

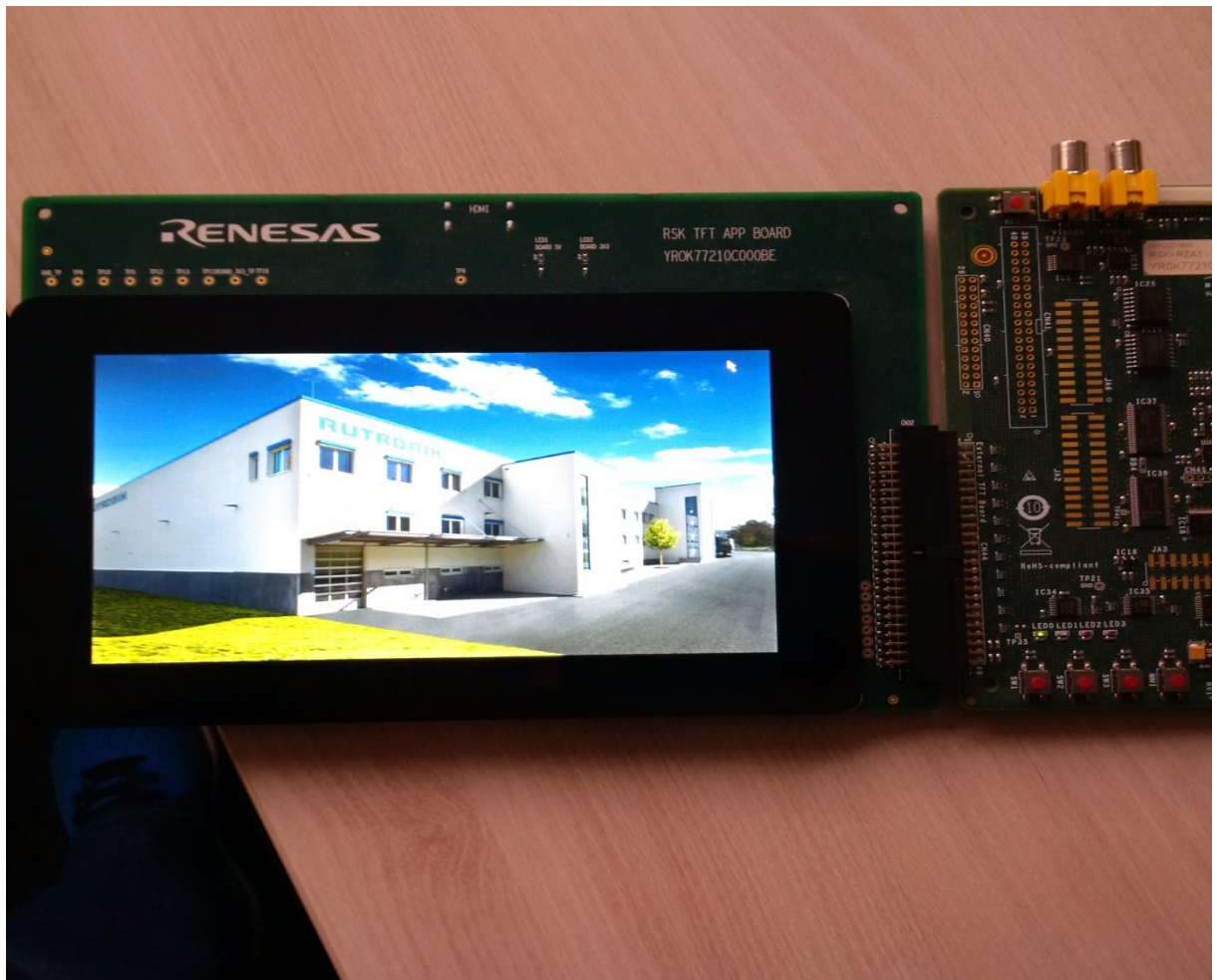
HMI development using Segger tools and RZA1 board

1. Introduction

This Demo illustrates the HMI development using Segger tools. In this Demo, the GUI elements such as button, list, windows, etc.. are used, and the HMI works so: on the first window a picture list is showed, user can select a picture from this list using a finger through touching the item, then after clicking on the button “OK” on the right and above corner of the window, the selected picture is immediately showed on display; if user wants to return to this picture list again, he only touches the window on the right and under corner of the window. The application also includes some key elements to demonstrate how they work together in a typical design, including: RTOS, LCD driver, GUI design, etc..

In this Demo, the LCD driver and the touch screen driver are integrated, the GUI is also configured, the project enviroment under Segger emwin is built. So the user can use this Demo as basis to develop their GUI under Segger tools with RZA1board.





2. Connect to the Board

This section describes how to connect the board to power, the J-Link debugger to the PC.

- Refer to the Quick Start Guide for Display-IT-RZ for setting up the power connection and the J-link debugger connection from your PC to the JTAG connector on the target board . This file can be found in the Display-IT-RZ DVD.

3. Use the Project

This demo project can be copied from: XXX.

After clicking on \RZA1_emwin_List\Start\ Start_RZA1.emProject, this project opens. To know how to edit and compile software, debug, etc., please read the relevant appropriate files from Segger.

The following tools should be used for compile and debug:

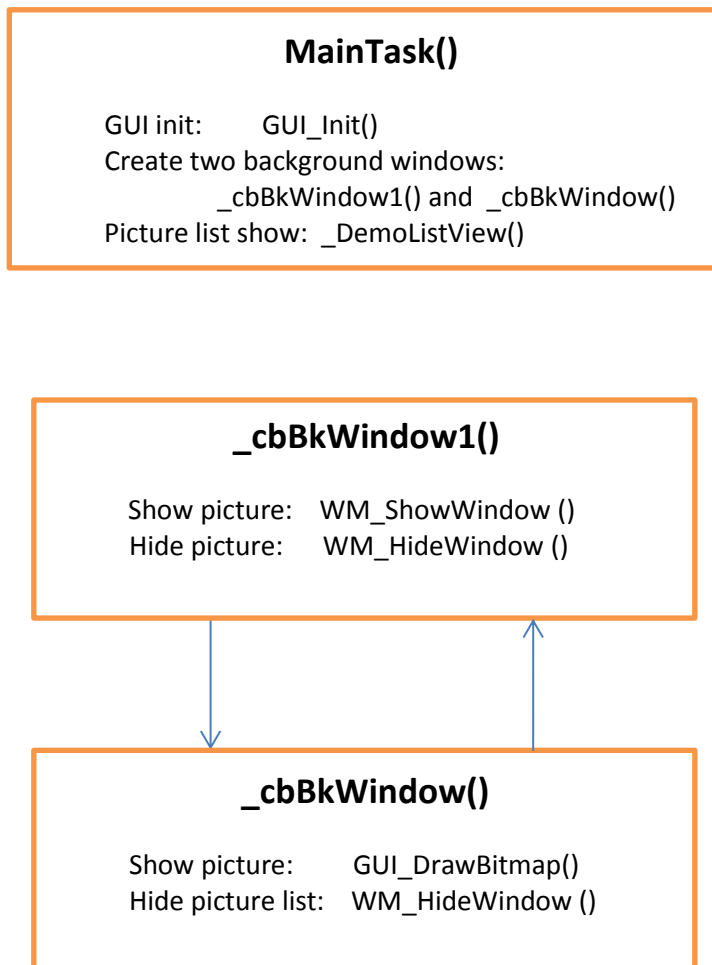
- SEGGER Embedded Studio Release 3.10i
- embOS

- emWin

4. Architecture and function description

A high-level view of the architecture of this application is shown below.

4.1 Architecture of the Demo



4.3 Function description

In Maintask(), the GUI is initiated through calling GUI_Init(), the elements such as cursor, font, etc.. are configured, and two windows are created through calling WM_CreateWindowAsChild() and WM_SetCallback().

The user can select a picture through finger touching on an item of the picture list, and click on the button “OK” on the corner of right and above window, then the selected picture is showed on the TFT through calling WM_HideWindow() and GUI_DrawBitmap() in function _cbBkWindow(); after clicking on the button “cancel” on the corner of right and under window, the picture is closed and the picture list is showed again through calling WM_HideWindow () and WM_ShowWindow () in function _cbBkWindow1().

4. Application Features

This section describes the key features of this demo application and the steps needed to run the application.

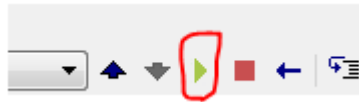
This demonstration application illustrates how to design a simple HMI using Segger tools with RZA1 board with the following features:

- Show a picture list
- Show some pictures
- Demonstrate the usage of GUI elements such as list, windows, button, font, touch, cursor, etc..

To run the demonstration application:

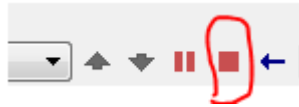
1. Click button “go” under menu “debug” to flash the software in RZA1 board, and then

click the red marked symbol



on the symbol bar to run the Demo.

2. Click button “stop” under menu “debug” or click the red marked symbol



on the symbol bar to stop the demo running.