



Automated Time and Attendance System

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Abstract

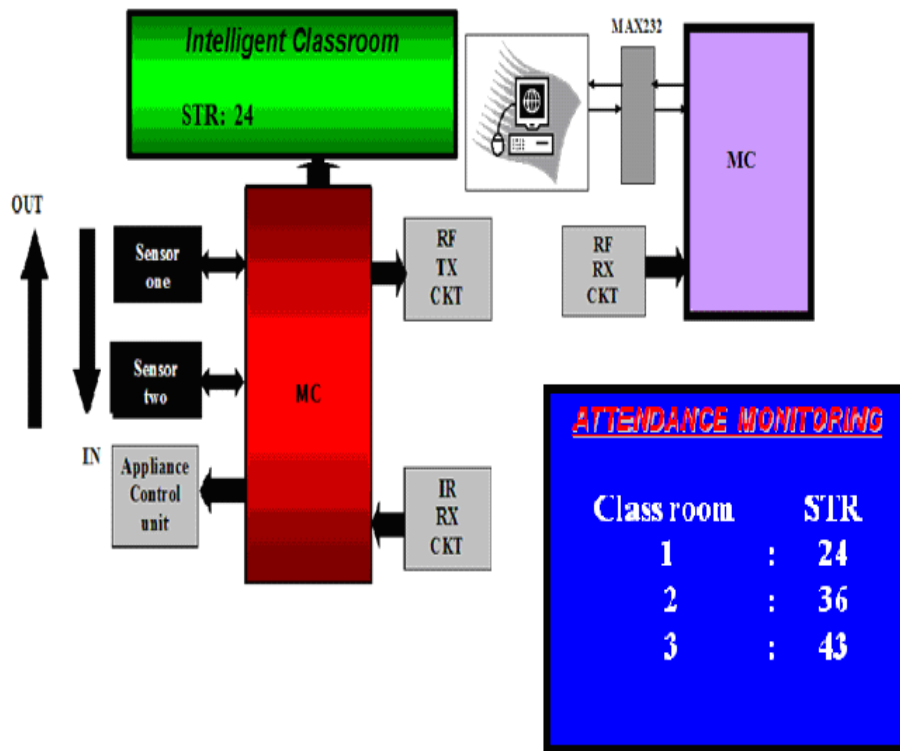
In this digital era, the Digital Image and Communication on Medicine images (DICOM) needs security enhancement as they are transmitted over the internet. In this work, a solution is proposed for the improvement in the security of DICOM images through a combined Watermarking/Hashing/Encryption (WHE) technique. In the developed work, the watermarking, the hashing and the encryption has been carried out using SHA-512, SVD and quaternion respectively. The implementation of quaternion encryption process follows counter mode of encryption. These mechanisms provide confidentiality, entity authentication and data integrity for the medical images. The experimental results provide a better reconstruction. In addition with security enhancement, the proposed encryption technique also solves the problem of time efficiency that most of the other encryption techniques such as Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) failed to achieve. The PSNR values of both the medical image and the watermark image after reconstruction are high which signifies the sensitivity of the medical data is not disturbed. The experimental result of developed scheme is evaluated for security and quality analysis in DICOM images which resulted well in terms of attacks.

Key words: security, DICOM, encryption

INTRODUCTION

OVERVIEW

The proposed system a real time application to automate and improve the accuracy of manual recording and reporting in real-time, the Time and Attendance System in Educational institutes. A Log is administrated in the Database, which consist of timely information of the Tag's Enter/ Exit. From the log database, total Stay-In time of the Student in the class is calculated, if the time is equal to required time he/ she is entered "Present" else marked "Absent" in the Database. Along with this attendance, 'Faculty Attendance' is also marked in the Database. The Unauthorized/ Unregistered marking of Student/ Faculty/ Administrator is also checked. The proximity sensors are used to maintain the power management. To avoid Human Intervention in the System, Windows Service is created and used. Services enable us to create long-running executable applications that run in their own Windows session, which then has the ability to start automatically.



Description of the Project

CLASS ROOM UNIT

The microcontroller in class room is AT89C51. The RF receiver receives the data from the ID unit. The frequency is 433 MHZ. In class room the power management controlled. When then person enter then the appliance will be switched on by the relay ULN 23. The input is 12 volt and the output is 230 volt power supply. The encoder converts the serial communication into parallel and these data are sending via RF transmitter to HOD. The LCD will display the status of the sensor.

HOD UNIT

In HOD unit, the microcontroller used is 16F877A. This controller consist of 40 pins. The RF receiver receives the data from the class room unit. The operating frequency is 20 MHZ. The decoder (HT12D) will decode the data from the unit. The PIC controllers consist of two types of registers which are special function registers and the control register. They will control the whole system. The high performances of RISC are used. The mobile is connected to the system. The voltage is 3 volt. The MAX232 serial communication interface is used to up convert from microcontroller to PC from 5 volt to 12 volt. The Fbus protocols are used.

OBJECTIVE

- a. Marking attendance.
- b. Marking unauthorized entry.
- c. Power management.

NEED FOR PROJECT

For many businesses, automating the collection of employee attendance data—when employees begin and end their shifts—is still a manual process. Even businesses that have automated or

computerized processes such as scheduling, inventory, purchasing, general ledger and payroll processing still use manual methods—such as time cards or attendance sheets—to collect time and attendance data.

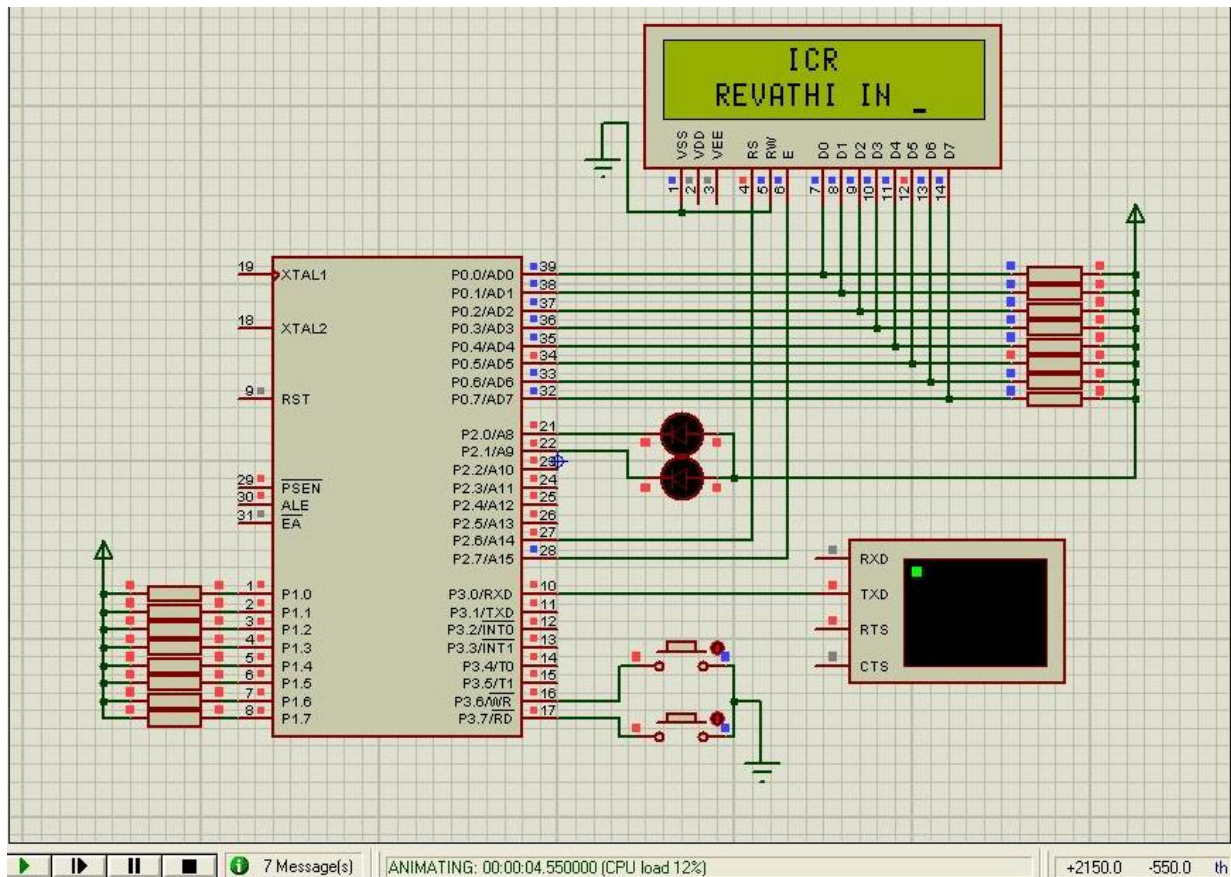


Figure 6.1 Keil Programming Window

You may double-click on an error or warning to immediately begin editing the file with the problem---even while μ Vision continues compiling your source files in the background, the line number for errors and warnings are synchronized even after you make changes to the source file(s).

IMPLEMENTATION AND SCREEN SHOTS

6.1 PROTOCOL MODULE

In this module the code is written to feed details about the surrounding environment in the memory IC AT89C2051 and read those data whenever needed. I2C helps in creating serial communication in order to transfer of signal data from LCD to the database.

6.2 SCREEN SHOTS

Keil μ v compiler

As μ Vision compiler and assembler your sources files, status information as well as errors and warnings appear in the output window.

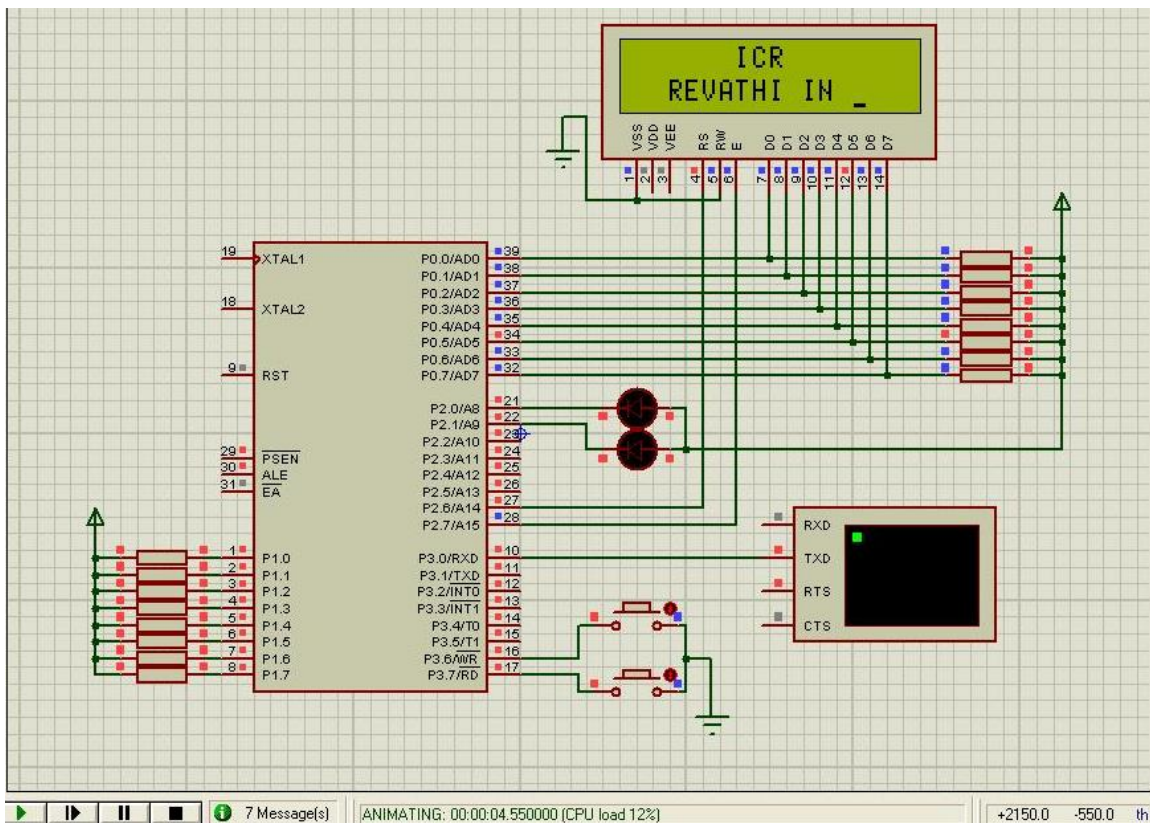


Figure 6.2 Class Room Automation

CONCLUSION

The Paper proposed a novel usage of Automation classroom. Experimental results proved that the Processing by the Windows Service was 100% exact and timely. There is no reason to wait to take advantage of RFID technology and its benefits. highly functional and supported by current and emerging standards. RFID can be used to improve accuracy, speed and responsiveness. Most organizations are implementing this System and we hope that the result of this paper will also contribute towards its development in educational Institutes.

FUTURE ENHANCEMENT

The RFID System makes it possible to monitor the movement of Tagged users and record their Real time data and pass it to processing system to maintain a Log. Using the recorded information, this system is capable of (1) Marking Attendance (2) Marking Unauthorized Entry (3) Probation Analysis (4) Attendance Weightage Calculations (5) Submission of Warnings via Emails (6) SMS to Parents to keep them updated about their child's progress in the institute (7) A dedicated website for the availability of the processed data for the users of the system.

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