

Declaration

I hereby declare that this project report entitled “**RFID BASED ATTENSENCE SYSTEM USING GSM**” *by* **RAM BHAROSH RAUT 10/FET/EC(S)/2102, GHANSHYAM KUMAR 10/FET/EC(S)/2100, LOKESH MEHLAWAT 10/FET/EC(S)/2095, RAHUL BISHNOI 10/FET/EC(S)/2082** being submitted in partial fulfilment of the requirements for the degree of Bachelor of Technology in **ECE** under Faculty of Engineering & Technology of Manav Rachna International University Faridabad, during the academic year 2010 - 2014 is a bonafide record of our original work carried out under guidance and supervision of **Mr RAVI GOEL, , Professor , ECE DEPARTMENT** and has not been presented elsewhere.

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This allows a great amount of legacy code to be reused without modification in new applications.

While considerably less powerful than the newer AT90 series of AVR RISC microcontrollers, new product development has continued with the AT89 series for the aforementioned advantages. More recently, the AT89 series has been augmented with 8051-cored special function microcontrollers, specifically in the areas of USB, IC(two wire interface), SPI and CAN bus controller. While AT89C51 has two timers (Timer0 & Timer1), AT89C52 also has Timer2. Corresponding to Timer2, there are extra SFRs (Special Function Registers) T2CON & T2MOD. Also there are registers RCAP2H & RCAP2L to configure 16 bit Capture & Auto-reload modes of Timer2.

Features

Compatible with MCS-51™ Products

4K Bytes of In-System Reprogrammable Flash Memory

Endurance: 1,000 Write/Erase Cycles

Fully Static Operation: 0 Hz to 24 MHz

Three-Level Program Memory Lock

128 x 8-Bit Internal RAM

32 Programmable I/O Lines

Two 16-Bit Timer/Counters

Six Interrupt Sources

Programmable Serial Channel

Low Power Idle and Power Down Modes

Low-power, high-performance CMOS 8-bit microcontroller with 8KB of ISP flash memory. The device uses Atmel high-density, nonvolatile memory technology and is compatible with the industry-standard 80C51 instruction set and pin out. On-chip flash allows the program memory to be reprogrammed in-system or by a conventional nonvolatile memory programmer. This powerful microcontroller is suitable for many embedded control applications. 8051 is the name of a big family of microcontrollers. The device which we used in our project was the 'AT89S52' which is a typical 8051 microcontroller manufactured by Atmel™. The block diagram provided by Atmel in their datasheet that showed the architecture of 89S52 device seemed a bit complicated. A simpler architecture can be represented below.



Fig -3 Pin diagram of microcontroller

then transistor is called P-N-P transistor and vice versa transistor is called N-P-N transistor.

10) Power strip

A Power strip is a block on the end of a power cable with a number of sockets usually 3 or more often arranged in a line.

11) LCD & LEDs

LCD is the most common device attached to a microcontroller. Some of the most common LCDs connected are 16*2 and 20*2 displays. This means 16 characters per line by 2 lines and 20 characters per line by 2 lines. LED is basically a P-N junction diode particularly designed to emit visible light. The LEDs are available in red, green and yellow colors.

12) Connecting wires

Connecting wires are required for assembling these components on the PCB.

Specification of Software used in this project

Keil Micro vision software is used developing and compiling program in this project. Program is first compiled in Keil and then burned into microcontroller.

the Atmel AT89S52 is a powerful microcontroller, which provides a highly flexible and cost-effective solution to many, embedded control applications. The AT89S52 provides the following standard features: 8K bytes of Flash, 256 bytes of RAM, 32 I/O lines, Watchdog timer, two data pointers, three 16-bit timer/counters, a six-vector two-level interrupt architecture, a full duplex serial port, on-chip oscillator, and clock circuitry. In addition, the AT89S52 is designed with static logic for operation down to zero frequency and supports two software selectable power saving modes. The Idle Mode stops the CPU while allowing the RAM, timer/counters, serial port, and interrupt system to continue functioning. The Power-down mode saves the RAM contents but freezes the oscillator, disabling all other chip functions until the next interrupt.

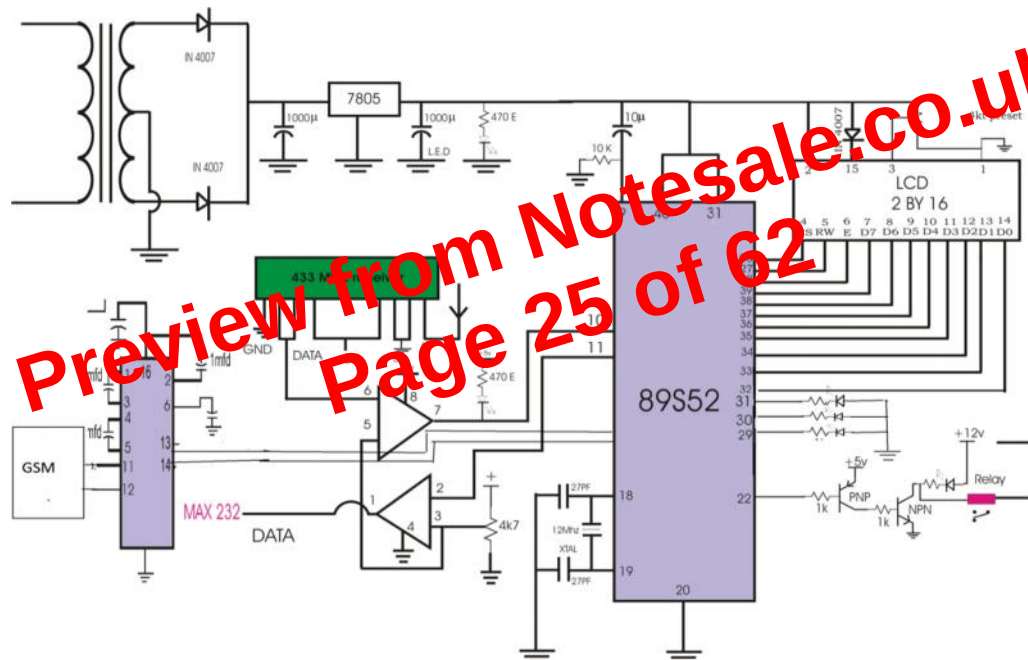


Figure-6 Circuit diagram of RFID based attendance system using GSM

In this particular project we use 89s52controller to interface all input and output devices. With the help of this project we can on/off up to 4 different appliances with the help of different sms format. We use 5 volt regulated supply for the LCD display and max 232 IC. For this purpose we use 7805 regulator with filter capacitor to provide a ripple free regulated voltage to controller

CHAPTER 5

5.1 Verification

The project has been fully verified and checked. The program burned into the 8952 microcontroller when plugged into the PCB is interactive with the other components already placed in the circuit.

5.2 Validation

What we wanted in the project is to have control over the extension board. At last we were finally able to control the extension board via GSM modem, MAX232 and 8952 microcontroller. Further we will be able to connect whatever appliance we want to control by simply cabling it to extension board. The validity of the electronic components deployed in the respective circuit is reasonable and genuine to our knowledge.

5.3 Evaluation

Simple evaluation can take place via what we wanted out of RFID based attendance system using GSM and what we illustrate you are the same thing. We showed how simple automation can be introduced from a small scale to large industries, manufacturing sectors, technical areas etc.

Via using modern communication standard i.e. GSM we are able to control the electronic areas. Our project has the mixture of electronics & communication and this blend is useful to achieve automation in a developmental manner. Evaluation and judgment is only possible when you will seek the working model having communication standards like GSM and electronic components like Relays, LCDs, GSM modem, smart phone, Transistors, Diodes, and LEDs etc. The SMS send through smart phone is trans received by GSM modem containing a SIM card. The GSM modem is connected to 8952 Microcontroller via MAX232 IC. LCDs and LEDs are working properly for indication purposes. LCD shows regular messages time to time based on given input respectively. In this project in future we can add a multimedia camera to see what is going inside the home by sitting in office or somewhere. With Home Automation, the consumer can select and watch cameras live from an Internet source to their home or business. Security cameras can be controlled, allowing the user to observe activity around a house or business right from a Monitor or touch panel. Security systems can include motion sensors that will detect any kind of unauthorized movement and notify the user through the security system or via cell phone. This category also includes control and distribution of security cameras (see surveillance).

```
void recieve() //Function to recieve data serialy from RS232
```

```
{
```

```
    unsigned char k;
```

```
    for(k=0;k<6;k++)
```

```
    {
```

```
        while(RI==0);
```

```
        read_id[k]=SBUF;
```

```
        RI=0;
```

```
    }
```

```
    read_id[k]=*0;
```

```
}
```

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```
void aknowledge() //acknowledge condition
```

```
delay(40000);
```

```
delay(40000);
```

```
lcd_cmd(0x01);          //Place cursor to first position of first line
```

```
lcd_string("PLEASE SCAN CARD");
```

```
while(1)
```

```
{
```

```
    RI=0;
```

```
    recieve();
```

```
    lcd_cmd(0x01),
```

```
    for(k=0; k<16; k++)
```

```
    {
```

```
        store_id[k]=read_id[k];
```

```
        /*
```

```
            if((read_id[k]/16)<10)
```

```
            {
```

```
                lcd_data((read_id[k]/16)+0x30);
```

```
            }
```

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```

        lcd_string(" ID ALREADY ");

        lcd_cmd(0xC0);          //Place cursor to first position of first line

        lcd_string(" REGISTERD ");

        red=1;

    }

    delay(40000);

    delay(40000);

    lcd_cmd(0x01);          //Place cursor to first position of first line

    lcd_string("PLEASE SCAN CARD");

    green=0;
    red=0;

}

else if (id!=0x00)

{

        lcd_cmd(0x01);          //Place cursor to first position of first line

        lcd_string(" ATTENDANCE ");

        lcd_cmd(0xC0);          //Place cursor to first position of first line

```