



Logitech G-series LCD SDK

LCD UI Framework Overview

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Overview

The LCDUI classes are a set of C++ foundation classes to allow easier programming of the LCD. The classes reside on top of the Core API layer represented in the header file `lgld.h`. They provide such services as:

- Plug and Play of G-series LCD devices
- Sending data to the LCD device
- Reading button data on the LCD device
- Creation of commonly used controls

Core Classes

CLCDBase

This class is the base class from which most other LCDUI classes are derived from. If you were to create a new LCD UI control class, you should derive from this class and implement the OnDraw() and OnUpdate() methods.

CLCDCollection

This private class simply serves as a collection of CLCDBase objects. You can add/remove objects. It does mostly the private work of calling Draw() and Update() for its collection and ensuring that each object is clipped within its bounding box.

CLCDManager

This class is known as the "Screen" class. A Screen contains LCD UI objects such as a Text object or Icon object. If we were to create a new Screen class, you should derive your class from CLCDManager.

CLCDGfx

This is another private class handles does low-level GDI bitmap functionality.

CLCDOutput

This is the top most framework class. You add your screen to here and invoke the Draw() and Update() functions at your implemented timer. It will automatically deal with Plug and Play of G-series LCD device. You can add multiple screens and programmatically activate the appropriate one.

Common Control Classes

CLCDBitmap

Class to draw a bitmap (BMP) file onto the LCD.

CLCDAnimatedBitmap

Class to draw a tiled sequence of bitmaps onto the LCD resulting in an animation effect.

CLCDIcon

Class to draw an icon (ICO) file onto the LCD.

CLCDProgressBar

Class to draw/control a progress bar onto the LCD.

CLCDText

Class to draw standard text onto the LCD. You can set the font, point-size, etc.

CLCDScrollingText

Class to draw scrolling text onto the LCD. Scrolling text is scrolled when the text does not fit onto the LCD. It is scrolled to the end of the text and then reset back to the beginning of the text.

CLCDStreamingText

Class to draw streaming text onto the LCD. Unlike scrolling text, streaming text will not reset to the beginning of the text but will rather start displaying the text over again in the same animation. So the text appears to flow infinitely. This is useful for displaying a long string that needs to be repeated such as a song title and artist, or an RSS text stream.

Sample Usage

- Create 1 instance of **CLCDOutput**.
- Create your screen class, derive it from **CLCDManager**, and override the **Initialize()** method. Inside the **Initialize()**, add your UI controls. Ensure that you invoke the **Initialize()** for each control and set its position and size. Refer to the Framework sample's **Initialize()** for an example of how to do this.
- If you wish to deal with buttons, have your screen class override the **OnLCDButtonDown()** and **OnLCDButtonUp()** methods.
- Use **CLCDOutput::AddScreen()** to add the screen and **CLCDOutput::LockScreen()** to lock the screen.
- In your application's initialization procedure invoke the **Initialize()** procedure for both the **CLCDOutput** and your instantiated screen class.
- In your application timer procedure, invoke the **Update()** and then **Draw()** methods of your **CLCDOutput** instance.
- In your application's termination procedure, ensure that **Shutdown()** is invoked for your instantiated **CLCDOutput** class.