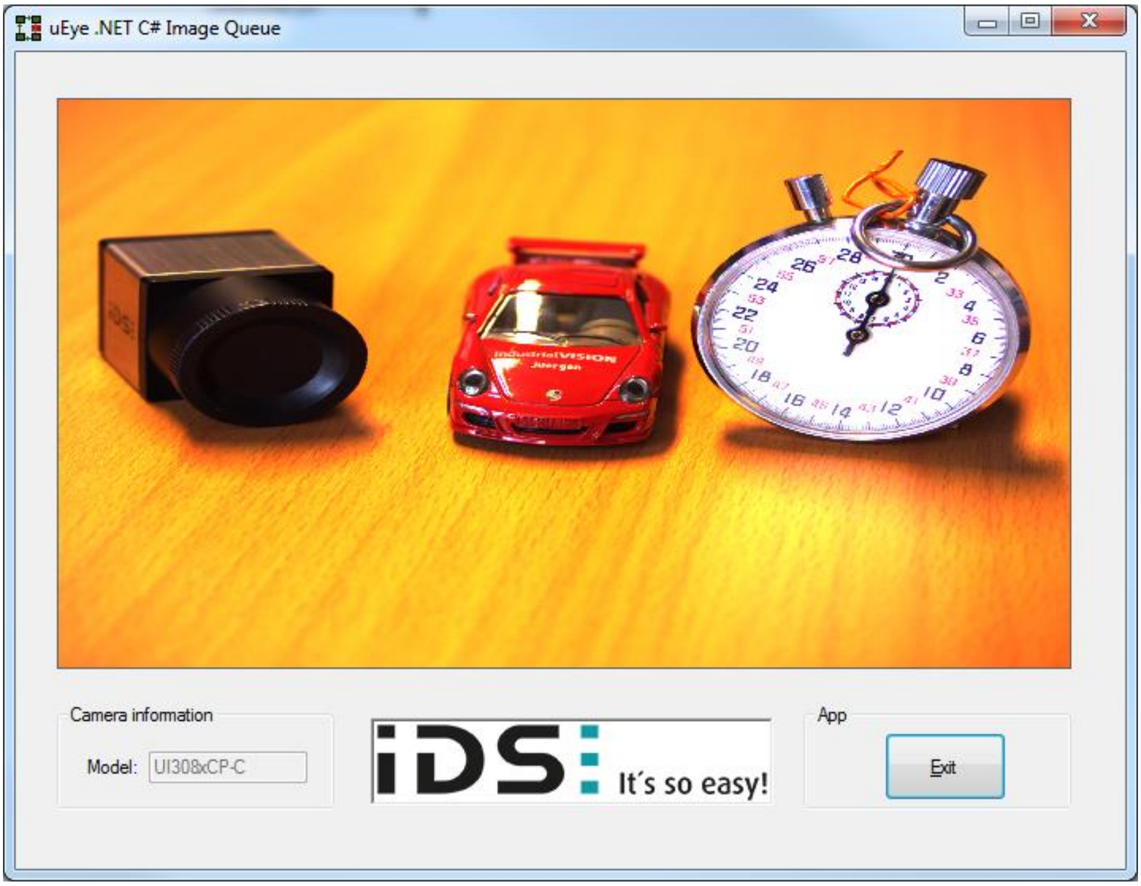
uEye .NET SDK C# Image Queue

Name

uEye_DotNet_CSharp_ImageQueue



Model: UI308xCP-C

Programming language and interface

IDS Software Suite:	V4.90.3	
uEye SDK	☐ Core SDK (C/C++)	☒ .NET SDK (C#)
Platform of executable file:	☐ 32-bit	☒ 64-bit
Development platform:	Visual Studio 2015	
Operating system	☒ Windows	☐ Linux

Description

This sample shows the basic idea how to continuously capture images using the uEye image queue. A ring image buffer system is established for covering 1 second of video.

Using the image queue, the oldest buffer can always be fetched. The image buffer is automatically locked. After safely processing the image data the buffer is unlocked and put back to the queue to be re-used.

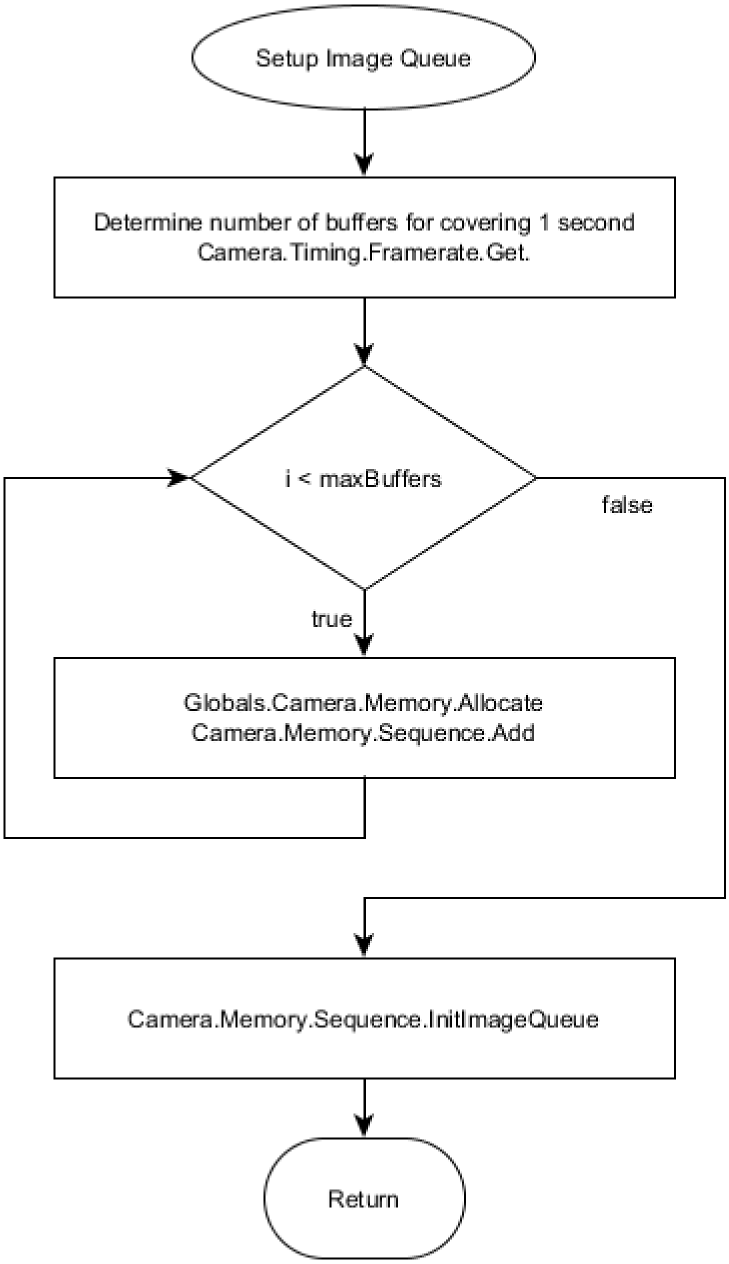
Collecting the image buffers is done in a detached worker thread. That thread does not depend on GUI interaction and allows collecting image without being interrupted.

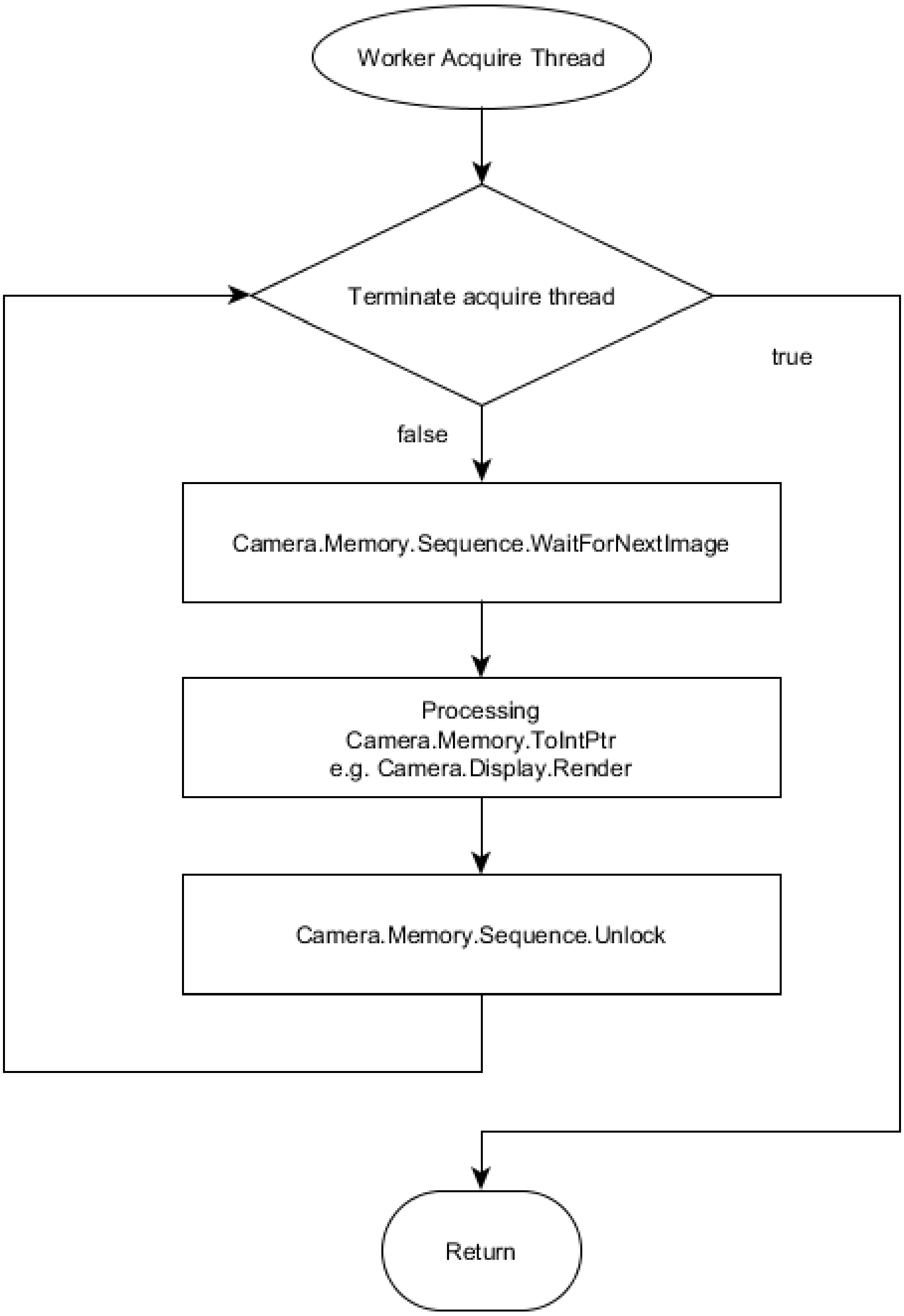
Among others, uEye API .NET functions/methods used

```
Camera.Init
Camera.Exit

Camera.Information.GetSensorInfo
Camera.Timing.Framerate.Get

Globals.Camera.Memory.Allocate
Camera.Memory.Sequence.Add
Globals.Camera.Memory.Sequence.InitImageQueue
Camera.Memory.Sequence.WaitForNextImage
Camera.Memory.ToIntPtr
Camera.Memory.Sequence.Unlock

Globals.Camera.Acquisition.Capture
Camera.Display.Render
```

Flowcharts

The flowcharts below show how the most interesting parts of the sample software work. The flowcharts do not cover the whole application.


Setup Image Queue
Determine number of buffers for covering 1 second
Camera.Timing.Framerate.Get.
i < maxBuffers
false
true
Globals.Camera.Memory.Allocate
Camera.Memory.Sequence.Add
Camera.Memory.Sequence.InitImageQueue
Return


Worker Acquire Thread
Terminate acquire thread
true
false
Camera.Memory.Sequence.WaitForNextImage
Processing
Camera.Memory.ToIntPtr
e.g. Camera.Display.Render
Camera.Memory.Sequence.Unlock
Return

Cameras

All uEye camera models. Note that XS and UI-3013XC camera might require an extra handling.

Contact

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