ABSTRACT

Nowadays, road accidents may occurred by mindless road users. The purpose of this project is to design and build a functional car dashboard unit to control the speed of car. The project need to design a car dashboard which is exhibited the speed range of the car and automatic stop sign signal when the car is moving.

I am preferred to use a dc motor to instead of car engine. It is because we need to cut the oil fuel if we need to stop the car. So, it is hard to be done in hardware presentation. On another reason is, when I calculated the speed through the programming in PIC16F877A, I found that the rpm speed range which generated by dc motor is same as the rpm speed of the car's wheels.

The car dashboard should be displayed visible in direct sunlight or at night with the design of LDR light sensor. The LEDs will be on when the luminosity is going to be dark. The motion sensor will be used to detect the obstacle or others car in road which pass over closely to our car. When the sensor is sensing some obstacle in front of the within 2 meter, it will shine the warning lights on the dashboard and send signal to the PIC.

The Infrared transmitter and receiver circuit will be used to calculate the speed of the dc motor. The signal passes through the circle board of the dc motor will calculated by the formula. Then, the speed will display on the LCD screen in dashboard. The speed will controlled by the PIC. When the speed is decreased by the PIC until a minimum value, we need to reset the PIC to compose the dc motor back to initial condition.