

Abstract

Segger provides documentation for using their GUIBuilder program in the GUIBuilder section of their emWin Graphic Library with Graphic User Interface User & Reference Guide (UM3001_emWin5.pdf). GUIBuilder generates C code modules ready to be added into your μ Vision project. This application note provides a template μ Vision project with GUIBuilder-generated modules for the MCB1800 evaluation board.

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The emWin GUIBuilder Program

The GUIBuilder program allows you to create dialogs graphically without using the C programming language. Widgets may be created, dragged, dropped and resized. Widget properties can be added using context menus. Fine tuning can be done by editing the properties of the widgets. The dialogs are saved in your μ Vision project as C files. The user may then add application-specific code. GUIBuilder can also modify the existing widgets even after custom code is added to the C modules. See the GUIBuilder section of the emWin Graphic Library with Graphic User Interface User & Reference Guide (UM3001_emWin5.pdf) for more information about using GUIBuilder.

Download the GBExample Project

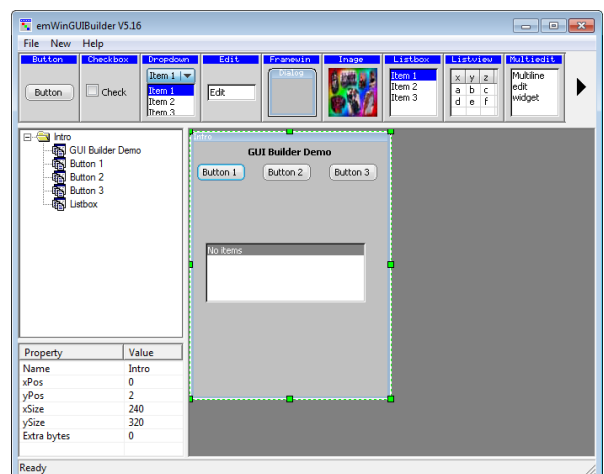
The easiest way to create a μ Vision project for GUIBuilder is to start with a template project for your target Keil evaluation board. This project pre-selects the support modules and settings your application will need to properly work with your board. For this application note, we'll use the MCB1850/MCB1857 evaluation board and GBExample project attached to this application note.

1. Download and extract the **GBExample** project for this applications note from Apnt_234.zip to a folder on your installation drive.
2. Open the **GBExample** project in μ Vision.



Create your GUIBuilder Graphics

Now that you have an existing μ Vision project, you need a GUI screen. You don't necessarily have to create your μ Vision project first, but because GUIBuilder can build and maintain your screens without affecting the code you add, having a template project in place can make things easier because GUIBuilder can save your screen modules directly to your project folder.



1. Edit the **GUIBuilder.ini** file in the **C:\Keil\ARM\Segger\emWin\Tools** folder to set the "ProjectPath=" line to the folder where you created your new project.
2. Start GUIBuilder, and click **File**→**Open**. Select the **IntroDLH.c** file, then click the **Open** button. To give you a head start, we've



created a 240 x 320 frame, then added a text box with some text, 3 buttons with text and a list box. If you make any changes, save them using **File**→**Save**. When saving this file, GUIBuilder creates a .c module and names it using the Frame name with a “DLG” appended to the name. We generated a Frame called “Intro” so GUIBuilder names our example module **IntroDLG.c**.

3. Rebuild (Build All)  of the project files. There should be no errors or warnings.
4. Connect ULINK2, ULINK-ME or ULINK*Pro* to the MCB1850 board and to your PC.
5. The attached example is setup for ULINK*Pro*. If you have ULINK2 or ULINK-ME, in **Options for Target**, change the driver setting on the **Debug** tab and the **Utilities** tab to **ULINK2/ME Cortex Debugger**.
6. Click the Download icon  to download your program to Flash.
7. Click the Reset button on the MCB1800 board to start running the program. After a few seconds the frame, buttons and list box should display. Touching the buttons results in text being added text to the list box.

You can go back to GUIBuilder and add, change or remove widgets, save the file, then rebuild the μ Vision project (Step 3 above), and download it (Step 6).

After downloading, if you want to run the debugger, click the Debug  icon to start the debugger, and click in the darker gray portion of the left margin of a source code line to set a breakpoint. Click the Run  icon to start the program running. The program will execute until it reaches the breakpoint then the debugger will stop. For more information about using the debugger, see:

http://www.keil.com/support/man/docs/uv4/uv4_db_dbg_win_dialogs.htm

Summary

This simple example gets you started using the GUIBuilder and μ Vision to display graphical widgets and use the touch screen. Segger provides many example programs that demonstrate how to use the specific widgets they provide. The C:\Keil\ARM\Segger\emWin\Sample\Tutorial\ folder contains source code for the widgets emWin supports.