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/*****
* WHAT: Magic eye emulator FPS
* GC9A01
* library Arduino_GFX
* DETAILS:
* ESP32 with microphone on pin 34
* rotated 180 degree
* DC - 27, CS - 5, RS - 33, indexed canvas
*/
/*****/
#include <Arduino_GFX_Library.h>
#include "RunningAverage.h"
#define TFT_RST 33

Arduino_DataBus *bus = new Arduino_ESP32SPI(27 /* DC */, 5 /* CS */, 18 /* SCK */, 23 /* MOSI */, -1 /* MISO */,
HSPI /* spi_num */);
Arduino_G *output_display = new Arduino_GC9A01(bus, TFT_RST, 2 /* rotation */, true /* IPS */);
Arduino_GFX *gfx = new Arduino_Canvas(240 /* width */, 240 /* height */, output_display);
RunningAverage myRA(20);

uint16_t r,r0;
//uint16_t d=0;
//uint16_t counter=0;
uint16_t v_inVal;
uint16_t i;
float p,p_avg;

void setup() {
  Serial.begin(115200);
  while (!Serial)
    Serial.print("Sketch: "); Serial.println(__FILE__);
  Serial.print("Uploaded: "); Serial.println(__DATE__);
  gfx->begin(8000000);
  r = gfx->width();
  r0=r/2;
  analogSetAttenuation(ADC_6db);
  myRA.clear();
}

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}  
  
void drawE5(uint16_t v_i){  
    gfx->fillScreen(gfx->color565(37,234,61));  
    gfx->fillTriangle(r0,r0+10, r0-v_i,r,r0+v_i,r,gfx->color565(28,152,53));  
    gfx->fillTriangle(0,r0, r0,r0-8,r0,r0+8,gfx->color565(20,140,40));  
    gfx->fillTriangle(r,r0, r0,r0-8,r0,r0+8,gfx->color565(20,140,40));  
    gfx->fillCircle(r0+2,r0+2, 52, gfx->color565(40,40,40));  
    gfx->fillCircle(r0-3,r0-2, 52, gfx->color565(150,162,160));  
    gfx->fillCircle(r0,r0, 52, gfx->color565(71,76,69));  
    gfx->flush();  
}
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void loop() {  
    p=analogRead(34);  
    myRA.addValue(p);  
    p_avg=myRA.getAverage();  
    i=map(p_avg,50,1000,120,20);  
    // i=map(p_avg,50,1200,20,200);  
    if (i<0) i=0;  
    drawE5(i);  
}
```