existing systems.