Logitech LabVIEW Image Acquisition Demonstration

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There are two VI's supplied:

a) Logitech Image Acquisition Master.vi
b) ImageDisplay.vi

The first demonstrates how to operate the camera and snap an image. The second is merely a window for displaying an image once it is acquired.

The code was constructed using information from the Logitech Software Development Kit, downloaded from the Logitech web site January 4th 2004. This package includes the royalty free distribution with the camera driver.

To install the package, download and unzip LabVIEW Logitech UWA.zip and run Setup.exe in the 'redist' folder. This installs drivers (if not already installed). Then run LabVIEW and open Logitech Image Acquisition Master.vi. Click the LabVIEW run button.

Notes for Understanding the Code

[1] The camera is controlled by an Active-X reference from a front panel Acitve-X container that displays the pre-view image. To create this, create a blank Active-X container on the front panel and select the Active-X Hydra Video Portal class.

[2] Three methods are called, following the Visual Basic guide from Logitech. The first establishes a connection to the Active-X server. The status bar is activated in the preview window (EnableUIElements), and we connect a camera (ConnectCamera2).

[3] Here we set the value of property 'EnablePreview' to turn on the preview panel.

[4] We can get the camera description for camera zero here (the first camera connected).

[5] Here we select the video format (64x480 – can change it later). The next call establishes the preview size by setting property values. The preview size should be the same as the video format for fastest image acquisition.

[6] We are restricted to saving the picture to a BMP file and then reading it in again. This is a limitation of the SDK. After reading the image file we can change it to a JPG if we wish to.

[7] Here we re-read the image file and provide it to ImageDisplay.vi.

Other methods and property values are reasonably self evident. In LabVIEW, if you right click the Active-X reference terminal on any method, you can create a new method by simply selecting the appropriate one from a list. The parameters for the method appear automatically and should be reasonably self-evident from the names. If you want more details, download the SDK from Logitech.

Other methods allow you to make movies in real-time or time-lapse sequences.

Note that you can also monitor Active-X events to detect inputs or parameter changes made elsewhere. For example it is possible to detect when the button on the camera is pressed.

Here are some pictures

Here is a screen shot when Logitech Image Acquisition Master.vi is loaded initially. The camera display is empty: in fact it shows a 320x240 image from the camera Active-X server and the rest is what was on the screen before.
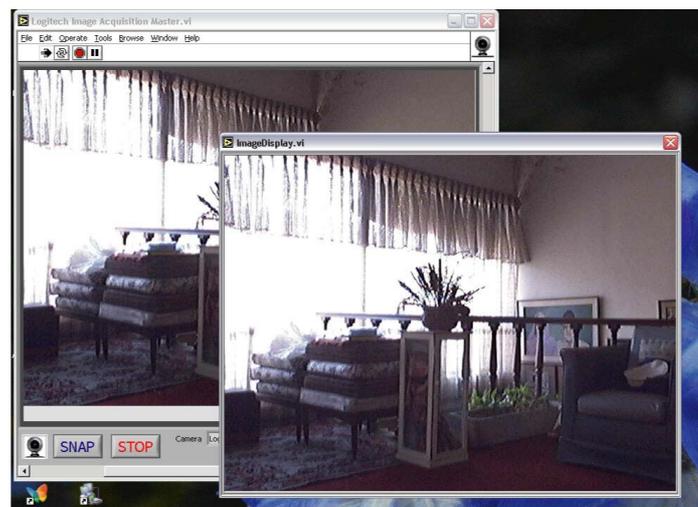
Here Logitech Image Acquisition Master has been started and an image has been snapped: this is displayed in a separate window.