Write Bytes to and read Bytes from Arduino

system janv. '10 #8

I found a couple of problems with your code, on the Processing side.

First, you're missing the setup and draw functions. These perform the same role as the setup and loop functions in the Arduino.

Second, when a serial port is opened, the Arduino resets. It takes a little while before the serial port is read by the Arduino. Anything sent to the Arduino before it is ready is lost.

This is the Arduino code is ended up with:

```
byte inByte;   // Where to store the Bytes read
int ledPin = 13;  // Set the pin to digital I/O
int index = 0;

void setup()
{
  pinMode(ledPin, OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  if(Serial.available() > 0)
  {
    inByte = Serial.read(); // Read a Byte
    Serial.print(index);
    Serial.print(") The arduino received: ");
    Serial.println(inByte, HEX);
    index++;
  }
}
```

You can easily change this back to the code you had, since, as it turns out, the problems were all on the Processing side.

This is the Processing sketch that received all the data sent by Processing:

```
//This code reads the red pixel values of a 1x9 Matrix
//Then it writes to and read from the serial port
//The "writen" and "read" Bytes are then printed

import processing.serial.*;
```

```
Serial port;
int initval=0; //initial value that the matrix starts
int pixval; //pixel value each time
int rows = 9; //number of the matrix columns
PImage myImage;
int pass = 0;

void setup()
{
  port = new Serial(this,Serial.list()[0], 9600);
  size(300,300);
  myImage = loadImage("jelly9x9.jpg");
  image (myImage, 0, 0, width, height);
  myImage.loadPixels();
}


void draw()
{
  if(pass == 0)
  {
    pass = 1;
    delay(2000);
    for (pixval = initval; pixval < initval + 1*rows; pixval = pixval+1)
    {
      color a = myImage.pixels[pixval];
      float ared = red(a);
      int inta = int(ared);
      print("Sending value #");
      print(pixval);
      print(" ");
      println(hex(inta));

      port.write(inta);
      delay(500);

      while(port.available()>0)
      {
        char inChar = port.readChar();
        print(inChar);
      }
      println();
    }
  }
}
```

You should be able to expand on and modify this, as long as you keep the draw and setup functions, and allow time for the serial connection to be established. I had to change the index into the Serial.list array for my setup; you'll need to change it back for your setup.

Spiros janv. '10 #9

WORKS GREAT! one small question - whats the role of the pass==0 within the void draw() in the processing code? thanks a lot for the great help and for your replies!

---

system janv. '10 #10

Like loop in the Arduino sketch, draw is called over and over again in the Processing sketch. I didn't want it to anything on the second and subsequent calls, so I created the pass variable to determine if draw had been called more than once. It only does something (send and receive) on the first call.

Spiros janv. '10 #11

good programming solution!!!!thanks..

---

system juil. '10 #12

Hi there, I ran your code and it works great. keep up the great work..i'm new to the arduino word but i'm picking up faster than i thought due to your support community. One quick question thoug, i didn't get the point behind "pass" variable..once pass gets a one, it stays as a one forever doesn't it? thank you again

---

system **juil. '10 #13**

> once pass gets a one, it stays as a one forever doesn't it?

Yes, it does. What the original poster was trying to do was to send data to processing to be drawn once.

Processing calls the draw function in an endless loop, similar to the way that Arduino calls the loop function.

Since an action was to be taken once, the pass variable gets set to one, when that action occurs. From then on, the action will never occur again, since the flag that is being checked (pass) has been set to indicate that the action has already occurred.

---

system **juil. '10 #14**

i see..awesome...we only need to display the pic once then..thank you for your reply

---

system **juil. '10 #15**

I know this may not be the right forum to ask but speaking of arduino and processing code...anybody knows where i can get the library to learn how to program in arduino languahe...i know it's similar to C/C++ but it'll better for me to read all the libs and functions available...instead of googling every time to find an exmaple...

---

system **juil. '10 #16**

> anybody knows where i can get the library to learn how to program in arduino languahe..i know it's similar to C/C++ but it'll better for me to read all the libs and functions available

Start here: **http://arduino.cc/en/Reference/HomePage**

---

system **juil. '10 #17**

Thank you...I meant for processing code..I noticed the page did not mention draw() and all the stuff we use for GUI...is it on the Arduino website as well

---

system **juil. '10 #18**

Processing functions:

http://processing.org/reference/