



MyBox: Easy Tools Set

User Guide – Media Tools

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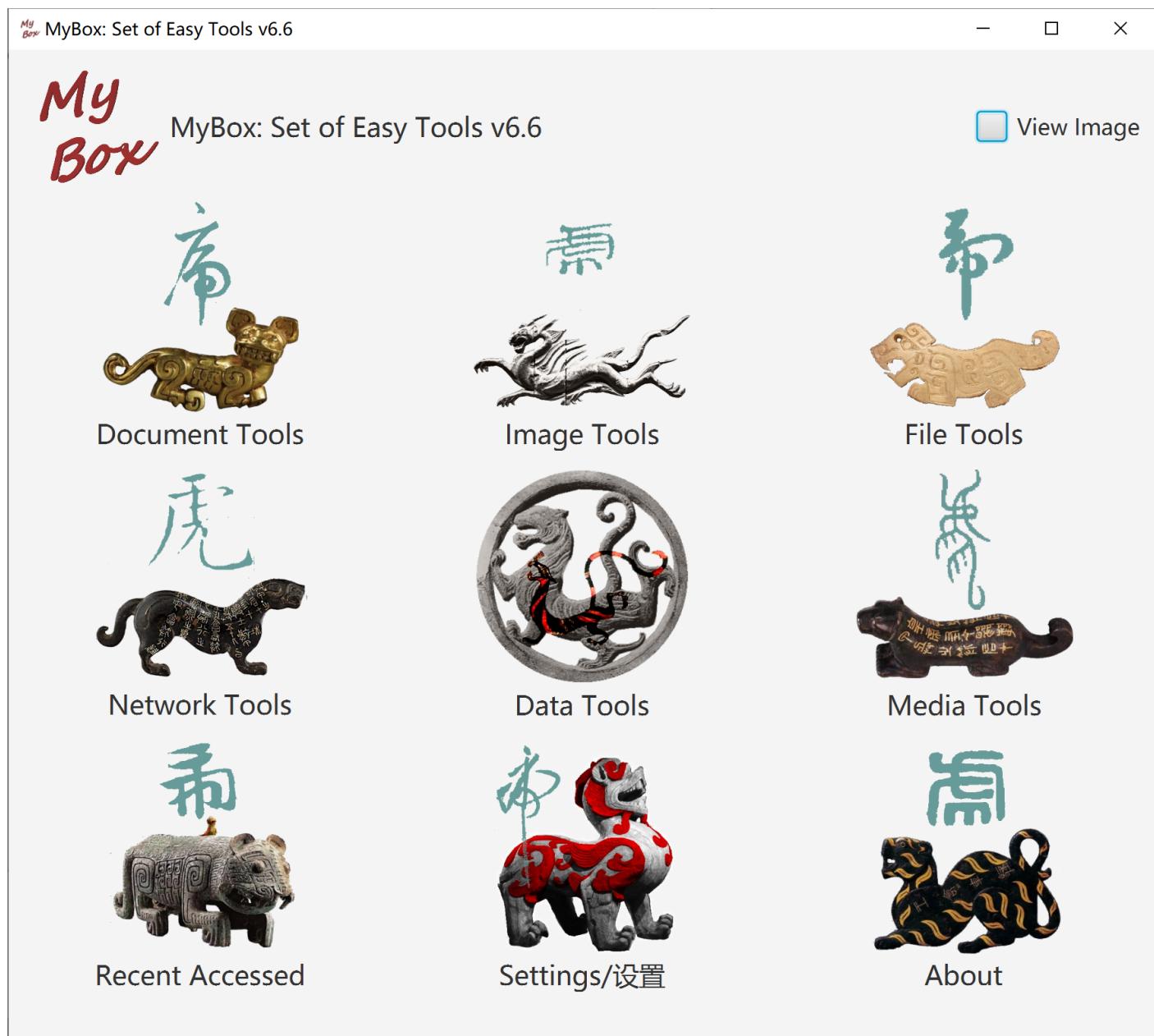
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1 Introduction

This is desktop application based on JavaFx to provide simple and easy functions. It's free and open sources.

1.1 Main Interface



1.2 Resources Addresses

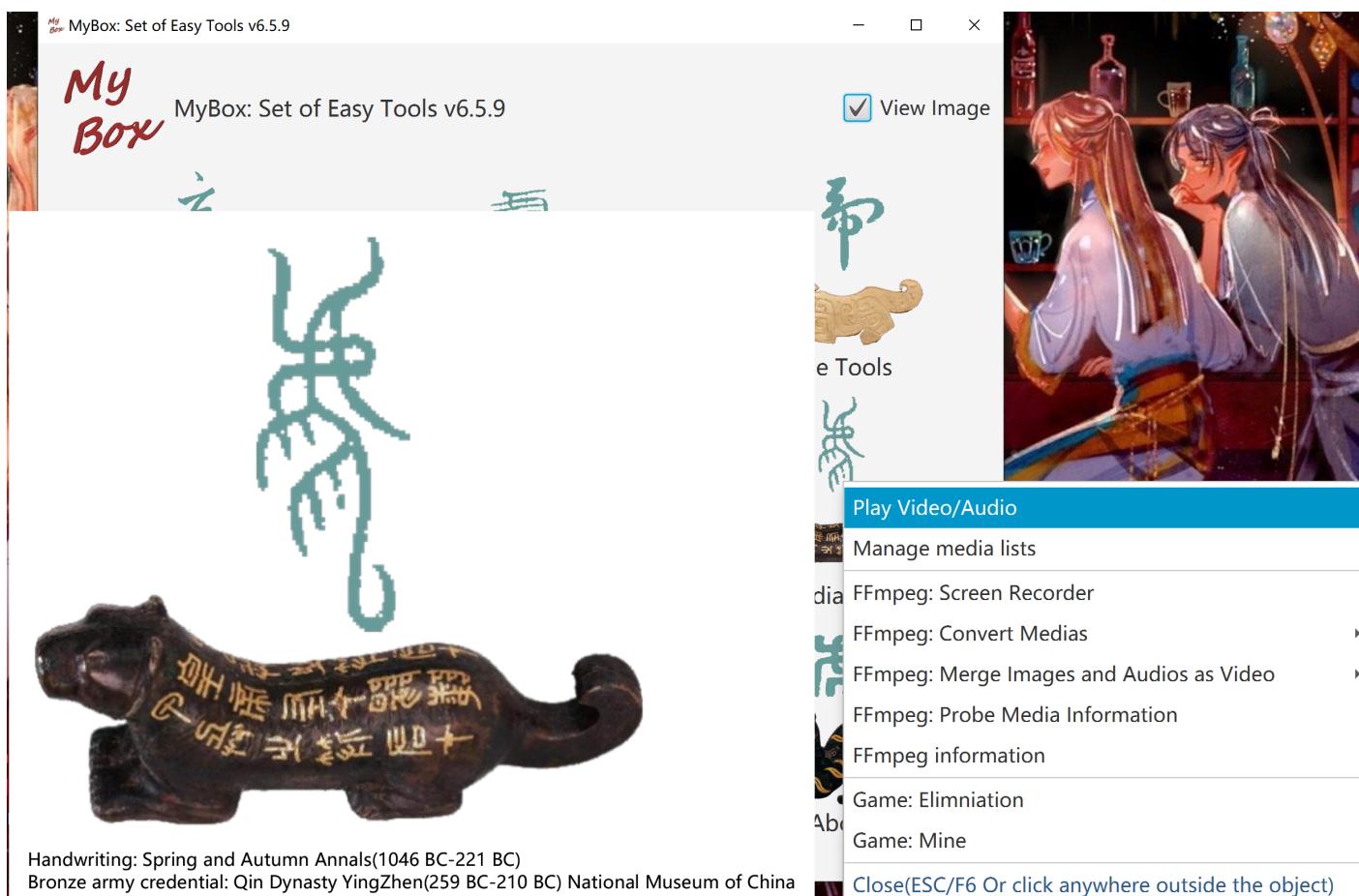
Contents	Link
Project Main Page	https://github.com/Mararsh/MyBox/
Source Codes and Compiled Packages	https://github.com/Mararsh/MyBox/releases
Submit Software Requirements and Problem Reports	https://github.com/Mararsh/MyBox/issues
Data	https://github.com/Mararsh/MyBox_data
Documents	https://github.com/Mararsh/MyBoxDoc
Mirror Site	https://sourceforge.net/projects/mara-mybox/files/
Cloud Storage	https://pan.baidu.com/s/1fWMRzym_jh075OCX0D8yA#list/path=%2F

The screenshot shows a GitHub repository page for 'Mararsh / MyBox'. The top navigation bar includes links for Pull requests, Issues, Marketplace, and Explore. Below the navigation bar, there are sections for Code, Issues (41), Pull requests, Discussions, Actions, Projects, Wiki, Security, Insights, and Settings. A red circle highlights the 'Code' button in the top right of the main content area. The main content area shows a list of files and commits in the 'master' branch, with a red circle highlighting the commit for 'Mararsh a6.5.9'. The bottom section shows the 'README.md' file and a 'ReadMe in English' link. A red circle highlights the 'Releases' section, which shows a latest release labeled 'v6.5.8'.

1.3 Documents

Name	Version	Time	English	Chinese
Development Logs	6.6	2022-9-28	html	html
Shortcuts	6.5.6	2022-6-11	html	html
Packing Steps	6.3.3	2020-9-27	html	html
Development Guide	2.1	2020-8-27	PDF	PDF
User Guide - Overview	6.6	2022-9-28	html PDF odt	html PDF odt
User Guide - Document Tools	6.6	2022-9-28	html PDF odt	html PDF odt
User Guide - Image Tools	6.6	2022-9-28	html PDF odt	html PDF odt
User Guide - File Tools	6.6	2022-9-28	html PDF odt	html PDF odt
User Guide - Network Tools	6.6	2022-9-28	html PDF odt	html PDF odt
User Guide - Data Tools	6.6	2022-9-28	html PDF odt	html PDF odt
User Guide - Media Tools	6.6	2022-9-28	html PDF odt	html PDF odt
User Guide - Development Tools	6.6	2022-9-28	html PDF odt	html PDF odt

1.4 Menu of Tools



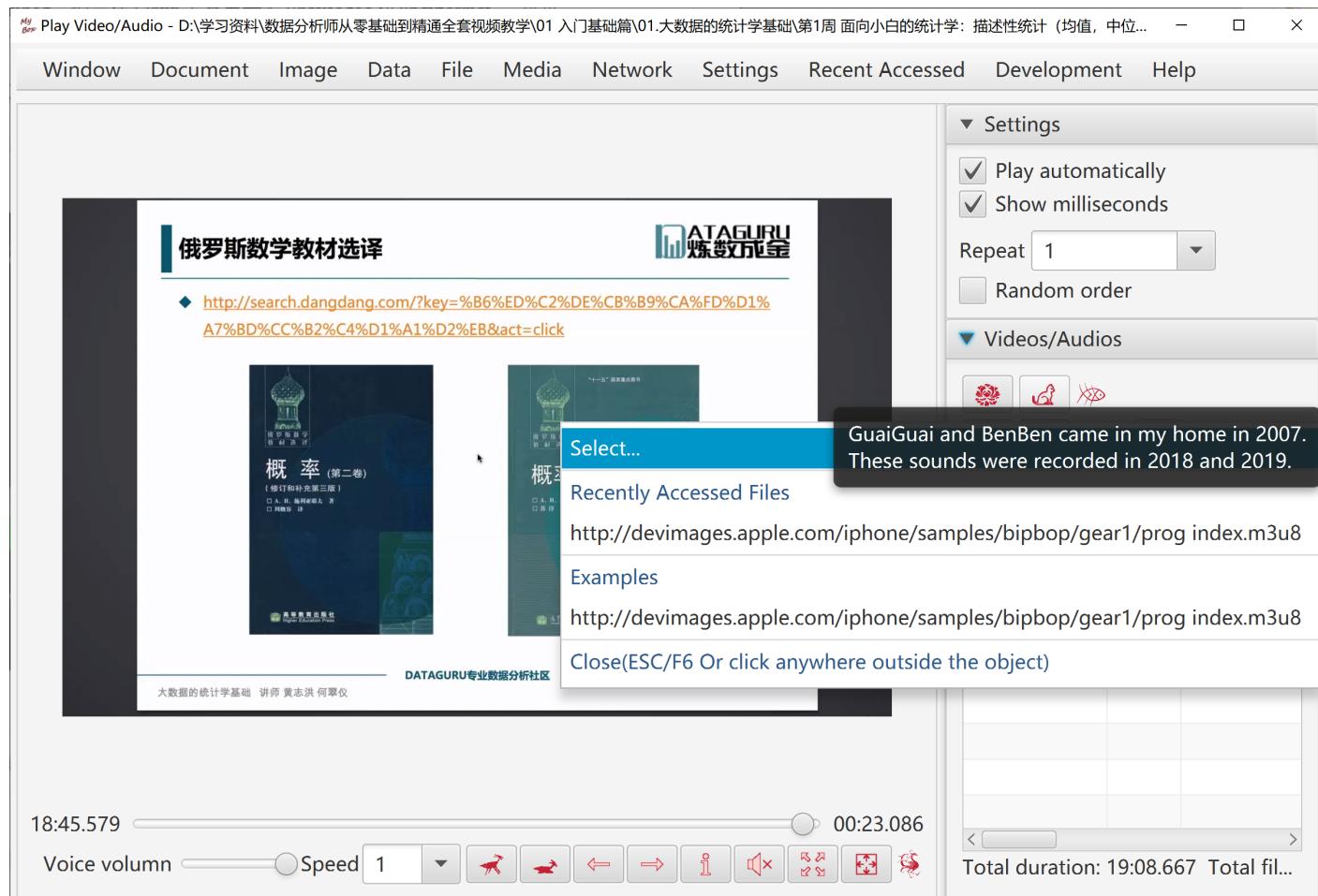
The screenshot shows the MyBox application window titled "MyBox: Set of Easy Tools v6.5.9". The interface includes a toolbar with icons for file operations like Open, Save, Print, and Help. A central area displays a large image of a bronze seal with Chinese characters and a smaller image of two figures in a traditional setting. On the left, there's a decorative element resembling a stylized plant or dragon. A vertical sidebar on the right lists various tools and media files:

- View Image (checkbox checked)
- Play Video/Audio
- Manage media lists
- FFmpeg: Screen Recorder
- FFmpeg: Convert Medias
- FFmpeg: Merge Images and Audios as Video
- FFmpeg: Probe Media Information
- FFmpeg information
- Game: Elimination
- Game: Mine
- Close(ESC/F6 Or click anywhere outside the object)

At the bottom left, there is a note: "Handwriting: Spring and Autumn Annals(1046 BC-221 BC) Bronze army credential: Qin Dynasty YingZhen(259 BC-210 BC) National Museum of China"

2 Play Videos/Audios

1. Create/load playlist
2. Options: auto-play, display milliseconds, loop number, random order
3. Set: column, speed(0~8 times)
4. Buttons: Play, Pause, Stop, Next, Previous, Media-info, Mute, Full-screen
5. When full screen, display controls in short duration by clicking screen, and quit full-screen by ESC
6. Support muxer format: aiff, mp3, mp4, wav, hls(m3u8), video codec: h.264/avc, audio codec: aac, mp3, pcm.
 - If video does not sound, this is due to unsupported audio codec.
 - Known issue: MyBox may quit when play some media stream.
7. Sounds of GuaiGuai and BenBen
8. This tool need not ffmpeg. But libavcodec and libavformat are required on Linux, and refer to:
<https://www.oracle.com/technetwork/java/javafx/downloads/supportedconfigurations-1506746.html>



3 Manage Playlist

1. Create/Delete/Update playlists.
2. Add/Delete items in playlists.
3. Read medias information, including duration, audio encoding, and video encoding.

The screenshot shows the 'Manage media lists' window of the MyBox User Guide – Media Tools v6.6. The window has a menu bar with options: Window, Document, Image, Data, File, Media, Network, Settings, Recent Accessed, Development, and Help. Below the menu is a toolbar with various icons. On the left, there's a sidebar with buttons for 'Table row' and 'Name of'. The main area contains a table with the following data:

Table row	Curr...	Address	Duration	Audio encoding
<input type="checkbox"/> 1		d:\tmp\mybox-da...	00:01.541	audio/mpeg MPE...
<input checked="" type="checkbox"/> 2		D:\视频\Photosho...	03:17.973	audio/mpeg AAC

A modal dialog box is open, displaying detailed information about the selected media file (Track 2):

```

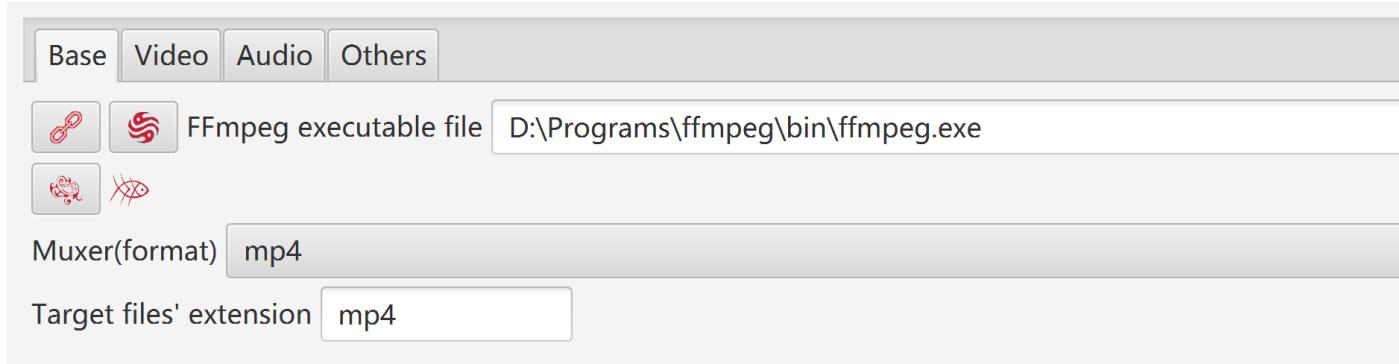
地址file:/D:/视频/Photoshop%20CC2015/1---Photoshop%20CC%202015%20全面技能培训介绍.mp4
时长: 03:17.973
分辨率: 1280x720
大小: 99.136 MB
Track: 1
Name: video/x-h264
name: video/x-h264
video width: 1280
encoding: H264
video height: 720
enabled: true
Track: 2
Name: audio/mpeg
name: audio/mpeg
encoding: AAC
enabled: true

```

4 Wrap Functions of ffmpeg

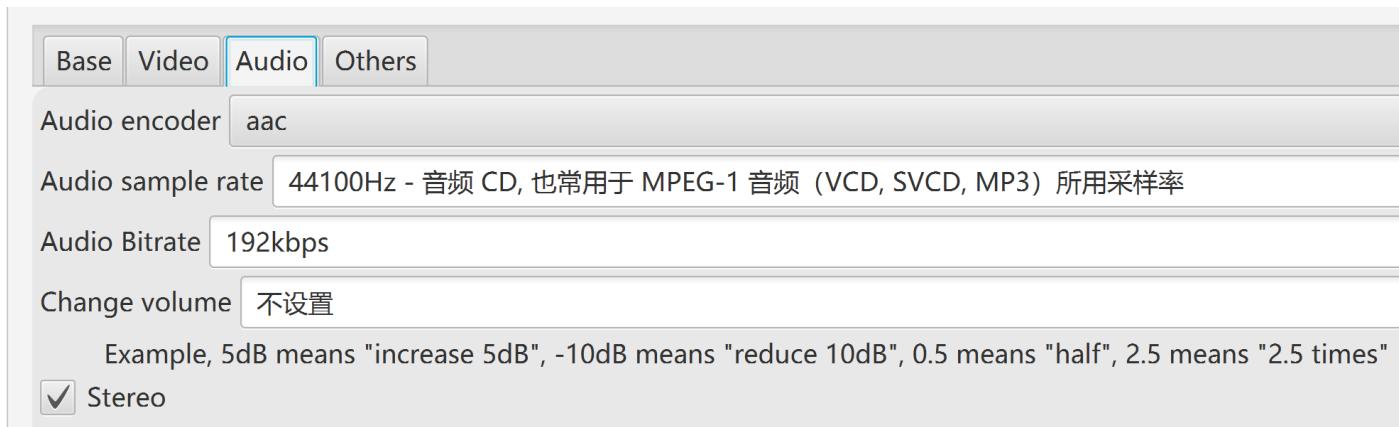
4.1 Base

Notice: This set of functions is based on ffmpeg, and user need download ffmpeg by yourself. (Suggest to use static version)



When handle media:

1. All parameters can be selected/set, including format, codec, subtitle, frame rate, sample rate, change column, etc.
2. Button "Default": When NVIDIA is available, choose "h264_nvenc" as video encoder, to make use of hardware acceleration.
3. Most of players support: muxer "mp4", video codec "H.264", audio codec "AAC".



4. Try different options of encoders, preset, and CRF, to get suitable settings of your computer, as following factors :
 - The encoder should be fast enough to record without frames dropping.
 - Consume limited system resources, and leave enough CPU and memory for other applications.
 - Quality and size of the generated file are tolerable.

Base Video Audio Others

Video encoder h264_nvenc NVIDIA NVENC H.264 encoder (codec h264)

Video frame rate ntsc 30000/1001

Video bitrate 1800kbps

Video resolution ntsc 720x480

Aspect ratio 16:9

Encoding preset slow 1 hg 2 passes

A preset is a collection of options that will provide a certain encoding speed to compression ratio.
Factor for constant quality mode (0-9).
Slower preset provides better quality and occupies more CPU.
Quicker preset means worse quality and less CPU occupation.

Base Video Audio Others

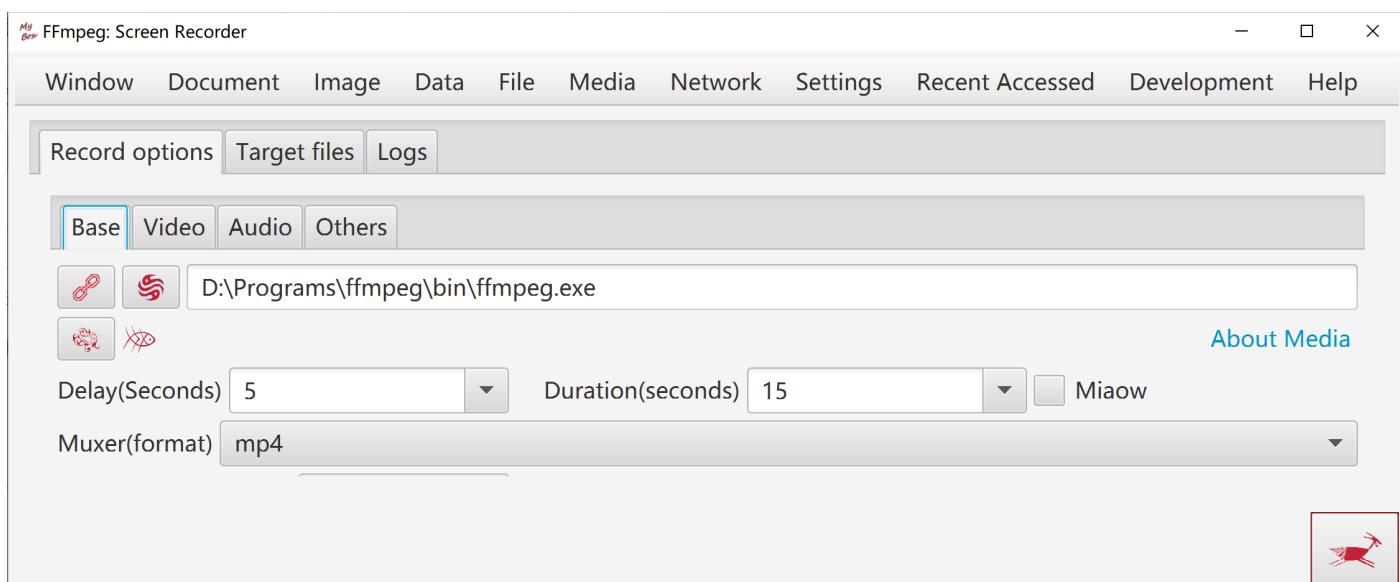
Subtitle encoder srt

More arguments Separated by space

- ss 0:1:30 set the start time offset
- sseof 0:5:00 set the start time offset relative to EOF
- to 0:10:15 record or transcode stop time
- t 0:0:20 record or transcode "duration" seconds of audio/video
- aq quality set audio quality (codec-specific)
- ac 2 set audio channels: 1 for mono, 2 for stereo
- title string
- author string
- copyright string

4.2 Record Screen

- When have not NVIDIA and CPU is not so powerful:
 - Choose "libx264rgb" as video encoder, to bypass conversion from RGB to yuv444p.
 - Select quicker encoding preset.
 - After recording, use conversion tool to change generated video from RGB to yuv444p with encoder "libx264".
- Select whether record video:
 - Set size of threads queue.
 - Record area: full screen, window by title, rectangle.
- Select whether record audio:
 - Detect audio cards automatically, and pick the first one as the audio device.
 - Set size of threads queue.
- Set delay:
 - If "unlimited", record at once when user click button "Start".
 - If valid value, recording will start when this time is past.
- Set duration:
 - If "unlimited", record until user click button "Stop".
 - If valid value, recording will end when duration completes. User can click button "Stop" to finish recording at any time.



4.3 Convert Videos/Audios in Batch

1. Source files are listed as files/directories.
2. Source files are listed as streams and medias information.

4.4 Combine Images And Audios As Video

1. Source files are listed as files/directories.
2. Source files are listed as streams and medias information.
3. Duration can be set for each image, or set for all images.
4. Option: End video when audios finish.
5. Images are adjusted automatically to fit for screen size meanwhile keep width-height ratio.

FFmpeg: Merge Images and audios as Video - Images information

Window Document Image Data File Media Network Settings Recent Accessed Development Help

Images Audios FFmpeg options Target files Logs

Table row	Curr...	Duration Milliseconds	Source image	Pixels	Color space	File	+
<input type="checkbox"/> 1		0		603x445	RGB	D:\tmp\4\MyBox-UserGuide-6.5.9-Ove..	
<input type="checkbox"/> 2		3000		872x593	YCbCr	D:\tmp\4\14_2022-01-22_10-57-44-79..	
<input type="checkbox"/> 3		3000		1946x1983	YCbCr	D:\tmp\4\1.jpg	

Duration(milliseconds) Set values for all or selected rows

Total pixels: 4,644,349 Total duration: 00:06.000 Total files: 3 Total Size: 2.842 MB Double click selected item to view

4.5 Read Media Information with ffprobe

Format, audio stream, video stream, frames, packets, pixel formats.

The screenshot shows the 'FFmpeg: Probe Media Information' application window. The menu bar includes Window, Document, Image, Data, File, Media, Network, Settings, Recent Accessed, Development, and Help. The toolbar has icons for Format, Video stream, Frames, Packets, and Pixel formats. The main area displays media information for a file named D:\tmp\4\MyBox-UserGuide-6.5.9-Overview-zh_html_m1ef8d00.gif. A red box highlights the 'Video stream' tab, which is currently selected. Below it is a table of video stream parameters:

ID	N/A
Codec type	VIDEO
Codec name	gif
Codec long name	CompuServe GIF (Graphics Interchange Format)
Profile	unknown
Level	-99
Codec time base	1.0
Duration	00:00
Start time	0.0
Codec tag	0x0000
Codec tag string	[0][0][0][0]

4.6 Read Information of ffmpeg

Version, supported formats/codecs/filters, and query with customized parameters.

FFmpeg information

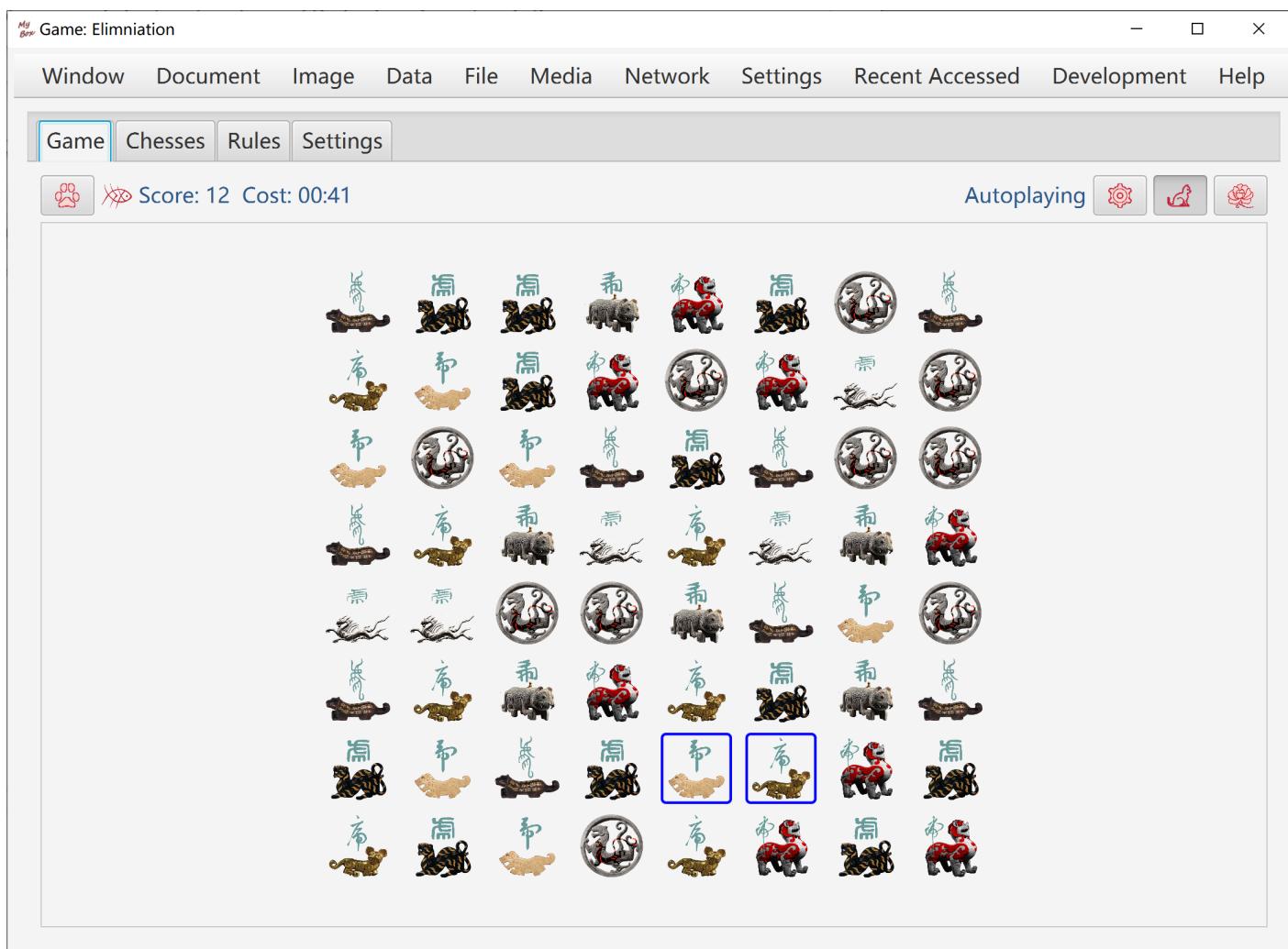
FFmpeg executable file D:\Programs\ffmpeg\bin\ffmpeg.exe

Version	Formats	Codecs	Filters	Query			
Codec	Type	Decoding supported	Encoding supported	Lossy compress...	Lossless compress...	Intra frame-only	
012v	Video	✓			✓	✓	Uncompressed 4:2:2 10-b
4xm	Video	✓		✓			4X Movie
8bps	Video	✓			✓	✓	QuickTime 8BPS video
a64_multi	Video		✓	✓		✓	Multicolor charset for Co
a64_multi5	Video		✓	✓		✓	Multicolor charset for Co
aasc	Video	✓			✓		Autodesk RLE
agm	Video	✓		✓			Amuse Graphics Movie
aic	Video	✓		✓		✓	Apple Intermediate Code
alias_pix	Video	✓	✓		✓	✓	Alias/Wavefront PIX imag
amv	Video	✓	✓	✓		✓	AMV Video
anm	Video	✓		✓			Deluxe Paint Animation
ansi	Video	✓		✓			ASCII/ANSI art
apng	Video	✓	✓		✓		APNG (Animated Portable
arbc	Video	✓		✓			Gryphon's Anim Compre
asv1	Video	✓	✓	✓		✓	ASUS V1

Total: 456

5 Game-Elimination

1. Options about chesses images, number, size, effects like dropshadow or arc.
2. Chesses can be predefined images, user defined images, or colors.
3. Sound: praise from GuaiGuai, praise from BenBen, 3-conection from Ben and others from Gui, mute, or any mp3/wav file.
4. Counted chesses: Make scores only when eliminate selected types of chesses.
5. Customize rulers that how to give score when eliminate different type of connection.
6. Set strategy when deadlock happens: keep score and renew game, make chance of elimination, or pop alert to have user choose.
7. Options: speed of automation, times of flush when eliminate, whether pop scores.
8. Button "Help Me": prompt valid step.
9. Button "Play Automatically": click to play by compute and click again to stop it.



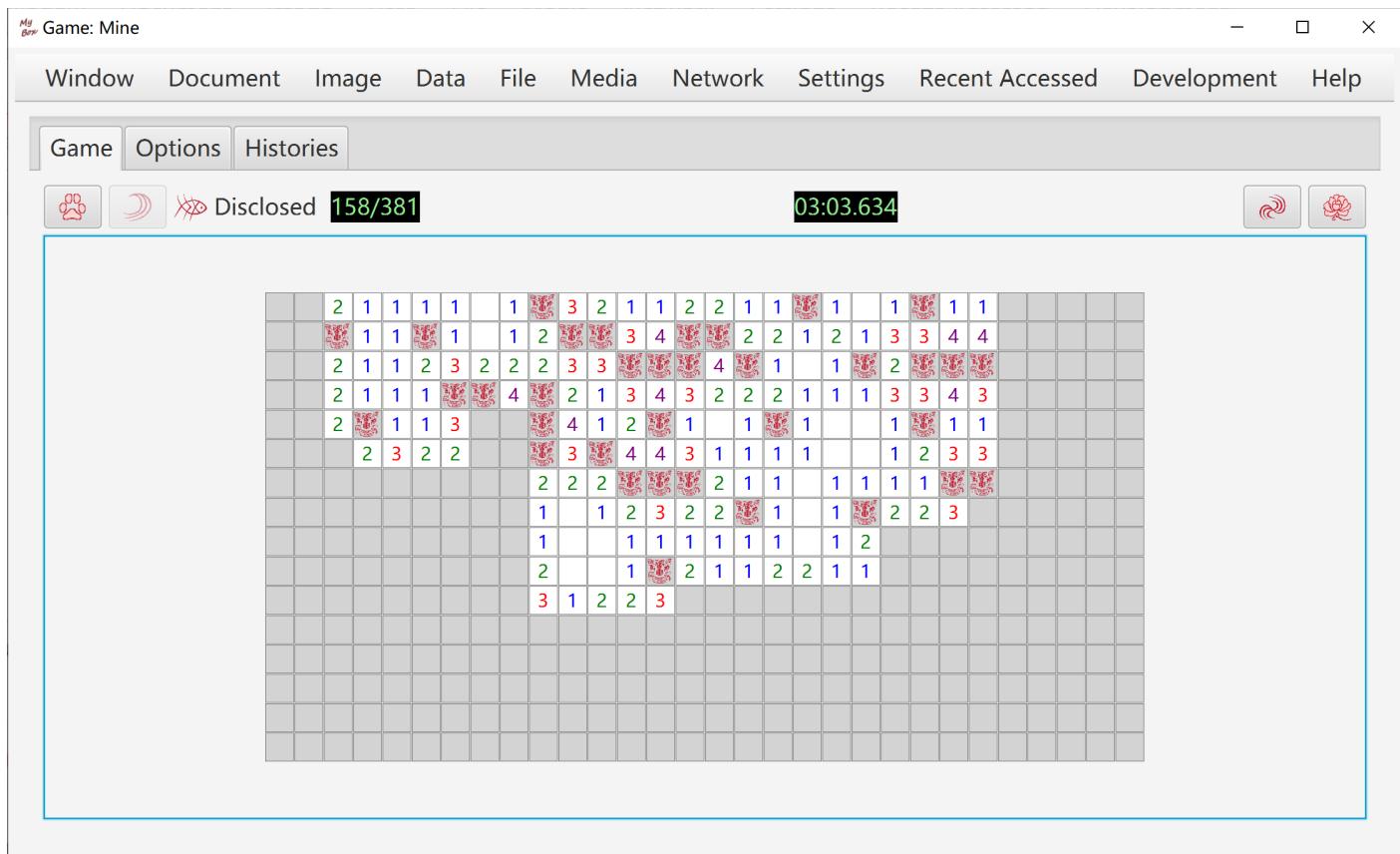
6 Game-Mine

Target: Disclose all cells which are not mines. Game fails once a mine is opened.

Rulers:

1. When game is started, all cells are in status "closed".
2. Start timing when click a cell at first time.
3. Count: Opened cells number / Total number of cells which are not mines.
4. When left-click a cell, nothing happens when it is "disclosed", or else:
 - If it is a mine, then game fails.
 - If it is not a mine, then it is opened and its status becomes "disclosed".
 - If there are mines around this cell, then the number of mines around it is shown in the cell.
 - If there is no mine around this cell, then it is shown as blank and all cells around it will be disclosed. Continue this process.
5. When right-click a cell, nothing happens when it is "disclosed", or else:
 - If this cell is not marked, then mark it as "Mine".
 - If this cell is marked as "Mine", then change its mark as "Suspected".
 - If this cell is marked as "Suspected", then remove its mark.
 - Right-clicking only marks the cell, and will not trigger mine nor disclose the cell.
6. When double-click a cell:
 - If the cell is in status "closed", then disclose it.
 - Disclose all cells which are not marked as "Mine" around this cell.
 - Do this only when you are sure all mines are marked correctly around this cell.
7. When you are unlucky to trigger a mine:
 - Click button "Undo", to pretend that did not happen and continue the timing and counting.
 - Click button "Replay", to restart the same game.
 - Click button "New Game" to start a different game.
8. Click button "Help me" to see all mines secretly, and click button "Undo" to continue playing.

MyBox User Guide – Media Tools v6.6



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