

# User Interfaces and Industrial IoT, Hands-On

## Class 3: Beginning Graphics Interface, Hands-on (Part 1)

February 28, 2018

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# This Week's Agenda

2/26 An Overview of IIoT Applications and Interface Needs

2/27 Simple Interfaces that Aren't So Simple

2/28 Beginning Graphics Interface, Hands-on (Part 1)

3/1 Beginning Graphics Interface, Hands-on (Part 2)

3/2 Advanced Human Interface design for the IIoT

# This Week's Agenda

2/26 An Overview of IIoT Applications and Interface Needs

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2/28 **Beginning Graphics Interface, Hands-on (Part 1)**

3/1 Beginning Graphics Interface, Hands-on (Part 2)

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# Getting Started With TouchGFX

- Click on the GFX Designer icon
- We will not be using the command-line environment today



# Opening Screen

**TouchGFX** DESIGNER

MY APPLICATIONS ONLINE APPLICATIONS

## Create New Application

APPLICATION NAME: MyApplication2

APPLICATION DIRECTORY: C:\TouchGFXProjects

APPLICATION TEMPLATE:

- Simulator** (by Draupner Graphics v1.0.0)  
Board Name: PC  
Operating System: Windows  
Resolution: Any
- Blank UI** (by Draupner Graphics v1.0.0)

COLOR DEPTH: 16 bit

WIDTH: 800

HEIGHT: 480

**CREATE**

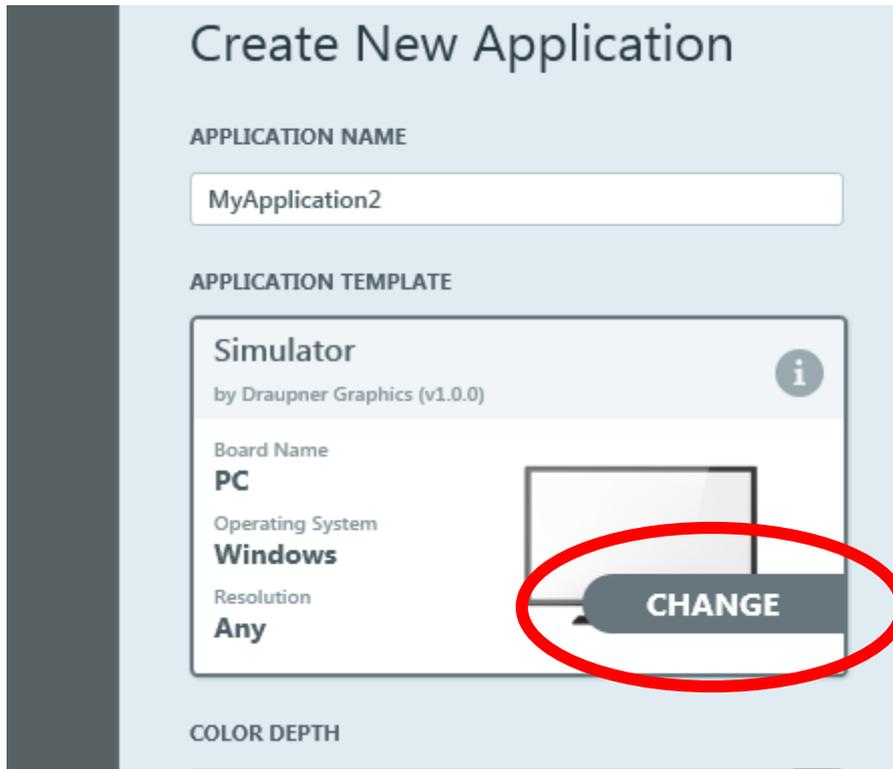
## Recent Applications

SEARCH FOR RECENT APPLICATIONS

Application Name	Created	Updated	Action
MyApplication1	26 Feb 2018	26 Feb 2018	Trash
MyApplication	25 Feb 2018	26 Feb 2018	Trash
TestUpDownButtons	21 Feb 2018	22 Feb 2018	Trash
demo212	21 Feb 2018	21 Feb 2018	Trash
Test256	20 Feb 2018	21 Feb 2018	Trash
Test02LPC4088	16 Feb 2018	17 Feb 2018	Trash
MyApplication001	13 Feb 2018	17 Feb 2018	Trash

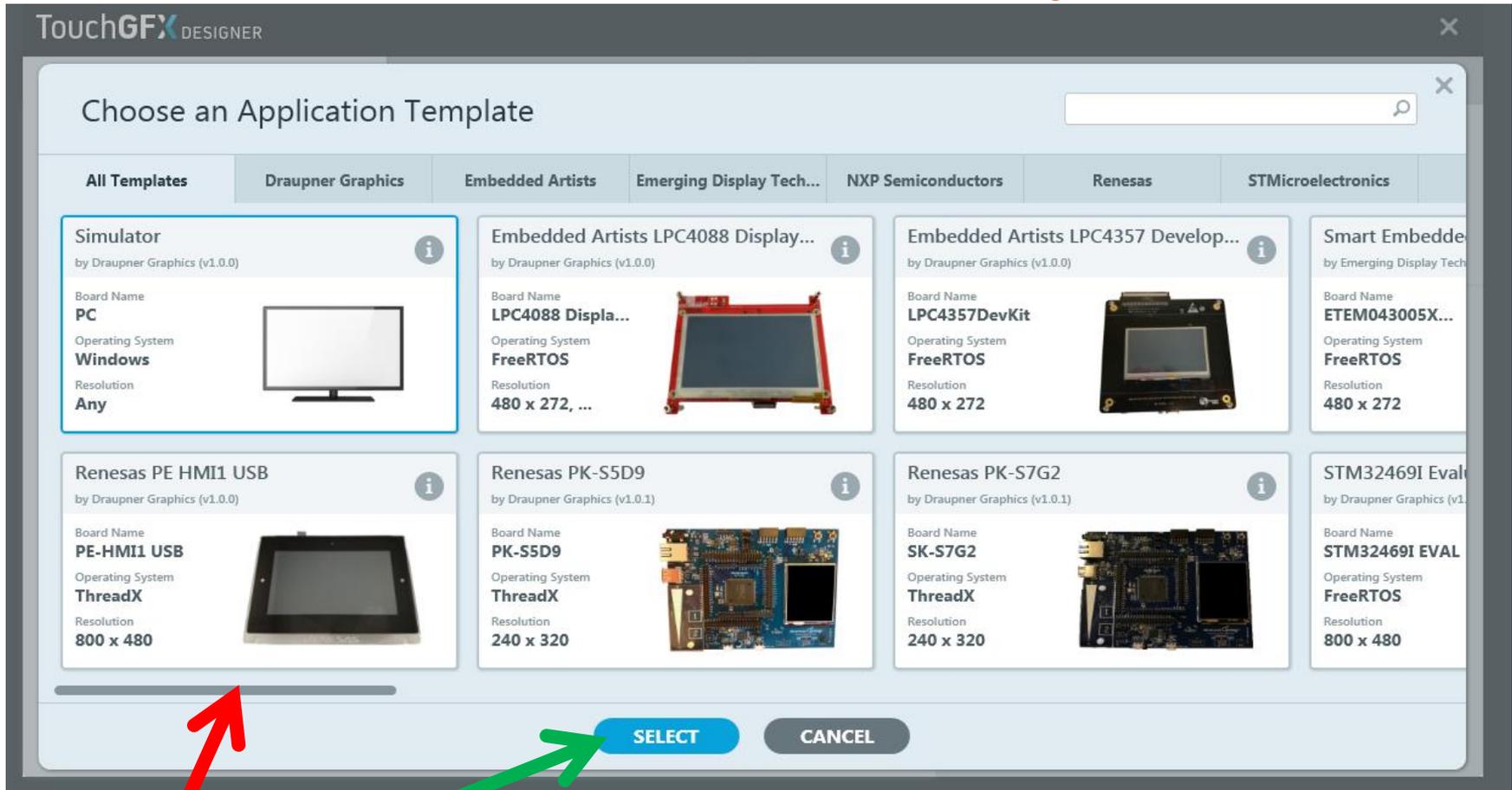
www.TouchGFX.com TouchGFX Help Center TouchGFX @ GitHub

# You can select the target



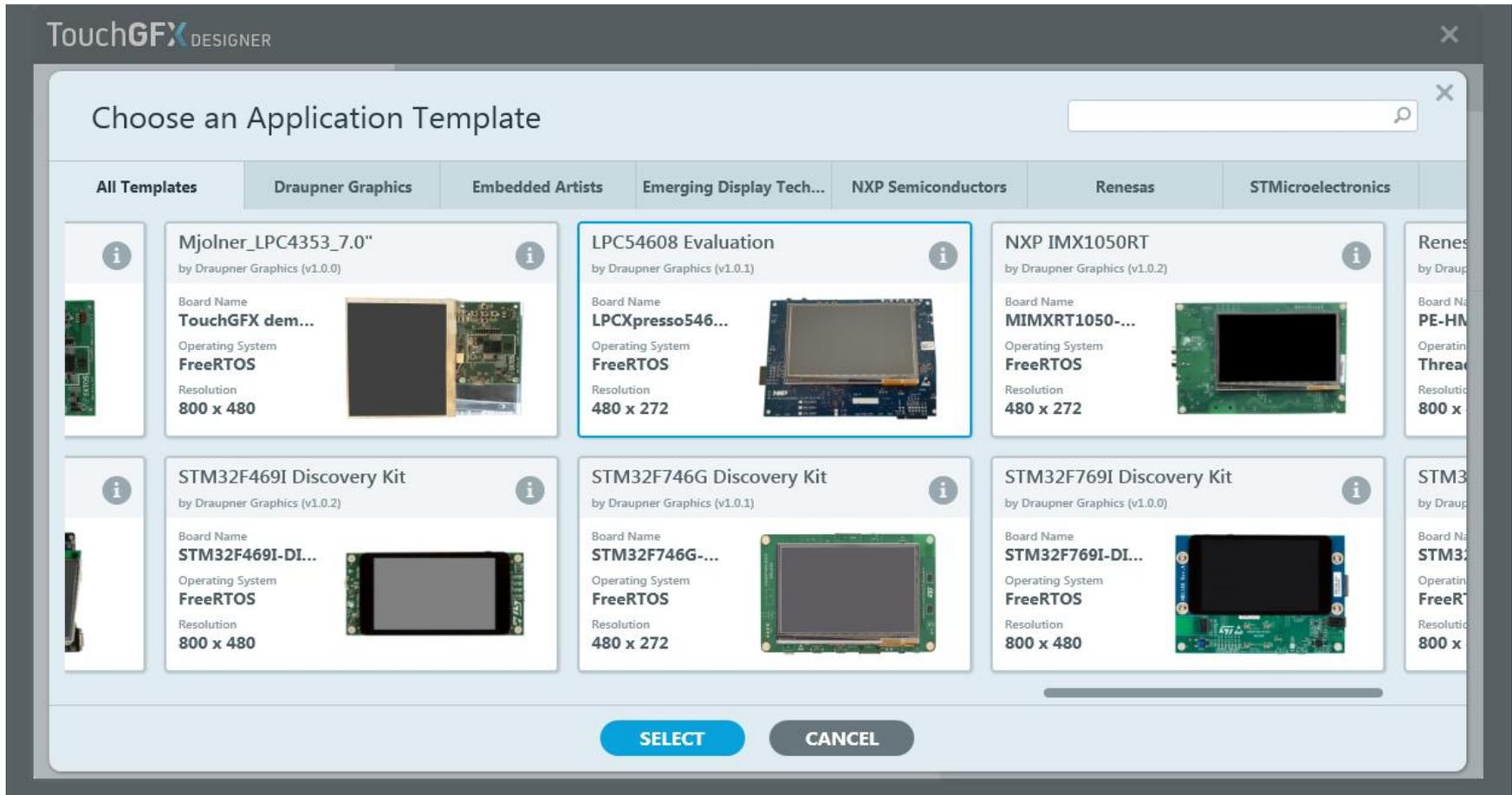
- Hover the cursor over the application template window and then click on the “Change” tab

# Select Target (IF you are not using the NXP Board)



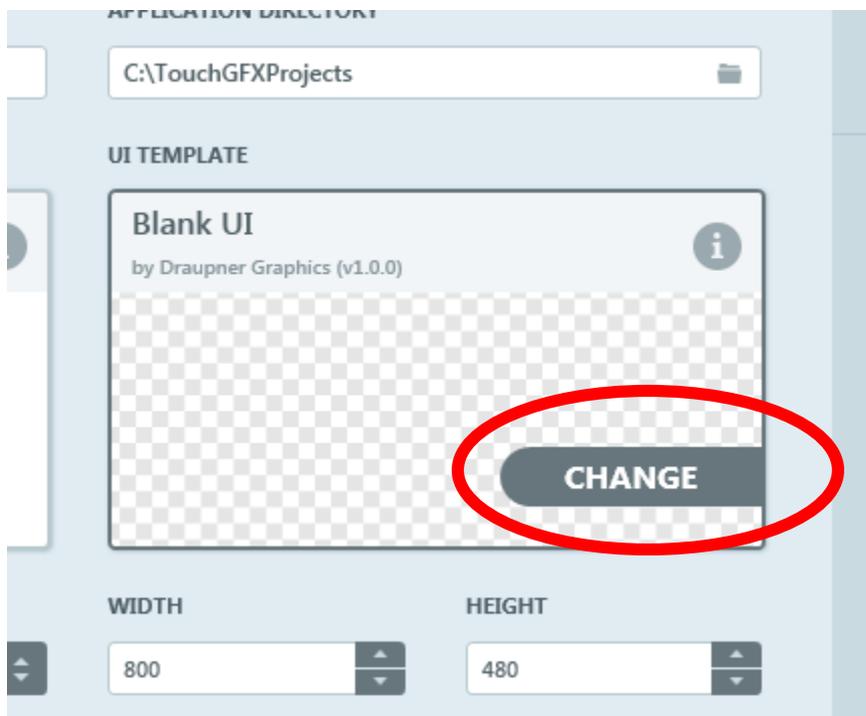
Question 1 – Any experience with ThreadX?

# Design for the NXP Board

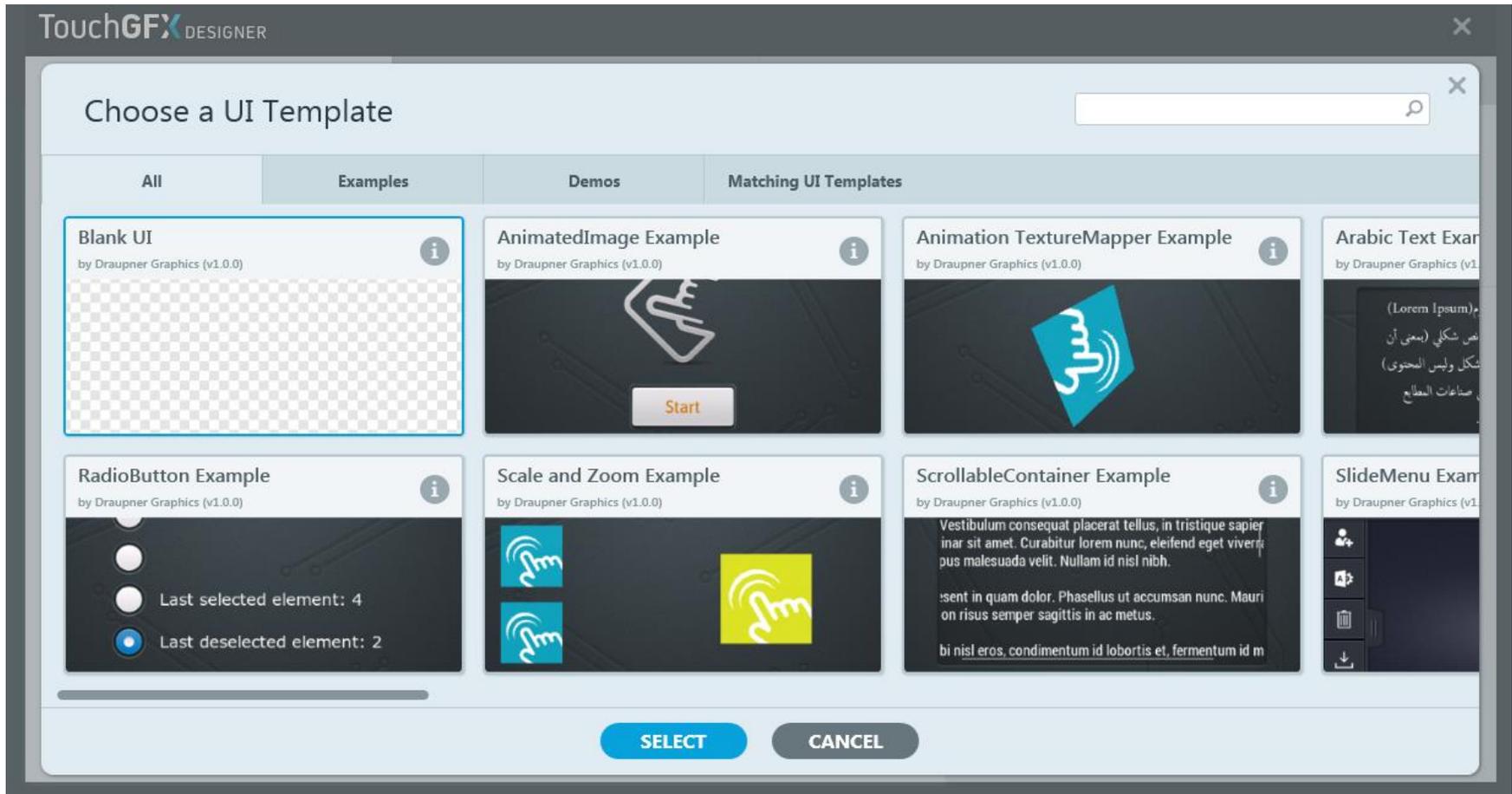


# You can select a template

- Hover the cursor over the UI template window and then click on the “Change” tab



# Select Template



# Our Setup

APPLICATION NAME: MyFirstApplication

APPLICATION DIRECTORY: C:\TouchGFXProjects

APPLICATION TEMPLATE: Simulator (by Draupner Graphics (v1.0.0))

UI TEMPLATE: Blank UI (by Draupner Graphics (v1.0.0))

COLOR DEPTH: 16 bit

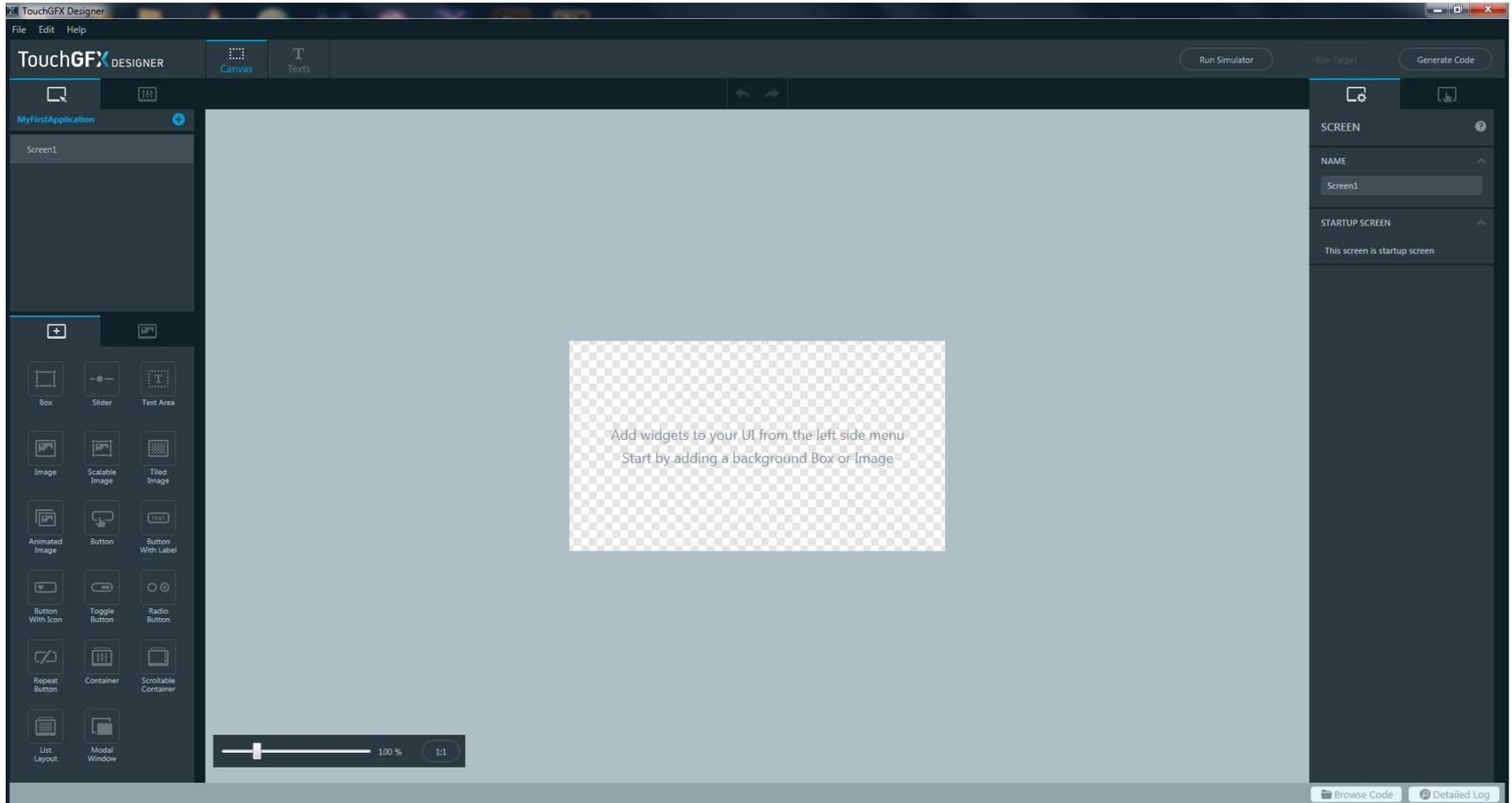
WIDTH: 480

HEIGHT: 272

**CREATE**

*Note: A red arrow points to the 'PC' board name in the Simulator template.*

# Our Blank Project



Presented by:

# MyFirstProject

- Default screen (Screen 1) will be solid blue
  - Will contain a label “Blue Screen”
  - Will contain a text button “Red”
    - Clicking the button will bring up Screen 2
- Screen 2 will be solid red
  - Will contain a label “Red Screen”
  - Will contain a text button “Blue”
    - Clicking the button will bring up Screen 1

# Steps

- Click on the “Box” widget
  - Note that there is a small box on our screen
  - Also note the elements of the box to the right
- Drag the box to fill the screen
- Click on color – pick a nice blue
- Change box name to boxScrnBlue

# Note Origin and Size



Question 2 – Why might I create a widget and make it invisible?

# Now We Add a Text Label

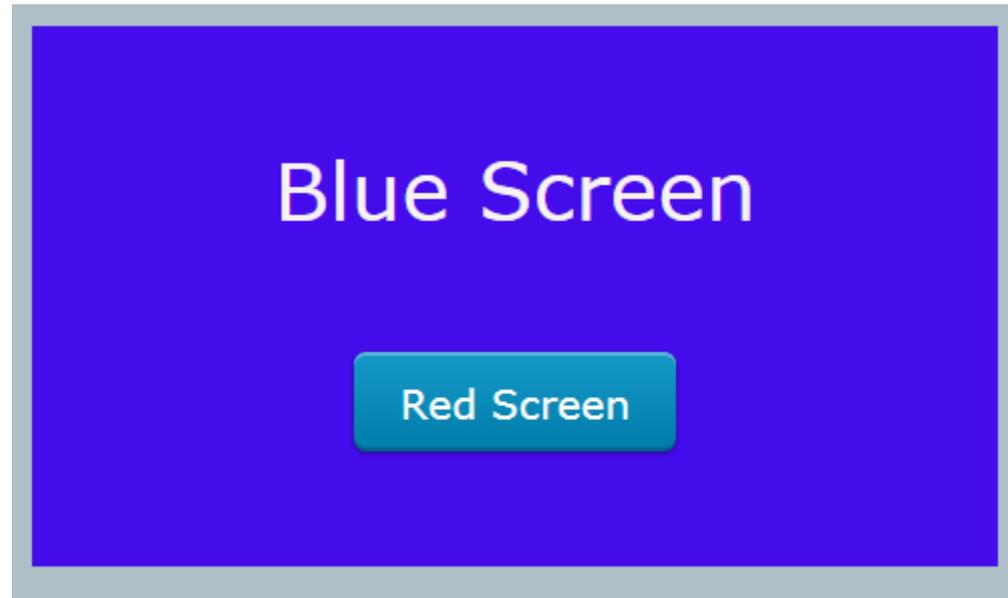
- In the widgets, click on Text Area
  - Note that there is a widget in the upper left of the screen
- Set Some Attributes
  - Color to white
  - Typography to Large
  - Text to “Blue Screen”
- Drag the label to the upper half of the screen, centered (note the pop-up centerline!)

The image shows a software interface with a light blue background. On the left, there is a rectangular area with a blue gradient background and the text "Blue Screen" in white, centered within a thin white border. On the right, there is a dark grey property panel titled "TEXT AREA" with a help icon. The panel is organized into several sections:

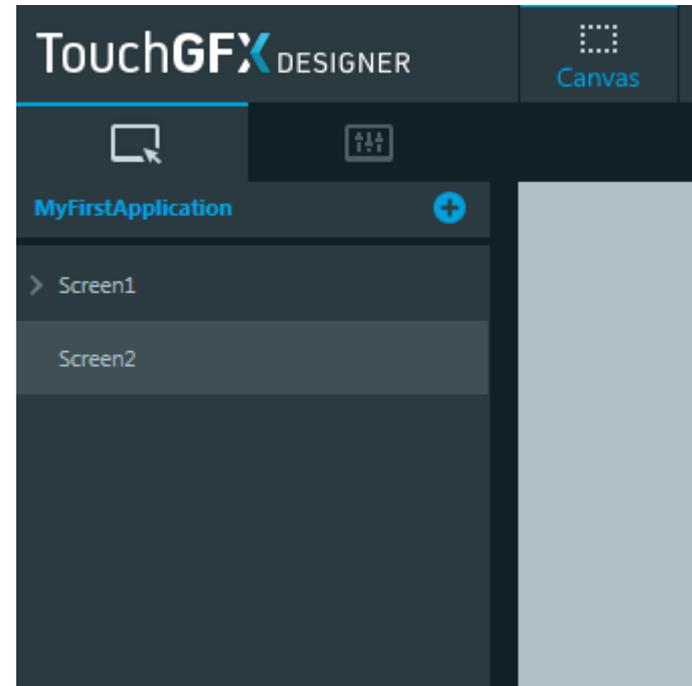
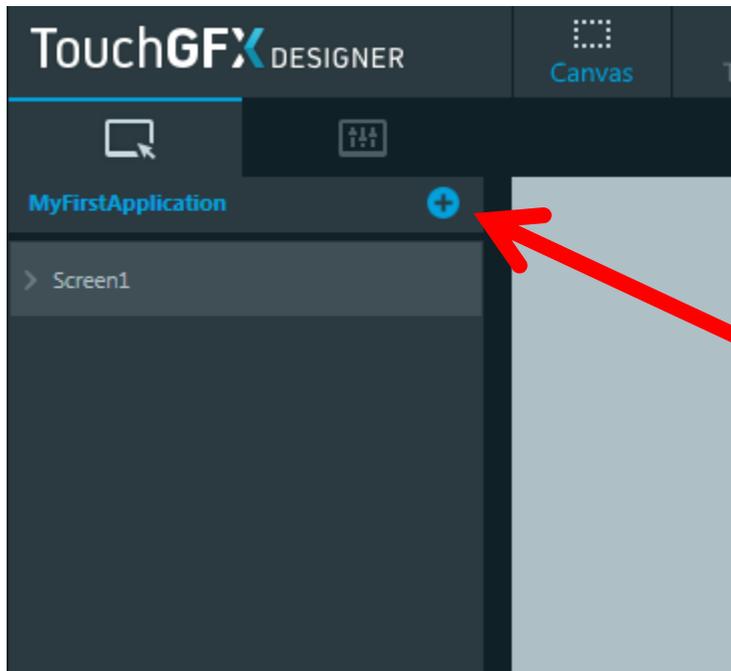
- TEXT AREA** (Header)
- NAME**: A text input field containing "textBlue".
- LOCATION**: A section with four numeric input fields: X (120), Y (58), W (240), and H (49). Below these are two checked checkboxes: "Auto-size" and "Visible".
- TEXT**: A section with two radio buttons: "Single Use" (selected) and "Resource". Below is a text input field containing "Blue Screen". There are also two "WILDCARD" fields (1 and 2) and a plus icon.
- Typography**: A section with a dropdown menu showing "Large, 40px".
- Alignment**: A section with three icons representing left, center, and right alignment.
- APPEARANCE**: A section with a "Color" input field (showing white), an "Alpha" slider set to 255, and a "Line spacing" input field set to 0.

# Now Add a Button

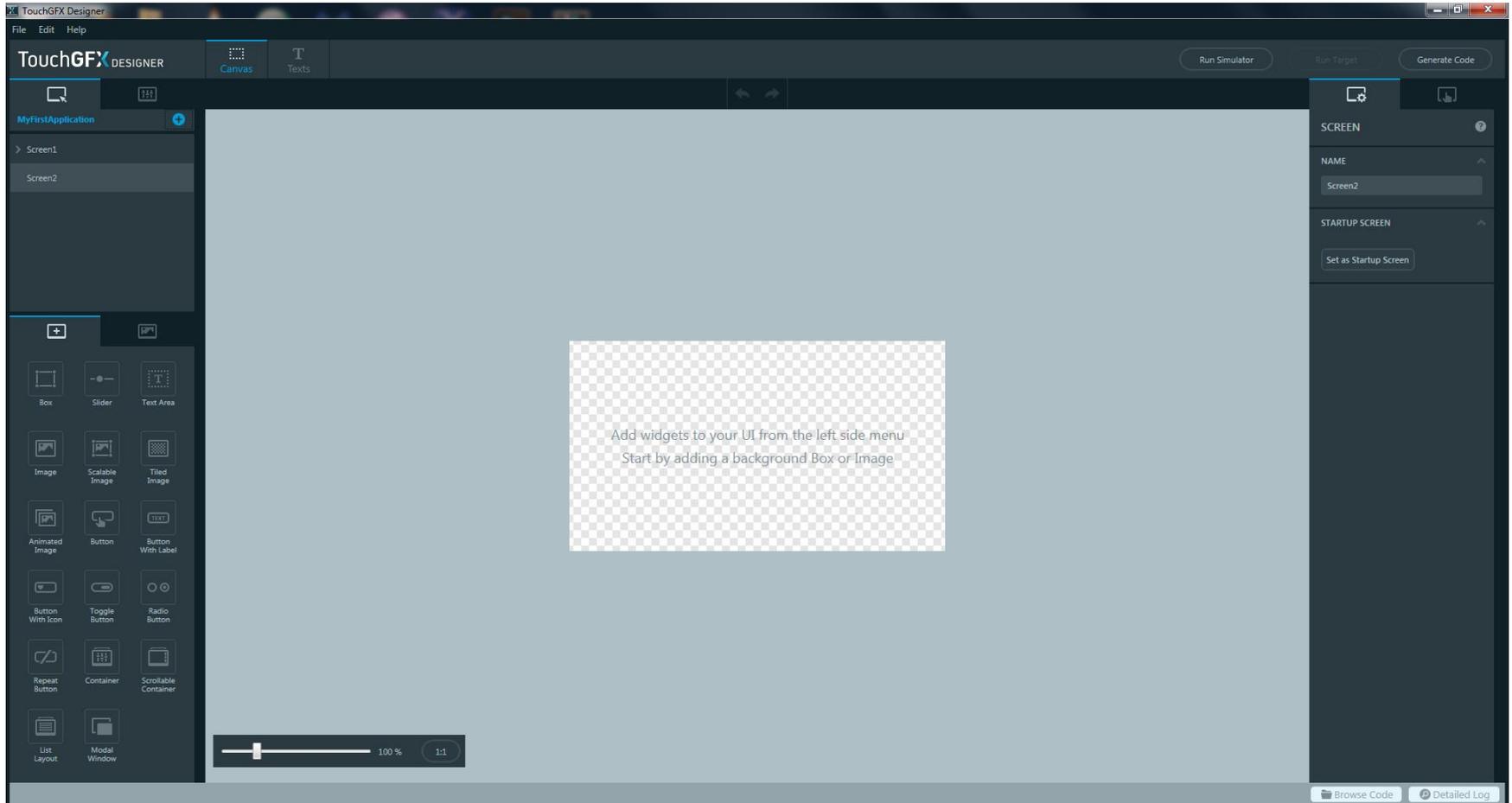
- Add a Button With Label widget
- Text to “Red Screen”
- Center under label



# Add a screen



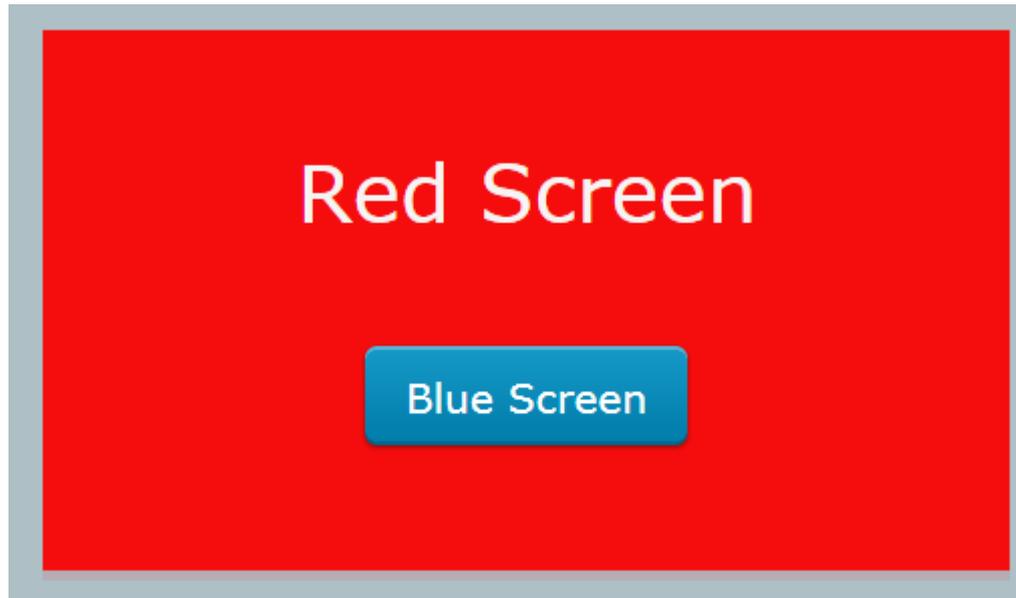
# Empty Screen2



Presented by:

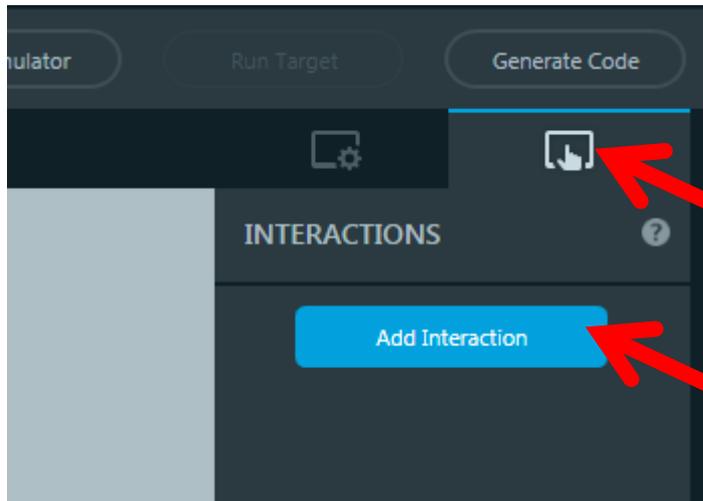
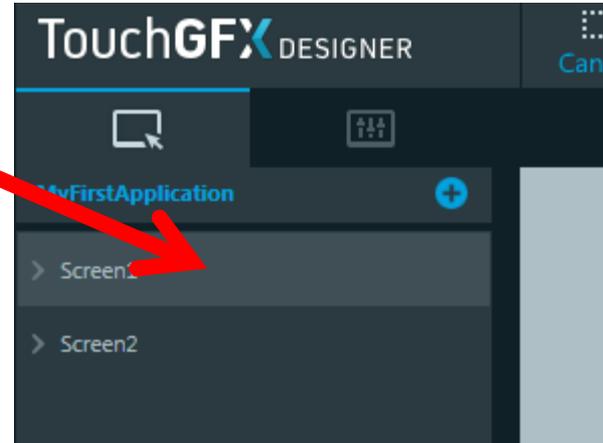
# Now We Fill Screen2 In

- Red box that fills screen
- Label “Red Screen”
- Button “Blue Screen”



# Now To Add Action!

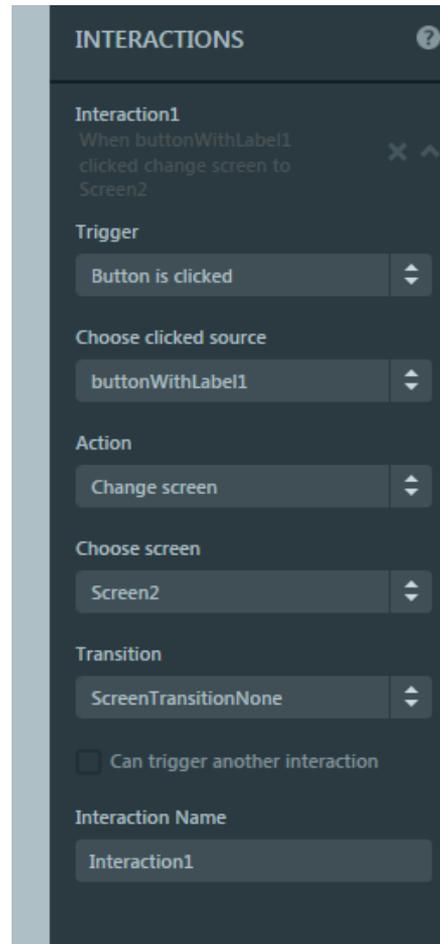
- Go back to Screen 1



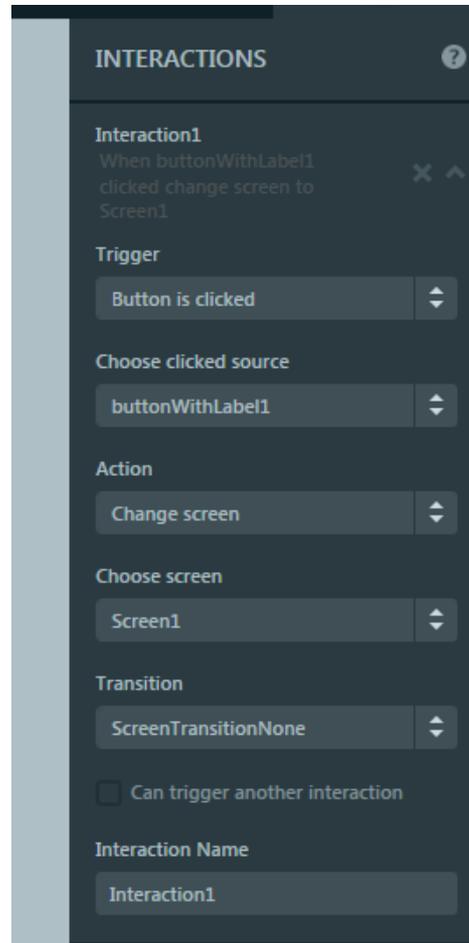
Select Interactions

Add Interaction

# Choose These Options

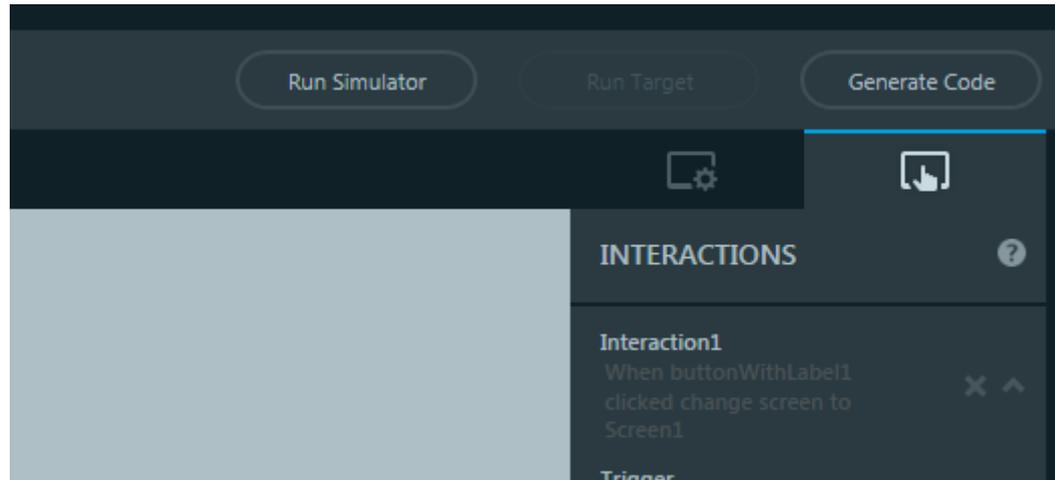


# Do The Same for Screen2

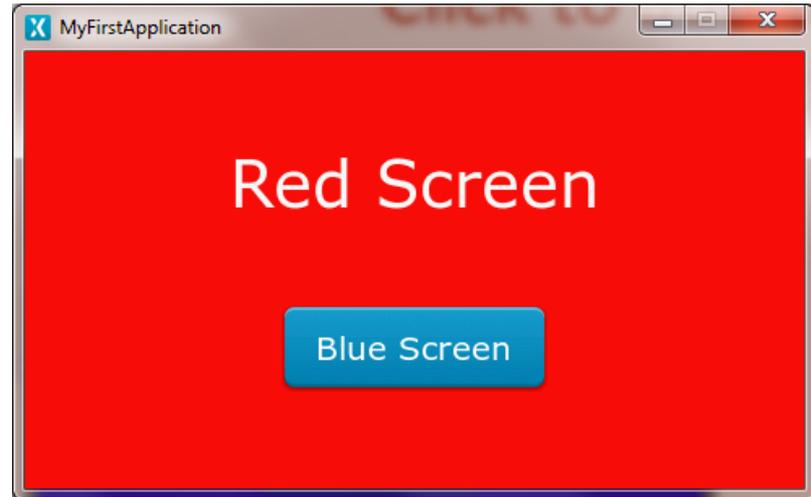
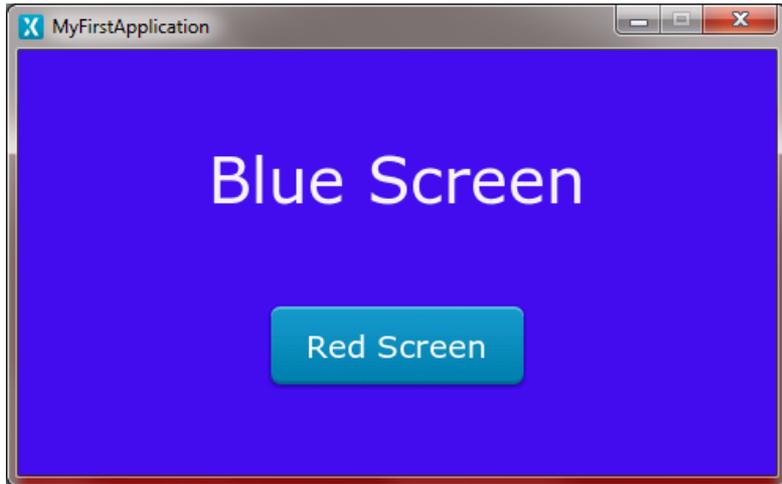


Question 3 – Why do we have two Interaction1's?

# Now Run Simulator



# Test The Application



# Tomorrow

- We will learn how to set up the drivers for the NXP board
- We will learn how to create native code for our board and load the BSP and SDK into IAR
- We will look at how to add advanced widgets and make our screens more professional looking!

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# Please stick around as I answer your questions!

- Please give me a moment to scroll back through the chat window to find your questions
- I will stay on chat as long as it takes to answer!
- I am available to answer simple questions or to consult (or offer in-house training for your company)

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