**MPMCI Lab Mini-Project Abstract**

**TITLE: DC motor interfacing with 8051 microcontroller**

In our technically evolving world robotics has a wide scope of development. Mobility of various parts of machinery is interlinked with motor interfacing. In this project, DC motor is interfaced using a microcontroller so as to manipulate the functional operations of motor such as direction and speed control. This Interfacing enables us to access complex components easily and make their usage even more easier.

A microcontroller’s pin has maximum output current capacity of 15mA at 5V. Most of DC motors have power requirements that can’t be matched with the microcontroller and the microcontroller may be damaged due to back EMF generated by the motor. Hence, it is not a good idea to interface DC motor directly to the controller. So, we use motor driver circuit in between a DC motor and the microcontroller. In this project we use L298N motor driver IC along with 8051-microcontroller in order to achieve motor interfacing. In case of L298N, the motor supply is up to 46V and it can provide a current of 3A which makes it suitable to run the motor.

Motor drivers have inbuilt H-bridges that reverse the direction of rotation without rewiring. Motor driver and the micro controller pins are interconnected and are programmed to achieve the interfacing. 2 buttons are used in the circuit, one for clockwise motor rotation and the other for counter-clockwise rotation.

Applications of this project are it can be used in robotics, speed control of DC motor and in applications where we need to drive the high voltage motors.

***Done by :***

***SVN. Ramakanth (1602-19-733-118)***

***Y.Sathwick (1602-19-733-101)***