#define *F\_CPU* 16000000UL

#include <avr/io.h>

#include <string.h>

#include <util/delay.h>

#include <avr/interrupt.h>

#include <stdlib.h>

char buffer0[256];

char buffer1[256];

int position0;

int position1;

int ladiescount;

int gentscount;

int count;

int i;

int num\_ladies;

int num\_gents;

volatile int pulsecount;

volatile bool savedcount = false;

volatile bool gentsbafu\_closed;

volatile bool ladiesbafu\_closed;

int pulsecount\_ladies;

int pulsecount\_gents;

int gentsbafu\_count;

int ladiesbafu\_count;

bool saved\_ladies\_count;

bool saved\_gents\_count;

int num\_gentsbafu;

int num\_ladiesbafu;

char url[100];

char gents\_total[]="&gentstotal=";

char gents\_bafu[]="&gentsbafu=";

char ladies\_bafu[]="&ladiesbafu=";

char url1[]="AT+HTTPPARA=\"URL\",\"www.fedha.ke/http/insert.php?ladiestotal=";

char url2[]="\"\r\n";

char AT[]="AT\r";

char CONTYPE[]="AT+SAPBR=3,1,\"Contype\",\"GPRS\"\r\n";

char APN[]="AT+SAPBR=3,1,\"APN\",\"internet\"\r\n";

char USER[]="AT+SAPBR=3,1,\"USER\",\"\"\r\n";

char PWD[]="AT+SAPBR=3,1,\"PWD\",\"\"\r\n";

char open\_GPRS[]="AT+SAPBR=1,1\r\n";

char query\_GPRS[]="AT+SAPBR=2,1\r\n";

char http\_init[]="AT+HTTPINIT\r\n";

char http\_para[]="AT+HTTPPARA=\"CID\",1\r\n";

char start\_GET[]="AT+HTTPACTION=0\r\n";

char http\_read[]="AT+HTTPREAD\r\n";

char http\_term[]="AT+HTTPTERM\r\n";

char close\_GPRS[]="AT+SAPBR=0,1\r\n";

void UART0\_TRANSMIT(char\* data){

while(\*data !='\0'){

while(!(UCSR0A & (1<<UDRE0))){}

UDR0=\*data;

data++;

}

}

void UART1\_TRANSMIT(char\* data){

while(\*data !='\0'){

while(!(UCSR1A & (1<<UDRE1))){}

UDR1=\*data;

data++;

}

}

void UART0\_BEGIN()

{

UBRR0H=0;

UBRR0L=103;

UCSR0B|=(1<<RXEN0)|(1<<TXEN0)|(1<<RXCIE0);

UCSR0C|=(1<<UCSZ00)|(1<<UCSZ01);

}

void UART1\_BEGIN()

{

UBRR1H=0;

UBRR1L=103;

UCSR1B|=(1<<RXEN1)|(1<<TXEN1)|(1<<RXCIE1);

UCSR1C|=(1<<UCSZ10)|(1<<UCSZ11);

}

void clearbuffer1()

{

for (position1=0;position1<256;position1++)

{

buffer1[position1]=0x00;

}

position1=0;

}

int main(void)

{

UART0\_BEGIN();

UART1\_BEGIN();

EIMSK|=(1<<INT0);//external interrupt request 0 enable

EICRA|=(1<<ISC01)|(0<<ISC00);//trigger INTO 0n falling edge. Interrupt 0 sense control

sei();

while (1)

{

for(i=0; i<60; i++)

{

*\_delay\_ms*(1000);

}

num\_ladies=ladiescount;

ladiescount=0;

num\_gents=gentscount;

gentscount=0;

num\_gentsbafu=gentsbafu\_count;

gentsbafu\_count=0;

num\_ladiesbafu=ladiesbafu\_count;

ladiesbafu\_count=0;

if ((ladiescount !=0) || (gentscount!=0) || (gentsbafu\_count !=0) || (ladiesbafu\_count !=0))

{

char ch[10];

*itoa*(num\_ladies,ch,10);

char ch1[10];

*itoa*(num\_gents,ch1,10);

char ch2[10];

*itoa*(num\_gentsbafu,ch2,10);

char ch3[10];

*itoa*(num\_ladiesbafu,ch3,10);

*\_delay\_us*(1);

*strcpy*(url,url1);

*strcat*(url,ch);

*strcat*(url,gents\_total);

*strcat*(url,ch1);

*strcat*(url,gents\_bafu);

*strcat*(url,ch2);

*strcat*(url,ladies\_bafu);

*strcat*(url,ch3);

*strcat*(url,url2);

UART0\_TRANSMIT(AT);

UART1\_TRANSMIT(AT);

*\_delay\_ms*(2000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(CONTYPE);

UART1\_TRANSMIT(CONTYPE);

*\_delay\_ms*(2000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(APN);

UART1\_TRANSMIT(APN);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(USER);

UART1\_TRANSMIT(USER);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(PWD);

UART1\_TRANSMIT(PWD);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(open\_GPRS);

UART1\_TRANSMIT(open\_GPRS);

*\_delay\_ms*(5000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(query\_GPRS);

UART1\_TRANSMIT(query\_GPRS);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(http\_init);

UART1\_TRANSMIT(http\_init);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(http\_para);

UART1\_TRANSMIT(http\_para);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(url);

UART1\_TRANSMIT(url);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(start\_GET);

UART1\_TRANSMIT(start\_GET);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(http\_read);

UART1\_TRANSMIT(http\_read);

*\_delay\_ms*(5000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(http\_term);

UART1\_TRANSMIT(http\_term);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

UART0\_TRANSMIT(close\_GPRS);

UART1\_TRANSMIT(close\_GPRS);

*\_delay\_ms*(1000);

UART0\_TRANSMIT(buffer1);

clearbuffer1();

}

}

}

ISR(USART0\_RX\_vect)

{

buffer0[position0]=UDR0;

position0++;

}

ISR(USART1\_RX\_vect)

{

buffer1[position1]=UDR1;

position1++;

}

ISR(INT0\_vect)

{

ladiescount++;

}

ISR(INT1\_vect)

{

gentscount++;

}

ISR(INT2\_vect)

{

if(gentsbafu\_closed == false)

{

gentsbafu\_closed=true;

}

else

{

gentsbafu\_closed=false;

}

}

ISR(INT3\_vect)

{

pulsecount\_gents++;

if((pulsecount\_gents >= 20) && (gentsbafu\_closed == true) && (saved\_gents\_count == false))

{

gentsbafu\_count++;

}

}

ISR(INT4\_vect)

{

if(ladiesbafu\_closed == false)

{

ladiesbafu\_closed=true;

}

else

{

ladiesbafu\_closed=false;

}

}

ISR(INT5\_vect)

{

pulsecount\_ladies++;

if((pulsecount\_ladies >= 20) && (ladiesbafu\_closed == true) && (saved\_ladies\_count == false))

{

ladiesbafu\_count++;

}

}