#include <18f4550.h>

#DEVICE ADC=10

#fuses INTRC\_IO,NOPROTECT,BROWNOUT,NOMCLR,NOCPD,NOWDT,NOPUT,FCMEN

#use delay(clock=8000000)//,restart\_wdt)

#use rs232(baud=9600, xmit=PIN\_C6, rcv=PIN\_C7)

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//

#define BUZZ\_ON OUTPUT\_HIGH(PIN\_A0);

#define BUZZ\_OFF OUTPUT\_LOW(PIN\_A0);

#define RS\_HI OUTPUT\_HIGH(PIN\_B5);

#define RS\_LO OUTPUT\_LOW(PIN\_B5);

#define EN\_HI OUTPUT\_HIGH(PIN\_B4);

#define EN\_LO OUTPUT\_LOW(PIN\_B4);

#define D4\_HI OUTPUT\_HIGH(PIN\_B3);

#define D4\_LO OUTPUT\_LOW(PIN\_B3);

#define D5\_HI OUTPUT\_HIGH(PIN\_B2);

#define D5\_LO OUTPUT\_LOW(PIN\_B2);

#define D6\_HI OUTPUT\_HIGH(PIN\_B1);

#define D6\_LO OUTPUT\_LOW(PIN\_B1);

#define D7\_HI OUTPUT\_HIGH(PIN\_B0);

#define D7\_LO OUTPUT\_LOW(PIN\_B0);

#define RLY1\_ON OUTPUT\_HIGH(PIN\_D0);

#define RLY1\_OFF OUTPUT\_LOW(PIN\_D0);

int8 y = 0;

int8 ucbendf = 0;

int16 uiGas\_adc = 0;

int8 ucvar1 = 0;

int8 ucuser\_f = 0;

int16 ui5SecCnt = 0;

int16 uiprev\_xaxis = 0;

int16 uiprev\_yaxis = 0;

int16 uiprev\_zaxis = 0;

int8 ucflowf = 0;

int8 ucdust3 = 0;

int8 ucvibretflag = 0;

int8 ucir = 0;

int8 ucwl = 0;

int8 ucmoist = 0;

int8 ucDecimal\_Array[18] = {0,0,0,0,0,0,0,0,0,0,0,0};

int8 ucASCII\_Array[18] = {0,0,0,0,0,0,0,0,0,0,0,0};

BYTE CONST ucBLANK\_Array[17] = " ";//1

BYTE CONST ucWelcm\_1\_Array[17] = "MINE SAFETY SYSTEM";

BYTE CONST ucWelcm\_2\_Array[17] = "USING IOT ";//23

BYTE CONST ucCITY1\_Array[17] = "TEMP: GAS: ";//24

BYTE CONST ucCITY2\_Array[17] = "WL: FIRE: ";//25

BYTE CONST ucCITY3\_Array[17] = "HIGH TEMP ALERT ";//25

BYTE CONST ucCITY4\_Array[17] = "GAS LEAKAGE ALERT ";//25

BYTE CONST ucWARD1\_Array[17] = "FIRE ALERT ";//24

BYTE CONST ucWARD2\_Array[17] = "WATER LEVEL ALERT";//25

void Send\_Sms\_Action(void)

{

sel\_ON;

delay\_ms(300);

// if(ucsendsmsf == 1)

{

ucsendsmsf = 0;

printf("AT+IFC=1,0\r\n");

delay\_ms(1000);

printf("AT+CMGF=1\r\n");

delay\_ms(2000);

//printf("AT+CMGS=\"+919689039874\"\r\n");//prj transformer

printf("AT+CMGS=\"+919763413415\"\r\n");//919096350078

delay\_ms(2000);

// printf("AT+CMGF=1\r\n");

if(ucwaterf == 1)

{

printf("WATER LEVEL ALERT");

putc('\r');

putc('\n');

}

if(ucposition == 1)

{

printf("GAS LEAKAGE ALERT");

putc('\r');

putc('\n');

}

if(ucwl == 1)

{

printf("FIRE ALERT");

putc('\r');

putc('\n');

}

if(ucTEMPF == 1)

{

printf("HIGH TEMP ALERT");

putc('\r');

putc('\n');

}

delay\_ms(100);

delay\_ms(100);

putc(0x1A);

delay\_ms(1550);

delay\_ms(1550);

index = 0;

ucsendsmsf = 2;

//.. ui1SecCNT = 0;

}

}

void main(void)

{

// int8 ucVar = 0;

SETUP\_ADC(ADC\_OFF); //disable ADC i/p

SETUP\_ADC\_PORTS(NO\_ANALOGS); //disable analog i/p

setup\_comparator(NC\_NC\_NC\_NC);

SETUP\_CCP1(CCP\_OFF);

SET\_TRIS\_A(0x3E);//0111 1100

SET\_TRIS\_B(0x00);//0000 0111

SET\_TRIS\_C(0x80);//1000 0010

SET\_TRIS\_D(0xF0);//1111 0001

SET\_TRIS\_E(0x07);//0000 0111

SETUP\_TIMER\_1(T1\_INTERNAL|T1\_DIV\_BY\_8); //enables timer1

SET\_TIMER1(40536); // timer of 200ms (64286);//10msec

enable\_interrupts(INT\_RDA);

ENABLE\_INTERRUPTS(INT\_TIMER1);

ENABLE\_INTERRUPTS(INT\_EXT);

LCD\_WRITE\_Const\_ARRAY(1,0,17,16);//Blank

LCD\_WRITE\_Const\_ARRAY(2,0,18,16);//Blank

while(1)

{

if(uiLcd10Sec == 1)

{

uiLcd10Sec = 50;

INIT\_LCD();

LCD\_WRITE\_Const\_ARRAY(1,0,17,16);//Blank

LCD\_WRITE\_Const\_ARRAY(2,0,18,16);//Blank

}

if(INPUT(PIN\_A4) == 1)

{

ucwl = 1;

}

else

{

ucwl = 0;

}

Show\_Float\_No\_ONLine\_At\_Offset\_IntDig\_FltDig(2,14,ucwl,1,0);

ADC\_CALL(1);//memss

uiprev\_yaxis = (current\_adc\_val/11);

Show\_Float\_No\_ONLine\_At\_Offset\_IntDig\_FltDig(1,12,uiprev\_yaxis,3,0);

ADC\_CALL(2);//bend sensor

uimoistadc = current\_adc\_val/2.3;

Show\_Float\_No\_ONLine\_At\_Offset\_IntDig\_FltDig(1,5,uimoistadc,2,0);

ADC\_CALL(3);//WATER LEVEL

uiGas\_adc = (current\_adc\_val);

// Show\_Float\_No\_ONLine\_At\_Offset\_IntDig\_FltDig(2,3,uiGas\_adc,4,0);

if(uiGas\_adc < 100)

{

ucdust2 = 0;

}

else if((uiGas\_adc >= 100)&&(uiGas\_adc <400))

{

ucdust2 = 10;

}

else if((uiGas\_adc >= 400)&&(uiGas\_adc < 500))

{

ucdust2 = 20;

}

else if((uiGas\_adc >= 500)&&(uiGas\_adc < 550))

{

ucdust2 = 30;

}

else if((uiGas\_adc >= 550)&&(uiGas\_adc < 600))

{

ucdust2 = 50;

}

else if((uiGas\_adc >= 600)&&(uiGas\_adc < 610))

{

ucdust2 = 60;

}

else if((uiGas\_adc >= 610)&&(uiGas\_adc < 630))

{

ucdust2 = 80;

}

else if((uiGas\_adc >= 630)&&(uiGas\_adc < 6500))

{

ucdust2 = 90;

}

else if(uiGas\_adc < 650)

{

ucdust2 = 100;

}

Show\_Float\_No\_ONLine\_At\_Offset\_IntDig\_FltDig(2,3,ucdust2,3,0);

if(ucwl == 1)

{

BUZZ\_ON;

delay\_ms(500);

BUZZ\_OFF;

RLY1\_ON;

LCD\_WRITE\_Const\_ARRAY(1,0,21,16);//Blank

delay\_ms(500);

BUZZ\_ON;

delay\_ms(500);

BUZZ\_OFF;

Send\_Sms\_Action();

}

else

{

RLY1\_OFF;

// ucwaterf =0;

}

if(ucdust2 > 50)

{

BUZZ\_ON;

delay\_ms(500);

BUZZ\_OFF;

LCD\_WRITE\_Const\_ARRAY(1,0,22,16);//Blank

ucwaterf =1;

Send\_Sms\_Action();

}

else

{

// RLY1\_OFF;

ucwaterf =0;

}

if(uiprev\_yaxis > 40)

{

ucposition = 1;

BUZZ\_ON;

delay\_ms(500);

BUZZ\_OFF;

LCD\_WRITE\_Const\_ARRAY(1,0,20,16);//Blank

Send\_Sms\_Action();

}

else

{

ucposition = 0;

}

if(uimoistadc > 45)

{

ucTEMPF = 1;

BUZZ\_ON;

delay\_ms(500);

BUZZ\_OFF;

LCD\_WRITE\_Const\_ARRAY(1,0,19,16);//Blank

Send\_Sms\_Action();

}

else

{

ucTEMPF = 0;

}

if(ui1SecCNT == 1)

{

ui1SecCNT = 400;

BUZZ\_ON;

delay\_ms(500);

BUZZ\_OFF;

printf("AT+CGATT?\r\n");

delay\_ms(500);

printf("AT+SAPBR=3,1,\"CONTYPE\",\"GPRS\"\r\n");

delay\_ms(500);

printf("AT+SAPBR=1,1\r\n");

delay\_ms(500);

//UART0\_SendStr("AT+CGATT?\r\n");

//Delay(1000);

printf("AT+HTTPINIT\r\n");

delay\_ms(500);

printf("\"api.thingspeak.com/update?api\_key=LMNQU2DZUI4GV7UH&field1=");

putc(((ucdust2/100)%10)+0x30);

putc(((ucdust2/10)%10)+0x30);

putc(((ucdust2/1)%10)+0x30);

printf("&field2=");//temp

// putc(((ucdust2/100)%10)+0x30);

putc(((uimoistadc/10)%10)+0x30);

putc(((uimoistadc/1)%10)+0x30);

printf("&field3=");//gas

putc(((uiprev\_yaxis/100)%10)+0x30);

putc(((uiprev\_yaxis/10)%10)+0x30);

putc(((uiprev\_yaxis/1)%10)+0x30);

printf("&field4=");

putc(((ucwl/1)%10)+0x30);

putc('"');

putc('\r');

putc('\n');

delay\_ms(500);

printf("AT+HTTPTERM\r\n");

delay\_ms(500);

}

}