GraphWorX32 - Embedding Videos in a Display

APPLICATIONS NOTE

April 2010

Description: Guide to use videos inside GENESIS32 projects.
OS Requirement: Win 2000, XP Pro, Server 2003, Vista, Server 2008, Windows 7
General Requirement: Installation of GENESIS32 9.x; basic understanding of VBA

Introduction

In many cases, being able to embed video content into a GENESIS32 application/project may be extremely useful. Possible video streams include security cameras, presentation videos, as well as training videos.

For example, when an issue with an asset or equipment occurs, it could be useful for the operator to see a short movie explaining how fulfill the maintenance on that specific piece of equipment.

Adding video capabilities to your application is extremely easy, when using ICONICS GENESIS32.

Viewing Videos in GENESIS32

In GENESIS32 it is possible to show both video files and streaming content thanks to the ActiveX technology, which allows several different video players to be embedded into GraphWorX32for example, by taking advantage of Windows Media Player to play standard video files and streams, or using other video players, such as VideoLAN VLC Player.

Embedding a Video Player

Embedding a video player in GraphWorX32 is very easy, in this application note we will use the Windows Media Player as it is already an integral part of Windows.

1. Start GraphWorX32 with a brand new display, and from the "Edit" menu choose the "Insert New Object…" command. In the Insert Object dialog that will pop up look for the "Windows Media Player" control

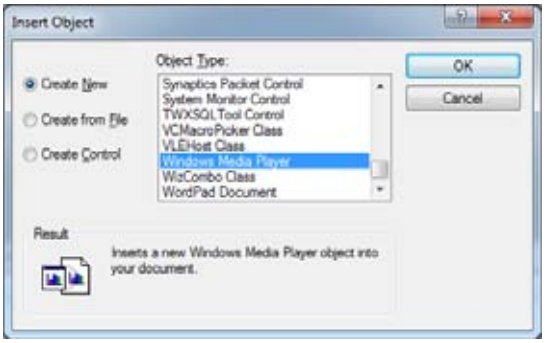

Figure 1 - Adding a Media Player Control

2. Select the Windows Media Player object and press OK to add it to your display. Right-click on the control and choose "VBA Properties Window" or select the control in the display and press F4 to show the control's properties

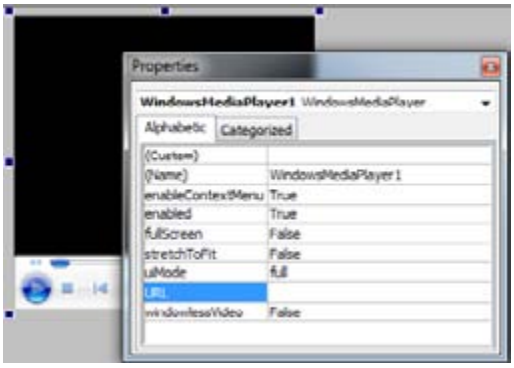

Figure 2 - VBA Properties of the Windows Media Player Control

3. Alternatively you can also double-click on the control to show some specific configuration options

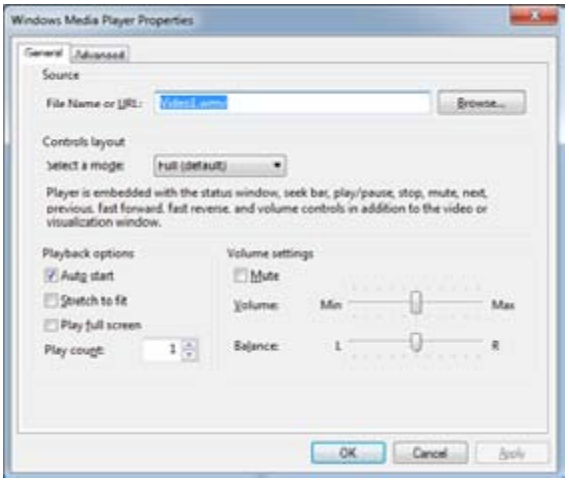

Figure 3 - Windows Media Player Properties

4. Suppose that the location of the video source is fixed and never changes. In this case simply enter the value for the URL property.
5. Once the URL property has been set save your display and try it out in runtime mode. After the stream is loaded, you should see something like Figure 6.

Interacting with the Video Player

The ActiveX video players usually have several features that can be accessed programmatically. These will not be detailed

here, as these features can vary greatly between the different video players, and they are also subject to change. Please refer to those video players' documentation for further details.

The next examples simply show some basic interaction, mainly to demonstrate how these components can be controlled from GraphWorX32.

Suppose there are 3 different movie files, which might contain some instructional video for the operators. It will be necessary to be able to switch the currently played video between the three files.

In order to do achieve this, a simple VBA script function will be necessary to pass the player a new file to show. In order to keep the function as generic as possible, the file to be played will be specified in the "Custom Data" property of the Pick Action.

The script is very simple and is shown in Figure 4. The name of the inserted control is "MyWindowsMediaPlayer"; the control has to be assigned a name in order to be able to reference it from the VBA script. This is name is the name specified in the (name) VBA property.

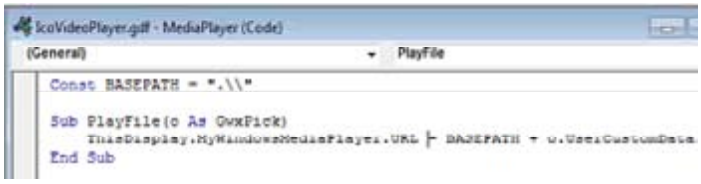

Figure 4 - The Script to Load a Video File

The script uses a constant for the path where the videos are stored. This value will need to change depending on where the videos are stored on your system.

To call this script function we use a "Run Script" Pick Action associated with a button. In total three different buttons will have to be created (because we have 3 video files):

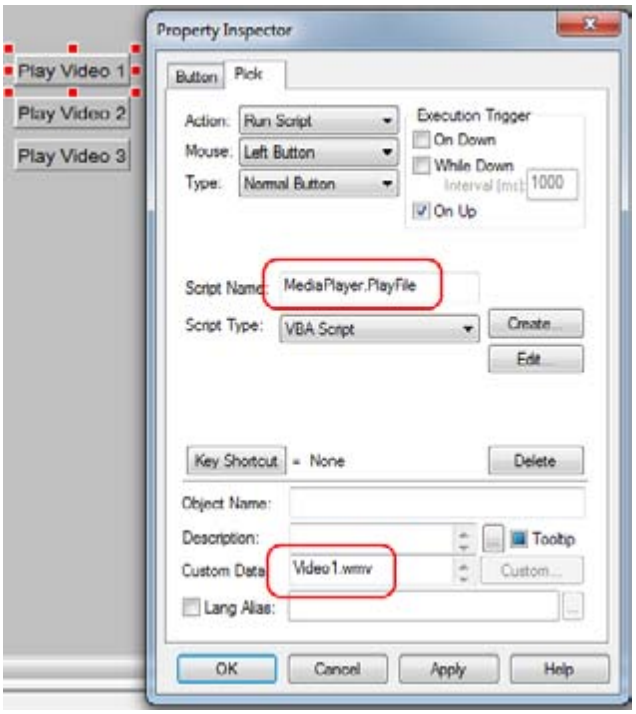

Figure 5 - Calling the Script Function

The name of the video including its extension has to be entered into the Custom Data field on the Pick property page. Once all the buttons have been set up, we can switch to runtime mode to test video switching by clicking on each of the buttons.

Figure 6 - Selecting which Video to Play

Of course it also possible to switch between different video streams, or a combination of streams and video files, when using a combination of video streams and local video files it would be easier to include the full path to the stream or file in the custom data property instead of using a combination of file name and a base path defined in the script.