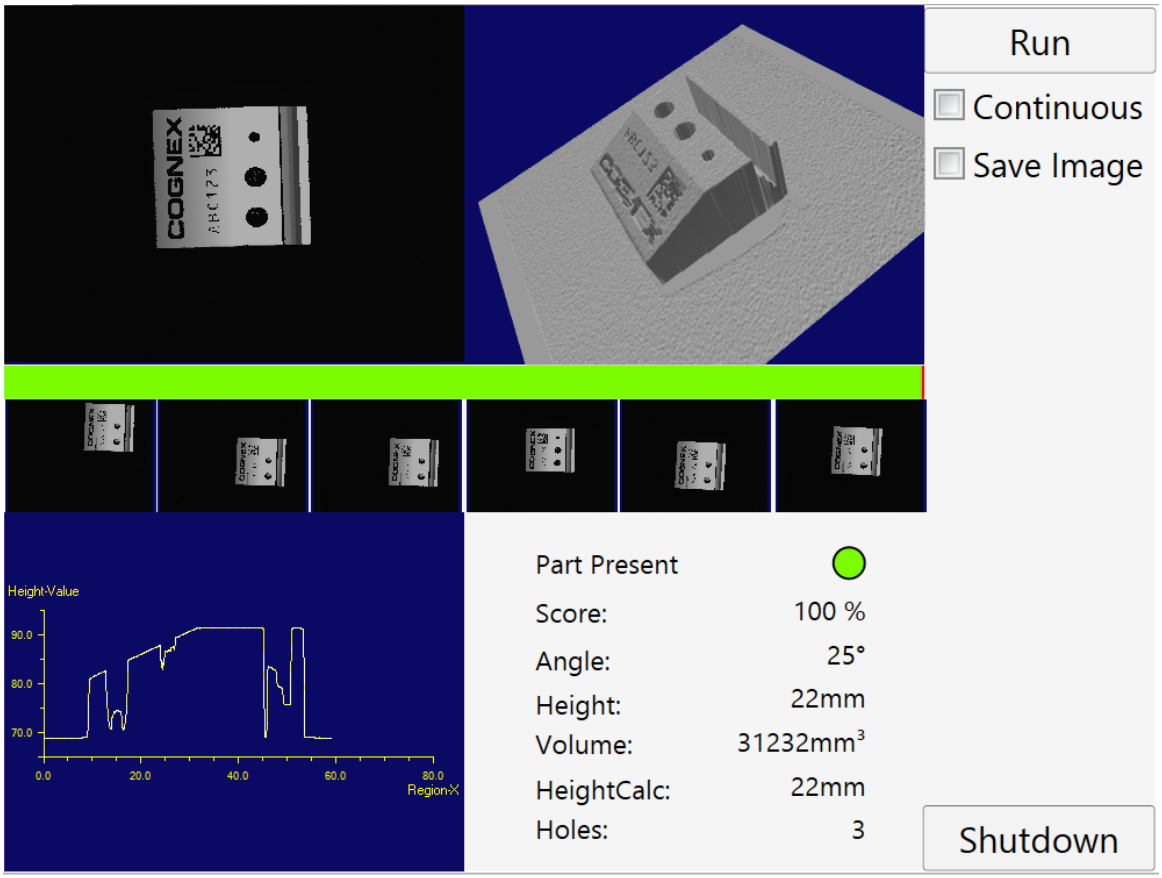
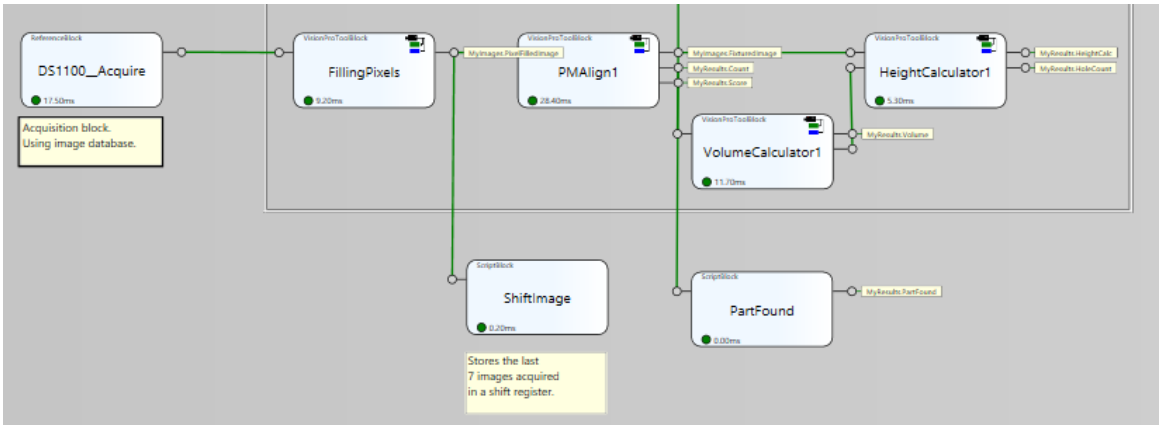
Cognex Designer– Section 8
Components Lab
Approximate Duration: 15-30 minutes

EXPECTED OUTCOMES:

- Add Filmstrip to HMI
- Flag whether the image is good or bad

EXPECTED VISUAL RESULT:



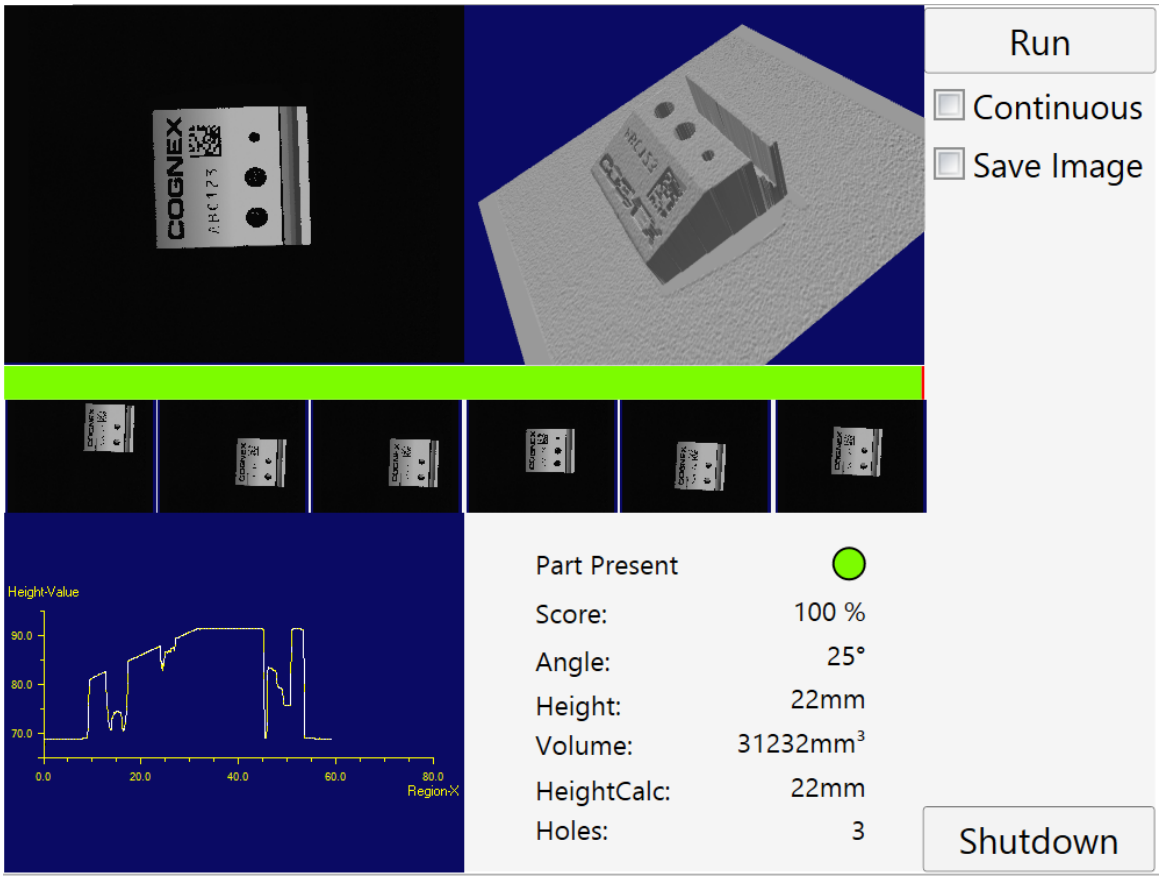


OUTLINE OF LAB:

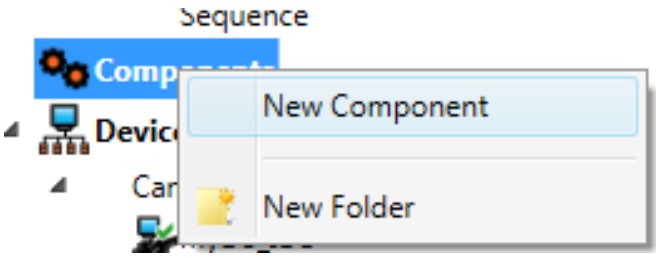
1. **Create a Shift Register for images**
    a. **Create a new Component**
2. **Add Filmstrip to HMI**
    a. **Add ScriptBlock to save the images**
    b. **Add displays to HMI and associate with correct image**
3. **Add indication of pass or fail (if time permits)**
    a. **Add a ScriptBlock to determine if part is good or bad**
    b. **Add another Shift Register for Pass / Fail data**
    c. **Control color of Rectangle**

Steps for the Lab:

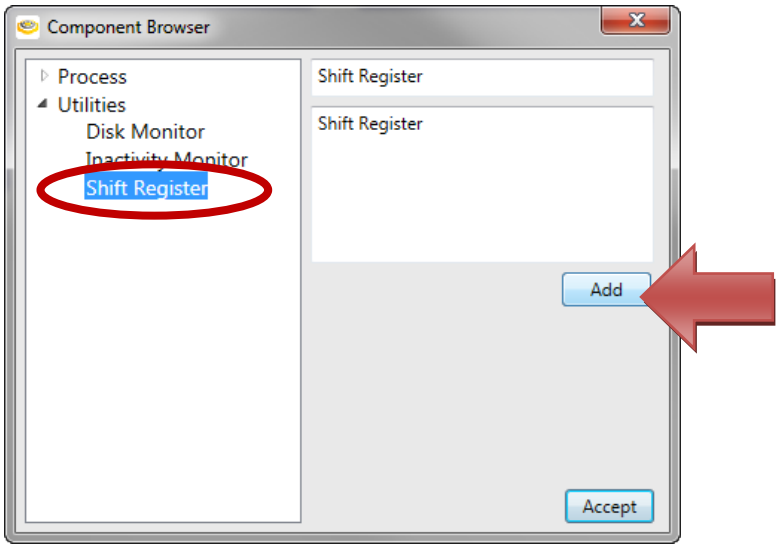
We'll be building a user interface that looks like this:



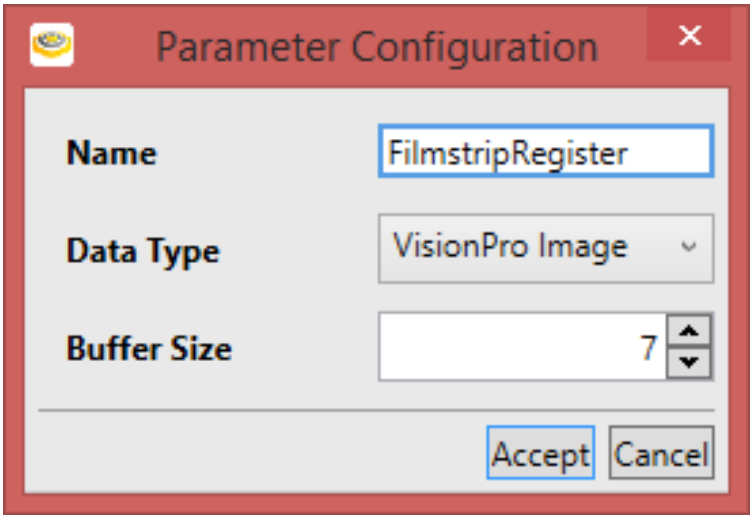
1. **Create a Shift Register for images**
    a. **Create a new Component**
        i. Right-click on Component in the Explorer and select “New Component”



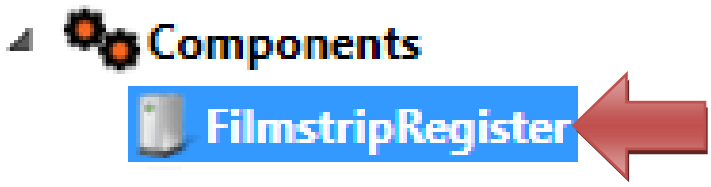
Click on “Utilities” to expand list. Choose “Shift Register”, then “Add”



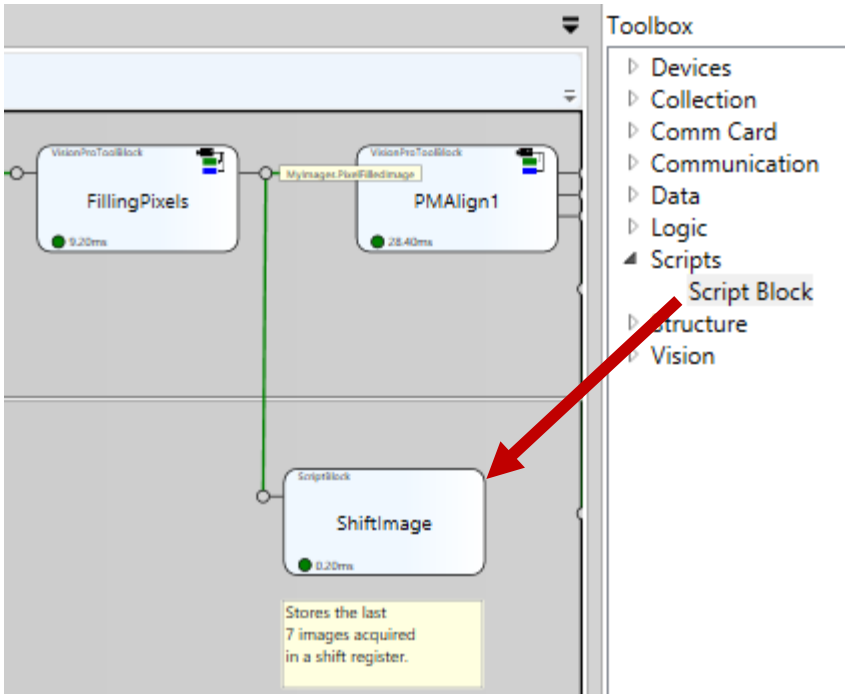
ii. Name it “FilmstripRegister” and have it use the DataType of “VisionPro Image”. We can leave the Buffer Size at “7”.



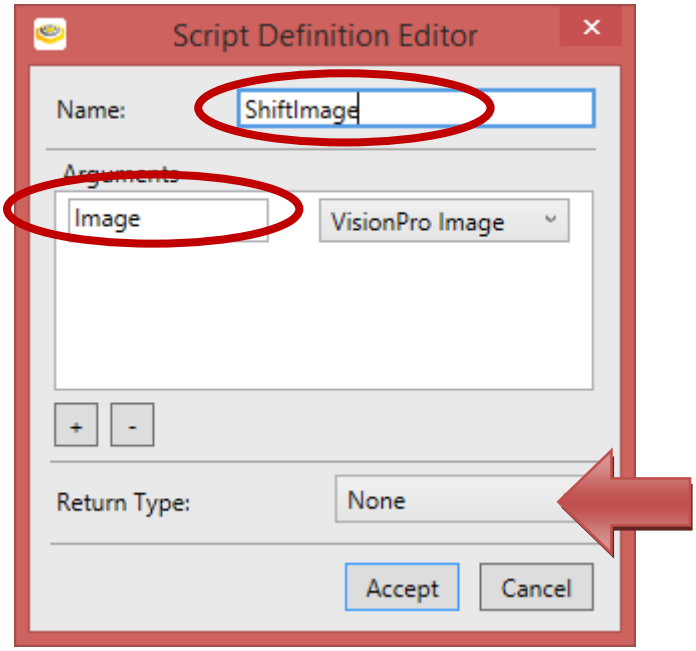
iii. Accept the Component dialog box. Note the new entry in the Explorer under **Component.**



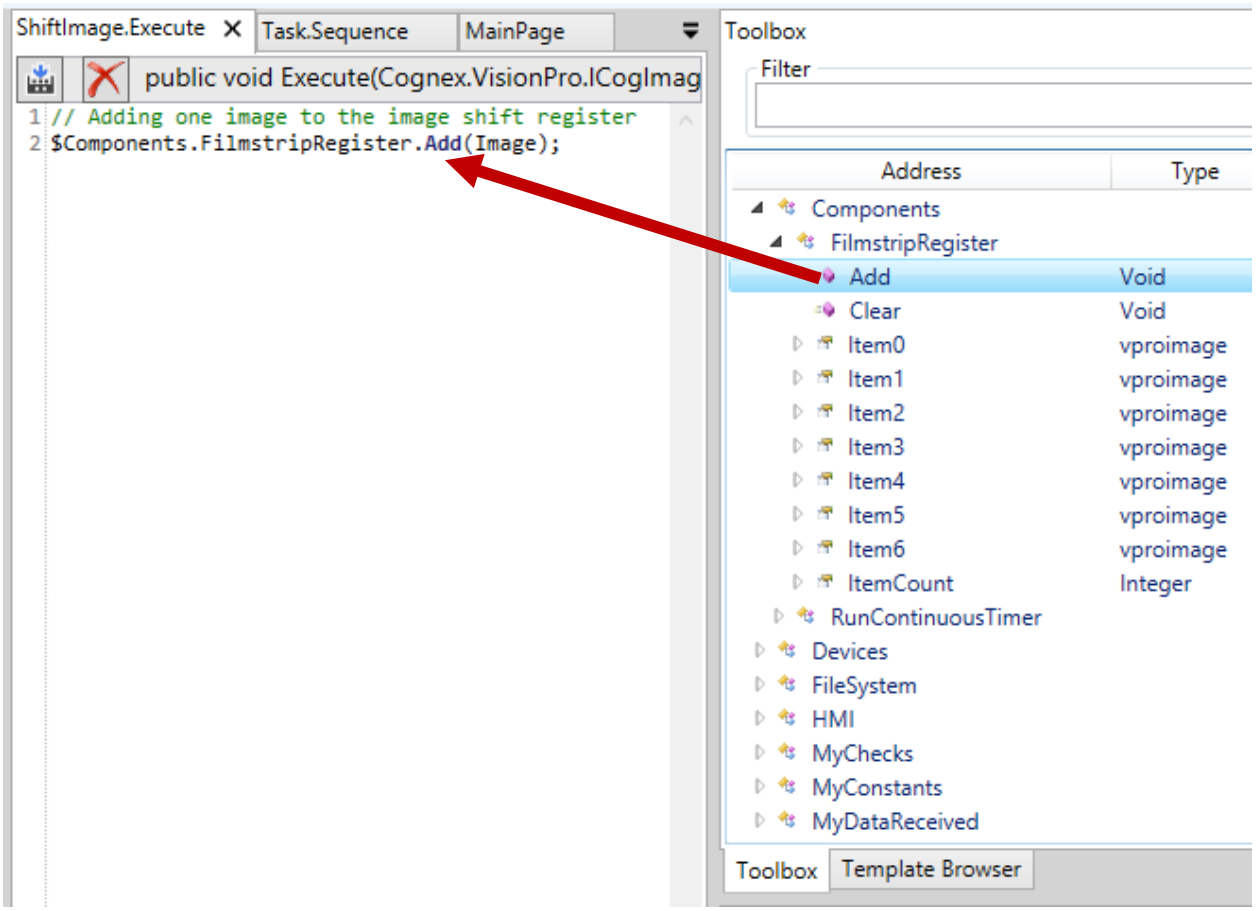
2. **Add Filmstrip to HMI**
    a. **Add ScriptBlock to save the images**
        i. Add a new ScriptBlock to the Sequence.



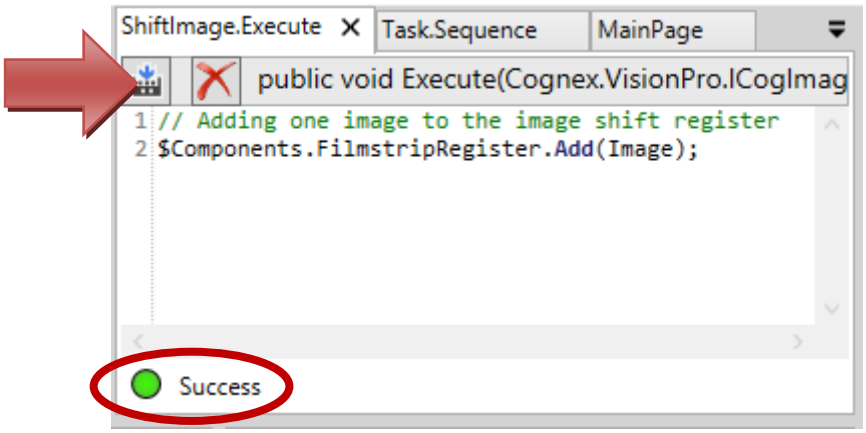
        ii. Double click on the ScriptBlock and Rename the block to be "ShiftImage". Give it one argument name "Image" and set the type to be **VisionPro Image.**



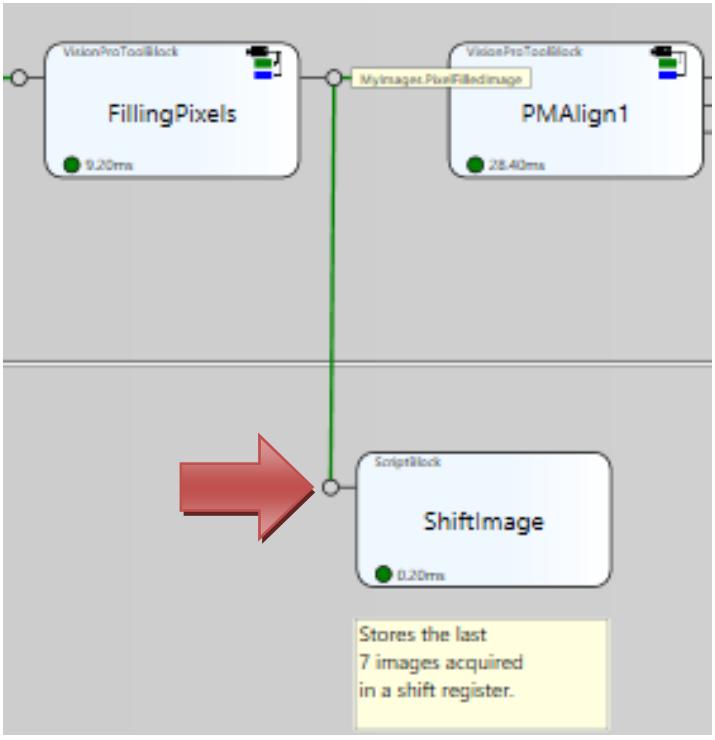
iii. Upon accepting the Script Definition Editor, the scripting tab will appear. Add $Components.myFilmestrip.Add(Image); to the script. This can also be done by dragging and dropping the command from the Scriptign tool box. Change “item” to “Image” and add a semicolon to terminate the command.



iv. Compile the Script check for errors. Any errors would be noted below the Scripting Tab in the Errors area.



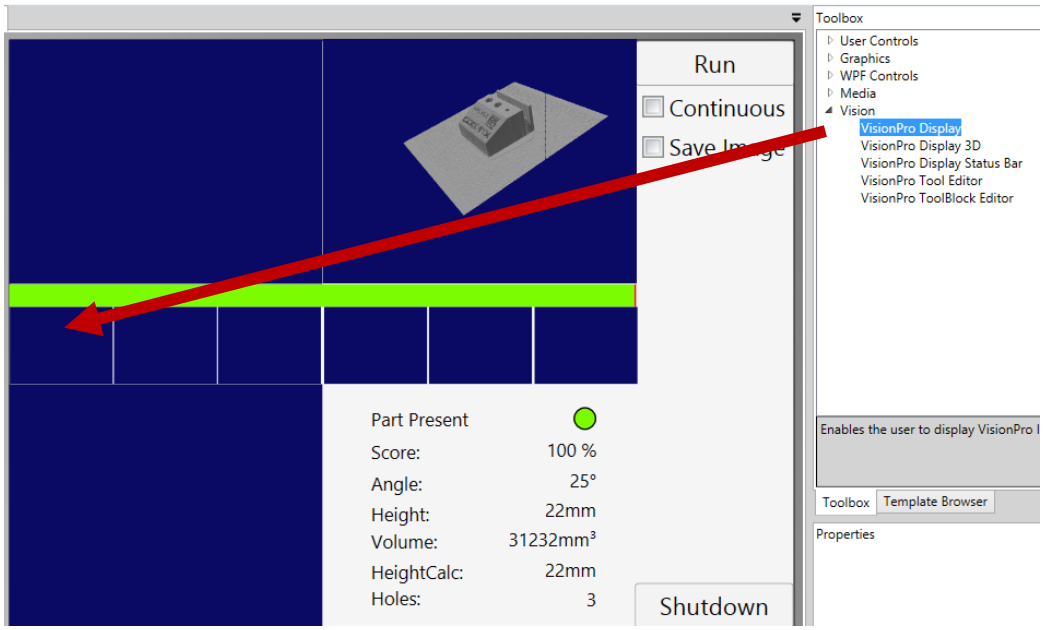
v. Go back to the Sequence and attach the Tag for the MissingPixels clock to the input of the ScriptBlock.



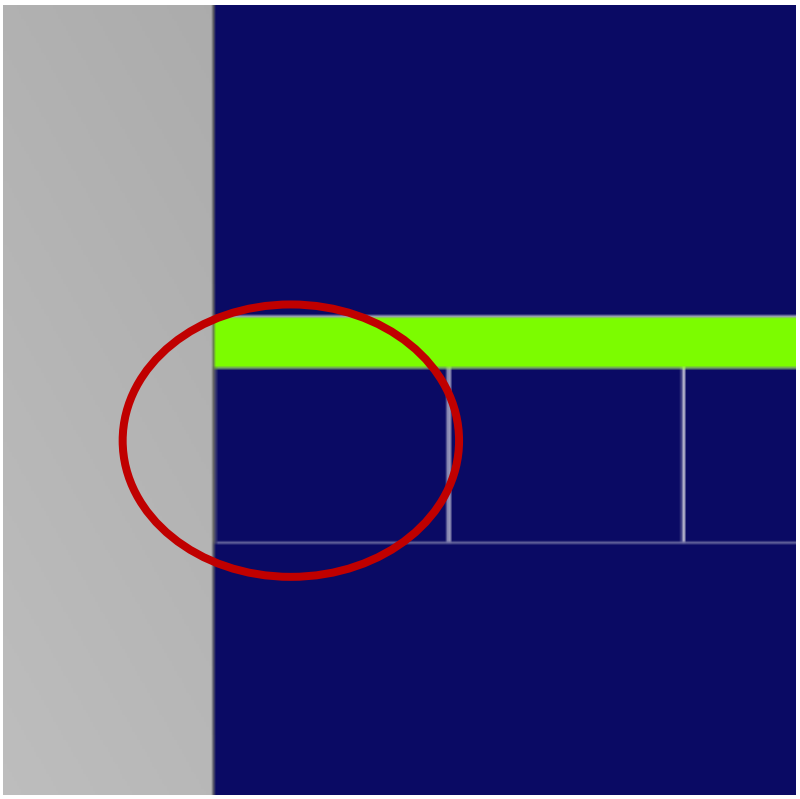
b. Add displays to HMI and associate with correct image

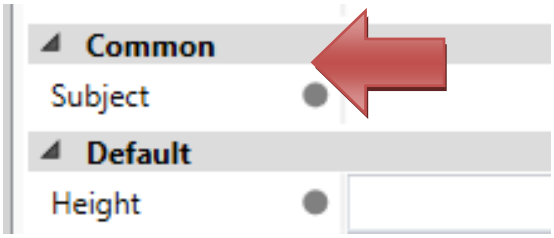
i. Go to the Main HMI page and add 6 small VisionPro Displays to the page – do not use the 3D Displays.

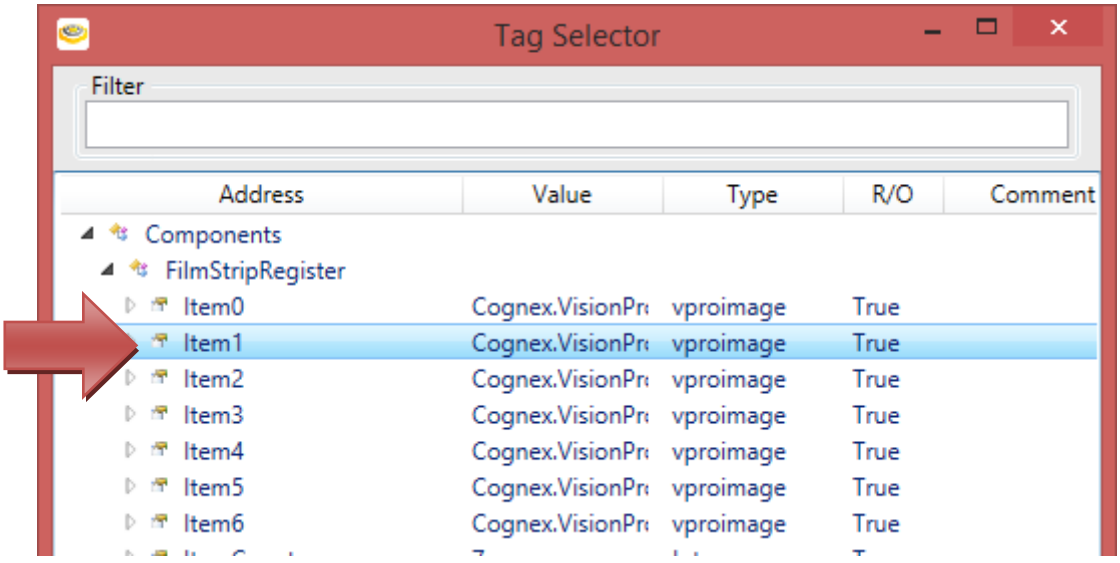
ii. The displays can be formatted by using the controls in the taskbar.



3. Select the left most display and set the Subject to reference Item1 of the Shift Register.

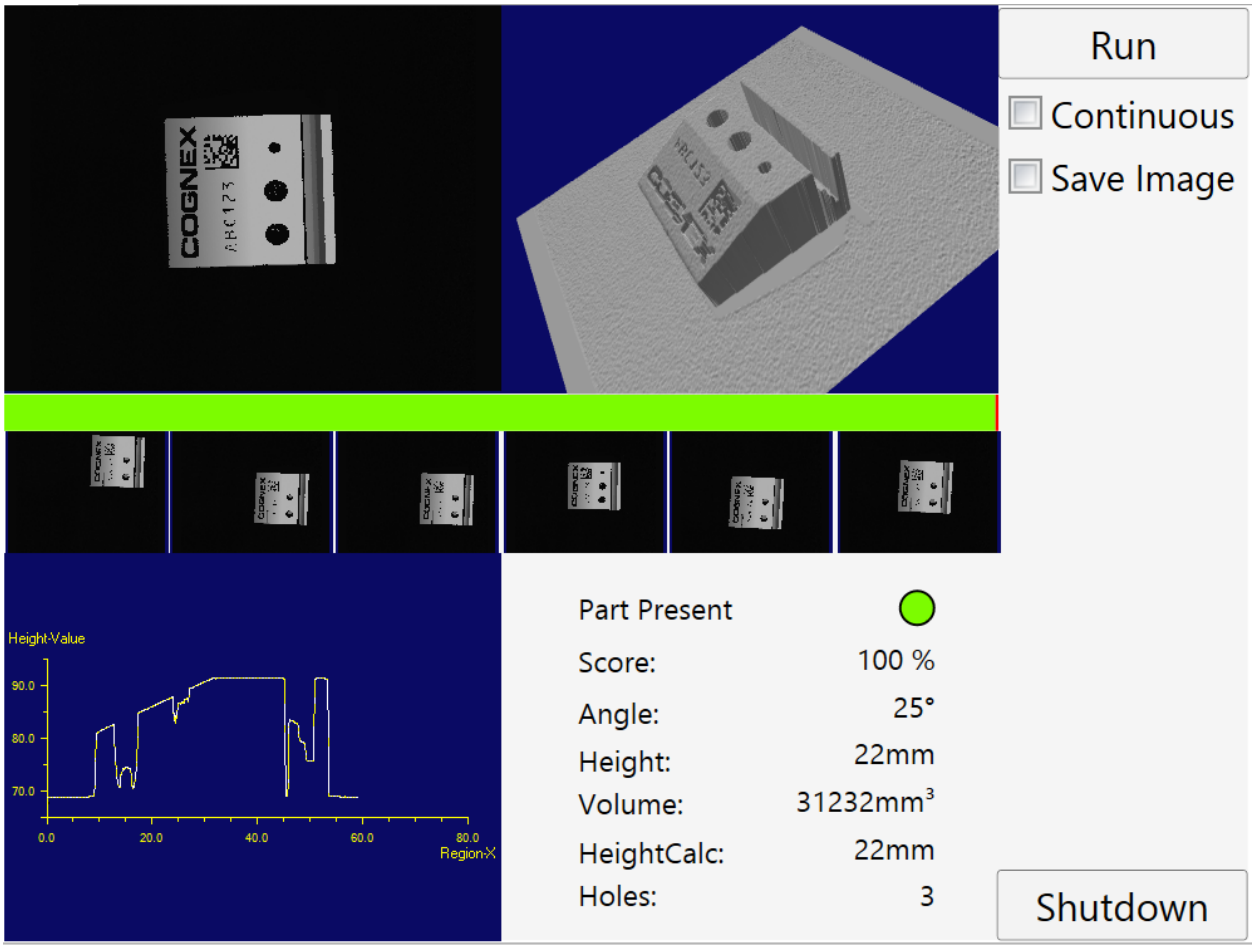






4. Continue to the next image to the right and reference Item2. Continue to do that for the remaining displays (incrementing an item each time we move to the right.

    i. Go into Test Mode and run the acquisition a number of times that shows all displays and registers full.



Extra Credit: Add indication of pass or fail for each image in the filmstrip.