Video2Photo

Version 1.0 (beta)

Document Revision 1.0

Using Video2Photo

Select Screen

In this screen you can select the video source.

To reach this screen directly you need to click on [Select] or press next from welcome page.

1. Select the Capture Filter from the dropdown list.

2. Provide a valid URL to a valid internet stream (e.g. WMV or Real Video)

3. Click [Next >] button to go to the [Seek] page.

When you go to the Next page you will get the live stream playing on the video window.

NOTES ON ON-LINE (LIVE) FRAME CAPTURE
If you get frames from a digital camcorder you may need a lot of memory for pre-buffer since a DV frame take around 1.2 Mbytes/frame (uncompressed). Therefore minimum 128Mbytes of RAM may be needed to run in this mode.

On-Line Frame Capture

Since a Live Stream is not persistent on disk Video2Photo uses pre-buffering on last N frames (25 by default) in the memory, therefore you will have a frame history when you decide to get the frame.

1. The camcorder is in Camera Mode and is giving a live stream and you want to take some snapshots

2. The camcorder/video deck is in Playback Mode and is giving a live stream and you want to take some snapshots

3. You are getting the stream from a Live Internet source (WMV, Real Video, etc.) and you want to take some snapshots

4. You want to make s Still Motion kind of animation (e.g. Chicken Run movie)

5. You want to record a frame every 1 hour (e.g. time-lapse, presenting the growth of a plant, etc.)

Off-Line Frame Capture

Getting frames from an Off-line video source (a prerecorded file) may be very useful.

1. You have an AVI or MPEG file recorded in high resolution and you want to get some frames.

2. You have a video file and you want to apply some FX (e.g. superimposing a title over it) and convert it back to the same using the same or other codec. (pending feature)

When capturing from a file only In/Out point of the selected frames will be kept. You can use the navigation bar to seek to the desired frame and press to mark In Point and to mark the Out Point. After making a selection of In/Out Point you can add that to the selection list using . To get current frame as a single frame selection (not depending on In/Out points) you need to click on button. When navigating the selection list beside presenting the render window the application will seek automatically to the corresponding frame in the Video Window.

Supported Sources

Since Video2Photo uses DirectShow all sources with a corresponding installed filter in the system will work. Here is a list of video sources supported on DirectX 8.1:

For On-Line Frame capture

1. WDM Capture Sources (tested)

2. Fireware IEEE1394 (i-Link) (tested)

3. WMV, Free Real Video, QuickTime (tested)

4. TV cards having WDM capture or VfW (not-tested)

5. USB Internet Cameras (not tested)

For Off-Line sources:

1. AVI Files supporting a bunch of codecs (tested)

2. MPEG-1 files (tested)

3. Some MPEG-2 files (e.g. S-VCD) (tested)

4. JPEG, BMP, GIF (tested)

Seek Screen

In this screen you can select frames which need to be extracted. Additionally you can go to additional feature of Video2Photo (e.g. HTTP Framer Server or Timeline).

To reach this screen directly you need to click on or press next from Select page.
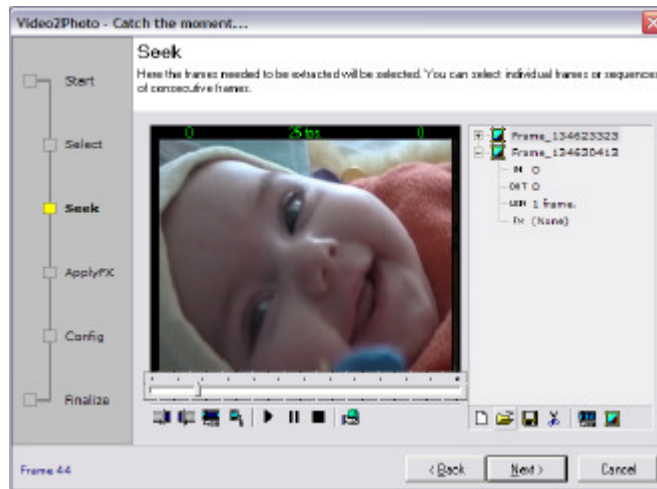
Figure 1 - Seek Screen

Getting The Right Frame

Follow the live video stream in the Video Window. Depending of the type of the video stream you may choose between two kind of capture.

- ? Capture from History

- ? Snapshot Capture

CAPTURE FROM HISTORY

If the video contains fast moving objects or the camera is not still you may select your desired frame from the pre-buffer. For this you need to press .

After this operation you will get a selection of contiguous frames from the pre-buffer.

Figure 2 - All frames from the history will be presented. You need to select the desired one (marked with red label).

Navigate to the desired frame using scroll bar and double-click on it or press OK button

SNAPSHOT CAPTURE

If the target is still and you want to take a direct snapshot you can press .After selecting the frame a selection will be added in the selection list.
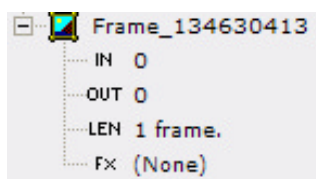

Figure 3 - A selection node for single frame

The name of the selection will be fetched automatically with the current timestamp of the system:
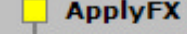
Frame_hhmmssxxx

Where
- hh is the current system hour
- mm is the current minute
- ss current second
- xxx the milliseconds.

NOTES ON GIVING THE RIGHT SELECTION NAME

Is very important to change the name of the selection, since this will be presented in the filename of the exported frame or in the caption of the thumbnail in the Web Gallery. To do this you need to click longer than one second on the caption (like renaming a file in Windows Explorer). Is also important to use valid characters for filenames for same reasons.

Applying Image Processing (ApplyFX Screen)

In this screen you can apply some Image Processing (e.g. Deinterlace, Lighten/Darken, etc.) to the selected/captured frames.

To reach this screen directly you need to click on [ApplyFX] or press next from Seek page.
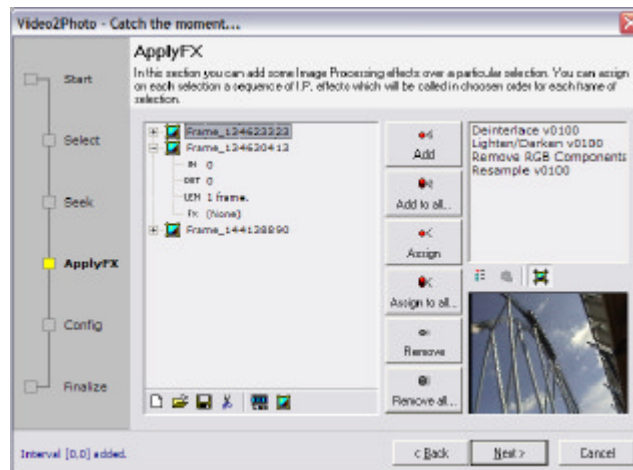

Figure 4 - Apply Image Processing

Each selection can have its own image processing applied. The available image processing plugins are list in the list which supports multiple selections.
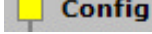
To apply plugins to a selection:

1. Select first a root node in the left tree which will be the selection to which the plugins will be applied.

2. Select each plugin and configure it clicking on [icon].

3. After configuring each plugin, make a selection of plugins using [Shift/Ctrl]+Click in the plugin list.

4. Use one of the buttons in the middle to apply/remove plugins. The difference between Add and Assign is that first is adding to a node while the second removes first existing ones and Add the selected plugins.

When you click on a node you will get a Render Window. This window will present the current frame after applying image processing.

Export Settings (Configuration Screen)

In this screen you can configure the way how the selections will be exported.

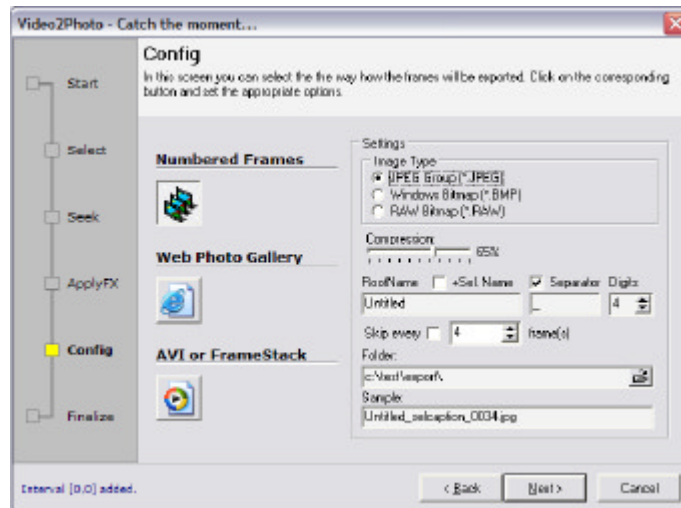To reach this screen directly you need to click on or press next from ApplyFX page.
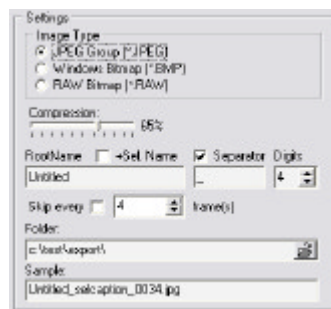

Figure 5 - Various settings of the export function.
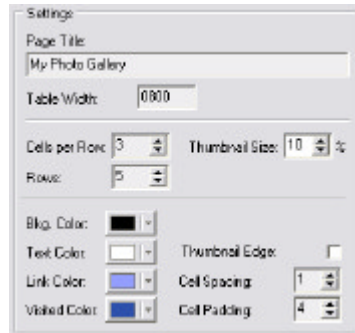
You can export frames in three ways:

- **Numbered JPEG's or Bitmaps**

    Each frame will be exported with a different name composed as presented in the settings window.
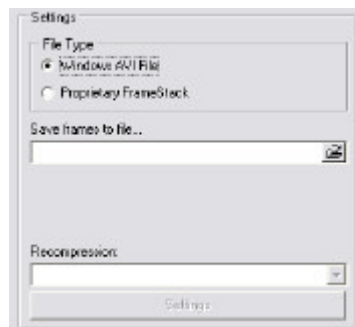
- **Web Photo Gallery**

  Each frame will be exported togheter with a thumbnail and a Index.html file will be created with links to the frames:
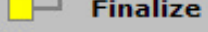

- **AVI or FrameStack (Pending Feature)**

  Frames will be exported and recompressed in a new media file.

Note that the image generated on Web Gallery will keep the same setting from the Numbered Frames Export. Therefore if you want to change the JPEG compression of the Web Gallery images you need to go first to the Numbered Frames do the changes and select back the Web Gallery export.

Exporting/Rendering Frames (Finalize Screen)

In this screen you can finalize you work exporting the frames on desired location.

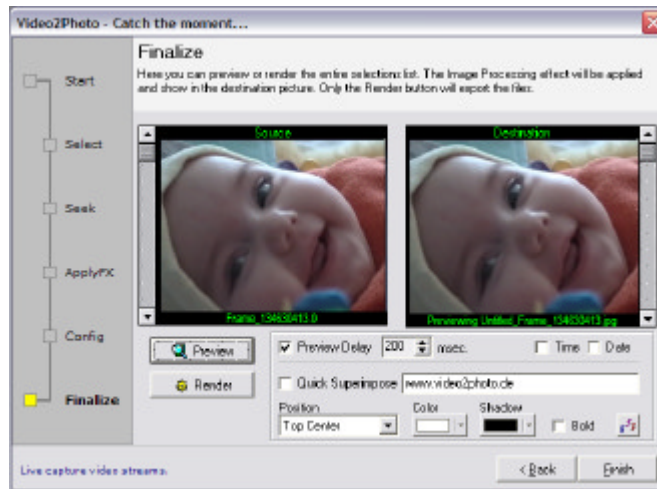To reach this screen directly you need to click on **Finalize** or press next from ApplyFX page.

Figure 6 - Finalizing means exporting the selection list to the desired target.

Using the settings from previous screen the application will take each selection in the selection list and for each selection will export each frame after assigned image processing where applied. As a result you will get the result in the target path. You can preview before rendering which means that the frames will be not saved, juts presented on screen.

Additional Features

Video2Photo is open to many other features regarding the AV streaming. Because MS DirectShow is used a lot of features can be added with minimal effort.

HTPP Frame Server

The idea is to start a HTTP server which can serve the client with the frames provided by Video2Photo. A demo of this feature can be accessed in this version of Video2Photo.

To get the server window click ![icon] button from Seek Screen.
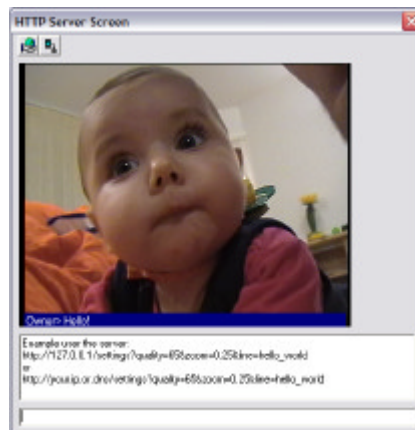

Figure 7 - The server window will migrate in future into a Peer to Peer chat application

To start the server click ![icon] button. To get a frame from Video Window click ![icon] button.

Example use of the server:

http://127.0.0.1/settings?quality=65&zoom=0.25&line=hello_world

or

http://your.ip.or.dns/settings?quality=65&zoom=0.25&line=hello_world

In the future this will migrate to a peer to peer chat tool.