

Computer music

MODR/human/Itec 2655

Open-Book & Open-Internet

We wish to slow down/speed up music tempo (of a piano performance) by computer algorithms.

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Suggestion: You may want to view [the video](#) given in Question 2 first. See Page 2 for class readings.

Question 1 Change tempo

[1] Change tempo of a music video.

(i) [Audacity](#) is an audio editor while [Avidemux](#) is a video editor

(ii) We need to process audio and video tracks separately, and then put them back together to achieve perfect synchronization which is required in music education.

a. To speed up/slow down audio, use the "[bpm or beats per minute](#)" **effect** in Audacity.

b. To speed up/slow down video, use "**fps** or frames per second" **filter** in Avidemux

(iii) For AVIDEMUX:

Change FPS = change duration of video.

Resample FPS = change and enforce FPS. Keep duration and sync.

(iv) For Audacity:

Change BPM = change duration of audio

We can download and install Avidemux and Audacity at your local device

at: <http://oldtown.glendon.yorku.ca/~teaching/binary/>

- You can **also** use [Audacity](#) and [Avidemux](#) on-line as **chrome** extension plugins.

Given the video at: http://oldtown.glendon.yorku.ca/~teaching/2021/videos/imagine_2020.mp4

that plays “Imagine” by Lennon at tempo.

Create a new video, named slow.mp4, which plays at 90% tempo of the video above. Here is a screen capture of [the output video format](#) suitable for streaming.

[2] Display your slow video ([format mp4](#)) at:

<http://oldtown.glendon.yorku.ca/~lastname/video/lennon/slow90.mp4>

[3] Also display your slower music as a web page (use video embed) at:

<http://oldtown.glendon.yorku.ca/~lastname/video/lennon/imagine.html>

Question 2 One more exercise on “changing tempo” for music videos.

View the video [here](#).

Please describe the steps taken and its purpose.

Readings:

- Audacity to make music ([PDF](#))