

Re: GUI for LCD

was also someone on this group a year or so ago who was developing a cut-down open source GUI – you'd have to check the archives.

To write one yourself then your biggest hurdle will be getting the LCD controller to function correctly – creating images is secondary to that. Some microcontroller vendors (Sharp for one although soon to be NXP) have software tools that will create C header files to initialise your LCD controller to suit your panel.

Once you can drive the LCD then you just need a few simple functions that will populate the frame buffer in the right way. You can go a long way toward a good GUI with simple functions like ClearScreen, DrawPoint, DrawLine, DrawBox, DrawCircle etc.

If you want predrawn pictures then bitmaps are easiest to work with and RLE encoding them can compress them if you are short of space. There are a number of programs available that will convert a bitmap file to a C file for inclusion in your project – bmp2c is one I believe is free. I use the one that came with emwin and it is very good but certainly not free. A function like DrawBitmap is not too tricky to implement and is mainly just setting the colour of the frame buffer pixels in

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sequence. A
bit harder if you use compression.

So with these tools (emwin/PEG..), I will develop the GUI (images, dialogs etc., which will be displayed on LCD). And then I need to write some event handler routines for each button/image. Whatever code will be written will be flashed into the microcontroller and then microcontroller will control the display. Is it this way?

That's exactly the way. You can use the graphic library's own event handling mechanisms or you can do your own. I started out using emwin's own window manager which uses callback mechanisms similar to MS windows but I started wanting to do messy things with the frame buffer and began to create my own window handling scheme but still used the library for actually drawing shapes, text and pictures. I've pretty much written my own touchscreen driver but I still use Segger's interface to inform the GUI that there has been a touch in a location.

It's not cheap though. From their website (www.segger.com) then you're looking at 8K euros for a comprehensive package with a window manager, bitmap and font converter and LCD drivers. Actually, in retrospect I've paid for a lot of things I don't really use but everything is clear in hindsight! IT will get you going quickly though and their support is good. I decided to pay for a bit of training and went to their offices in Germany and they got me running there and then. Admittedly I had also bought a development kit from LogicPD which they already supported so there were no mysteries there. – Hide quoted text –

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I found a chip from Amulet Technologies. The chip is a combination LCD controller chip and a user interface chip. According to them this chip will reduce the complex coding.