Using the Logitech Gaming LCD SDK with C#

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Overview

The Logitech Gaming LCD SDK enables applications such as games to control the LCDs on supported Logitech gaming mice and keyboards.

It's built as a C++ DLL, but it can be easily integrated in a C# assembly, using P/Invoke and function marshaling.

Please refer to the Logitech SDK's Doc\LogitechGamingLCDSDK.pdf for details on the SDK's functionality.

Making the LCD SDK work in your C# program

The following steps show how to make the Logitech SDK work with a C# program. Please adapt the steps to your game for things to work.

Steps

1. Create a SDK C# wrapper class as follows :

LogitechGSDK.cs

```
using System.Collections;
using System.Runtime.InteropServices;
using System.Collections.Specialized;
using System;

public class LogitechGSDK  {
	//LCD SDK
	public const int LOGI_LCD_COLOR_BUTTON_LEFT   = (0x00000100);
	public const int LOGI_LCD_COLOR_BUTTON_RIGHT  = (0x00000200);
	public const int LOGI_LCD_COLOR_BUTTON_OK     = (0x00000400);
	public const int LOGI_LCD_COLOR_BUTTON_CANCEL = (0x00000800);
	public const int LOGI_LCD_COLOR_BUTTON_UP         = (0x00001000);
	public const int LOGI_LCD_COLOR_BUTTON_DOWN   = (0x00002000);
	public const int LOGI_LCD_COLOR_BUTTON_MENU   = (0x00004000);

	public const int LOGI_LCD_MONO_BUTTON_0 = (0x00000001);
	public const int LOGI_LCD_MONO_BUTTON_1 = (0x00000002);
	public const int LOGI_LCD_MONO_BUTTON_2 = (0x00000004);
	public const int LOGI_LCD_MONO_BUTTON_3 = (0x00000008);

	public const int LOGI_LCD_MONO_WIDTH = 160;
	public const int LOGI_LCD_MONO_HEIGHT = 43;

	public const int LOGI_LCD_COLOR_WIDTH = 320;
	public const int LOGI_LCD_COLOR_HEIGHT = 240;


	public const int LOGI_LCD_TYPE_MONO  = (0x00000001);
	public const int LOGI_LCD_TYPE_COLOR  = (0x00000002);



	[DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
```

```
        public static extern bool LogiLcdInit(String friendlyName, int lcdType);

        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern bool LogiLcdIsConnected(int lcdType);

        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern bool LogiLcdIsButtonPressed(int button);

        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern void LogiLcdUpdate();

        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern void LogiLcdShutdown();

        // Monochrome LCD functions
        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern bool LogiLcdMonoSetBackground(byte [] monoBitmap);

        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern bool LogiLcdMonoSetText(int lineNumber, String text);

        // Color LCD functions
        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern bool LogiLcdColorSetBackground(byte [] colorBitmap);

        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
        public static extern bool LogiLcdColorSetTitle(String text, int red , int green ,
int blue );

        [DllImport("LogitechLcd", CharSet = CharSet.Unicode, CallingConvention =
CallingConvention.Cdecl)]
      public static extern bool LogiLcdColorSetText(int lineNumber, String text, int red,
int green, int blue);
}
```

2. Call the functions from the wrapper from your C# code as follows:

```
LogitechGSDK.LogiLcdInit("TEST", LOGI_LCD_TYPE_MONO | LOGI_LCD_TYPE_COLOR);
LogitechGSDK.LogiLcdColorSetTitle("Testing", 255,0,0);
LogitechGSDK.LogiLcdMonoSetText(0,"testing");
LogitechGSDK.LogiLcdShutdown();
pixelMatrix = new byte[LOGI_LCD_COLOR_WIDTH * LOGI_LCD_COLOR_HEIGHT * 4];
//fill this array with your image
LogitechGSDK.LogiLcdColorSetBackground(pixelMatrix);
```

3. Copy Logitech SDK's Lib\x86\ LogitechLcd.dll to your c# 32bit executable path
4. Copy Logitech SDK's Lib\x64\ LogitechLcd.dll to your c# 64bit executable path
5. Compile and run your program

For questions/comments, email tpigliucci@logitech.com or cjuncker@logitech.com