RenderSoft CamStudio is a tool for recording screen activity into standard AVI video files. If you move the cursor, launch a new program, type some text, click a few buttons, or select some menus -- anything that you see on your screen -- CamStudio will be able to record all these and allow you to play them back later on.

You can use CamStudio to

- demonstrate features of a new software
- create movies used in user trainings
- track the progress of a program that executes for a long time
- record the sequence of steps that cause the occurrence of bugs in faulty software

- record a movie stream
- convert AVI files to Flash (SWF) files.

Contents

Getting Started

To start recording, click the red button. A rectangle will appear for you to select the area you want to record.

When you want to stop recording, click the blue stop button. A dialog will appear for you to name and save the file.

To pause a recording to adjust your screen, click the pause button. You can resume recording by clicking on the record button again.

System Requirements

- Microsoft Windows 95, 98, Me, NT 4.0, 2000, XP

- 400 MHz processor

- 64 MB recommended

- 4 MB of hard-disk space for program installation.

Introduction

Moving images impact our lives heavily nowadays. A changing image speaks much more than a stationary snapshot. Any one who has watched a movie understands how the power of animation can immensely enhance the process of communication. By capturing the moving action faithfully on your computer screen, CamStudio is essentially putting this power right onto your computer desktop.

The video files created by RenderSoft CamStudio are saved in the standard AVI (Audio Video Interleave) format, which is used pervasively in many Windows applications that support video, including MS Office. (You can effectively paste an AVI file into an Office application just like pasting text.)

This ensures maximum compatibility with other software, and you can easily edit the output of CamStudio with a third party video editor.

Uses of RenderSoft CamStudio

- You can create demonstrations of programs by recording the movement of the cursor, the selection of menus, the entering of text or the display of messages. These demonstrations, when shown to users, can illustrate features and usage of the program in a short period time with maximum clarity.

- The recorded movies can be added to the accompanying help files of commercial software to make them more professional.

- The recorded videos, if converted to a stream-able format, can also be posted to your websites to enliven them. With broadband becoming more affordable, multimedia websites are the preferred and more effective means of communication.

Setting Regions

(From the main menu, choose Regions->Region *or* Fixed Region *or* Full Screen)
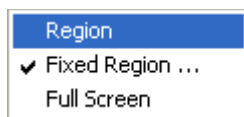
You should set the Input Region before recording. This allows you to define the area and type of video capture. From the main menu, choose *Region*

There are 3 types of regions you can choose:

1) Region

Before recording starts, you can define an arbitrary rectangular region with the mouse. The cursor turns into a pen on cross-hairs, which you use to define a rectangular region on your screen by click-dragging the left mouse button.

2) Fixed Region…

You can capture a fixed-size rectangular region. A dialog allows you to define the size of the region in pixels.
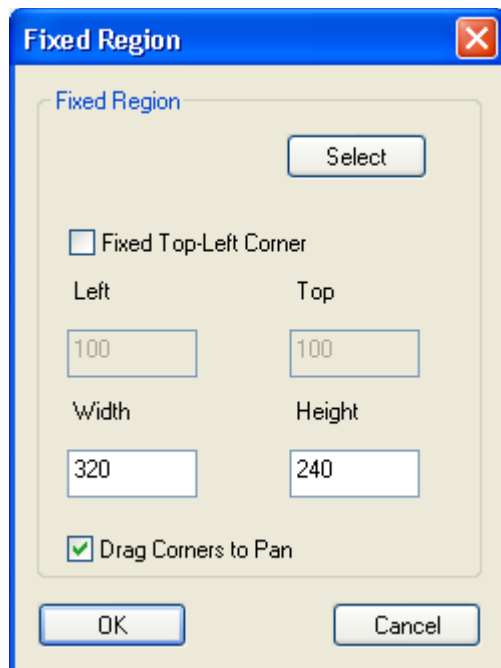
- If the <u>Fixed Top-Left Corner</u> checkbox is not selected.

Before the recording starts, you can move the fixed-size region around the screen to determine where you want the input area to be. To cancel recording, you can click the <u>right mouse button</u>.

● If the <u>Fixed Top-Left Corner</u> checkbox is selected.

Recording will start immediately when the <u>Record Button</u> is clicked. The region of capture is specified by the Left, Top, Width and Height values of the dialog above.

● If the <u>Drag Corners to Pan</u> checkbox is selected, you can drag either one of the four corners of the recording region (indicated by the flashing rectangle) with your mouse during recording. The mouse cursor will change to a four-pointed arrow when it is over one of the corners. When this happens, click and drag the region to the new location.

3) Screen

The entire computer screen is captured.

Video Basics

When you record a movie using CamStudio, you are actually saving a sequence of bitmaps (known as frames), that, when displayed in rapid succession, exhibit motion.

If more frames are recorded per second, the resultant animation will also be smoother. However, this will also cause the file size of the movie to be much larger.

In the process of recording, CamStudio allows you to specify two video rates: the input rate and output rate. The input rate tells your computer how many frames to record per second. The output rate tells your computer how fast to play them back. Usually, these two rates are equal, so that the time of playback is equal to the time used in the recording.

However, these two rates can also be different. Normally, you do this only if you want to create a time-lapse movie. For example, you can capture a frame once every hour and play the frames back at 20 frames per second.

The default value is set at 20 frames per second for the output (playback) rate and 20 frames per second (corresponding to 50 milliseconds sleep time) for the input /capture rate.

There is also a third rate: known as the keyframe rate. When a frame is saved in an AVI file, they can either be saved as a full frame, or only as a difference to the previous frame. This keyframe rate specifies how often full frames are written to the AVI file. A high value means you can fast forward/rewind to a particular frame in your movie much faster. But it also means a larger file size.

Setting Video Options
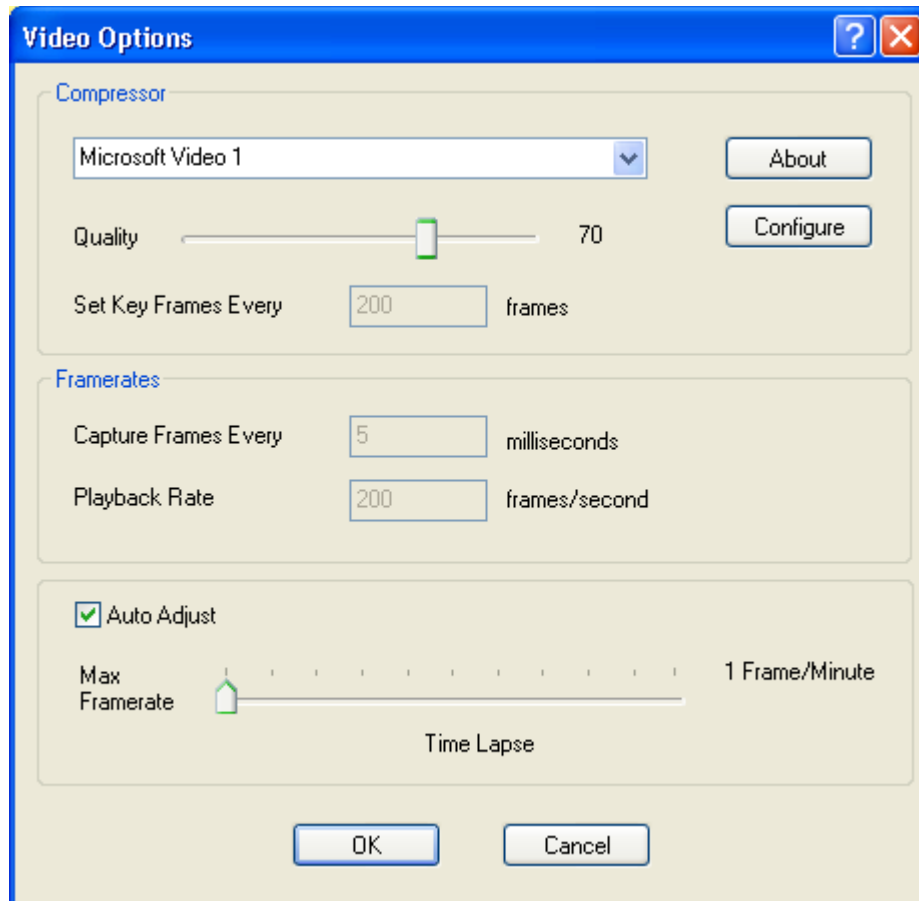
Setting the video options allows you to optimize your video recordings by choosing between the file size, quality and frame rates of your video files.

Auto Adjust

Use the Auto Adjust settings to set the Key Frame Rate, Capture Rate and Playback Rate automatically through the slider. Shift the slider to the left to increase the frame rate and to the right to reduce file size. If the slider is situated

at the right of the Time Lapse indicator, it means you are creating a time-lapse movie.

In Time Lapse mode, CamStudio will usually capture a frame only after a long period of time. (Example: after every 30 seconds). However, during playback, the frames will be displayed more quickly. (Example: at 20 frames per second).

Compressor

The Compressor select-box allows you to select the encoder for your AVI file. An encoder compresses your AVI files to make them smaller in size and cause them to play faster. The default setting is the MS Video 1 compressor.

Configure

Click this button to configure the parameters of your selected compressor. The parameters for each compressor is different and some settings will cause CamStudio's performance to degrade or behave unpredictably. For some compressors, clicking this button will not have any effect.

Quality

The quality setting determines how nicely your picture is saved. A lower value means a lower picture quality but also a smaller file size. Only some compressors use this value.

Set Key Frames Every

This setting specifies the keyframe rate. When a frame is saved in an AVI file, they can either be saved as a full frame, or only partially as a difference to the

previous frame. The keyframe rate specifies how often full frames are written to the AVI file. A high value means you can fast forward/rewind to a particular frame in your movie much faster. But it also means a higher file size.

Capture Frames Every

This field determines the input frame rate. It dictates how long the CamStudio will 'sleep' after capturing each frame. One millisecond is 1/1000 of a second.

If you set this to a large value (for example 1 hour, or 3,600,000 milliseconds), you practically create a time-lapse movie. CamStudio will actually 'sit and watch' for activities on the screen that takes a long time to occur and take a snapshot (say, only once every hour).

Playback Rate

This field determines the output frame rate. It specifies how many frames are played back per second. A higher value means a smoother playback. Typical values of 20 – 30 frames per seconds are adequate for most purposes.

Setting Cursor Options
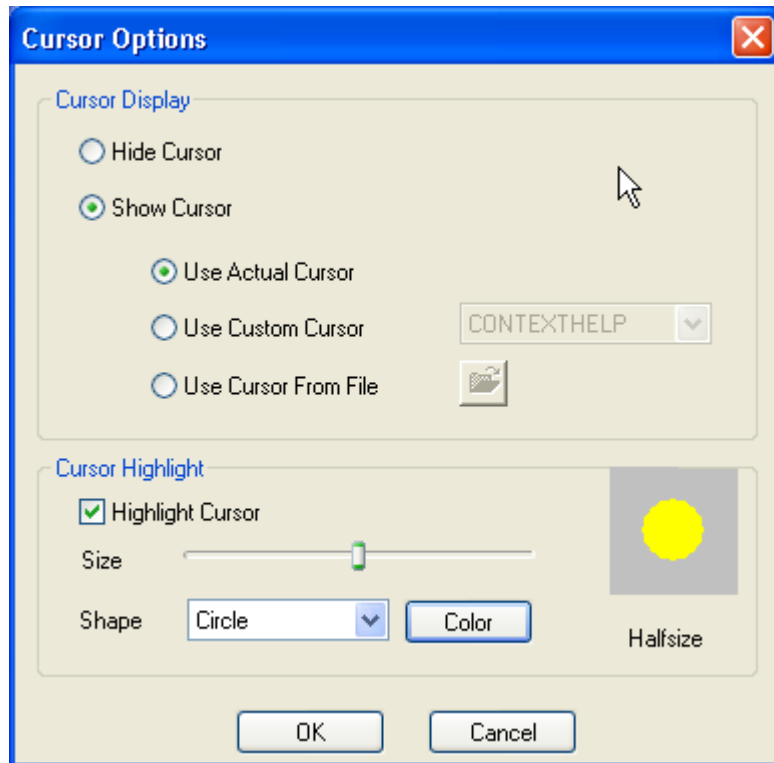
Setting cursor options can help illustrate the action you are recording by drawing attention to the area where the action happens. The following cursor effects can be selected:

Hide Cursor

The cursor will be hidden during screen capture

Show Cursor

<u>Use Actual Cursor</u> – The actual shape and position of the cursor will be recorded during screen capture.

<u>Use Custom Cursor</u> – Replace the recorded cursor with a customized one.

<u>Use Cursor From File</u> - Replace the recorded cursor with a cursor that is loaded from file.

Highlight Cursor

When this option is selected, the recorded cursor will have a highlight area around it. This helps in calling attention to the movements of the cursor. You can set the shape, size and color of the highlight area.

Recording Audio from Microphone

(From the main menu, choose Options->Record audio from microphone)

You can add a soundtrack to your movie by selecting this option. When enabled, CamStudio will record your voice input from the microphone while it is capturing video. You need a sound card with an attached microphone to use this option.

Setting Audio Options for Microphone

(From the main menu, choose Options->Audio Options->Audio Options for Microphone)

Audio Options for Microphone

Audio Capture Device
Default input device   Volume

Recording Format
22.05 kHz, stereo, 16-bit

Compressed Format
PCM
22050 Hz, 16 Bit, Stereo   88200 Bytes/sec
Choose Compressed Format

Interleave Video and Audio
☑ Interleave every   100   ○ Frames
                              ◉ Milliseconds

Use system method for audio recording
☐ Use MCI Recording   Help

OK   Cancel
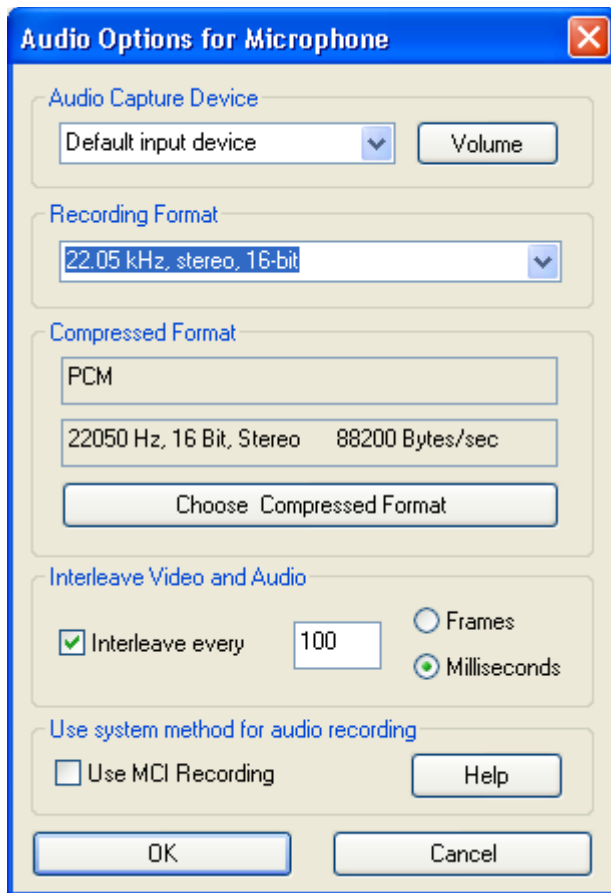
Use this dialog box to set the <u>recording format</u> and <u>compressed format</u> of your audio.

Recording Format -- The recording format is the format your soundcard use to record your voice from the microphone. Its main attributes are *samples per second* (measured in kHz), *mono/stereo* input, and *bits per sample* (usually 8 or 16 bit). Larger values for *samples per second* and *bits per sample* will result in better recording quality, but at the expense of the movie file size.

Compressed Format -- This is the format that will be saved with your movie file. You can click on the "Choose Compressed Format" button to select another compressed format. After recording your movie, CamStudio will attempt to convert your audio from the recording format to the compressed one.

Your choices for the compressed format are determined by the recording format. If you change your recording format, the compressed format will also change automatically.

Interleave Video and Audio – Interleave your audio and video for smoother playback on a slow device such as CD-ROM. This will also allow better synchronization of your video and sound content. The interleave factor determines the amount of interleaving in your movie. Normally, this value is specified in number of frames. A value of 1 frame will mean full interleave. Larger values will mean less interleaving.

You can also specify the Interleave factor in milliseconds. If you choose to *Interleave a movie every 100ms* for a movie with a capture rate of 200 frames per second (Capture Frames Every 5 milliseconds), the Interleave factor will be equivalent to *Interleave every 20 frames*.

Volume - Use this to adjust the input volume of your microphone if your recorded audio is barely audible. If CamStudio is unable to locate your volume control, you will need to adjust the volume manually through Start : Programs : Accessories: Entertainment : Volume Control.

Please note that some configurations of the Recording and Compressed format will result in the audio recording becoming choppy or inaudible.

Some sound card disallows your system to record while another application is playing sound. In this case CamStudio will issue an error when you attempt to record with the "Record Audio" option being enabled.

Use system method for audio recording

If you set this checkbox, CamStudio will use certain system commands (MCI commands) to perform the recording of audio from your microphone. This method is more stable and may give better sound quality in some systems.

If you experience low audio quality when recording from CamStudio, but managed to obtain high quality recordings from your system's Sound Recorder, you may want to consider setting this option.

Important

- CamStudio will ignore all other settings in the Options for Microphone dialog box (except for the Audio Video Interleave setting) if you choose this setting.

- Instead, to adjust the recording source, you will need to set it **externally** in the **Control Panel**->(for Win XP) Sounds and Audio Device->(Audio Tab)->Default Recording Device.

- If you set the external recording source to a non-soundcard device (e.g webcam

microphone), you will need to set it back to your soundcard when you want to record sound from speakers.

Recording Audio from Speakers

(From the main menu, choose Options->Record audio from speakers)

By selecting this option, CamStudio will record the output from your speakers while it is capturing video. This is ideal for recording a gaming session or a movie stream. You will need a sound card with speakers attached to use this option.

Please note that not all soundcards support this function. (Most modern and branded soundcards usually allows you to record from your speakers)

Setting Audio Options for Speakers

(From the main menu, choose Options->Audio Options->Audio Options for Speakers)
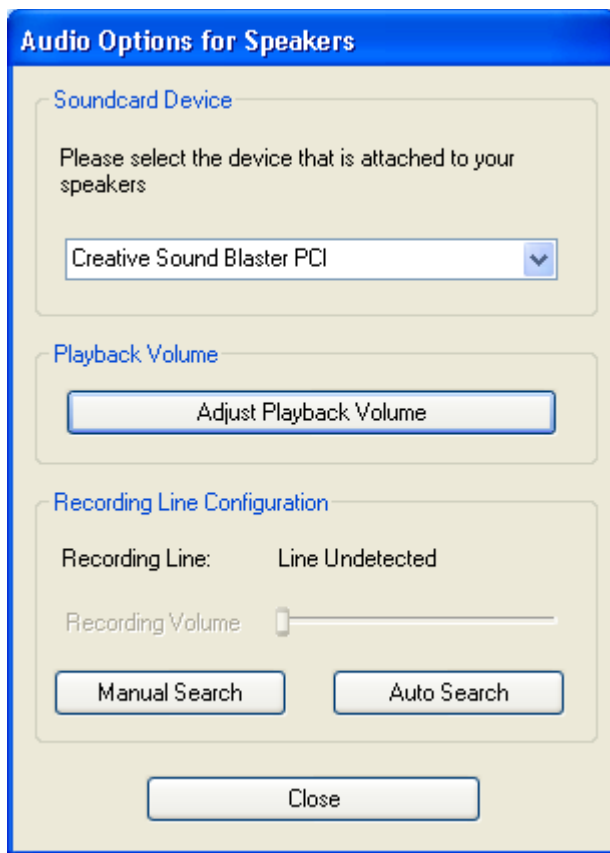
Most of the time, you only need to adjust the Playback Volume and Recording Volume.

Playback Volume

The Playback Volume controls the volume of your speakers. The sound signals going to your speakers and can originate from a variety of sources. Examples include sound from CD, Microphone, MIDI playback and Wave playback.

Recording Volume

The Recording Volume controls the volume of the recording line.

Important: For a good quality recording, it is important that both the Playback Volume and Recording Volume are not set too high.

<u>Recording Line Configuration</u>

In order for CamStudio to record sound from your speakers, it has to search your soundcard for the appropriate line to use. Failure to find the line simply means that CamStudio is unable to record from your speakers. **Some soundcards do not support this capability.**

The searching is usually done automatically when you click (Options > Record Audio > Record from speakers). However, if that does not work, you will have to use one of the two methods provided by CamStudio below to carry out additional searching.

By clicking the <u>Automatic Search</u> button, CamStudio will play a few tones and attempt to automatically detect the line.

If you select the <u>Manual Search</u> button, CamStudio will ask you a few questions on whether you have heard a tone when a particular line is used. You will need to turn on your speakers and listen carefully.

Note:

- *Normally, you do not need to perform a search at all because CamStudio will automatically do that for you when you choose the <u>Record Audio from Speakers</u> option.*

- *Please make sure that the <u>Default Recording Device</u> and <u>Default Playback Device</u> is set correctly to your soundcard. CamStudio makes use of certain recording functions that depend on this two devices being properly set. These can be accessed in <u>Control Panel :: Sounds and Audio Devices :: Audio (Tab)</u> in Win XP. If you have only one soundcard installed in your system, and have not installed other virtual sound devices, you usually do not need to be worried about this.*

- *If the recording is set incorrectly, you will not get any audio from your speakers.*

- *If you are unable to find a line after the Automatic Search and Manual Search, chances are that your soundcard do not support this function.*

● *Please ensure you have installed the latest soundcard drivers to take advantage of this feature.*

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Soundcard Device

For most users, the Soundcard Device will already be pointing correctly at your soundcard. However, if it isn't   or if your system has more than one soundcard, you will need to set it to the correct one.

If the soundcard device is changed, the recording line will no longer be valid and you will need to perform a manual/automatic search for the line
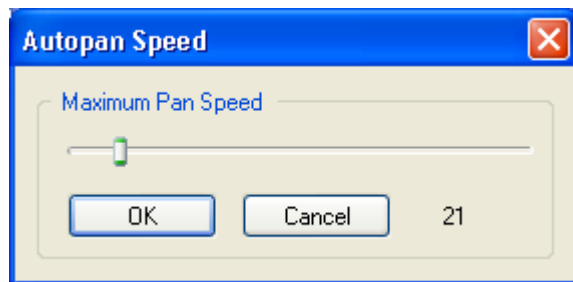
‑

Enable Autopan

(From the main menu, choose Options->Enable Autopan)

If this option is selected, the capture area will follow the cursor to wherever it goes during recording. This has the effect of making the screen capture to occur at the region with the most action.

Autopan Speed

Use this to control the maximum speed at which the capture area follows the mouse. The value is measured in screen pixels.

Program Options

Use the program options to customize the way the program behave when it starts/stops recording. A tick beside the menu items indicates that option is enabled.

- ✓ Minimize program on start recording
- ✓ Hide flashing rectangle during recording
- ✓ Save Settings on Exit
- ✓ Capture translucent/layered windows

Play AVI file when recording stops >>
Temporary directory for recording   >>

Recording Thread Priority >>

Name of AVI >>

Troubleshoot …

Save Settings on Exit

The *Save Settings on Exit* option allows you to save the program settings when you exit. These settings will be loaded the next time you launch CamStudio.

If you run CamStudio and find that it does not work as well as in previous sessions, most likely your saved settings is not tuned very well or is corrupted. You may want to reset your settings by turning off the *Save Settings on Exit* option, exit CamStudio, and launch CamStudio again.

Minimizing CamStudio

CamStudio is minimized to the system tray instead of the taskbar. To restore CamStudio, double click its icon in the system tray.
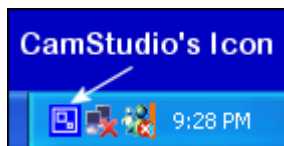
Play AVI file when recording stops

In here, you can choose to

- Do nothing when the recording stops.

- Play the AVI file when the recording stops (using CamStudio Player).

- Play the AVI file when the recording stops (using your system's default player).

Capture translucent/layered windows

In Windows 2000 or XP, there are certain windows that are translucent/layered and cannot be captured without turning this option on. An example is the Office Assistant in Office 2000.

Temporary directory for recording

CamStudio creates temporary files while it is performing recording. These temporary files can become very large and crash your system if your system ran out of disk space.

You can set the directory for placing your temporary files by selecting one of these:

- Windows Temporary Directory (Usually C:\Windows\Temp)

- Installed Directory of CamStudio (Usually C:\Program Files\CamStudio)

- User Specified Directory

If you are using the <u>User Specified Directory</u>, you should always choose a directory that resides in the drive with the largest free space.

Recording Thread Priority

Some programs, when set as the active window, use the system resources so heavily that they cause CamStudio to be unusable. The frame rate in these cases drop to 0 - 5 frames per second (even if only a small region is being captured). Examples include some DirectX games or CPU intensive simulations.

To improve the performance of CamStudio at the expense of these programs, you can set the recording priority of CamStudio to *Highest* or *Time Critical*. However, doing this may also affect the performance of your whole system (For example, Windows may not respond to some mouse clicks on your Desktop). Therefore, for most cases, this option is best left at *Normal*.

Name of AVI

With auto-naming, you can now avoid giving a name to every AVI you record. The name of the file will have the following format **1422003_1520_26.avi** and is saved in CamStudio's installed directory.

The name is formed using the system's date and time of the recording.

1422003_1520_26.avi means the file is saved on 14th of February, 2003, 3.20 p.m (1520), at the 26th second.

Troubleshoot

This dialog allows you to diagnose and resolve some problems. Currently, it can handle the following:

● If you find that many of your multimedia applications record from the speakers instead of the microphone after CamStudio exits, you can select the checkbox to reset the settings.

For other problems please refer to our FAQ at

http://www.rendersoftware.com/products/camstudio/faq.htm

Keyboard Shortcuts
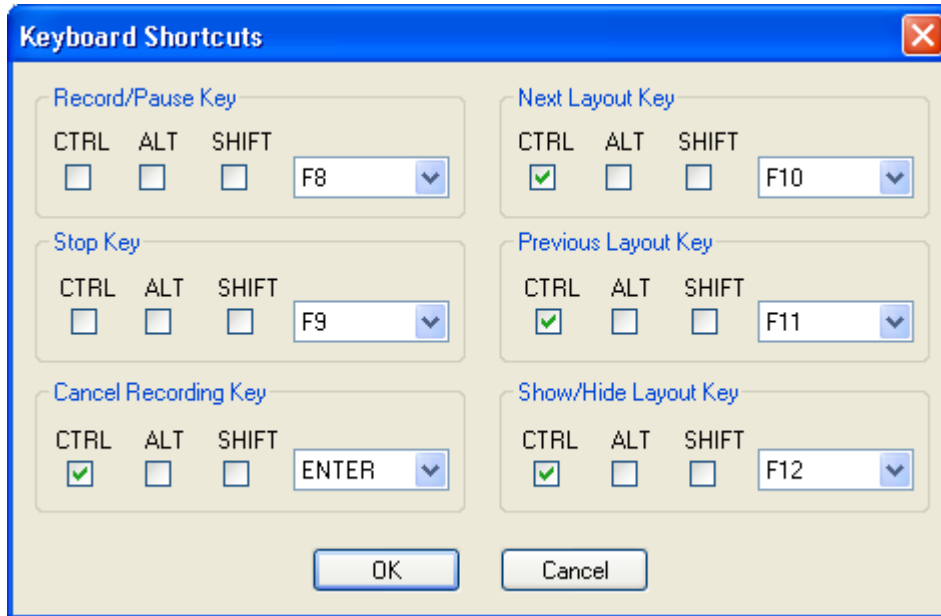
Use the above dialog box to customize your shortcut keys for starting, stopping or canceling your recording operation.

You can also set your keys for displaying the Next Layout and Previous Layout. For more information on layouts, refer to the section on Screen Annotations below.

Screen Annotations

The Screen Annotations feature allows you to add captions to your screen during recording. An example of a screen annotation is shown below:

You can display the Screen Annotations dialog box by clicking on the icon or

choose Tools->Screen Annotations from the main menu.
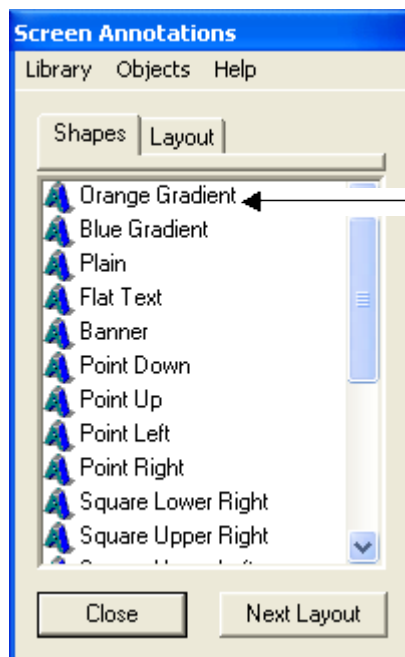
To instantiate the shape Orange Gradient, simply **double click** on it or **drag it out** of the Screen Annotations dialog box.

Screen annotations consist of two main components: *Shapes* and *Layouts*.

Shapes

A shape is just a floating window that will appear on top of all other windows on your desktop. An example is shown below.

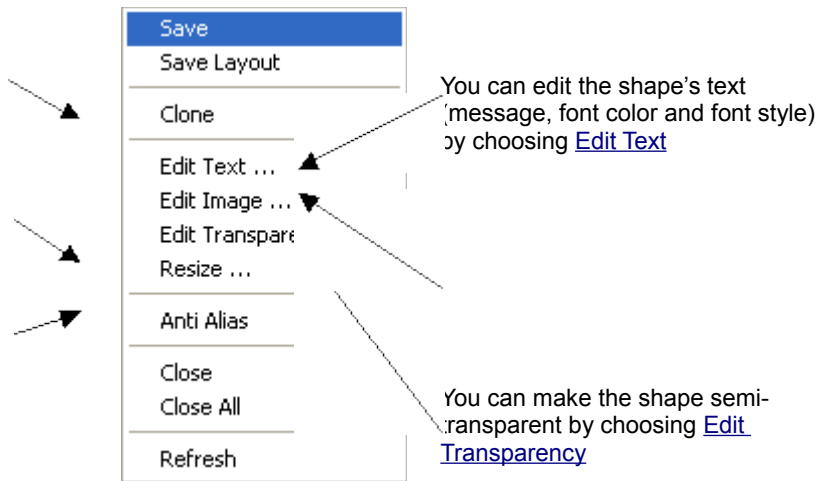**Right-click on a shape to display the context menu shown below.**
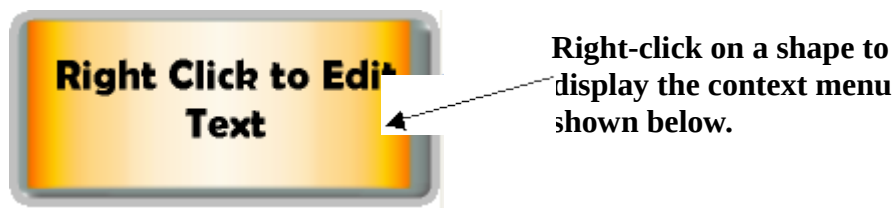
- *Instantiating a shape*

To create the shape above, simply **double click** on the item Orange Gradient or **drag it out** of the Screen Annotations dialog box.

● *Editing the shape*

To edit the shape, **right-click** on it to display a context menu

The Clone command allows you to
create a copy of the shape.

Save
Save Layout
Clone
Edit Text ...
Edit Image ...
Edit Transpare
Resize ...
Anti Alias
Close
Close All
Refresh

You can edit the shape's text
(message, font color and font style)
by choosing Edit Text

You can make the shape semi-
transparent by choosing Edit
Transparency

...............ve finished editing the shape, you can save it with the Save command.

- The Close command will close / hide the shape on your desktop.

- The Close All command will close all shapes on your desktop.

- The Refresh command will redraw the shape.

- The Save Layout command will save all the shapes and their arrangement on your desktop into a layout. Please refer to the Layout section below for more information.

-

Editing Text

Select Edit Text from the context menu to change the text of the shape.

Text Properties

Font

Right Click to Edit Text

Choose Language / Encoding

Close
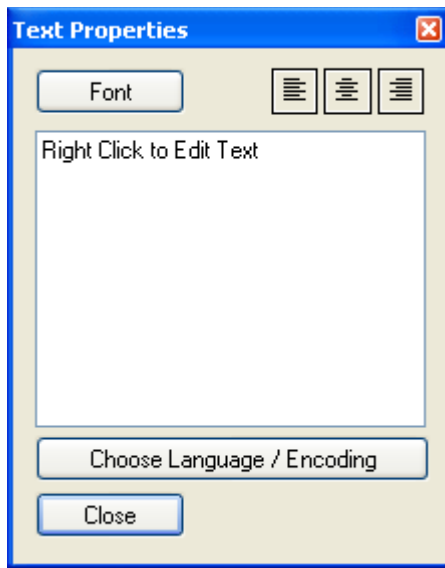
Notice the text is surrounded by a dotted rectangle after you have chosen the Edit Text command. You can move / resize the dotted rectangle by dragging it with your mouse.

Right Click to Edit Text
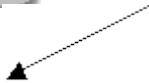
Clicking on the <u>Font Button</u> allows you to choose the Font Name, Font Style (Bold, Italic, Underline) and Font Color of the shape's text. The three buttons

is used for setting the alignment of text. The <u>Choose Language / Encoding</u> button allows you to choose an appropriate font for your language if it is non-Western (English, French, German etc). This feature is available only on Win 2000 / XP.

Editing Image

Select <u>Edit Image</u> from the context menu to change the text of the shape.

Edit Image

Cutout / Transparent Region

○ No cutout region

○ Create cutout using transparency color

> #### Choose color to be made transparent
>
> [Color] [Pick Color From Screen]

⦿ Create cutout using pre-defined shape

[Round Rectangle ▾]

> #### Border
>
> ☑ Add border to image
>
> Border Size [5 ▴▾]
>
> [Border Color]

Background

[Background Color] [Load New Image]

[Close]
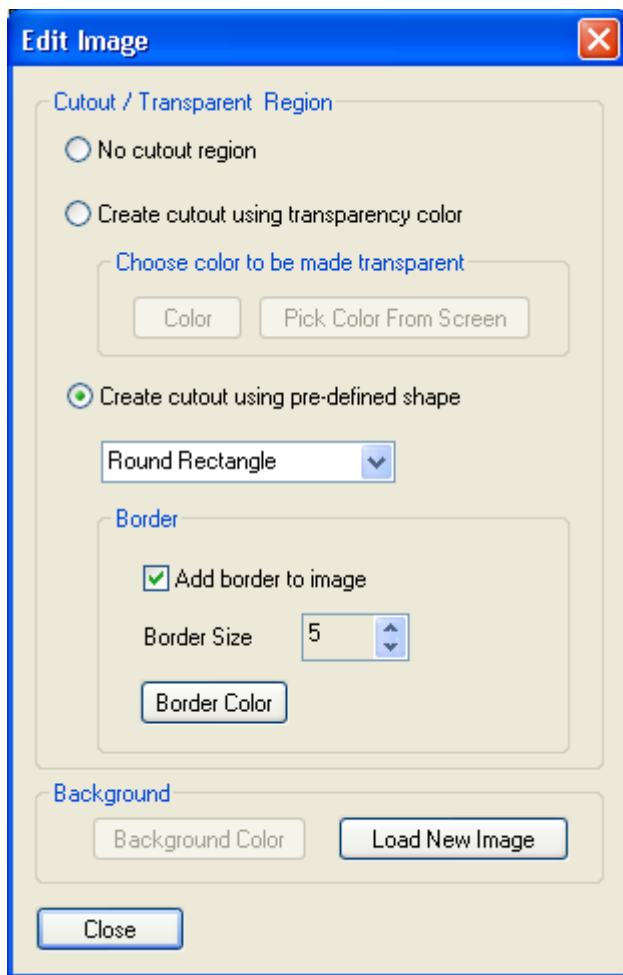
The <u>cutout / transparent region</u> allow you to create non-rectangular windows. It refers to the region that allows the background to show through. There are two methods to create a cutout region.

1) *By Transparency Color*

All areas of the image with the specified transparency color will be made transparent.

For example, if the transparency color is <u>Black</u>, the image

 will be transformed into

2) *By using a predefined shape.*

Currently, the predefined shapes are round-rectangle, ellipse and rectangle. For example, a round-rectangle cutout region for the image

 will be something like

For a predefined cutout region, you can add a border, and set the color and size of the border.

You can set the <u>Background color</u> for a shape if the shape does not have an image.

Otherwise, you can click the <u>Load New Image</u> button to change the background image to a new file. The file formats that are accepted are bmp, gif and jpeg.

Editing Transparency

Select <u>Edit Transparency</u> from the context menu to change the shape's transparency. This feature is available only in Win 2000 / XP.
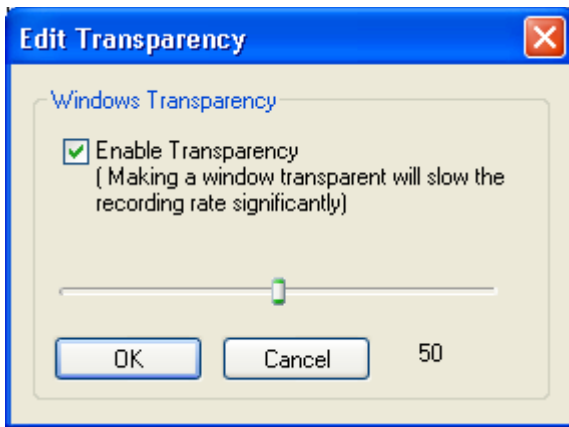
Note that recording a transparent window will cause the frame rate to drop significantly. You will also have to enable the Program Options ::Capture Translucent / Layered Window setting for the shape to be properly captured into the AVI movie.

Resizing Shapes

Select <u>Resize</u> from the context menu to resize the shape.
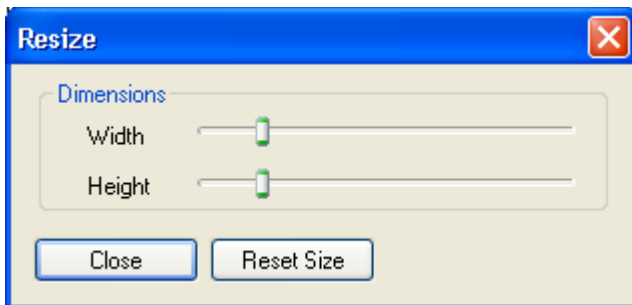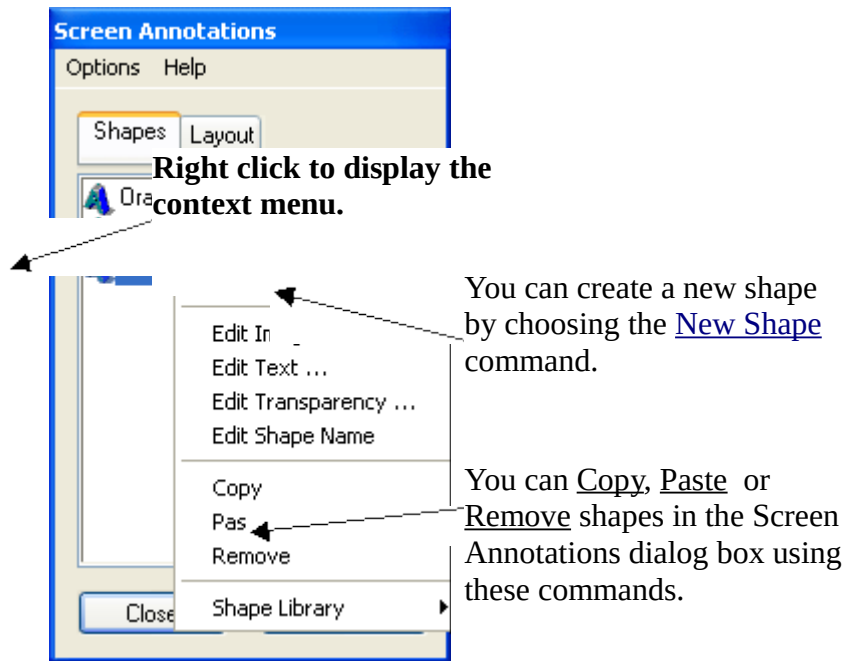

Note that a shape with a large size will be drawn and displayed very slowly.

● *Managing and creating shapes*

In the Screen Annotations dialog box, **right click** on an item to display a context menu for managing

and creating shapes.

Right click to display the context menu.

You can create a new shape by choosing the New Shape command.

You can Copy, Paste or Remove shapes in the Screen Annotations dialog box using these commands.

- You can also rename a shape by choosing the Edit Shape Name command or selecting a shape and **press F2**.

● You can **rearrange the order** of the shapes in the list by dragging a shape onto another. For example, to switch the order of the "Flat Text" and "Dialog", simply drag "Dialog" onto the "Flat Text" item.

● The Shape Library command lets you

1) Save all your existing shapes into a file

2) Load a shape library file into the Screen Annotations dialog box and

3) Create a new (empty) shape library

New Shape Library
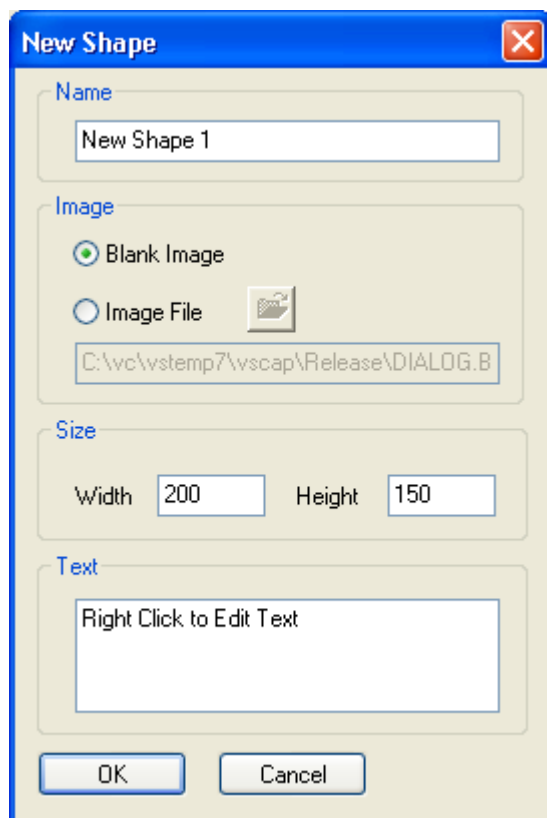Open Shape Library
Save Shape Library
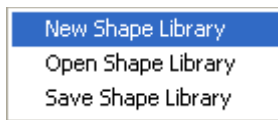
Note: In the event your default shape library file CamShapes.ini gets corrupted and is unable to load on startup, you can restore the default shapes by opening the file default.shapes in the installed directory of CamStudio.

● The New Shape command will launch a dialog box where you can specify the

1)   Name of the new shape

2)   Image of the new shape

3)   Size of the new shape and its

4)   Initial text

New Shape

Name

New Shape 1

Image

◉ Blank Image

○ Image File

C:\vc\vstemp7\vscap\Release\DIALOG.B

Size

Width   200   Height   150

Text

Right Click to Edit Text

OK   Cancel

Layouts

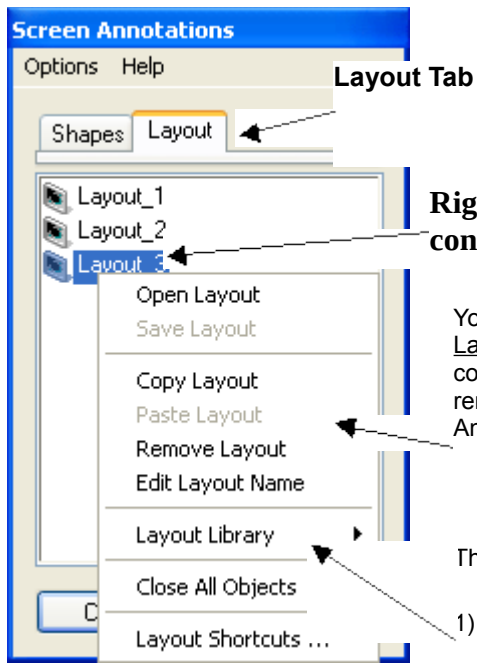A layout is just the arrangement of one or more shapes on your desktop. An example is shown below
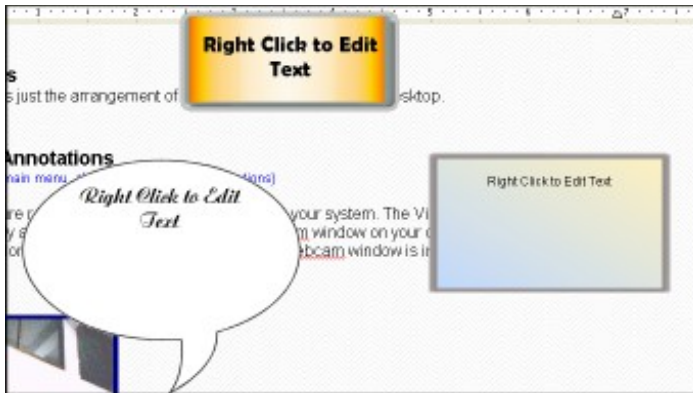
You usually prepare all your layouts before recording starts. When you start recording, you will click a hotkey / shortcut key to cycle through the layouts to display the appropriate captions at the proper time.

You can mange your layout by clicking on the **layout tab** of the Screen Annotations dialog.

Screen Annotations

Options   Help

Layout Tab

Shapes | Layout

Layout_1
Layout_2
Layout_3

Right Click to display the context menu.

Open Layout
Save Layout

Copy Layout
Paste Layout
Remove Layout
Edit Layout Name

Layout Library ▶

Close All Objects

Layout Shortcuts ...

You use the Copy Layout, Paste Layout and Remove Layout commands to copy, paste and remove layouts in the Screen Annotations dialog box.

The Layout Library command lets you

1) Save all your existing shapes into a file

2) Load a shape library file into the Screen Annotations dialog box

3) Create a new (empty) shape library

● Select a layout and **right-click** on it to display a context menu for managing the layouts.

• You can rename a layout by choosing the Edit Layout Name command or selecting a layout and **press F2**.

● You can **rearrange the order** of the layouts in the list by dragging a layout onto another. For example, to switch the order of the "Layout 1" and "Layout 2", simply drag "Layout 1" onto the "Layout 2" item.

Instantiating a layout

You instantiate a layout by simply **double click** on the layout item or **drag it out** of the Screen Annotations dialog box. By doing so, all the shapes that are saved into the layout will be displayed on the desktop in their correct order and position.

Saving a layout

To save a layout, first, arrange your shapes in their correct position and order. **Right click** on any of the shapes to bring up a context menu, and select the Save Layout command.

Cycling through layouts

You can cycle through the layouts by clicking the Next Layout key in the Screen Annotations dialog box. Every click will close all existing shapes on the desktop and instantiate a new layout. Alternatively, you can use a hotkey / keyboard shortcuts to perform the cycling. To customize the keys for navigating the layouts, you can choose Options->Keyboard Shortcuts from the main menu or Objects->Layout Shortcuts from the Screen Annotations menu.

Layout shortcuts

The keys for cycling through the layouts are

Next Layout Key – key for displaying the next layout

Previous Layout Key - key for displaying the previous layout

Show / Hide Layout Key - key for showing / hiding the current layout

Video Annotations
(From the main menu, choose Tools->Video Annotations)

This feature requires a webcam to be installed on your system. The Video Annotations window is essentially a webcam window. By placing a webcam window on your desktop, you can record its content along with other screen content when the webcam window is inside your recording region.

The Video Annotation window does not only stream video content to your desktop. You can also add a text caption, make a cutout region, or set transparency values (Win 2000 / XP only) to the video annotation just like you did for screen annotations. To do so, **right-click** on the webcam window to display a menu like this
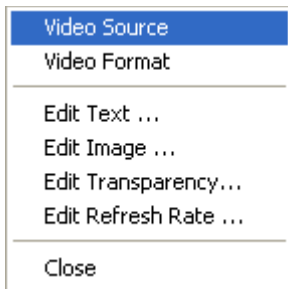
The Edit Text, Edit Image and Edit Transparency commands have already been covered in the section on Screen Annotations and will not be explained here.

Refresh Rate
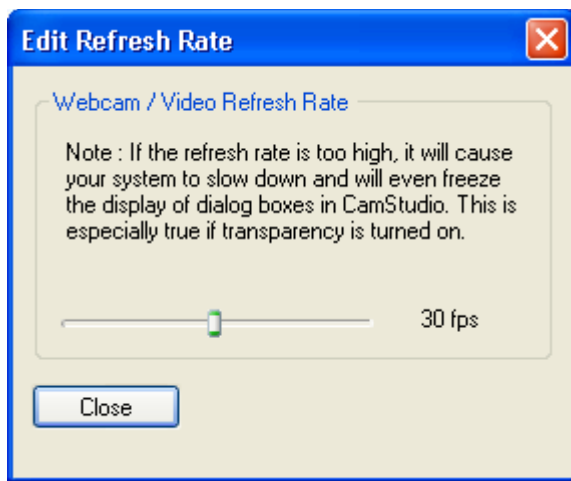
The refresh rate indicates the number of times (frames) CamStudio will attempt to capture an image from your webcam and display it on your screen. The actual rate will usually be much lesser, especially for large sized images.

Important :

- Setting a high refresh rate will degrade the recordings of CamStudio considerably. This is especially true if transparency is turned on. It has been observed that some dialog boxes will not appear when they are selected when the Video Annotation window is shown. To stop the blocking of these dialog boxes, you will need to close the Video Annotation window first.

- The slowdown in the recording rate will be observed even if the Video Annotations window is not inside the recording region. In fact, the presence of the Video Annotations window will even affect the performance of other programs in your system. Therefore, it is highly advised that you close the Video Annotations window when it is not needed.

- Sometimes, especially on slower systems, the video of the webcam images will appear to be slightly behind the audio track on playback. This is because the acquisition of an image and its display on the screen is quite demanding on your system resources. The computer will take some time to process the acquired image before showing it on the screen. This latency problem can usually be resolved by

1) Choosing a smaller dimension for your video format or

2)   Shifting the video track slightly to align it with the audio track. More information can be found in the section <u>Audio and Video Synchronization</u> below.

Video Source

You can use the video source dialog to select your webcam or video source for the video annotation. You can also set the brightness, contrast, gain, exposure and other settings related to your webcam video.

Video Format

The video format dialog is used for selecting the **dimensions** of your webcam or video source image. You can also set the pixel depth and compression (e.g RGB24, RGB32) of your video.

Note: You are advised to choose a small dimension (e.g 160 x 120) for the video format, as a large sized format will slow down your system significantly.

The video source and video format dialog boxes will vary on different systems. Its implementation will very much depend on the vendor of your webcam.

Audio and Video Synchronization
(From the main menu, choose Options>Audio Options->Audio and Video Synchronization)

Audio and Video Synchronization

Synchronization

○ Do not shift the audio or video streams

● My audio goes before my video (I hear the words before I see the mouth movements). Delay the recording of the video stream and shift by

Timeshift [150 ▲▼] milliseconds

[OK]   [Cancel]

If the video and audio track of your recording is not in phase during playback, you can try to shift a stream slightly to make them back in sync. This may happen if you are recording the output of a webcam. The amount of shift is measured in milliseconds, and the appropriate value for the shift can usually be determined after a few trail recordings with different time shift values.

Note : *The dialog above only handles the case when the audio streams appear to go before the video.*

Some Notes on the Quality and Performance of the Recording

CamStudio creates a movie by sampling the screen on fixed-time intervals. If this sampling frequency is too slow, it may not be able to pick up some cursor movements if the mouse moves too fast. The result of this will be that the cursor will appear to jump, become jerky or even cannot be seen in the recorded movie. It is thus advisable to slow down your mouse movements during recording.

This sampling problem can also happen when you are recording a fast animation. If CamStudio cannot record much faster than the changes in the animation, CamStudio will miss out on some important data and the playback will not be smooth.

Frame Rates

The speed of your computer will directly affect the performance of CamStudio. A slow CPU will unquestionably mean slower frame rates. For the best performance, use the fastest computer available for recording.

Apart from CPU speed, the following factors will also affect the performance of the recording:

● *Recording a movie that covers a large area.*

● *Recording pictures that contain many colors in.*

● *Running other applications during recording sessions.*

File Size

An AVI file usually has a very large file size, especially for those lengthy and

detailed videos. This is due to the fact that a video file has to pack hundreds and thousands of images into a single file. It is thus very common to have size exceeding one megabyte.
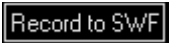
To reduce the size of the AVI file, you can do the following:

- *Limiting the area of the region being captured.*

- *Limiting the (input) rate of which video frames are captured. This can be set in the <u>Capture Frames Every</u> field of <u>Video Options</u>*

- *Changing the compressor and compression quality. By changing the compression quality, you are essentially making a tradeoff between picture quality and the file size.*
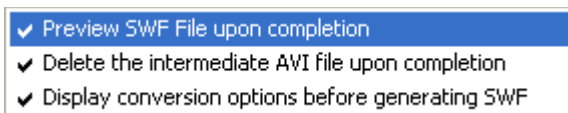
Producing Flash (SWF) Files:

CamStudio allows you to produce Flash files in two ways

1) *Record directly to Flash*

To record directly to Flash, simply click the [SWF] button to toggle the recording mode to [Record to SWF].

After that you may proceed in the same way as you record an AVI file.

There are a few options that you can adjust prior to recording to Flash. These are accessed with the Options :: Record to Flash commands in the menu.

✔ Preview SWF File upon completion
✔ Delete the intermediate AVI file upon completion
✔ Display conversion options before generating SWF

The <u>Preview SWF File upon completion</u> instructs CamStudio to display

your Flash movie in a HTML file when the production is completed.

The process of recording to SWF actually involves multiple steps. CamStudio in fact record your screen activity to an intermediate AVI file first, before converting it to a Flash (SWF) file. The Delete the intermediate AVI file upon completion setting thus instructs CamStudio to delete the intermediate AVI file when the conversion is completed. You may want to preserve the AVI file just in case you'll like to edit it in an AVI editor, but that will take up plenty of space on your hard disk, as the format of the AVI is saved with minimal compression settings.

The production an SWF file is affected by many parameters in the SWF Producer. These parameters are, by default, hidden from users, but may be revealed if you turn on the Display conversion options before generating SWF setting. For a full description of these parameters, please refer to the section on "Conversion Parameters" in the SWF Producer help file.

2) *Convert an existing AVI file to Flash with the SWF Producer*

The CamStudio distribution package includes a module known as the SWF Producer that is able to convert an AVI file to SWF. This is actually a separate program that can function independently of the CamStudio Screen Recorder.

The SWF Producer is launched by selecting Tools :: SWF Producer from the menu.
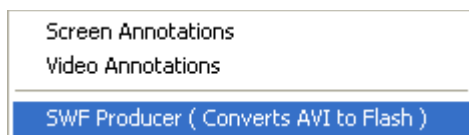
You can also double click the Producer.exe file in CamStudio's installed directory to launch it.

While the SWF Producer works best with the AVI files recorded with CamStudio, it is in fact capable of converting most AVI files created by third party products. Normally, Flash files generated by the SWF Producer results in a much smaller file than the original AVI. For a full description of the usage of the SWF Producer, please refer to the topic on [Standalone mode](#) in the SWF Producer help file.

CamStudio Player 2.1

Extended Options

The Camstudio v2.1 player (playplus.exe) can be launched from the command line (DOS prompt) with the following options:

```
playplus  filename.avi
```

This will launch playplus.exe and load the AVI file (filename.avi) without playing it.

```
playplus  -a filename.avi
```

This will launch the AVI file (filename.avi) and play it automatically.

```
playplus  -x filename.avi
```

This will launch the AVI file (filename.avi) and play it automatically. The player will exit when the playback is completed.

Website of CamStudio:

CamStudio is an Open Source product. You may obtain its source code at:

http://www.rendersoftware.com/products/camstudio/

Frequently Asked Questions:

If you have more questions regarding the use of CamStudio, please refer to the following page:

http://www.rendersoftware.com/products/camstudio/faq.htm

Credits:

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