ABSTRACT

The project aspires at contriving speed and direction monitoring system of wind using a PIC microcontroller. The system consists of three major circuits namely wind sensor circuit, alarm circuit and additionally a serial mobile interface circuit. This monitoring system built of four DC motors attached with fan blades which are utilized as wind sensors, which will give a signal to the PIC Microcontroller whenever there is a flow of wind. PIC 16F877 microcontroller has employed to accomplish this project since it has an inbuilt analog to digital converter, which is used to convert the incoming voltage to its equivalent speed. The programming in the microcontroller is done in such a way to calculate the speed and direction of the wind and display it on a LCD. Additionally a mobile interface circuit is added which will send a text message to a preloaded mobile number when the wind speed exceeds 100rpm and at the same time the microcontroller activates the buzzer. When the user sends "Status" as a text message, the proposed design is capable of replying the current speed and direction to the requested mobile number.

The project proposed has been brought out thriving to meet the objectives and furthermore the system was persuaded out various test runs to verify its validity and its results. The project was successfully implemented on the board with two additional objectives. Moreover this design can be enhanced by utilizing battery rechargeable unit charged by solar and employing low cost sensors to detect speed and direction of wind.

Keywords*: Wind Speed and Direction, DC Motor, PIC Microcontroller, LCD Display, Buzzer Alert, Serial mobile interface*