

SolveigMM HyperCam SDK

Developer Reference Manual

SDK Version: 1.0 Evaluation

First edition: August 11, 2010

Date modified: October 11, 2012

Note: The documentation of evaluation version is technically restricted

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SolveigMM HyperCam SDK Notices

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More information can be found at: <http://www.solveigmm.com/>

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Releases Notes

Product Description

The SolveigMM HyperCam SDK is a software development kit to enable programmers to develop digital video applications using Solveig Multimedia components.

Components

SolveigMM HyperCam SDK includes the following components:

SolveigMM Overlay Hook (SMM_OverlayHook.dll)

A dynamic-link library to implement the technology of DirectDraw ® overlay capture.

SolveigMM HyperCam 3 (SMM_HyperCam.exe)

A SolveigMM HyperCam 3 executable registered to be used as an OLE server.

SolveigMM Audio Mixer (SMM_AudioMixer.ax)

A DirectShow filter intended for mixing multiple input audio streams to single output stream.

SolveigMM Resampler (SMM_Resample.dll)

A dynamic-link library providing simple methods to convert audio stream's parameters (number of channels, sample rate and sample size)

SolveigMM Screen Capture Filter (SMM_ScrCapture.ax)

A DirectShow filter intended for capturing the specified on-screen region.

SolveigMM Time Shifter (SMM_TimeShifter.ax)

A DirectShow filter that allows shifting audio against video

SolveigMM System Audio Capture Filter (SMM_WASAPISource.ax)

A DirectShow filter intended for capturing system audio in Windows Vista and higher.

SolveigMM File Writer (SMM_FileWriter.ax)

A DirectShow filter for writing AVI and MPEG audio files.

SolveigMM ASF Multiplexer (SMM_ASFmuxer.ax)

A DirectShow filter for the video and audio streams multiplexing into Microsoft Advanced Streaming Format.

SolveigMM WAV Multiplexer (SMM_WavMux.ax)

A DirectShow filter for multiplexing audio streams into WAV files.

Samples

SMM_OverlayHook

This sample demonstrates using of SolveigMM Overlay Hook dynamic-link library. It shows how to capture application screen activity which uses DirectDraw ® overlay with given frame rate. Derived images are displayed in OverlayHook window and optionally saved to BMP files.

SMM_HyperCamOLEManager

The sample demonstrates how to utilize the SolveigMM HyperCam 3 as an OLE-server. It shows the usage of a main properties and methods.

System Requirements

- CPU (Intel® Pentium II, Celeron, AMD® Athlon, Opteron etc.)
- 128 MB RAM.
- Any VGA card.

SolveigMM HyperCam SDK

- Windows® 2000/XP/2003/Vista/7.
- Microsoft® DirectX® 8.0 Runtime or higher.

SolveigMM HyperCam SDK User Guide

Installing SDK

To install the SolveigMM HyperCam SDK:

1. Run the SDK setup. To run, double click the executable file from the SDK setup package.
2. The *SolveigMM HyperCam SDK* window will appear. Read the recommendations and warnings. Click **Next**.
3. The Release Notes will appear. Click **Next**.
4. The license agreement will appear. Read the agreement and if you accept the terms within, select the "Yes I agree with the terms of this license agreement" check box. Click **Next**.
5. Select the destination folder in which you want to install the SDK. Click **Next**.
6. Select the program group in which you want the SDK to be located. Click **Next**.
7. To complete installation, follow the onscreen instructions. When setup has finished installing all of the necessary files on your computer, the appropriate message box with the text "SolveigMM HyperCam SDK has been successfully installed" will appear and the SDK is ready to use.

Uninstalling SDK

To uninstall the SolveigMM Media Capture SDK

1. Click *Start*→*Programs*→*Solveig Multimedia*→*SolveigMM HyperCam SDK*→*Uninstall SDK*.

Follow the onscreen instructions to complete removal of the application.

SDK Folder Structure

After installing the SDK, the "SolveigMM HyperCam SDK" folder will appear in the destination folder specified during installation.

Note: After installing the SolveigMM HyperCam SDK, the SDK Components (filters and DLLs) will be installed on your PC in the "Program Files\Common Files\Solveig Multimedia" (in addition to **SolveigMM HyperCam SDK** folder).

The SDK folder has the following folders:

Bin – contains the necessary binaries.

Bin/release – contains the release versions of compiled samples

Doc - includes all SDK-related documentation

Include- includes headers to comprise interfaces and headers

Samples – includes VisualStudio 2008 C++ Sample Applications

SDK Sample Applications**SMM_OverlayHook**

This sample demonstrates using of SolveigMM Overlay Hook dynamic-link library. It shows how to capture application screen activity which uses DirectDraw ® overlay with given frame rate. Derived images are displayed in OverlayHook window and optionally saved to BMP files into bmps subfolder of OverlayHook folder. If overlay is not used the application displays the message about it. OverlayHook GUI is at the Figure 1.

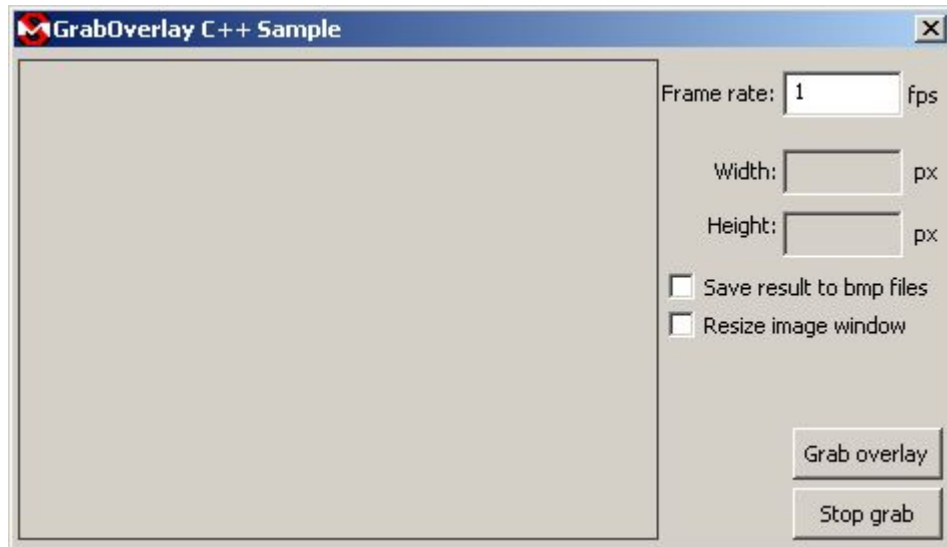


Figure 1 – The application GUI

Let us consider a simple example of the sample usage. It works if DirectDraw ® overlay is used for bitmap output. However Windows Media Player 12 (it is default version for Windows ® 7) does not use it and OverlayHook sample will not display any picture in this case. To grab such applications the another SolveigMM Media Capture SDK components should be used. They will be included in later versions of the SDK.

The example is the following. Start OverlayHook. Open any video in Windows Media Player ® and start playing.

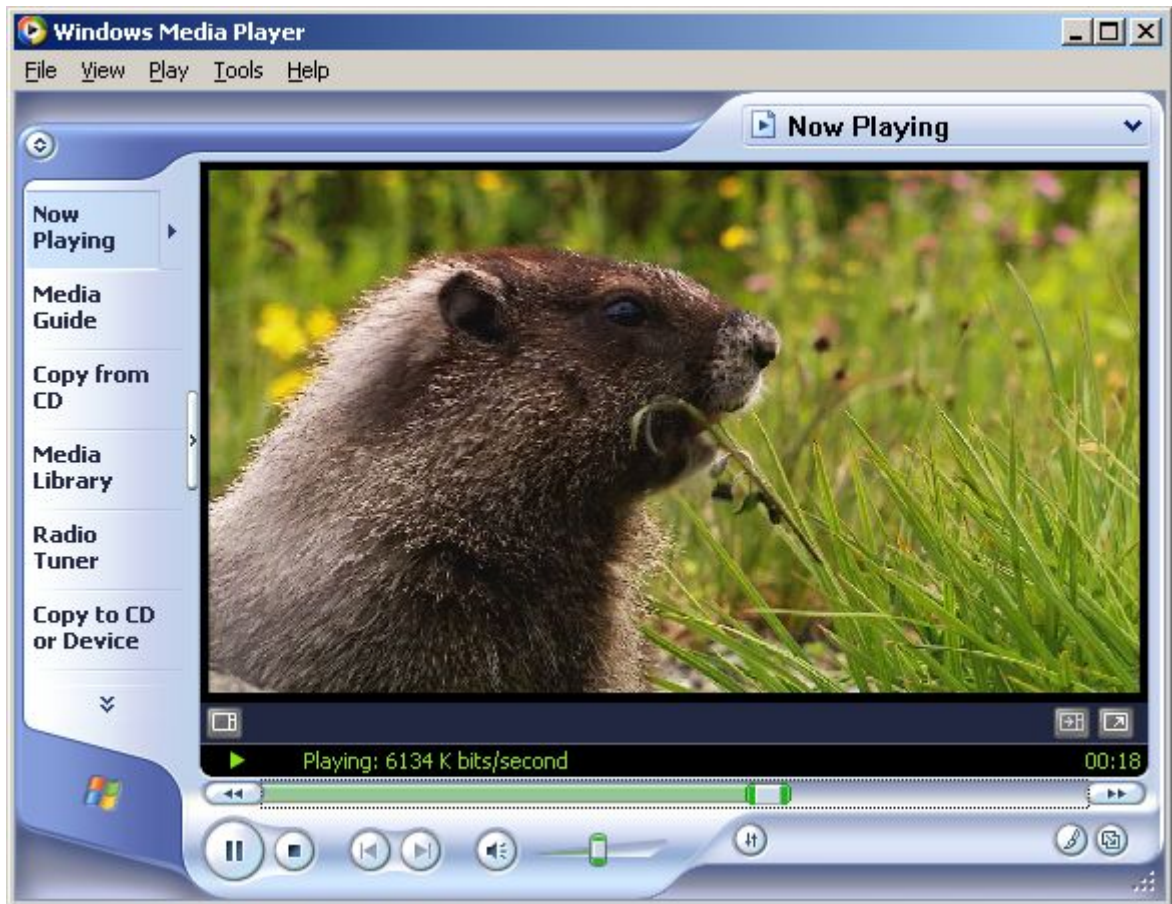


Figure 2 – Movie in the Windows Media Player ® window

Set necessary frame rate in the frame rate field at the OverlayHook window (it's set to 30 at the fig. 3), set "Resize image window" option and click "Grab overlay" button. Video from the Windows Media Player ® window will appear at the sample image window. Check "Save result to bmp files" option. OverlayHook will start to save the contents of image field to the bmp files named 000000.bmp, 000001.bmp, 000002.bmp etc.



Figure 3 – Image in the OverlayHook window

Uncheck "Save result to bmp files" option. The image saving will be stopped. Click "Stop grab" button to stop capture and exit the sample.

SolveigMM HyperCam SDK

SMM_HyperCamOLEManager

This sample demonstrates using a SolveigMM HyperCam 3 as an OLE-Server. It shows how to read and correctly change the supported settings. For the correct working of a sample the SolveigMM HyperCam 3 executable should be registered as an OLE-server. By default it is done while the installing. To manually register the SolveigMM HyperCam you should run it with the command "-regserver", to manually unregister it, you should run it with the command "-unregserver". In Windows Vista and higher you should run the SolveigMM HyperCam with the parameters above As an Administrator. The user interface is shown at Figure 4.

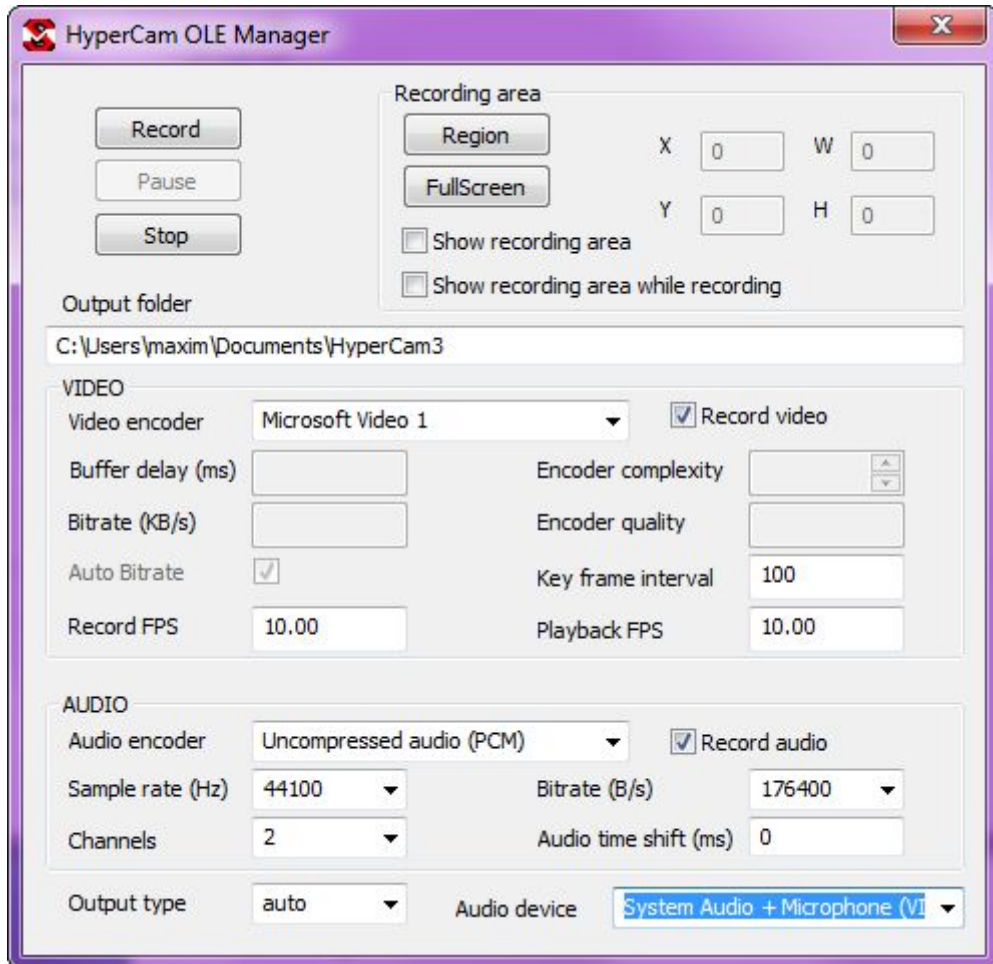


Figure 4 – SolveigMM HyperCam OLE Manager User interface.

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SolveigMM Overlay Hook

SolveigMM Overlay Hook dynamic-link library is a software-only solution for capture of application screen activity which uses DirectDraw ® overlay with given frame rate. The engine is implemented as a simple dynamic-link library and can be used by any Windows® application.

Executable	SMM_OverlayHook.dll
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The library contains the following functions.

Functions in VTable order

Description
Start the engine for capture overlay
Stop the engine which captures overlay
Retrieve a picture from overlay
Specify the capture frame rate
Bring the capture engine online
Make the capture engine offline
Check if overlay is used

These functions names and their detailed descriptions are available in the full SDK version.

SolveigMM HyperCam 3

The SolveigMM HyperCam 3 is an OLE server to be controlled by a client application. It exposes a number of methods and properties.

Executable	SMM_HyperCam.exe
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The SolveigMM HyperCam server exposes some properties and methods. The detailed descriptions are available in the full SDK version.
