

A Novel Design of Low Cost Integrate Intelligent Security System for Industrial Surveillance

M. Kamaraju

VLSI & Embedded Systems Group

Dept. of E.C.E, Gudlavalleru Engineering College, Gudlavalleru -521356, INDIA

madduraju@yahoo.com

Abstract—Managing people are a difficult task for most of the organizations, and maintaining the attendance record is an important factor in people management. When considering industries, taking the attendance of staff on daily basis and maintaining the records is a major task. Manually taking the attendance and maintaining it for a long time adds to the difficulty of this task as well as wastes a lot of time. In this paper Integrate Intelligent System for industrial surveillance is proposed to maintain attendance cum stock register entry that automates the whole process in an industry. In this system, data can be transmitted by using RF technology. It does not allow any unauthorized person to sign any where, any time, and it's also supports maintaining of material stocks. The whole system is developed using ATMEL Microcontroller; Programming is implemented by VB & Microsoft access as front end.

solve this problem proposed systems Integrate Intelligent Security System for Industrial Surveillance with WAP can helps, & gives security for Attendance monitoring & Stock register entry. In this proposed system developed based on the RF Technology. With this development of RF frequencies [7] and enabled system plays a vital role in Industrial areas, changes the atmosphere of Industrial. Here it will maintain the regular attendance of worker with low cost. When an employee can enter their signature with handheld device, Internally the timer is fixed, here the may be 9.00 AM or 9.30AM it's depends upon the company when ever an employee can enter their signature if they entered in time the system will accepts other wise it will rejects and treated as absent [8].

I. INTRODUCTION

Every institute has certain criteria for Staff regarding their attendance in Industry. That is why keeping the accurate record of attendance is very important. There are different methods of maintaining attendance of an employ i) Attendance is usually noted using paper sheets and the old file system, this approach is being used from a long time.

The main problems which any company or any institute facing is the attendance monitoring, and Stock register entry. When ever the person who maintains the stock register can absent then any body does not know what's the status of Stocks in that Industry, another problem is Attendance, there is an chance to blame the industry by signing the late entry or signing the unauthorized person [2].ii) Employ attendance can be maintained by computer-based management system, this system that is capable to record the employ's attendance using interactive input, generating the reports [3]-[4].

iii) Attendance register is based on fingerprint attendance. In this system the attendance has been taken from the staff placing his/her finger on the fingerprint sensor. On identification of employ's attendance record is updated in the database and he/she is notified through LCD screen. No need of all the stationary material and special personal for keeping the records [5].the main draw backs of fingerprint scanning are it requires keeping the finger print scanner in front of each & every section. Its cost will be very high. iv) System is based on the face recognition, takes the attendance automatically using face recognition. it is difficult to estimate the attendance precisely using each result of face recognition independently because the face detection rate is not sufficiently high[6]. To

II. PROPOSED SYSTEM

Integrate Intelligent Security System for Industrial surveillances, as name suggested because it will gives security for employee & Industry, by entering the 4 bit data, that data can be integrated with Integrate processor, which will process the 4bit data which an employee can enter by hand held system. Here we are using key pad as a key board. This is the I/p device to enter 4 digit codes. Every component can be coded with 4 digit unique number. For exam: bolt -1001, nut-1002.With this Key pad material unique code should be entered by the person who is coming with the stock. While coming to the attendance maintenance, a separate hand held module (shown in Fig.1) can be provided for entering the code; every employee can have their own codes. For exam: Rajeswari-2425, Kushal – 243 the employee can enter these codes when they are assigning on the attendance, with the hand held device helps to the employee to enter their code. The data which are coming from the key pad encoded using encoder. The function of encoder is n i/p & one o/p. This encoder accepts code of the employees & it will encode that code.

In Stock register entry it will accepts the components which the person entered by through keypad & encodes that components. The o/p of the encoder is given to the decoder block. It's a 4 bit decoder & produces the o/p. The general function of decoder is one i/p & n o/p. The data base of an employ can be maintained in this microcontroller. when ever an employee enter their code by the hand held device that code will encoded & after it will be decoded that o/p is given to the microcontroller. Now microcontroller matches the code

with already stored code and a time guard is also be runs internally in the controller, it will checks the time too.

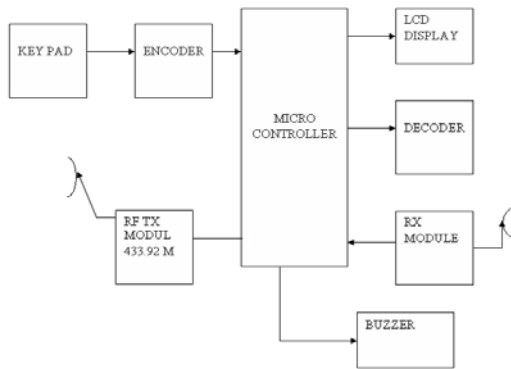


Fig. 1. Block diagram of Hand held module

If the correct employee entered their code in correct time then this controller accepts, other wise it will keeps absent automatically. Display the data which are stored in the microcontroller & also displays updated attendance& updated stocks list too. The RF Transmitting module can be used to transmit the data which are coming from micro controller. Provided Separate antenna for transmitting & receiving the information. By using the Integrate Processor(shown in Fig.2) is connected to the PC When ever the information is transmitted from transmitters to the receiver acknowledge is also be sent with that information. To indicate MD that new stock has came, here the Buzzer will be used.

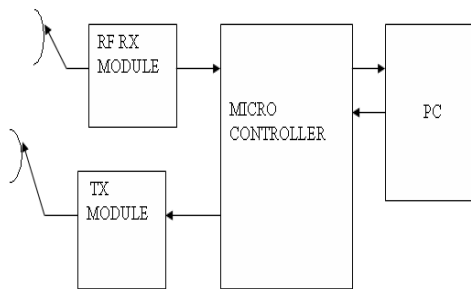


Fig. 2. Block diagram of Integrate Processor module

III. IMPLEMENTATION

This system is implemented in two ways one is hard ware implementation & another one is soft ware implementation.

A. Hardware

1) *Hand held module:* An employee can types their 4-bit code from the hand held kit, data can be send through UM91215B which act as a tone generator. The tone signal or encoded signal can be decoded by IC8870. The decoded output is given to the micro controller (AT89C51). All the

process can be done by this processor only. It will transmit the digital or decoded signal to HT12E as a converter which converts the digital signal into analog signal. This signal can be transmitted through TX1 to RX1 of pc side kit. Signal which is coming from TX1 is received from the RX1. There is an interface connection of pc with pc side kit through RS232 cable. The x employ related 4-bit data can be displayed on the pc. This is one direction of operation. The another direction is the TX2 sends the acknowledgement to RX2 of the hand held kit. When ever the hand held kit receives the data it will give a big sound or the buzzer rings.

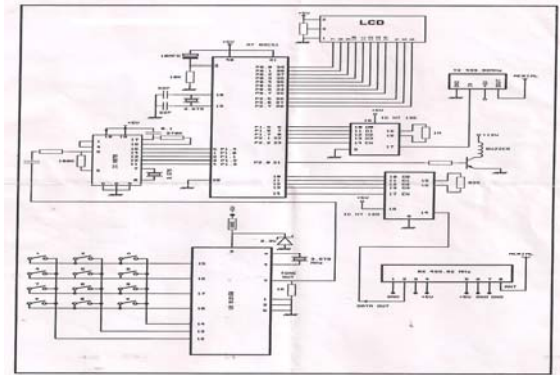


Fig. 3. Schematic diagram of Hand held System

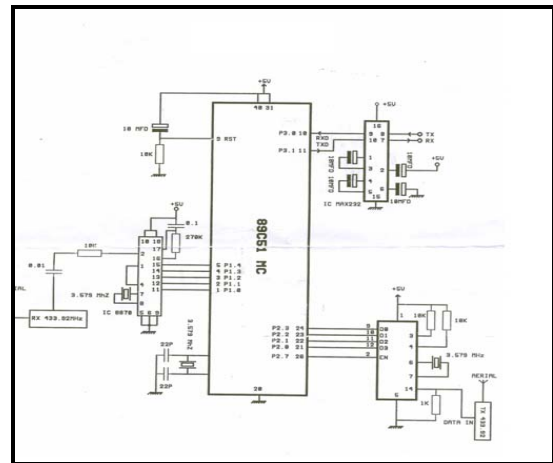


Fig. 4. Schematic diagram of & Integrate processor

2) *System module:* This system manages to record staff attendance electronically using microcontroller & VB software. This system is developed to replace the Finger print based attendance [1] system which is tedious and troublesome. Besides that, the system also has the record finding and attendance record notification through the code which is given to the employee, the system can send auto-generated report to management with updated information the employees who are coming late can. Warned by the manager based on this system reports. The working process of this system is showed in system module (Fig. 5).

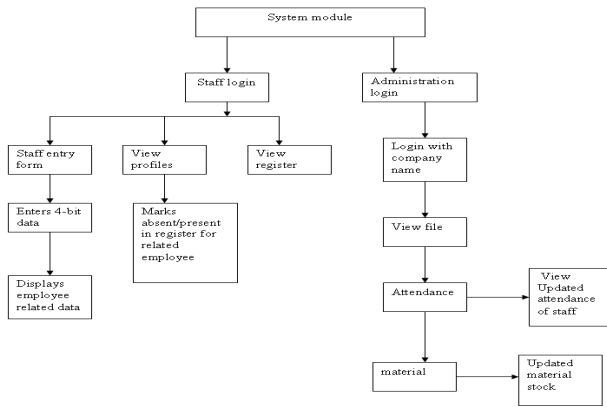


Fig. 5. System module

B. Software

By using VB software, implemented proposed flowchart (Fig. 6) that can maintaining the total attendance of staff & material stocks.

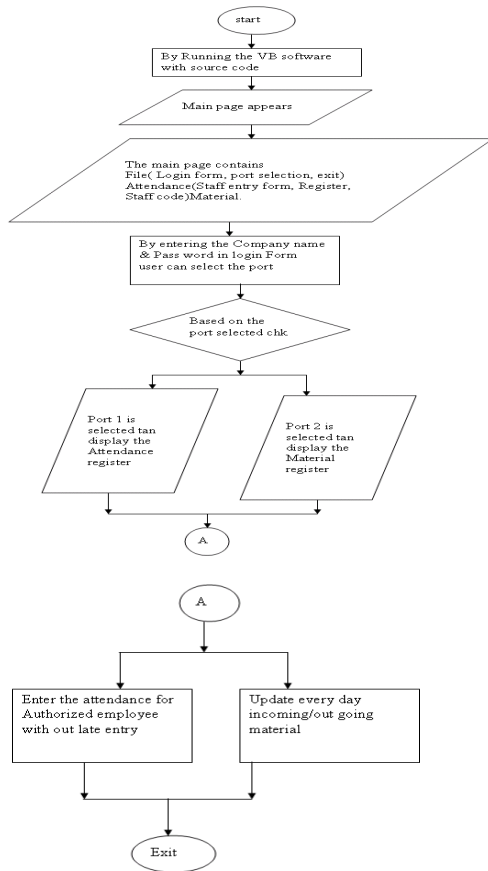


Fig. 6. Flow chart of system process

IV. RESULTS

This System Works with VB software to maintain Attendance Registers of Employee when ever the Employee enters their code. The signals can be passed to the decoder by

tone generator. Decoder converts that tone signal into binary format & send to AT895C1 micro controller. The microcontroller send these information to the integrate processor through transmitter. Transmitted signals can be received by the receiving section in Integrate processor. Depending upon the input sent, it will generate the out put. With this proposed system is 65,536 employs attendance information can be kept.



Fig. 7. Photograph of Hand held Kit

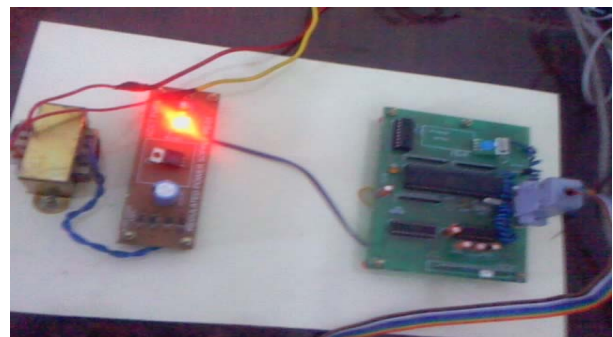


Fig. 8. Photograph of Integrate processor

Here this is the hand held system, which an employee can enter their code by using this key board which is provided it. This hand held system consisting of one transmitter & one receiver which will helps to transmit data to integrate processor, and receives data from integrate processor. When ever it will receives the data it will gives a big buzzer. Here the Integrate processor will receive the data which is coming from the handheld system. After receiving the data it will process the software & keeps automatic attendance for the particular related employee. When ever an employee can switch on their system, allows the employee to enter their pin number.



Fig. 9. Employ code displaying on LCD

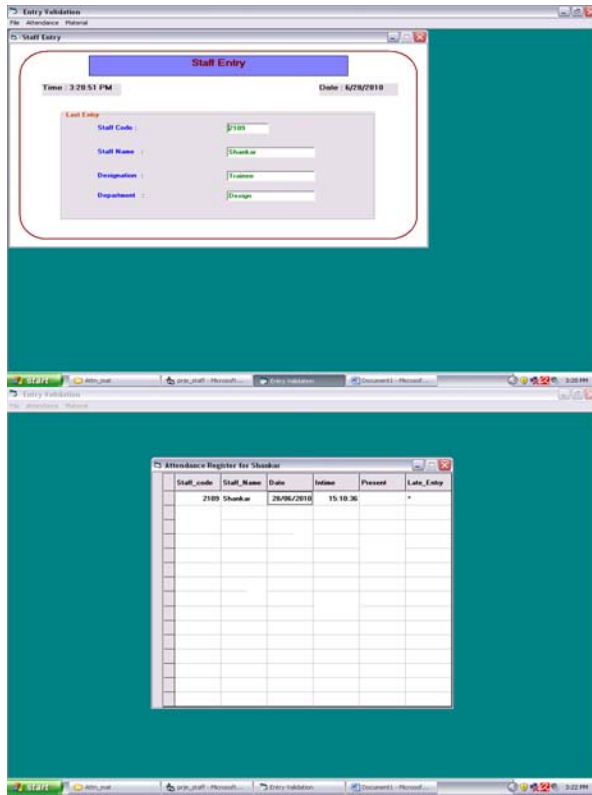


Fig. 10. Staff profile forms

Staff profile forms (Fig. 10) which gives the total attendance of a particular employee .Displayed on the monitor screen after an employee can enter their code with late timing.

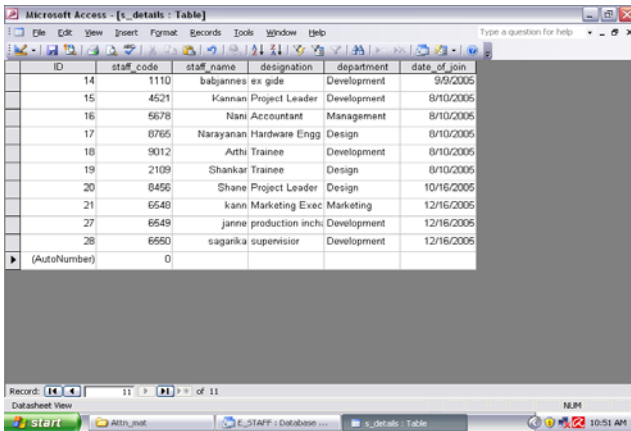


Fig. 11. Staff entry table

Staff entry table (Fig. 11) it's possible to maintain 65,536 staff details with this table. Material entry table (Fig. 12) shows the total stock of materials in industry.

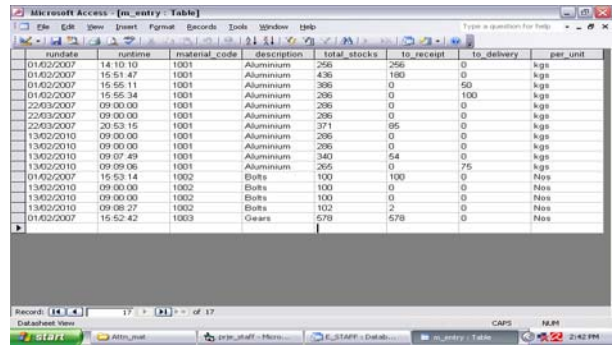


Fig. 12. Material entry table

V. CONCLUSION

This proposed system introduces an efficient attendance maintenance system. Code which is given to a particular employee & maintain attendance register based on WAP & Micro controller. This method is accurate, faster & efficient execution of maintaining attendance to do. In addition, examine the attendance maintenance with 25 members during the testing time. This system is cable of handling 65, 536 employees in an industry. The performance evaluation of proposed system is done by using VB6.0 & microcontroller (AT895C1) for database and the used time taken for verification was very less and verification rate is higher and accuracy is near about 92%.

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