

CoCoVid Strikes Back

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Who am I?



What is this?

A digital video player for the Color Computer 3!

- Start with “off the shelf” videos (e.g. DVD, YouTube)
- Process them to match CoCo3 capabilities
- Display them with recognizable audio/video

What's new?

What's changed since last year?

- New video data format
- Better performance
- Filtered audio (less hiss)
- More video modes supported
- Demo program in BASIC

Specifications

Video

- Any CoCo3 resolution (RAM dependent)
- 2/4/16/256 colors
- 60fps (bitrate dependent)

Audio

- 11kHz 8-bit PCM
- Internal 6-bit DAC
- Orchestra-90 hardware

Maximum data rate around 60K bytes per second!

On-disk format

“On-disk” file format is customized for application...

- Interleaved video and audio data
- Video data is a segmented bitmap
 - Segment begins w/ a control word
 - Video frame offset
 - Length of segment
 - No more RLE sequences (ineffective)
 - “Magic” control word indicates EndOfFrame or EndOfVideo
- Audio data is simply an 8-bit PCM sequence

Conversion Tools

Videos are heavily processed offline!

- Converted to a sequence of still images...
- Each still image converted to a “raw” bitmap format...
- Next frame compared to “current” frame, unchanged portions dropped...
- Remaining video data segments ranked...
 - Amount of change in color
 - Output length of sequence data
 - Input length of sequence data
- Each segment gets a “score” based on time to process data...
- Segments emitted until quota is met...
- Each frame’s data is used to update “current” video frame.

BASIC Demo

Every program needs a demo... :-)

- Menu for configuration and video selection
- Database files used for available modes, categories, and videos
- Loads player binary, pokes config data, EXECs
- Random play feature!

Applications

Interested in this technology? Maybe I can help?

- “Laser disc”-style game
- Animation sequences in games
- VNC-like remote desktop :-)
- ?????

Variations

- Different video modes
- Playback in a “window”
- Audio from PSG on Sound/Speech Pak
- CoCo2 version

Similar Projects

- Apple II Second Life
<http://www.calormen.com/vnIIc/>
- Full Motion Video on Pac Man Hardware
http://umlautllama.com/projects/Notebook/fmv_pac/
- 8088 Corruption
http://www.oldskool.org/pc/8088_Corruption
- Nuvie
<http://lanyrd.com/2011/revision/sdwhh/>

Open Source

Released under a free software license!

- ISC (i.e. "BSD style") license
- `git://git.infradead.org/users/linville/cocovid.git`

Questions?



<http://www.kernel.org/pub/linux/kernel/people/linville/slides/cocofest2011/cocovid2.pdf>

Contact

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