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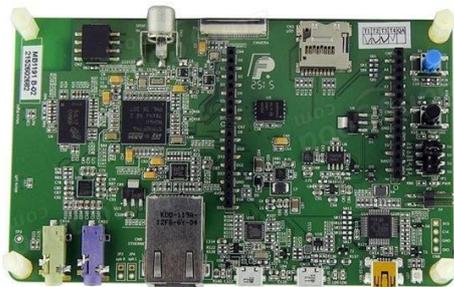
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Interfacing/Interacting with Hardware Peripherals – a How-to Guide

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1 Prerequisite:

1. TouchGFX 4.8.0
2. STM32F746G Discovery board
3. Keil or GCC
4. Download the TouchGFX Demo, PoolDemoHwInt: [link](#).



2 Application Overview

Main Screen – Pool Light On/Off & Entering Pool Temp View



Pool Light on/Off switch. This will toggle the green LED on the backside of the disco board.

Button for entering second screen – Set Pool Temperature.

Second Screen – Set Pool Temperature



PoolTempView, the user can change the temperature by sliding. He can also increase the temperature by pressing the blue pushbutton on the back repeatedly.



By pressing the blue button, you can change the value (temperature) on the second screen.

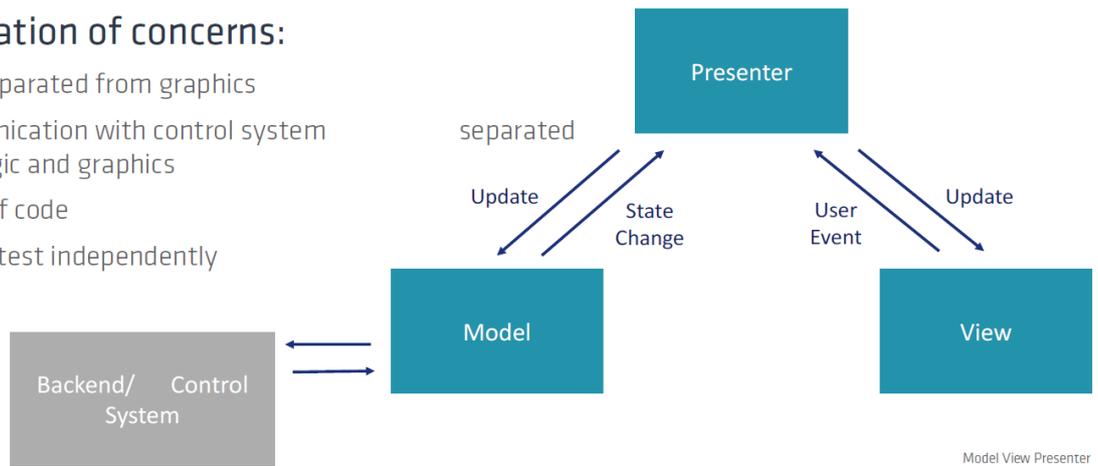
By pressing the On/Off button on the main screen, you are able to toggle the green led on the backside.

3 TouchGFX Architecture

TouchGFX Technology Software Architecture

Separation of concerns:

- Logic separated from graphics
- Communication with control system from logic and graphics
- Reuse of code
- Easy to test independently



4 How-to Guide

1. The hardware interaction is implemented in `gui/src/model/Model.cpp`.
2. In this example, we have used polled I/O, which is sufficient for GPIO. In other cases interrupt-based I/O is better (but also more complicated).
3. To run the example, unzip the project into `c:\TouchGFXProjects\`
4. Then open the TouchGFX Environment (white hand icon) and type:
5. `$ cd /c/TouchGFXProjects/PoolDemoHwInt`
6. `$ make -f target/ST/STM32F746G-DISCO/gcc/Makefile flash`
7. Remember to plug in the Disco board.
8. You can also open the `.touchgfx` file in TouchGFX Designer.
9. An IAR project file can be found here: `target/ST/STM32F746G-DISCO/IAR/application.ewp`