

Xojo windows example

Online version: https://wiki.advacam.cz/wiki/Xojo_windows_example



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Overview & notes

This is C# example of the Windows program with list devices, simple measurement and view of the output data.
Timepix3 only.

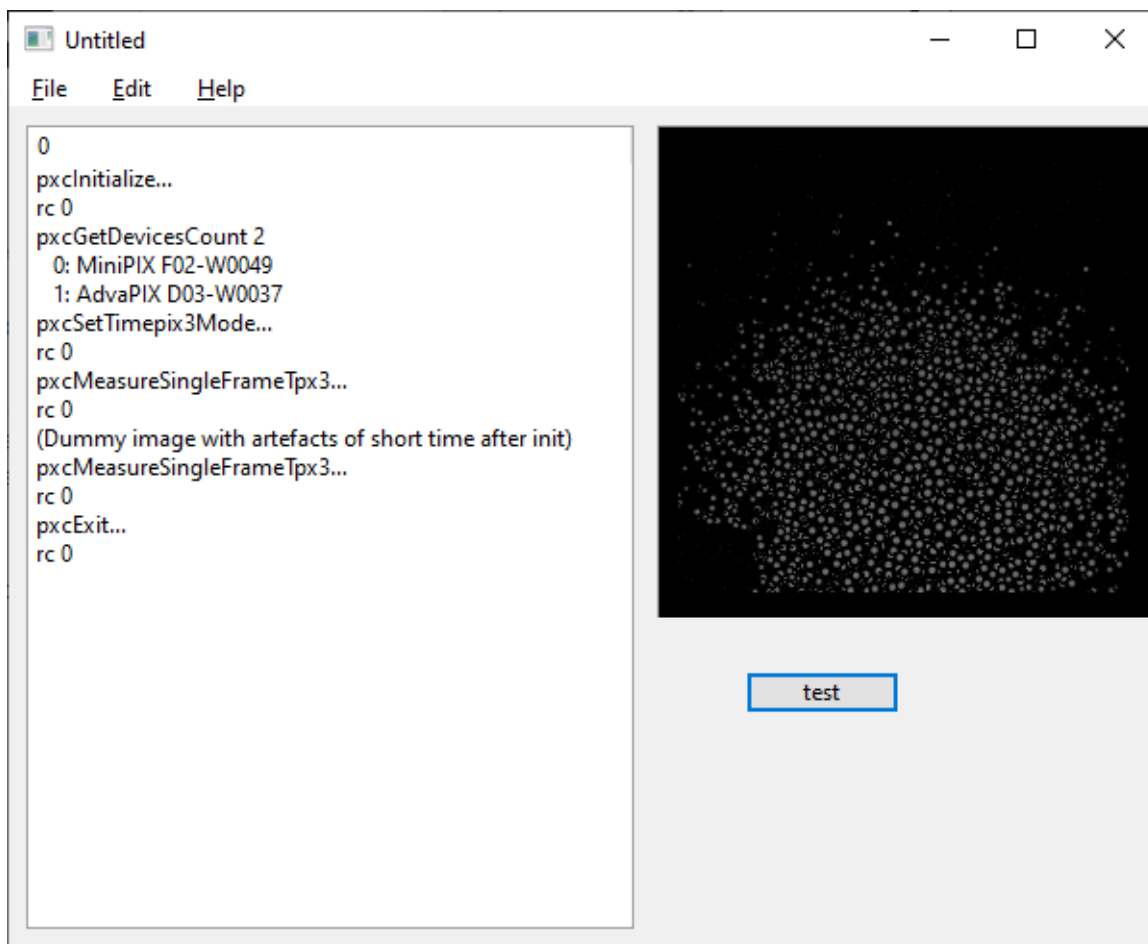
Notes:

- The working directory is directory with the .xojo_binary_project. Copy pixet.ini and other auxilliary files here.

Window

Create window with components:

1. ListBox1 - Listbox for messages
2. ImageViewer1 - Image box with 256x256 pixels inside, for output image (second output only)
3. Button1- Button to run the example measuring



Xojo Basic Windows example - App window screenshot

Code of Button1 Pressed event

```
Declare Function pxcInitialize Lib "pxcore.dll" () As Integer  
Declare Function pxcExit Lib "pxcore.dll" () As Integer
```

```

Declare Function pxcGetDevicesCount Lib "pxcore.dll" () As Integer
Declare Function pxcGetDeviceName Lib "pxcore.dll" (deviceIndex as Integer, nameBuffer as
Ptr, size as Int32) As Integer
Declare Function pxcMeasureSingleFrameTpx3 Lib "pxcore.dll" (deviceIndex as Integer,
frameTime as double, frameToaITot as Ptr, frameTotEvent as Ptr, size as Ptr, trgStg as
integer) As Integer
Declare Function pxcSetTimepix3Mode Lib "pxcore.dll" (deviceIndex as Integer, mode as
Integer) As Integer

Const PXC_TPX3_OPM_T0AT0T As Integer      = 0
Const PXC_TPX3_OPM_TOA As Integer        = 1
Const PXC_TPX3_OPM_EVENT_IT0T As Integer = 2
Const PXC_TPX3_OPM_T0T_NOT0A As Integer  = 3

dim rc as integer
dim rc2 as integer
Dim arr1 As New MemoryBlock(65536*8)
Dim arr2 As New MemoryBlock(65536*2)
Dim siz As New MemoryBlock(4)
Dim nameBuffer as New MemoryBlock(100)

siz.Int32Value(0) = 65536

Dim a1, a2, si, nb as Ptr

listbox1.RemoveAllRows()

listbox1.addrow("pxcInitialize...")
App.DoEvents(100)
rc = pxcInitialize()
listbox1.addrow("rc " + rc.toString)
App.DoEvents(100)
if rc<>0 Then goto exitCore

rc = pxcGetDevicesCount()
listbox1.addrow("pxcGetDevicesCount " + rc.toString)
App.DoEvents(100)
if rc<0 Then goto exitCore

nb = nameBuffer
dim n as Integer
dim di as Int32
for di=0 to rc-1
    rc2 = pxcGetDeviceName(di, nb, 100)
    if rc2=0 Then
        for n=0 to 100
            if nameBuffer.uint8value(n) = 0 Then Exit
        Next
        listbox1.addrow("    " + di.toString + ": " +nameBuffer.StringValue(0, n))
    end if
end for

```

```

Else
    listBox1.addrow(" " + di.ToString + ": (pxcGetDeviceName failed)")
End If
next

listBox1.addrow("pxcSetTimepix3Mode...")
rc = pxcSetTimepix3Mode(0, PXC_TPX3_OPM_TOATOT)
listBox1.addrow("rc " + rc.ToString)
App.DoEvents(100)
if rc <> 0 Then goto exitCore

a1 = arr1
a2 = arr2
si = siz

listBox1.addrow("pxcMeasureSingleFrameTpx3...")
App.DoEvents(100)
rc = pxcMeasureSingleFrameTpx3(0, 5.1, a1, a2, si, 0)
listBox1.addrow("rc " + rc.ToString)
if rc <> 0 Then goto exitCore
listBox1.addrow("(Dummy image with artefacts of short time after init)")

listBox1.addrow("pxcMeasureSingleFrameTpx3...")
App.DoEvents(100)
rc = pxcMeasureSingleFrameTpx3(0, 1.5, a1, a2, si, 0)
listBox1.addrow("rc " + rc.ToString)
if rc <> 0 Then goto exitCore

exitCore:
if rc <> 0 Then listBox1.addrow("Test failed")
listBox1.addrow("pxcExit...")
App.DoEvents(100)
rc2 = pxcExit()
listBox1.addrow("rc " + rc2.ToString)

Dim memoryBlockOffset As Int32
Dim p As Picture
Dim r As RGBSurface
Dim x, y As Int32
Dim value As Int32

p = New Picture(256, 256)
r = p.RGBSurface

memoryBlockOffset = 0

For y = 0 To 255
    For x = 0 To 255

```

```
value = arr2.UInt16Value((y*256+x)*2)/4
if rc=0 Then
    r.Pixel(y, x) = RGB(value, value, value)
Else
    r.Pixel(y, x) = RGB(255, 0, 0)
end if
memoryBlockOffset = memoryBlockOffset + 1
Next
Next
ImageViewer1.Image = p
```

Related

- [Binary core API](#)
- [Pixet SDK](#)