

SIMPLE X11 WINDOW API

version: 0.2

Created by: Cristiano Simao dos Santos

Date: 03/31/2025

(2022 - 2025)

<https://github.com/CristianoSimao/Simple-X11-Window-API>

Global Variables:

All variables bellow are updated with the function Sx11GetEvents().

```
int sx11MouseLeftPress
int sx11MouseMiddlePress
int sx11MouseRightPress
int sx11MouseWheelUpPress
int sx11MouseWheelDownPress
int sx11MouseLeftReleased
int sx11MouseMiddleReleased
int sx11MouseRightReleased
int sx11MouseWheelUpReleased
int sx11MouseWheelDownReleased
int sx11MouseX
int sx11MouseY
int sx11MouseMove
```

```
int sx11Keyboard_A_press
int sx11Keyboard_W_press
int sx11Keyboard_S_press
int sx11Keyboard_D_press
int sx11Keyboard_Q_press
int sx11Keyboard_E_press
int sx11Keyboard_R_press
int sx11Keyboard_Shift_press
int sx11Keyboard_Ctrl_press
int sx11Keyboard_Space_press
int sx11Keyboard_1_press
int sx11Keyboard_2_press
int sx11Keyboard_3_press
int sx11Keyboard_4_press
int sx11Keyboard_Arrow_Left_press
int sx11Keyboard_Arrow_Right_press
int sx11Keyboard_Arrow_Up_press
int sx11Keyboard_Arrow_Down_press
int sx11Keyboard_Enter_press
```

```
int sx11Keyboard_A_released
int sx11Keyboard_W_released
int sx11Keyboard_S_released
int sx11Keyboard_D_released
int sx11Keyboard_Q_released
int sx11Keyboard_E_released
```

```
int sx11Keyboard_R_released
int sx11Keyboard_Shift_released
int sx11Keyboard_Ctrl_released
int sx11Keyboard_Space_released
int sx11Keyboard_1_released
int sx11Keyboard_2_released
int sx11Keyboard_3_released
int sx11Keyboard_4_released
int sx11Keyboard_Arrow_Left_released
int sx11Keyboard_Arrow_Right_released
int sx11Keyboard_Arrow_Up_released
int sx11Keyboard_Arrow_Down_released
int sx11Keyboard_Enter_released
```

Functions:

- **Sx11Init()** Configure the initial steps to create windows.

```
void Sx11Init()
```

Makes the initial configurations to initialize the X11 window system.

- **Sx11CreateWindow()** Create a basic window.

```
int Sx11CreateWindow(int sizeX,
                    int sizeY,
                    char windowtitle[],
                    unsigned long int backgroundColor)
```

This function return 0 if all is OK.

sizeX is the width of window.

sizeY is the height of the window.

windowtitle is the string displayed in the window title bar.

backgroundColor is the background color of the window in hex format.

- **Sx11SetFullScreen()** Make the window fullscreen.

```
void Sx11SetFullScreen()
```

- **Sx11SetScreenResolution()** Change the resolution of the screen monitor to other modes.

```
int Sx11SetScreenResolution(int resolutionx, int resolutiony)
```

This function return 0 if all is OK or 1 if error.

resolutionx is the width of the screen.

resolutiony is the height of the screen.

Common screen resolution modes are: 640x480, 720x400, 720x480, 720x576, 800x600, 832x624, 1024x768, 1152x864, 1280x720, 1280x800, 1280x1024, 1440x900, 1600x900, 1680x1050, 1920x1080.

If the hardware not support the resolution the function will print a error message in the console, and the function return the value 1.

- **Sx11DrawString()** Print text to the window.

```
void Sx11DrawString(int x, int y, unsigned long int sx11Color, char sx11text[])
```

x is the horizontal coordinate.

y is the vertical coordinate.

sx11Color is the color of the text in hex format.

sx11text is the string to be printed

Sx11DrawLine() Draw a line in the window.

```
void Sx11DrawLine(int x, int y, int fx, int fy, unsigned long int sx11Color)
```

x is the initial horizontal coordinate.

y is the initial vertical coordinate.

fx is the final horizontal coordinate.

fy is the final vertical coordinate.

sx11Color is the color of the text in hex format.

- **Sx11DrawPixel()** Draw a pixel in the window.

```
void Sx11DrawPixel(int x, int y, unsigned long int sx11Color)
```

x is the horizontal coordinate.

y is the vertical coordinate.

sx11Color is the color of the text in hex format.

- **Sx11GetEvents()** Capture keyboard and mouse events.

```
int Sx11GetEvents()
```

You need call this function every frame to capture mouse and keyboard events. Also this function receive the messages from Window Manager when the user click in the “X” button to close the window and also the Alt+F4 close event.

This function store 1 or 0 in the global variables representing the buttons press or released.

The variables sx11MouseLeftPress, sx11Keyboard_w_released...etc are affected by this function.

This function also capture the mouse movement changing the sx11MouseX and sx11MouseY global variables.

At the moment this functions capture events to the mouse and the following keyboard keys: 1, 2, 3, 4, Q, W, E, R, A, S, D, Shift, Ctrl, Space, Arrow UP, Arrow Left, Arrow Down, Arrow Right, Enter.

- **Sx11ClearButtons()** Clear all buttons variables from keyboard and mouse.

```
void Sx11ClearButtons()
```

This function reset (to “0”) all keyboard and mouse global variables. Use this function every frame after call Sx11GetEvents() and your code process the buttons pressed.

- **Sx11End()** Close the window and delete all resources.

```
void Sx11End()
```

Close the connection to X Window System and return the monitor resolution to the original value if changed.

- **Sx11Flush()** Refresh the screen to show new drawings.

Void Sx11Flush()

If the drawings are not showing in the screen, use this function at the end of all drawings instructions.