

Quick Demo Sketch

- Allow you draw things on screen

```
#define LCD_RS    19        // A5
#define LCD_WR    18        // A4
#define LCD_CS    17        // A3
#define LCD_REST  16        // A2

#define DCLK      15        // A1
#define DIN       14        // A0
#define CS        8
#define DOUT      9
//#define IRQ     8

unsigned int TP_X,TP_Y;
unsigned int TouchCount=0;
int pacy=0;

void spistar()                //SPI Start
{
    digitalWrite(CS,LOW);
    digitalWrite(DCLK,HIGH);
    digitalWrite(DIN,HIGH);
    digitalWrite(DCLK,HIGH);

}
//*****
void WriteCharTo7843(unsigned char num)    //SPI Write Data
{
    unsigned char count=0;
    unsigned char temp;
    unsigned nop;
    temp=num;
    digitalWrite(DCLK,LOW);
    for(count=0;count<8;count++)
    {
        if(temp&0x80)
            digitalWrite(DIN,HIGH);
        else
            digitalWrite(DIN,LOW);

        temp=temp<<1;

        digitalWrite(DCLK,LOW);
        nop++;
        nop++;
        digitalWrite(DCLK,HIGH);
        nop++;
        nop++;
    }
}
```

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//*****
unsigned int ReadFromCharFrom7843()          //SPI Read Data
{
    unsigned nop;
    unsigned char count=0;
    unsigned int Num=0;
    for(count=0;count<12;count++)
    {
        Num<<=1;
        digitalWrite(DCLK,HIGH);//DCLK=1; _nop();_nop();_nop();
        nop++;
        digitalWrite(DCLK,LOW);//DCLK=0; _nop();_nop();_nop();
        nop++;
        if(digitalRead(DOUT)) Num++;
    }
    return(Num);
}

void LCD_Writ_Bus(char VH,char VL)
{
    PORTD = VH;
    digitalWrite(LCD_WR,LOW);
    digitalWrite(LCD_WR,HIGH);
    PORTD = VL;
    digitalWrite(LCD_WR,LOW);
    digitalWrite(LCD_WR,HIGH);
}

void LCD_Write_COM(char VH,char VL)
{
    digitalWrite(LCD_RS,LOW);
    LCD_Writ_Bus(VH,VL);
}

void LCD_Write_DATA(char VH,char VL)
{
    digitalWrite(LCD_RS,HIGH);
    LCD_Writ_Bus(VH,VL);
}

void Lcd_Write_Com_Data(int com,int val){          // 鑿戠e 倂 璣 鏵 冩 濂 湇 ? {
    LCD_Write_COM(com>>8,com);
    LCD_Write_DATA(val>>8,val);
}

void Address_set(unsigned int x1,unsigned int y1,unsigned int x2,unsigned int y2)
{
    LCD_Write_COM(0x00,0x46);LCD_Write_DATA(x2,x1);
    LCD_Write_COM(0x00,0x47);LCD_Write_DATA(y2>>8,y2);
    LCD_Write_COM(0x00,0x48);LCD_Write_DATA(y1>>8,y1);
}

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LCD_Write_COM(0x00,0x20);LCD_Write_DATA(x1>>8,x1);
LCD_Write_COM(0x00,0x21);LCD_Write_DATA(y1>>8,y1);
LCD_Write_COM(0x00,0x22);
}

void LCD_Init(void)
{

digitalWrite(LCD_REST,HIGH);
delay(5);
digitalWrite(LCD_REST,LOW);
delay(5);
digitalWrite(LCD_REST,HIGH);
delay(5);

digitalWrite(LCD_CS,LOW);
    Lcd_Write_Com_Data(0x11,0x2004);
    Lcd_Write_Com_Data(0x13,0xCC00);
    Lcd_Write_Com_Data(0x15,0x2600);
    Lcd_Write_Com_Data(0x14,0x252A);
    Lcd_Write_Com_Data(0x12,0x0033);
    Lcd_Write_Com_Data(0x13,0xCC04);
    delay(1);
    Lcd_Write_Com_Data(0x13,0xCC06);
    delay(1);
    Lcd_Write_Com_Data(0x13,0xCC4F);
    delay(1);
    Lcd_Write_Com_Data(0x13,0x674F);
    Lcd_Write_Com_Data(0x11,0x2003);
    delay(1);
    Lcd_Write_Com_Data(0x30,0x2609);
    Lcd_Write_Com_Data(0x31,0x242C);
    Lcd_Write_Com_Data(0x32,0x1F23);
    Lcd_Write_Com_Data(0x33,0x2425);
    Lcd_Write_Com_Data(0x34,0x2226);
    Lcd_Write_Com_Data(0x35,0x2523);
    Lcd_Write_Com_Data(0x36,0x1C1A);
    Lcd_Write_Com_Data(0x37,0x131D);
    Lcd_Write_Com_Data(0x38,0x0B11);
    Lcd_Write_Com_Data(0x39,0x1210);
    Lcd_Write_Com_Data(0x3A,0x1315);
    Lcd_Write_Com_Data(0x3B,0x3619);
    Lcd_Write_Com_Data(0x3C,0x0D00);
    Lcd_Write_Com_Data(0x3D,0x000D);
    Lcd_Write_Com_Data(0x16,0x0007);
    Lcd_Write_Com_Data(0x02,0x0013);
    Lcd_Write_Com_Data(0x03,0x0003);
    Lcd_Write_Com_Data(0x01,0x0127);
    delay(1);
    Lcd_Write_Com_Data(0x08,0x0303);
    Lcd_Write_Com_Data(0x0A,0x000B);
    Lcd_Write_Com_Data(0x0B,0x0003);
    Lcd_Write_Com_Data(0x0C,0x0000);
    Lcd_Write_Com_Data(0x41,0x0000);

```

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    Lcd_Write_Com_Data(0x50,0x0000);
    Lcd_Write_Com_Data(0x60,0x0005);
    Lcd_Write_Com_Data(0x70,0x000B);
    Lcd_Write_Com_Data(0x71,0x0000);
    Lcd_Write_Com_Data(0x78,0x0000);
    Lcd_Write_Com_Data(0x7A,0x0000);
    Lcd_Write_Com_Data(0x79,0x0007);
    Lcd_Write_Com_Data(0x07,0x0051);
    delay(1);
    Lcd_Write_Com_Data(0x07,0x0053);
    Lcd_Write_Com_Data(0x79,0x0000);

    LCD_Write_COM(0x00,0x22);
    digitalWrite(LCD_CS,HIGH);
}

void Pant(char VH,char VL)
{
    int i,j;
    digitalWrite(LCD_CS,LOW);
    Address_set(0,0,240,320);
    for(i=0;i<=320;i++)
    {
        for (j=0;j<=240;j++)
        {
            LCD_Write_DATA(VH,VL);
        }
    }
    digitalWrite(LCD_CS,HIGH);
}

void AD7843(void)
{
    digitalWrite(CS,LOW);
    WriteCharTo7843(0x90);
    digitalWrite(DCLK,HIGH);
    digitalWrite(DCLK,LOW);
    TP_Y=ReadFromCharFrom7843();
    WriteCharTo7843(0xD0);
    digitalWrite(DCLK,HIGH);
    digitalWrite(DCLK,LOW);
    TP_X=ReadFromCharFrom7843();
    digitalWrite(CS,HIGH);
}

void setup()
{
    unsigned char p;

```

```

int i,j,k;
for(p=0;p<20;p++)
{
    pinMode(p,OUTPUT);
}
pinMode(DOUT,INPUT);
// pinMode(IRQ,INPUT);

LCD_Init();
Pant(0x00,0x00);
}

void loop()
{
    TouchCount++;
    unsigned char flag;
    unsigned char ss[6];
    unsigned int lx,ly;
    spistar();
    if(TouchCount==200)
    {
        pacy=random(0, 7);
        TouchCount=0;
    }

// while(digitalRead(IRQ)==0)
// {
    digitalWrite(LCD_CS,LOW);
    AD7843();
    lx=240-((TP_X-220)/16);
    ly=320-((TP_Y-400)/11);
    Address_set(lx,ly,lx+2,ly+2);
    switch(pacy)
    {
        case 0: for(int i=0; i<5; i++)
LCD_Write_DATA(0xF8,0x00); break; //Red
        case 1: for(int i=0; i<5; i++)
LCD_Write_DATA(0xFF,0xE0); break; //Yellow
        case 2: for(int i=0; i<5; i++)
LCD_Write_DATA(0xFF,0xFF); break; //White
        case 3: for(int i=0; i<5; i++)
LCD_Write_DATA(0x05,0x1F); break; //Blue
        case 4: for(int i=0; i<5; i++)
LCD_Write_DATA(0x00,0x1F); break; //Blue-2
        case 5: for(int i=0; i<5; i++)
LCD_Write_DATA(0xF8,0x1F); break; //Magenta
        case 6: for(int i=0; i<5; i++)
LCD_Write_DATA(0x07,0xE0); break; //Green
        case 7: for(int i=0; i<5; i++)
LCD_Write_DATA(0x7F,0xFF); break; //Cyan
        default:for(int i=0; i<5; i++)
LCD_Write_DATA(0x00,0x00); break; //Black
    }
    digitalWrite(LCD_CS,HIGH);
// }

```

