LAMPIRAN - LAMPIRAN

PROGRAM KONTROL MOTOR

```
1.  //mendefinisikan pin yang digunakan untuk control pin
2.  int IN_1 = 4; int IN_2 = 5;
3.  int IN_3 = 6; int IN_4 = 7;
4.
5.  void setup()
6.  {
7.    //mendefinisikan control pin sebagai output
8.    pinMode(IN_1, OUTPUT); pinMode(IN_2, OUTPUT);
9.    pinMode(IN_3, OUTPUT); pinMode(IN_4, OUTPUT);
10. }
11.
12. void loop()
13. {
14.   //Putar Mesin searah jarum jam
15.   digitalWrite(IN_1, HIGH); digitalWrite(IN_2, LOW);
16.   delay(1500);
17.   //Untuk mesin A
18.   digitalWrite(IN_1, HIGH); digitalWrite(IN_2, HIGH);
19.   delay(1000);
20.   //Putar Motor B searah jarum jam
21.   digitalWrite(IN_3, HIGH); digitalWrite(IN_4, LOW);
22.   delay(1500);
23.   //Untuk mesin B
24.   digitalWrite(IN_3, HIGH); digitalWrite(IN_4, HIGH);
25.   delay(1000);
26.
27.   //Putar Motor a berlawan arah jarum jam
28.   digitalWrite(IN_1, LOW);  digitalWrite(IN_2, HIGH);
29.   delay(1500);
30.   //Untuk mesin A
31.   digitalWrite(IN_1, HIGH); digitalWrite(IN_2, HIGH);
32.   delay(1000);
33.   //Putar Motor B berlawan arah jarum jam
34.   digitalWrite(IN_3, LOW);  digitalWrite(IN_4, HIGH);
35.   delay(1500);
36.   //Untuk mesin B
37.   digitalWrite(IN_3, HIGH); digitalWrite(IN_4, HIGH);
38.   delay(1000);
39. }
```

PROGRAM CMUCAM3

```
1.  #include <stdio.h>
2.  #include <stdlib.h>
3.  #include <cc3.h>
```

```
#include <cc3_ilp.h>
#include <cc3_color_track.h>

void simple_track_color(cc3_track_pkt_t* t_pkt);
int main(void) {
  cc3_track_pkt_t t_pkt;
  cc3_uart_init (0,
         CC3_UART_RATE_115200,
         CC3_UART_MODE_8N1,
         CC3_UART_BINMODE_TEXT);
  cc3_camera_init ();
  //cc3_camera_set_colorspace(CC3_COLORSPACE_YCRCB);
  cc3_camera_set_resolution(CC3_CAMERA_RESOLUTION_LOW);
  //cc3_pixbuf_frame_set_subsample(CC3_SUBSAMPLE_NEAREST, 2, 2);

  // init pixbuf with width and height
  cc3_pixbuf_load();

  // Load in your tracking parameters
  t_pkt.lower_bound.channel[CC3_CHANNEL_RED] = 150;
  t_pkt.upper_bound.channel[CC3_CHANNEL_RED] = 255;
  t_pkt.lower_bound.channel[CC3_CHANNEL_GREEN] = 0;
  t_pkt.upper_bound.channel[CC3_CHANNEL_GREEN] = 50;
  t_pkt.lower_bound.channel[CC3_CHANNEL_BLUE] = 0;
  t_pkt.upper_bound.channel[CC3_CHANNEL_BLUE] = 50;
  t_pkt.noise_filter = 2;

  while(true) {
    simple_track_color(&t_pkt);
    printf("centroid=%d,%d bounding box=%d,%d,%d,%d num pix=%d density=%d\n",
           t_pkt.centroid_x, t_pkt.centroid_y,
           t_pkt.x0,t_pkt.y0,t_pkt.x1,t_pkt.y1,
           t_pkt.num_pixels, t_pkt.int_density );
   }
}

void simple_track_color(cc3_track_pkt_t * t_pkt)
{
  cc3_image_t img;
  img.channels = 3;
  img.width = cc3_g_pixbuf_frame.width;
  img.height = 1;      // image will hold just 1 row for scanline processing
  img.pix = cc3_malloc_rows (1);
  if (img.pix == NULL) {
    return;
  }

    cc3_pixbuf_load ();
    if (cc3_track_color_scanline_start (t_pkt) != 0) {
      while (cc3_pixbuf_read_rows (img.pix, 1)) {
       // This does the HSV conversion
       // cc3_rgb2hsv_row(img.pix,img.width);
           cc3_track_color_scanline (&img, t_pkt);
          }
        }
    cc3_track_color_scanline_finish (t_pkt);
```

```
  free (img.pix);
  return;
}
```

PROGRAM KOMUNIKASI SERIAL

```
//Testing Komunikasi Serial pada Arduino dengan Komputer
//dengan baud rate 9600bps;

void setup()
{
   //melakukan inisialisasi Serial Port dengan 9600 bps
   Serial.begin(9600);
   //untuk komunikasi dengan CMUCam3
   Serial.Begin(115200);
}

void loop()
{
   /*mengirimkan tulisan Halo Komputer ke komputer dengan menambah
   cariage return/new line secara terus menerus*/
   Serial.println("Program Test Komunikasi Serial (IKHWAN FUDORI)");
}
```

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