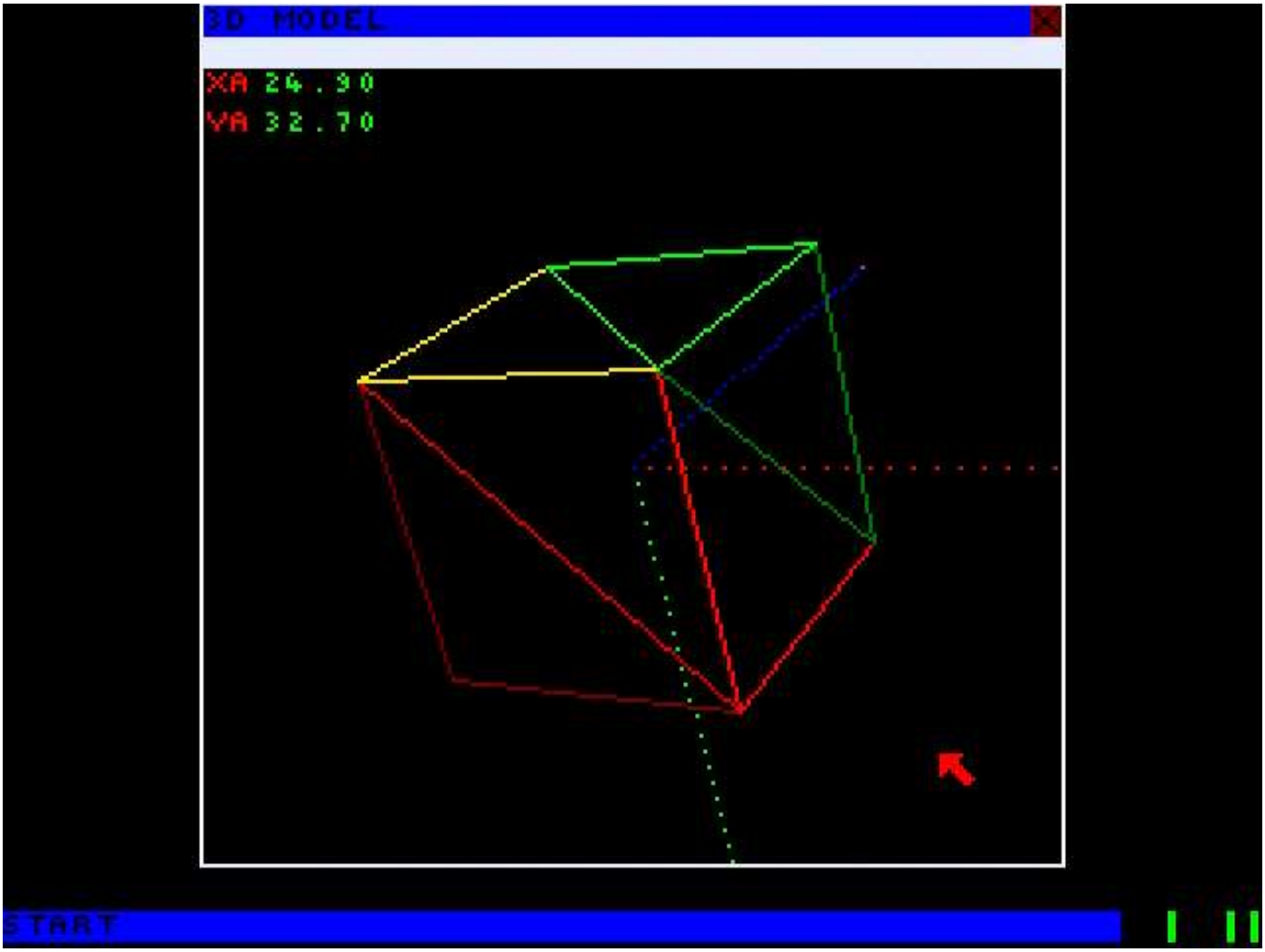
GPGUI 3 - ADDING A NEW PROGRAM TO THE OS



Summary.

How to set up a program window as a basic starting point to write general programs.

Contents

STEP 1 - Add a new program run flag at the top of the GPGUI_3_MAIN_CPU.h file. 2

STEP 2 - Add a new program to the **close_All_Programs**() function. 2

STEP 3 - Add a new program button in the start menu. 2

STEP 4 - Copy and paste the program_Template(bool*,bool) function. 3

STEP 5 - Add new_Program_Name() function to the GPGUI_OS() function. 4

STEP 6 - Upload GPGUI_OS() function using the Arduino IDE 6

STEP 1 - Add a new program run flag at the top of the GPGUI_3_MAIN_CPU.h file.

```
64      //PROGRAM RUN FLAGS
65      bool PROGRAM_1_Enable = false;
66      bool PROGRAM_control_Panel_Enable = false;
67      bool PROGRAM_midi_Monitor_Emulator_Enable = false;
68      bool PROGRAM_hardware_Enable = false;
69      bool PROGRAM_appearance_Enable = false;
70      bool PROGRAM_3D_Model_Enable = false;
71      bool PROGRAM_NEW_PROGRAM_NAME = false;
```

STEP 2 - Add a new program to the close_All_Programs() function.

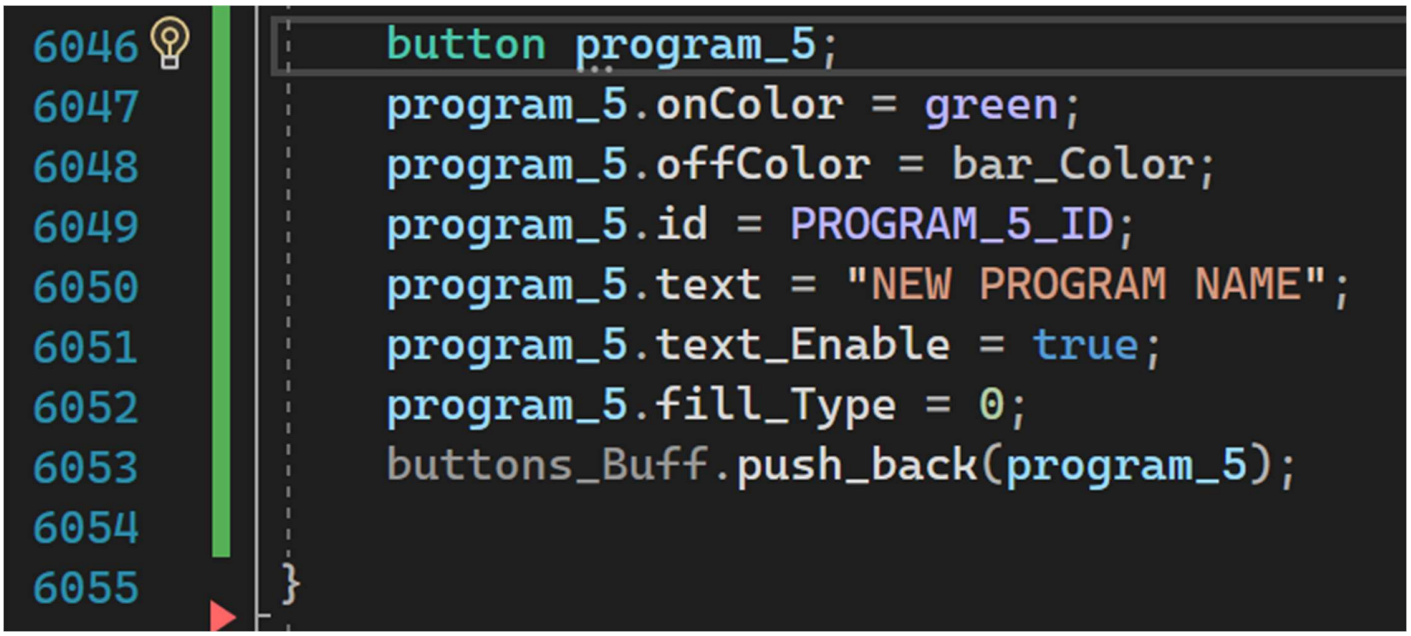
```
5477    void close_All_Programs()
5478    {
5479        start_Menu_Enable = false;
5480        PROGRAM_1_Enable = false;
5481        PROGRAM_control_Panel_Enable = false;
5482        PROGRAM_midi_Monitor_Emulator_Enable = false;
5483        PROGRAM_hardware_Enable = false;
5484        PROGRAM_appearance_Enable = false;
5485        PROGRAM_3D_Model_Enable = false;
5486        PROGRAM_NEW_PROGRAM_NAME = false;
5487    }
```

STEP 3 - Add a new program button in the start menu.

Add program ID.

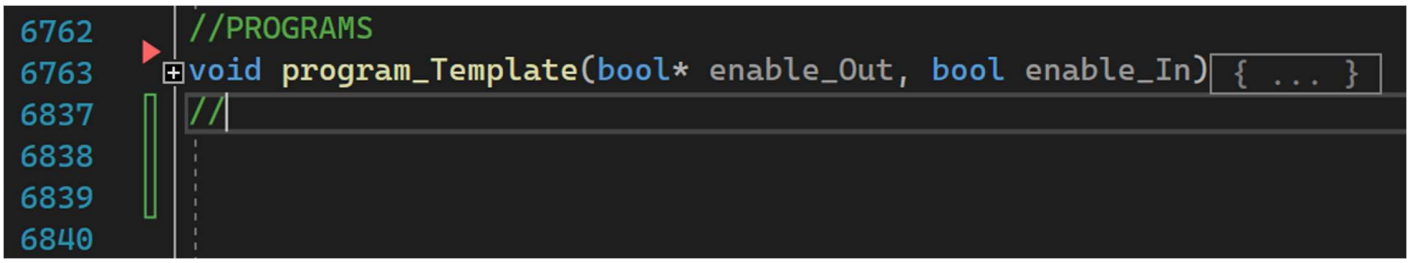
```
5996
5997    void create_Program_Buttons(vector<button>& buttons_Buff)
5998    {
5999        #define PROGRAM_1_ID 1
6000        #define PROGRAM_2_ID 2
6001        #define PROGRAM_3_ID 3
6002        #define PROGRAM_4_ID 4
6003        #define PROGRAM_5_ID 5
6004
```

Copy and paste a button and set the new parameters.



```
6046    button program_5;
6047    program_5.onColor = green;
6048    program_5.offColor = bar_Color;
6049    program_5.id = PROGRAM_5_ID;
6050    program_5.text = "NEW PROGRAM NAME";
6051    program_5.text_Enable = true;
6052    program_5.fill_Type = 0;
6053    buttons_Buff.push_back(program_5);
6054
6055 }
```

STEP 4 - Copy and paste the program_Template(bool*,bool) function.



```
6762  //PROGRAMS
6763  void program_Template(bool* enable_Out, bool enable_In) { ... }
6837  //
6838
6839
6840
```

Change function name to the new program name.

```
8900  void new_Program_Name(bool* enable_Out, bool enable_In)
8901  {
```

Set the window parameters.

```
8908        //create window
8909        window w1;
8910        w1.xStart = 10;
8911        w1.yStart = 10;
8912        w1.xSize = 100;
8913        w1.ySize = 100;
8914        w1.title_Bar_Color = window_Bar_Color;
8915        w1.w_bar_Color = bar_Color;
8916        w1.w_border_Color = border_Line_Color;
8917        w1.background_Color = background_Color;
8918        w1.window_Name = "new_Program_Name";
8919        draw_Program_Window(w1);
```

(local variable) window w1
create window
Search Online

STEP 5 - Add new_Program_Name() function to the GPGUI_OS() function.

Add program ID.

```
6064    void GPGUI_OS()
6065    {
6066        //PROGRAM AND BUTTON ID TAGS
6067        #define START_MENU_ID 900
6068        #define PROGRAM_1_ID 1
6069        #define PROGRAM_2_ID 2
6070        #define PROGRAM_3_ID 3
6071        #define PROGRAM_4_ID 4
6072        #define PROGRAM_5_ID 5
```

Add new_Program_Name(bool*,bool) function to the program list.

```
6134        //RUN PROGRAMS
6135        //*********************************************************************
6136        program_Template(&PROGRAM_1_Enable, PROGRAM_1_Enable);
6137        control_Panel(&PROGRAM_control_Panel_Enable, PROGRAM_control_Panel_Enable);
6138        midi_Montitor_Emulator(&PROGRAM_midi_Monitor_Emulator_Enable, PROGRAM_midi_Monitor_Emulator_Enable);
6139        PROGRAM_3D_MODEL(&PROGRAM_3D_Model_Enable, PROGRAM_3D_Model_Enable);
6140        new_Program_Name(&PROGRAM_NEW_PROGRAM_NAME, PROGRAM_NEW_PROGRAM_NAME);
6141
```

bool PROGRAM_NEW_PROGRAM_NAME

Copy and paste a new program button to the mouse button check list.

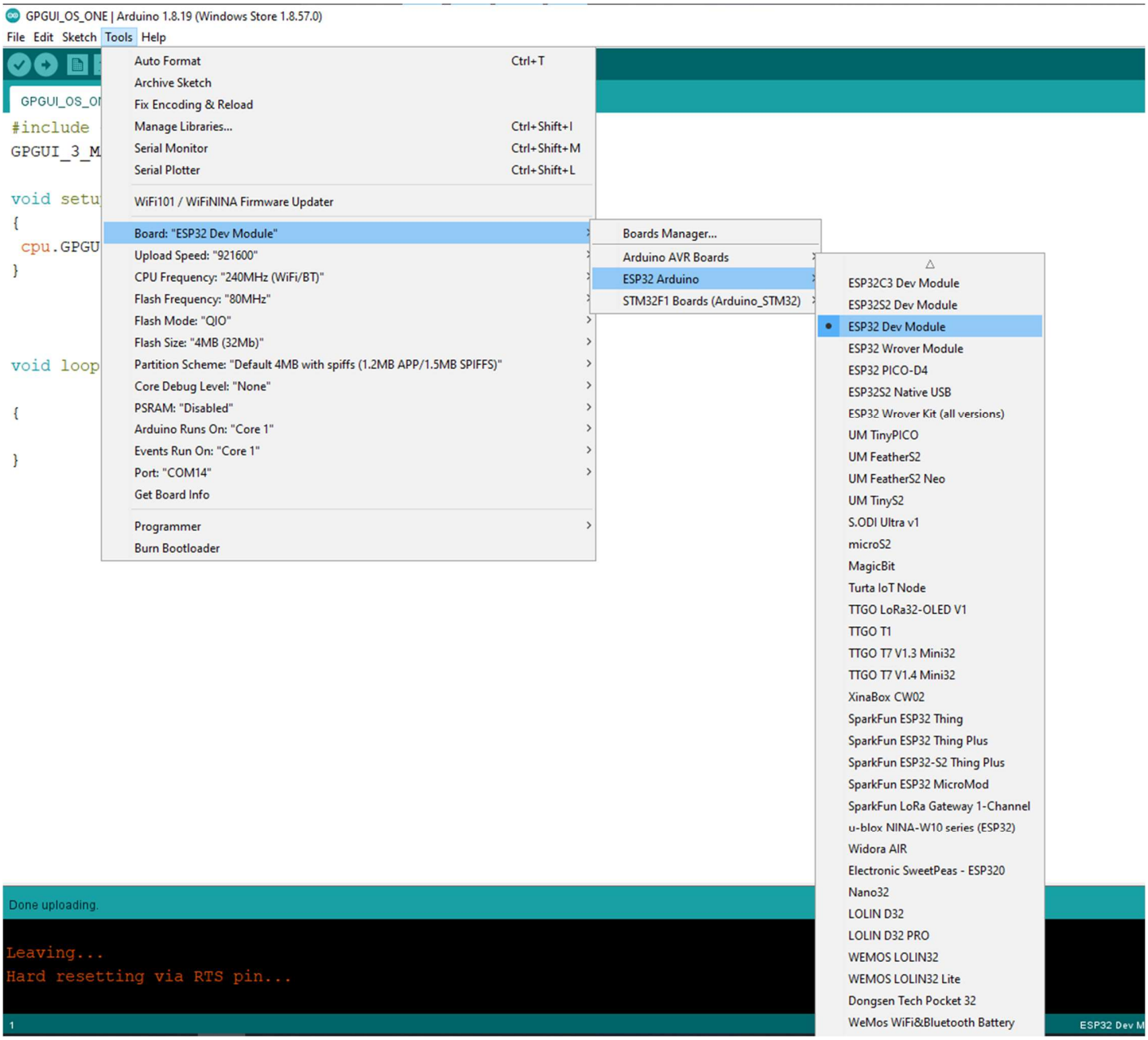
```
6165
6166        //HANDLE MOUSE CLICK FLAGS
6167        if (mouse_Left_Make && start_Menu_Enable)
6168        {
6169            switch (active_Button_Id)
6170            {
6171            case PROGRAM_1_ID:
6172                active_Button_Id = 0;
6173                start_Menu_Enable = false;
6174                PROGRAM_1_Enable = true;
6175                beep(enter_Beep_Pitch, 200);
6176            break;
6177
6178            case PROGRAM_2_ID:
6179                active_Button_Id = 0;
6180                close_All_Programs();
6181                PROGRAM_control_Panel_Enable = true;
6182                beep(enter_Beep_Pitch, 200);
6183            break;
6184
6185            case PROGRAM_3_ID:
6186                active_Button_Id = 0;
6187                close_All_Programs();
6188                PROGRAM_midi_Monitor_Emulator_Enable = true;
6189                beep(enter_Beep_Pitch, 200);
6190            break;
```

```
6201            case PROGRAM_4_ID:
6202
6203                active_Button_Id = 0;
6204                close_All_Programs();
6205                PROGRAM_3D_Model_Enable = true;
6206                beep(enter_Beep_Pitch, 200);
6207                break;
6208
6209            case PROGRAM_5_ID:
6210
6211                active_Button_Id = 0;
6212                close_All_Programs();
6213                PROGRAM_NEW_PROGRAM_NAME = true;
6214                beep(enter_Beep_Pitch, 200);
6215                break;
6216
6217
6218
6219            }
6220            mouse_Left_Make = false;
6221        }
```

STEP 6 - Upload GPGUI_OS() function using the Arduino IDE.

NOTE : Use ESP32 core 2.0.0
https://raw.githubusercontent.com/espressif/arduino-esp32/gh-pages/package_esp32_index.json

Select ESP32 Dev Module in boards manager.



Upload sketch from examples.

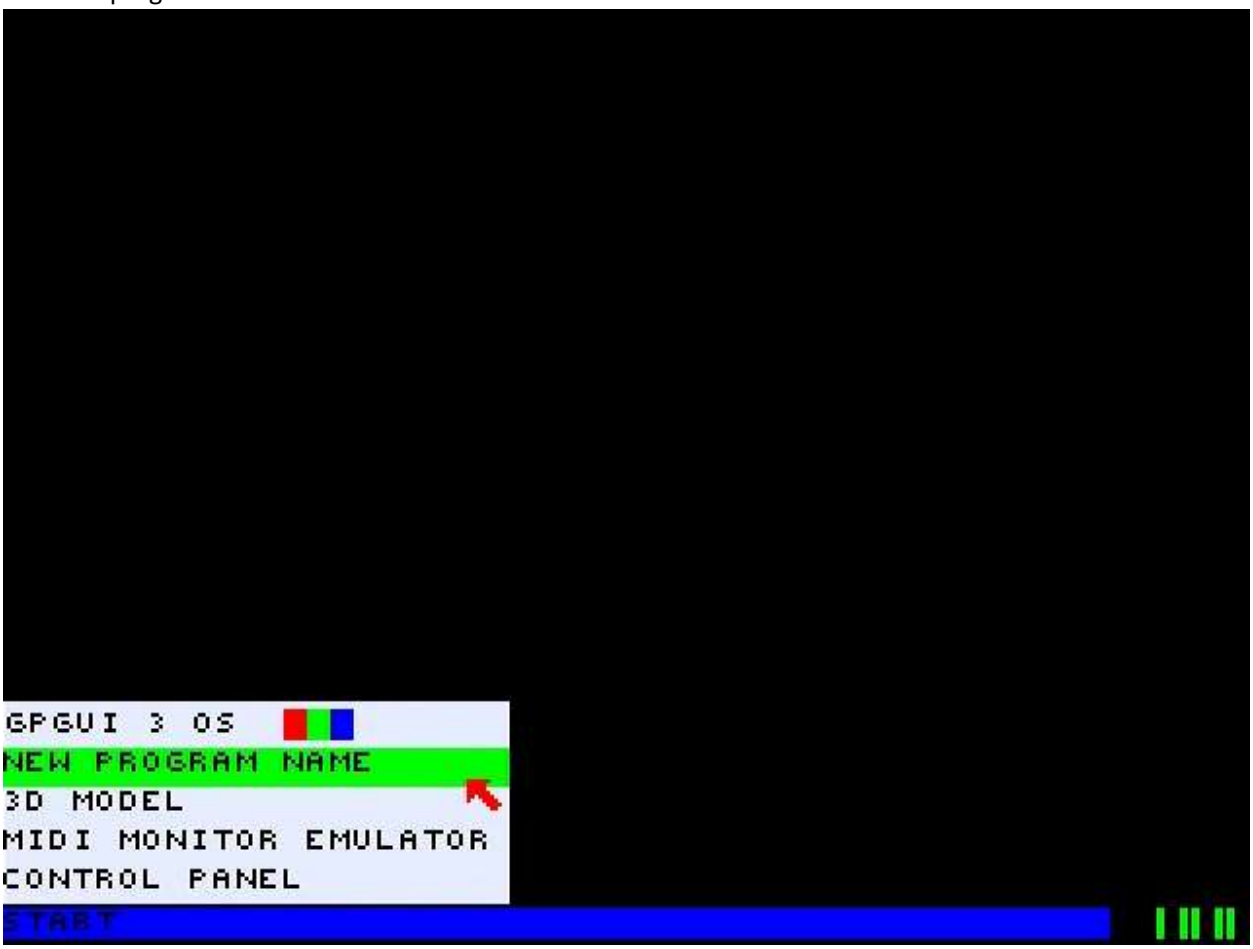
GPGUI_OS_ONE | Arduino 1.8.19 (Windows Store 1.8.57.0)

File Edit Sketch Tools Help

GPGUI_OS_ONE

```
#include <GPGUI_3_MAIN_CPU.h>
GPGUI_3_MAIN_CPU cpu;

void setup()
{
 cpu.GPGUI_OS();
}



void loop()

{

}
```

The new program will be added to the start menu.



See **GPGUI 3 PROGRAM EXAMPLES.**

This explains how to use the draw functions and the hardware to interact with a program.