

tapavi

COLLABORATORS

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REVISION HISTORY

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Chapter 1

tapavi

1.1 main

TAPAVI 1.2

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This is a residentable AVI animation player for AGA/020+/KS2 Amiga machines. AVIs are audio/visual animations found on PCs.

Requirements

Supported Encoding

CLI Parameters

Workbench ToolTypes

Operation

XAnim

CD-ROMs

Credits

Distribution

Contact Info

History

DISCLAIMER: It works on my machine.

1.2 requirements

TAPAVI will work best on an AGA/020+/KS3 machine, but can be run on a machine with KS2 also. It requires the ReqTools library, which can be found on Aminet FTP sites in util/libs.

If KS3 is present, then TAPAVI is able to use the wider color registers supported by LoadRGB32().

1.3 encoding

TAPAVI's implementation of these methods is based on the source code to Mark Podlipec's XAnim program. I will add more methods as I need them. I think the best source for AVI files is on CD-ROM, so as I get new CDs I will extend TAPAVI's support.

CRAM(8) 8-bit video. A 256-color palette is supplied by the AVI.

CRAM(16) 16-bit video. TAPAVI uses a fixed 256-color palette, and converts each 0rrrrrrgggggbbbbbb word to a rrrggbbb byte.

RGB(8) 8-bit video. A 256-color palette is supplied by the AVI.

PCM(8) 8-bit audio. Each byte is an unsigned value.

PCM(16) 16-bit audio. Each word is a signed value.

1.4 cli

The command template for TAPAVI is...

FILES/M, BUF/K/N, DELTA/K/N, FONT/K, LOOP/S, NOSHOW/S, RAW/K, SKIP/K/N, SOUND/S, TIME/S, VERBOSE/S

FILES A list of AVIs that you want to play. The default is to use a file requester.

BUF The size in KB of the buffers to use when reading the animation file. Two buffers of this size are allocated and smaller values may make the animation smoother. The default is 512.

DELTA The frame delay, in 100ths of a second, to be used for each video frame. If a frame is drawn in less time than this value, then TAPAVI will wait until the time expires before continuing.

The default value is taken from the AVI file, which contains a microsecond value that TAPAVI converts with

	$\text{DELTA} = (\text{N} / 10000) - 2.$
FONT	A font name, including the ".font" extension, to use for the TAPAVI screen. An 8-point non-proportional font will be requested. The default is dlview3.font.
LOOP	Enables looping of the animation when it finishes. The default is to move on to the next file or exit when an animation ends.
NOSHOW	Disables decoding of the AVI's video stream.
RAW	A file name to which the AVI's audio stream will be saved. It may be possible to play this file using a program like Thomas Wenzel's Play16. This option is only effective when the SOUND option is used.
SKIP	A number N indicating that every Nth video frame should be skipped.
SOUND	Enables audio. The default is to have sound disabled.
VERBOSE	Enables the output of some of the AVI header chunks that TAPAVI looks at.

1.5 wb

These tooltypes are only used if they are present in the TAPAVI icon. By the time animation icons can be inspected, the configuration that these options control has already been done.

BUF=N	N is the size in KB of the buffers to use when reading the animation file. The default is 512.
DELTA=N	N is the frame delay, in 100ths of a second, allowed for each video frame. The default is taken from the AVI file.
FONT=NAME	NAME is the name of a font, including the ".font" extension, to be used for the TAPAVI screen. The default is "dlview3.font".
LOOP=ON	Enables looping. The default is OFF.
SKIP=N	N is a number indicating that every Nth frame should be skipped.
SOUND=ON	Enables audio. The default is OFF.

1.6 operation

TAPAVI is able to handle about 10 frames a second on my A4000/040. AVIs that cannot be played back at the frame rate they are expecting will tend to have stuttered audio.

Smaller BUF values tend to smooth out marginal animations by spreading the IO load. If you have enough memory, then a BUF value large enough to hold the entire animation would remove the IO load altogether.

Adjusting the DELTA value to a little less than the AVI's expected frame delay may help cure problems where the audio goes faster than the video. This has no effect if TAPAVI is just unable to decode and display video frames fast enough.

If the TAPAVI window is deactivated, or the TAPAVI screen is moved behind another screen, then TAPAVI will pause as if Down has been pressed. To resume playing, bring the TAPAVI screen to the front, click on it, and then press Up.

The following input can be used to control TAPAVI...

Esc, RMB	End the current animation.
^C, break	End the program.
Down	Pause the animation, ignored if DELTA is zero.
Right, LMB	Forward one frame.
Up	Resume the animation.

1.7 xanim

The encoding methods that TAPAVI supports are based on the source code to Mark Podlipec's XAnim program. XAnim supports a number of other AVI video encoding methods, as well as QuickTime files.

I use Terje Pedersen's port of XAnim on the Amiga. If you run it with its +v option, it will display the video and audio encoding methods for the file. At the moment Terje's port does not support audio. It can be obtained from the Aminet sites as gfx/show/xanim3.lha. There is another port of XAnim under way, but it currently requires KS3.1 so I have not been able to run it.

The key differences between TAPAVI and XAnim for AVI files are...

- o XAnim is more powerful and more general than TAPAVI.
 - o TAPAVI plays audio.
 - o TAPAVI starts playing straight away, whereas XAnim seems to spend a long time scanning the file before it starts playing.
-

1.8 cd-roms

I am compiling a list of the CD-ROMs that TAPAVI has been used with. If you would like to add to the following list, please email me the name and publisher of the CD, the output from TAPAVI's VERBOSE command, and whether or not the thing worked.

X-Rated Bloopers, by Interactive Classics Inc. These are 10 frames a second, with CRAM(8) video and PCM(8) audio.

1.9 credits

TAPAVI is written by John Bickers using SAS C 6.51.

The XAnim program is written by Mark Podlipec. XAnim3 on the Amiga is a port by Terje Pedersen.

The chunky-to-planar routine used is the c2p_020 routine from the net, written by James McCoull, Peter McGavin et al.

The asynchronous file IO code is based on the ASendPacket example written by Phillip Lindsay, from Fish disk #66.

ReqTools is Copyright (c) Nico François.

1.10 distribution

TAPAVI is Copyright © 1994 by John Bickers.

Distribution is via normal channels. That is, distribute it for free or for Fred Fish like costs, but not more. And remember to include the documentation.

If you want to contribute something to the cause of PC animation playback, you might want to consider sending me a CD of anims, or a movie CD.

If you're putting together a CD of animations and you want to put TAPAVI onto it, by all means do so. Send me a copy of the CD in lieu of any fee.

Contact me
if you want any customisation of the
program done.

1.11 contact

I can be reached at:

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1.12 history

94.12.21 Created 1.0.
94.12.24 1.1
Added async. file IO, making playback much smoother.
Doubled size of audio buffer.
Paid attention to AVI frame timing.
94.12.25 1.2
Rewrote CRAM(8) decoding in assembler.
94.12.26 Skips large idx1 chunks automatically.
Added VERBOSE option.
94.12.27 Added RGB(8) video.
Made pause behaviour consistent with TAPDL.
94.12.28 Added checking for tooltypes.
94.12.29 Added LOOP option.
94.12.30 Added CRAM(16) video in assembler.
Changed `tapavi.man` to `tapavi.guide`.
