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# Wireless Datalogging of WeatherStation on GUI


Project Advisor

RaufAli

Submitted by

S-Ali TurabBukhari - 081220075

Badar Munir-081220066

Department of Electrical Engineering

School of Science and Technology

University of Management and Technology

# Table of Contents

**CHAPTER 1**.....7
**INTRODUCTION**.....7

CHAPTER 2 ..... 9

**AIM & OBJECTIVES** ..... ERROR! BOOKMARK NOT DEFINED.

CHAPTER 3 ..... **ERROR! BOOKMARK NOT DEFINED.**

**DESIGN OBJECTIVES** ..... ERROR! BOOKMARK NOT DEFINED.
**3.1 INPUTS:** ..... ERROR! BOOKMARK NOT DEFINED.
**SENSORS** ..... ERROR! BOOKMARK NOT DEFINED.
*3.1.1 LM32:* ..... ***Error! Bookmark not defined.***
*3.1.2 HIH-4030:* ..... ***Error! Bookmark not defined.***
*3.1.3 Wind Vane:* ..... ***Error! Bookmark not defined.***
*3.1.4 Anemometer:* ..... ***Error! Bookmark not defined.***
*3.1.5 Rain Guage:* ..... ***Error! Bookmark not defined.***
**3.2 PROCESSING:** ..... ERROR! BOOKMARK NOT DEFINED.
**3.3 TIMING:** ..... ERROR! BOOKMARK NOT DEFINED.
**3.4 INTERRUPTS:** ..... ERROR! BOOKMARK NOT DEFINED.
**3.5 COMMUNICATION:** ..... ERROR! BOOKMARK NOT DEFINED.
**3.6 XBEE COMMUNICATION** ..... ERROR! BOOKMARK NOT DEFINED.
**3.7 OUTPUTS:** ..... ERROR! BOOKMARK NOT DEFINED.
*3.7.1 RS232 Interface:* ..... ***Error! Bookmark not defined.***
*3.7.2 LABVIEW:* ..... ***Error! Bookmark not defined.***

CHAPTER 4 ..... **ERROR! BOOKMARK NOT DEFINED.**

**MICROCONTROLLER** ..... ERROR! BOOKMARK NOT DEFINED.
**MICROCONTROLLER ATMEGA16** ..... ERROR! BOOKMARK NOT DEFINED.
**4.1 BRIEF DESCRIPTION** ..... ERROR! BOOKMARK NOT DEFINED.
**4.2 INTRODUCTION TO INTERRUPTS** ..... ERROR! BOOKMARK NOT DEFINED.
**4.2.1 EXAMPLE** ..... ERROR! BOOKMARK NOT DEFINED.
**4.3 TIMERS AND COUNTERS**.....19
*4.3.1 C-Code Example* ..... ***Error! Bookmark not defined.***
**4.4 ANALOG TO DIGITAL CONVERSION** ..... ERROR! BOOKMARK NOT DEFINED.
**4.5 USART COMMUNICATION USING THE AVR MICROCONTROLLER** ..... ERROR! BOOKMARK NOT DEFINED.
*4.5.1 Clock Modes:* ..... ***Error! Bookmark not defined.***
*4.5.2 Example* ..... ***Error! Bookmark not defined.***
*4.5.3 Example* ..... ***Error! Bookmark not defined.***
*4.5.4 Setting the baud rate:* ..... ***Error! Bookmark not defined.***
*4.5.5 Setting the Asynchronous mode:* ..... ***Error! Bookmark not defined.***
*4.5.6 Synchronous* ..... ***Error! Bookmark not defined.***
*4.5.7 Data Frame* ..... ***Error! Bookmark not defined.***
*4.5.8 Strange Reasons* ..... ***Error! Bookmark not defined.***
**4.6 EXAMPLE INITIALIZATION FOR THE USART OR UART:** ..... ERROR! BOOKMARK NOT DEFINED.
**4.7 TRANSMIT SOMETHING**.....29
*4.7.1 Transmit Example* ..... ***Error! Bookmark not defined.***
**4.8 RECEIVE SOMETHING** ..... ERROR! BOOKMARK NOT DEFINED.
*4.8.1 Receive Data Code and Explanation* ..... ***Error! Bookmark not defined.***

4.8.2 POLLING RESOURCES ..... 32

4.8.3 Interrupt Rsources ..... 32

CHAPTER 5 ..... **ERROR! BOOKMARK NOT DEFINED.**

**DIAGRAM/FLOWCHART/FIGURES** ..... ERROR! BOOKMARK NOT DEFINED.
**5.1 MAIN BLOCK DIAGRAM** ..... ERROR! BOOKMARK NOT DEFINED.
**5.2 PROCESS FLOW** ..... ERROR! BOOKMARK NOT DEFINED.
**5.3 SIMULATION DIAGRAM SHOWING VALUES ON LCD** ..... ERROR! BOOKMARK NOT DEFINED.
**5.4 PCB 1 SCHEMATIC DIAGRAM** ..... ERROR! BOOKMARK NOT DEFINED.
*5.4.1 Proteus 3D View of PCB 1* ..... ***Error! Bookmark not defined.***
*5.4.2 PCB 1 Design* ..... ***Error! Bookmark not defined.***
**5.5 PCB 2 SCHEMATIC** ..... ERROR! BOOKMARK NOT DEFINED.
*5.5.1 PCB Design 2* ..... ***Error! Bookmark not defined.****1*
*5.5.2 Proteus 3D View of PCB 2* ..... ***Error! Bookmark not defined.***
**5.6 GUI PICTURE** ..... ERROR! BOOKMARK NOT DEFINED.

CHAPTER 6 ..... **ERROR! BOOKMARK NOT DEFINED.**

**SOFTWARE IMPLEMENTATION&CODING.** ..... ERROR! BOOKMARK NOT DEFINED.
**6.1 SOFTWARE IMPLEMENTATION** ..... ERROR! BOOKMARK NOT DEFINED.
**6.2 LIST OF SOFTWARE'S USED IN THE PROJECT** ..... ERROR! BOOKMARK NOT DEFINED.
**6.3 C-PROGRAMING CODE** ..... **45**

6.4 ECONOMIC ANALYSIS ..... **ERROR! BOOKMARK NOT DEFINED.**

CONCLUSION ..... **ERROR! BOOKMARK NOT DEFINED.**

REFERENCE ..... 58

List of Figures

Figure 2 ..... **Error! Bookmark not defined.**
Figure 3 ..... **Error! Bookmark not defined.**
Figure 4 ..... 36
Figure 5 ..... 37
Figure 6 ..... 38
Figure 7 ..... 39
Figure 8 ..... 40
Figure 9 ..... 41
Figure 10 ..... 42
Figure 11 ..... **Error! Bookmark not defined.**3

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## Abstract

Our project aim is to do a real time data logging of weather station. A point to point topology has been adopted. ADC and interrupt based sensors has been used. Temperature, Humidity and Wind Vane sensors gives analog signals while Wind speed and Rain gives interrupt after a specific value. Lab view GUI has been created to monitor current values and store that values in a Microsoft excel sheet. To achieve the task of monitoring weather station indoor at any time, a pair of XBee is used for wireless communication. The main objective of our project is controlling and monitoring of a polyhouse farm, so as to ensure continuous maintenance of favorable crops. Now project is ready to use and we can do our protection of everything against weather.

# *CHAPTER 1*

# INTRODUCTION

**Introduction**:

A wireless data loggeris a device that record data over time. Data of the sensors,which would be in any physical or electrical parameter. Sensors will be placed outdoor and send the values to the computer using pair of XBee's. Sensors which we are using cannot directly send values to the computer because they are external sensors gives value in analog voltage or use interrupts. First, the values are to be converted in digital and then send to the computer by serial communication process. The main benefit of sensors which we are using is that we can program and configured values in a microcontroller according to our need.We can use eight analog based sensors at the same time because our microcontroller AVR Atmega16 has 8 ADC pins which can be configured and use at the same time. Two external interrupts can be used in our microcontroller.We have used C programing language because it was easy for us to understand if we compare it with other languages. This language is fast and efficient. In real world C language has been used almost in every type of software and operating system development.We have used Xbee module because it is full duplex. Most of the RF modules don't know whether the transmitted data is received or not at the receiver end. It is very good in transmitting data over range 100ft (30m) indoor and at outdoor 300ft (300m). It has data rate of 250kbps and transmitting power of 1mW. Due to intelligent device, we rely on it. Labview is used for GUI because it has very extensive support for accessing instrumentation hardware.