Audio/Video Processing and Podcasts

SoX - Sound eXchange

see https://sox.sourceforge.net/

FFmpeg

FFmpeg provides many audio processing filters:

- https://trac.ffmpeg.org/wiki/AudioChannelManipulation
- https://trac.ffmpeg.org/wiki/AudioVolume
 - https://github.com/slhck/ffmpeg-normalize
- https://trac.ffmpeg.org/wiki/How%20to%20speed%20up%20/%20slow%20down%20a%20video

latest prebuilt (static) binaries:

https://github.com/BtbN/FFmpeg-Builds/releases

FFmpeg is utilized in several tools, e.g.:

- in (YouTube) Downloader GUIs
- Audio/Video format and CODEC conversion, e.g. QWinFF
 - source: https://github.com/gwinff/gwinff

YouTube Downloader

Downloading audio and video files is interesting for archiving - but also preprocessing for later watching or listening. Many platforms - other than YouTube - are supported.

As described in yt-dlp Wiki on 2022-09-19, there are 3 active forks for the command line:

- youtube-dl The original project
- yt-dlp a promising alternative
- ytdl-patched a fork of yt-dlp

There are a multitude of Downloader-GUIs, here a very short selection:

- Open-Video-Downloader
 - o abandoned source: https://github.com/jely2002/youtube-dl-gui
 - new?: https://github.com/StefanLobbenmeier/youtube-dl-gui
- ClipGrab a GUI for (YouTube-)Downloader (and converter)
 - source and linux releases with my modifications
 - https://github.com/hayguen/clipgrab
 - ClipGrab the origin for this project
 - source: https://github.com/FreedomBen/clipgrab

Podcast programs & apps

Podcast apps (automatically) download episodes from RSS feeds for (offline and mobile) listening.

- AntennaPod for Android
 - source: https://github.com/AntennaPod/AntennaPod
- Pocket Casts for Android, iOS and Web (for Linux or Windows PCs)



- o free version doesn't allow entering a (private) Feed URL
- don't know if commercial Plus allows Feed URLs
- gPodder for Windows/Linux/MacOS computers
 - source: https://github.com/gpodder/gpodder
 - more downloader and UI than player
 - also allows downloading/watching videos from YouTube channels. that requires a special URL with the channel-id:
 - https://commentpicker.com/youtube-channel-id.php
 - https://stackoverflow.com/questions/14366648/how-can-i-get-a-channel-id-from-you tube
 - LifeHacker Turn YouTube channels into Podcasts does no longer work, but shows the idea
 - selected gPodder docs
 - https://gpodder.github.io/docs/time-stretching.html
 - https://gpodder.github.io/docs/extensions/youtubedl.html
 - https://gpodder.github.io/docs/extensions.html

Providing an own podcast feed

Podsync can download videos, convert to audio and publish them as an RSS feed - suitable for subscription with podcasts apps. Tools like yt-dlp and ffmpeg are utilized. The only downside: Podsync requires a public server.

Changing speed - not pitch

Listening consumes time - of course. Despite skipping (silent) sections, many episodes can be perceived at (much) higher speed - depending on the speaker(s); thus saving time. The following points to some programs/algorithms.

TDHS, see https://en.wikipedia.org/wiki/Time-domain_harmonic_scaling implementation: https://github.com/hayguen/audio-stretch and it's origin https://github.com/dbry/audio-stretch

Browser Extension: skip-silence

https://github.com/vantezzen/skip-silence/issues/36

https://chrome.google.com/webstore/detail/skip-silence/fhdmkhbefcbhakffdihhceaklaigdllh?hl=en

FFmpeg uses atempo:

https://trac.ffmpeg.org/wiki/How%20to%20speed%20up%20/%20slow%20down%20a%20video

libavfilter/af_atempo.c in git://source.ffmpeg.org/ffmpeg

it is based on https://sourceforge.net/projects/apprenticevideo/
with code at https://github.com/pkoshevoy/aeyae
in yae/ffmpeg/yae_audio_tempo_filter.h

theory at http://www.surina.net/article/time-and-pitch-scaling.html

Loudness

see EBU R 128

https://github.com/hayguen/loudness-scanner origin https://github.com/jiixyj/loudness-scanner

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