



MyBox: Easy Tools Set User Guide - Overview

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1 Resource Addresses

This is GUI(Graphic User Interface) program developed in JavaFx, whose target is to provide simple and easy tools . It is free and open sources, and its main page is following:

<https://github.com/Mararsh/MyBox>

Source codes, compilered packages, and documents are under Releases directory:

<https://github.com/Mararsh/MyBox/releases>

Welcome to submit software requirements and problem reports online:

<https://github.com/Mararsh/MyBox/issues>

Cloud storage:

https://pan.baidu.com/s/1fWMRzym_jh075OCX0D8y8A#list/path=%2F

Set of Easy Tools, including PDF tools, Image Tools, File Tools, Network Tools.

Download codes, packages, and documents here.

129 commits	1 branch	46 releases	1 environment	1 contributor	Apache-2.0
Branch: master	New pull request	Create new file	Upload files	Find File	Clone or download

File	Last Commit
MyBox	2 months ago
docs	2 months ago
.gitignore	10 months ago
LICENSE	Initial commit
README.md	2 months ago
README.md	

2 Documents

This document introduces major features of MyBox. It can be download from following address:

<https://github.com/Mararsh/MyBox/releases/download/v5.0/MyBox-UserGuide-5.0-Overview-en.pdf>

Each type of tools are introduced in seperated user guides:

“MyBox User Guide – PDF Tools”

<https://github.com/Mararsh/MyBox/releases/download/v5.0/MyBox-UserGuide-5.0-PdfTools-en.pdf>

“MyBox User Guide – Image Tools”

<https://github.com/Mararsh/MyBox/releases/download/v5.0/MyBox-UserGuide-5.0-ImageTools-en.pdf>

“MyBox User Guide – Desktop Tools”

<https://github.com/Mararsh/MyBox/releases/download/v5.0/MyBox-UserGuide-5.0-DesktopTools-en.pdf>

“MyBox User Guide – Network Tools”

<https://github.com/Mararsh/MyBox/releases/download/v5.0/MyBox-UserGuide-5.0-NetworkTools-en.pdf>

3 Installation and Execution

3.1 Under Java Environment

MyBox can be run on Java 8/9/10. Following Jar package can be download when JRE/JDK is ready:

<https://github.com/Mararsh/MyBox/releases/download/v5.0/MyBox-5.0-jar.zip>

And run following command to launch the program:

```
java -jar MyBox-5.0.jar
```

A file path can follow the program as the argument to be opened by MyBox directly. Example, following command will open the image:

```
java -jar MyBox-5.0.jar /tmp/a1.jpg
```

Since Java is installed by default in Linux env and Mac env, the installation images are not made for the 2 platfroms.

3.2 Exe Package on Windows

On Windows, exe package can be download and run without installation and without Java envrionment:

<https://github.com/Mararsh/MyBox/releases/download/v5.0/MyBox-5.0-exe.zip>

Double click “MyBox.exe” to launch MyBox.

User can associate default “Open Method” of image/text/PDF files as “MyBox.exe”, and then a file can be opened by MyBox by double clicking the file' name.

3.3 Limitations

MyBox is based on Java 8/9/10, and Java 11 has changed a lots, so MyBox is not assured to work on Java 11.

MyBox.exe can not be started under path whose name includes non-english characters.

4 Development

MyBox is developed with Netbeans8.2 and JavaFX Scene Builder 2.0:

<https://netbeans.org/>

<https://www.oracle.com/technetwork/java/javafxscenecompiler-1x-archive-2199384.html>

Based on following open sources softwares/libraries:

JavaFx

<https://docs.oracle.com/javafx/2/>

PdfBox

<https://pdfbox.apache.org/>

jai-imageio

<https://github.com/jai-imageio/jai-imageio-core>

javazoom

<http://www.javazoom.net/index.shtml>

log4j

<https://logging.apache.org/log4j/2.x/>

Derby:

<http://db.apache.org/derby/>

GifDecoder:

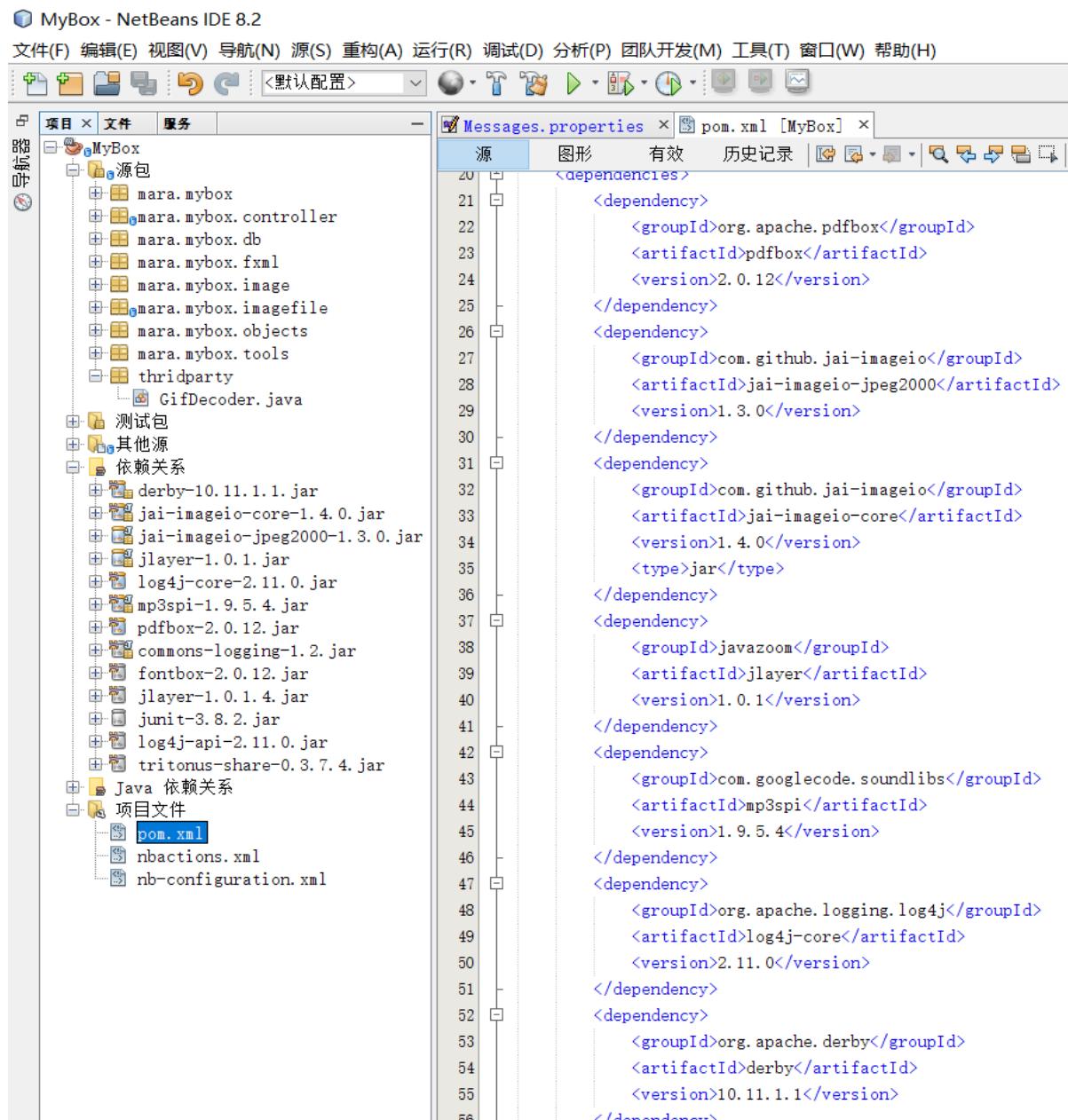
<https://github.com/DhyanB/Open-Imaging>

EncodingDetect:

<https://www.cnblogs.com/ChurchYim/p/8427373.html>

Except for GifDecoder and EncodingDetect, all dependencies are imported through maven:

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5 Current version

Current version is 5.0. Its features will be mentioned below in summary.

5.1 Cross-platform

MyBox is implemented in pure Java and based on open source codes, so it can run any platform which supports Java.

5.2 Internationalized

All codes of MyBox are internationalized. User can switch language in time.

Currently MyBox supports Chinese and English. To support a new language is just to edit a new resource file.

5.3 PDF Tools

1. View PDF file in image mode. DPI can be set to adjust resolution. Page can be cropped as images.
2. Convert pages of PDF as images. Options like format, density, color space, compression, quality, etc.
3. Combine multiple images as PDF file. Options like compression, page size, margin size, header, author, etc. Support Chinese and tool can locate system font files. User can input path of ttf font file.
4. Compress images in PDF file. JPEG quality or threshold of black-white can be set.
5. Merge multiple PDF files.
6. Split a PDF file into multiple PDF files, by pages number, by files number, or by start-end list.
7. Extract images in PDF file. Page range can be set.
8. Extract texts in PDF file. Splitting line can be customized.
9. Handle PDF files in batch way.
10. Maximum main memory of PDF handling can be set.

5.4 Image Tools

5.4.1 Image Manufacture

1. Size. By dragging anchors, by setting scale, or by inputting pixel values with 4 types of keeping aspect ratio.
2. Crop. Cut inside or outside of rectangle, circle, ellipse, or polygon. Background color can be set.
3. Color. Increase, decrease, set, filter, or invert value of saturation, brightness, hue, Red/Green/Blue/Yellow/Cyan/Magenta channel, RGB itself, or opacity. Premultiplied Alpha is supported for setting opacity.
4. Effects. Clarity, contrast, posterize(reduce colors), thresholding, gray, black-white, Sepia, emboss, edges detect, blur, sharpen. Algorithms and parameters can be set. Convolution can be defined and referred to make more effects.
5. Text. Options like font family, style, size, color, opacity, shadow, angle, whether outline, whether vertical. Locating text by clicking image.
6. Picture. Paste embedded/outside/clipboard picture on image. Blend modes can be selected.
7. Shape. Rectangle/circle/ellipse/polygon can be drawn on image. Options like stroke width and color,

- whether fill color, whether dotted.
8. Line. Clicking and dragging multiple times to draw one line on image. Options like stroke width and color, whether dotted.
 9. Pen. Clicking and dragging one time to draw one line on image. Options like stroke width and color, whether dotted.
 10. Mosaic. Fill mosaic or frosted glass inside/outside rectangle/circle/ellipse/polygon. Density can be set.
 11. Round corner. Arc and background color can be set.
 12. Shadow. Options like background color, shadow size, whether apply Premultiplied Alpha.
 13. Transform. Shear, mirror, and rotate.
 14. Margins. Blur margins with option of whether apply Premultiplied Alpha; Drag anchors to adjust margins; add margins by setting width; cut margins by setting width or color.
 15. Scope. Types of All, Matting, Shapes(rectangle/circle/ellipse/polygon), Color Matching, and Color Matching in Shapes. Color Matching can be against saturation, brightness, hue, RGB, or Red/Green/Blue channel with distance defined. Scope can be applied for “Color” and “Effects”. Scope can be determined by simply clicking image. Parameters like points set of matting and colors list of color matching can be set easily. All scope can be set as Excluded.
 16. “Undo” and “Redo” of previous operation. Original image can be recovered at any time. Updated histories can be saved automatically and set back. Number of updated histories can be set.
 17. Select whether show reference image. Other pictures can be selected as the reference image.
 18. Handle existed image, or create new image.
 19. Copy(CTRL+c), paste(CTRL+v), pop, and reference.

5.4.2 Multiple frames image file

1. View/Extract images in multiple frames file.
2. Create/Edit multiple frames Tiff/Tif file.
3. View/Extract/Create/Edit animated Gif file. Interval, whether loop, and images' size can be set.

5.4.3 Merge images

1. Blend images. Options like intersected area and blending modes
2. Combine images. Options like array ordering, background color, interval, margins, and size.
3. Combine images in PDF file.

5.4.4 Part image

1. Split image. By number, by size, or by customizing. Results can be saved as image files, multiple frames Tiff file, or PDF file.
2. Subsample image. Options like sample region and sample ratio.

5.4.5 Big Image

1. Evaluate the required memory for whole image, and judge whether load all data in memory.
2. If enough memory is available to load whole image, read all data for next operations. Try best to

operate in memory and avoid file I/O.

3. If memory may be out, subsample the image for next operations.
4. The sample ratio is determined by following rule: Make sure the sampled image is good enough while the sampled data occupy limited memory.
5. The sampled image is mainly for displaying, and not suitable for operations against whole image and images merging.
6. Some operations, like splitting and subsampling, can be handled by reading part of image data and writing-while-reading, so they are suitable for big images. Sampled image is displayed while original image is handled.

5.4.6 View Image

1. “Load Width”. Read image file with “Original Size” or with defined width.
2. “Select Mode”. When in this mode, Crop, Copy, and Save As are against the selected area. Or else these operations are against whole image.
3. Rotation can be saved.
4. Recover, Rename, Delete.
5. Select whether display Corodinate, X/Y Rulers, Data.
6. Statistic and visualization of image data, including average, variance, skewness, median, mode, minimum, maximum of occurrence of each color channel, and their histograms.
7. Image attributes and image meta.
8. Navigation of images under same directory.

5.4.7 Browse Images

1. Display multiple images in same screen. Rotation and zoomming can be separated or synchronized.
2. Rotation can be saved.
3. Grid Mode. Files number, columns number, and load width can be set.
4. Thumbnails List Mode.
5. Files List Mode.
6. Rename and Delete.

5.4.8 Others

1. Supported image formats include png, jpg, bmp, tif, gif, wbmp, pnm, pcx.
2. Manufacture images in batch way.
3. Convert images into other formats, with options like color space, size, compression, quality, etc.
4. Color palette.
5. Pixels calculator
6. Convolution Kernels Manager

5.5 Desktop Tools

5.5.1 Manage Directories

1. Rename Files/Directories, with options of files' name and ordering. Renamed files can be recovered as original names in all or in part.
2. Synchronize directories, with options like whether copy sub-directories or new files, whether only copy modified files after specific date time, whether keep attributes of original files, or whether delete non-existed files/directories under original directory.
3. Arrange files and reorganize them under new directories by modified time. This tool can be used to handle lots of files which need to be archived according to time, like photos, screenshots of games, or system logs.

5.5.2 Edit Texts

1. File charset can be either detected automatically or set manually. Target file charset can be selected to implement encoding conversion. BOM setting is supported.
2. Detect line break automatically. Convert line break. Show lines number. Support LF(Unix/Linux), CR(Apple), and CRLF(Windows).
3. Find and replace. In current page, or in whole file. Counting.
4. Locate. Go to position of specified character or specified line.
5. Filter lines. By “Include One”, “Not Include All”, “Include All”, or “Not Include Any”. Cumulative filter. Filtered results can be saved. Select whether include lines number.
6. Hexadecimal codes according file's charset can be viewed, scrolled, and selected synchronously.
7. Paginate. Fit for viewing or editing very large file, such as logs in size of several GBs.
 - A. Set page size.
 - B. Pages navigation bar
 - C. Load and display first page, and scan the file in background to count characters number and lines number. Part of functions are unavailable while counting. Interface will be refreshed automatically after counting process is complete.
 - D. Make sure correction of finding, replacing, and filtering of strings that are across pages.
8. General functions of editing, like copy/paste/cut/delete/selectAll/undo/redo/recover. And their shortcuts.

5.5.3 Edit Bytes

1. Bytes are expressed as 2 hexadecimal characters. All blanks, line breaks, and invalid values are ignored.
2. Input boxes of general ASCII characters.
3. Break lines, which is only for display and has no actual effect. By bytes number or by some defined bytes.
4. Find and replace. In current page, or in whole file. Counting.
5. Locate. Go to position of specified character or specified line.
6. Filter lines. By “Include One”, “Not Include All”, “Include All”, or “Not Include Any”. Cumulative filter. Filtered results can be saved. Select whether include lines number.

7. Select charset to decode bytes which can be viewed, scrolled, and selected synchronously.
8. Paginate. Fit for viewing or editing very large file, such as binary file in size of several GBs.
 - A. Set page size.
 - B. Pages navigation bar
 - C. Load and display first page, and scan the file in background to count bytes number and lines number. Part of functions are unavailable while counting. Interface will be refreshed automatically after counting process is complete.
 - D. Make sure correction of finding, replacing, and filtering of bytes group that are across pages. When break lines by bytes number, crossing pages need not concerned.
9. General functions of editing, like copy/paste/cut/delete/selectAll/undo/redo/recover. And their shortcuts.

5.5.4 Others

1. Convert files' charset in batch way.
2. Convert files' line break in batch way.
3. Split file, by files number, by bytes number, or by start-end list.
4. Merge files.
5. Alarm clocks, including options of time and music. Support rings of “Meow”, wav files, and mp3. Can run in background.

5.6 Network Tools

5.6.1 Html Editor

1. Edit local web pages or online pages in rich text. (Not support FrameSet)
2. Edit Html codes directly. (Support FrameSet)
3. Web browser to view contents of Editors or load the online page. Support history browsing, font zooming , and snapshotting of the whole page as an image or a PDF file.
4. Rich-text-editor, html-codes-edtor, and web browser are synchronized.

5.6.2 Weibo Snaping Tool

1. Save Weibo pages of any months of any Weibo accounts automatically.
2. Set the months range.
3. Make sure whole page contents loaded. Can expand the comments and pictures in the pages.
4. Save the pages as local html files which can not be loaded normally due to dynamic loading of WeiBo contents. They can be used to extract texts in the pages.
5. Save the pages' snapshots as PDF files, with options like page size, margins, author, images format, etc.
6. Save all original size pictures in the pages.
7. Display progress information in time.
8. Stop the progress at any time. The interrupted month will be record and input as start month for next

execution.

9. Set the retry times of failure.

5.7 Settings

1. Whether restore last size of each scene. Whether open new stage to display scene. Whether pop recent visited files/directories.
2. Language, font size, interface style, whether show comments.
3. Width and color of stroke and anchor. Whether anchors are solid.
4. Whether display coordinate and rulers.
5. Images histories number. Maximum width to display images.
6. Whether remove alpha channel when copy. Whether replace alpha as white when alpha is not supported.
7. Maximum main memory of PDF handling.
8. Whether close alarm clocks when exit program.
9. Temporary path of MyBox.
10. Clear personal settings. Open user's directory.

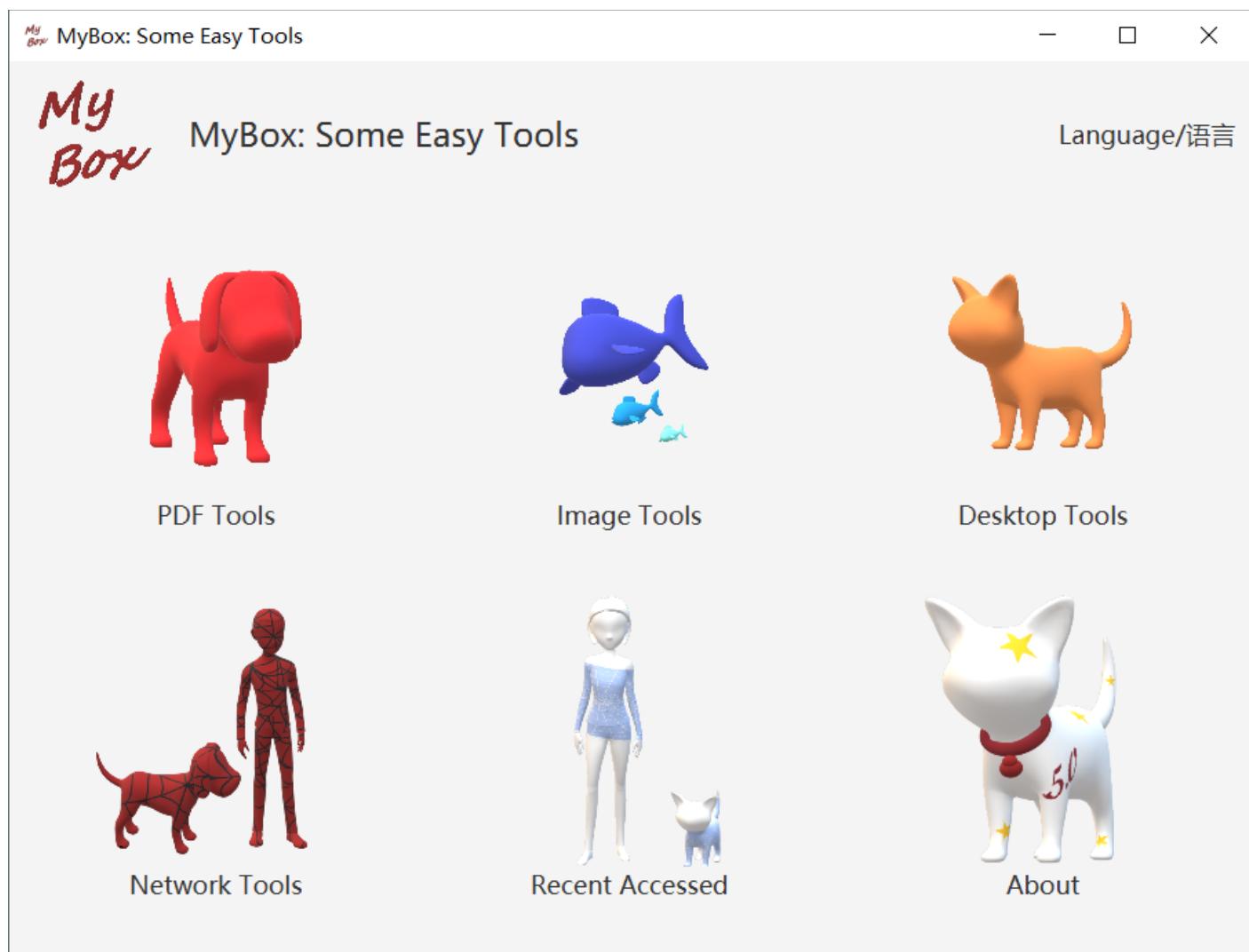
5.8 Window

1. Open/Close monitor bar of Memory.
2. Open/Close monitor bar of CPU.
3. Display JVM attributes.
4. Refresh/Reset windows.
5. Close other windows.
6. Recent visited tools.

6 Common Functions

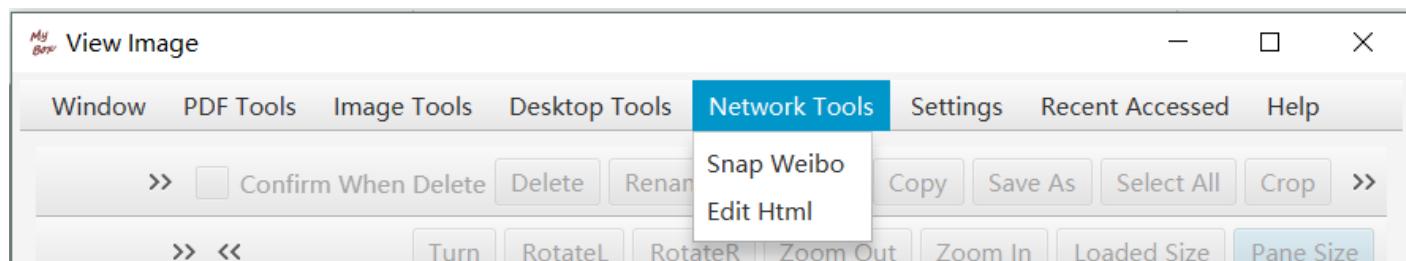
6.1 Main Interface

The main interface will be shown when program is launched. Menus will be popped when mouse is moved on the icons.



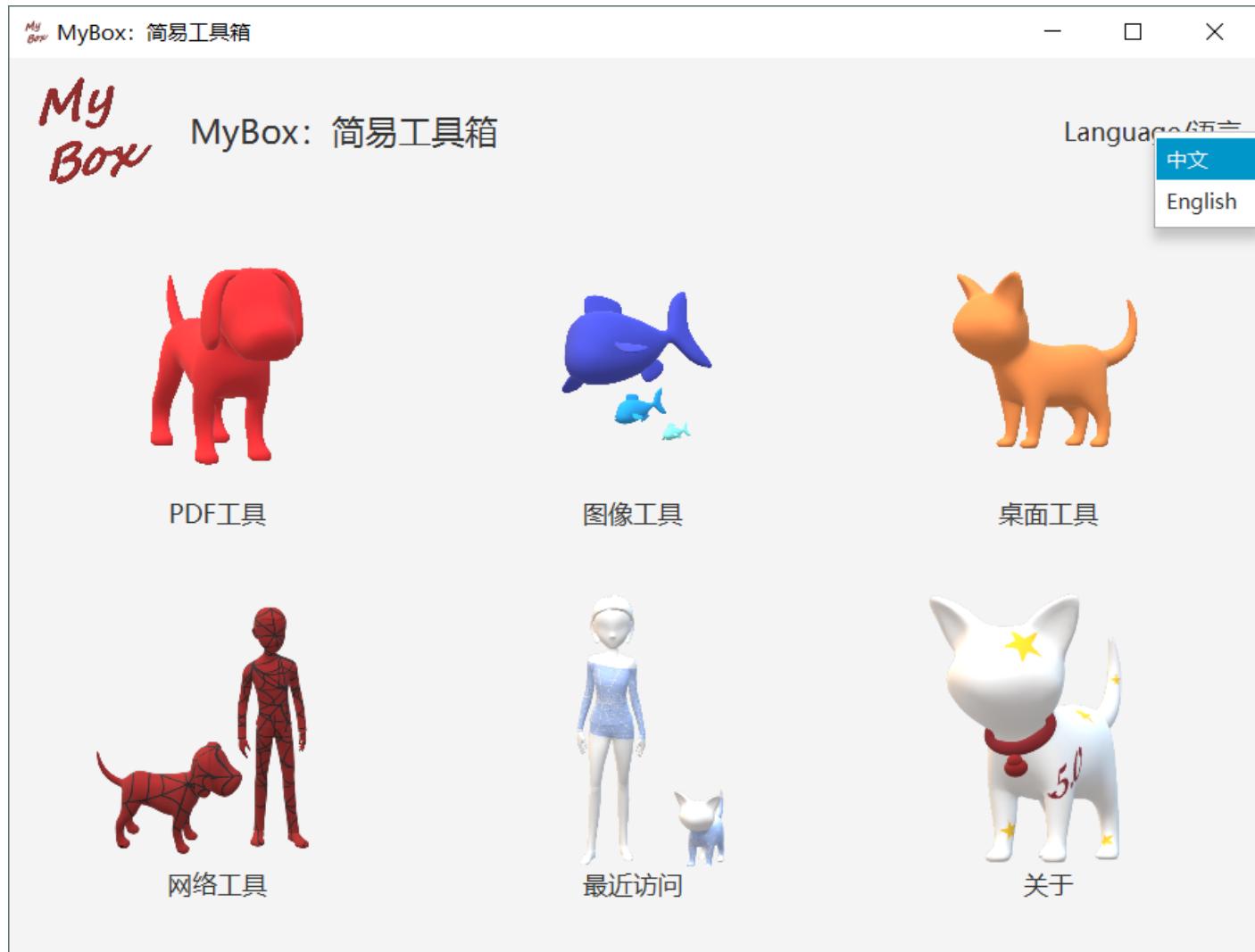
6.2 Main Menu Bar

The Main Menu Bar is shown in top of each interface of all tools. Select menu item to use other tools.



6.3 Switch Language

Move mouse upon right-top corner of main interface, then the languages list is popped. Pick one of them and the interface will be shown in the selected language.

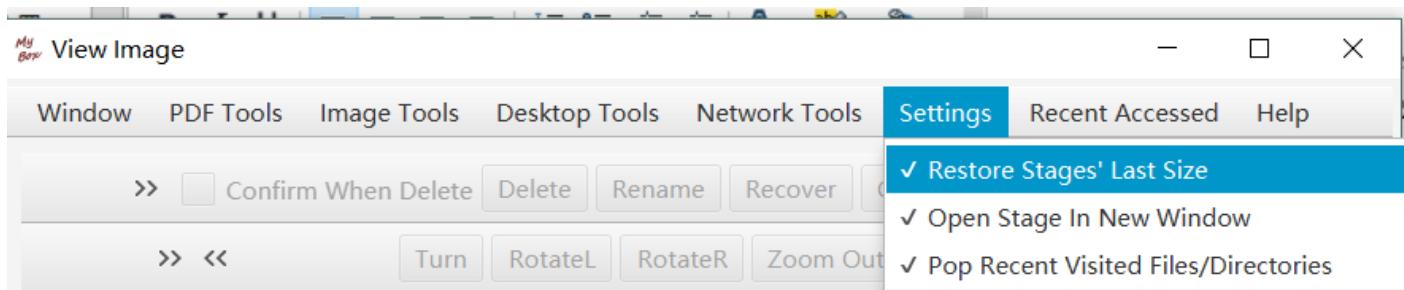


6.4 Set Font Size

1. Decrease font size by press key “CTRL” and key “-” at same time.
2. Increase font size by press key “CTRL” and key “=” at same time.
3. Select one font size of 12px, 15px, and 17px by click menu item directly.
4. Set font size in Setting window.

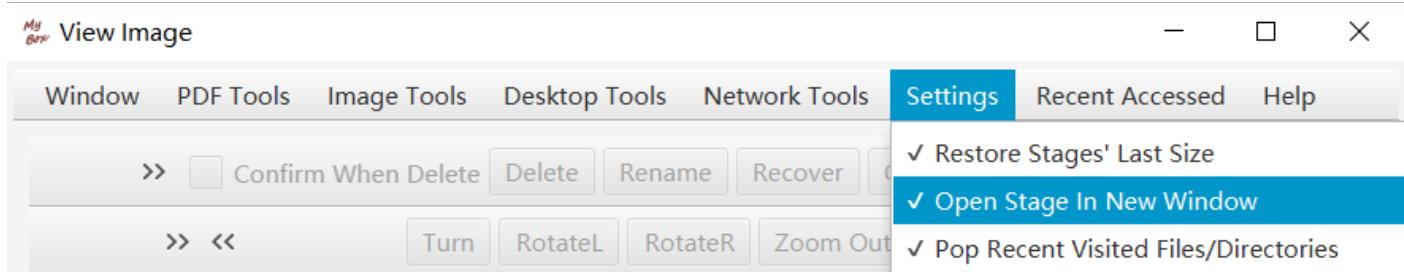
6.5 Restore Scene Size

By selecting menu “Settings”-“Restore Stags' Last Size” in menu, recent size of each scene will be saved and restored when it is opened again.



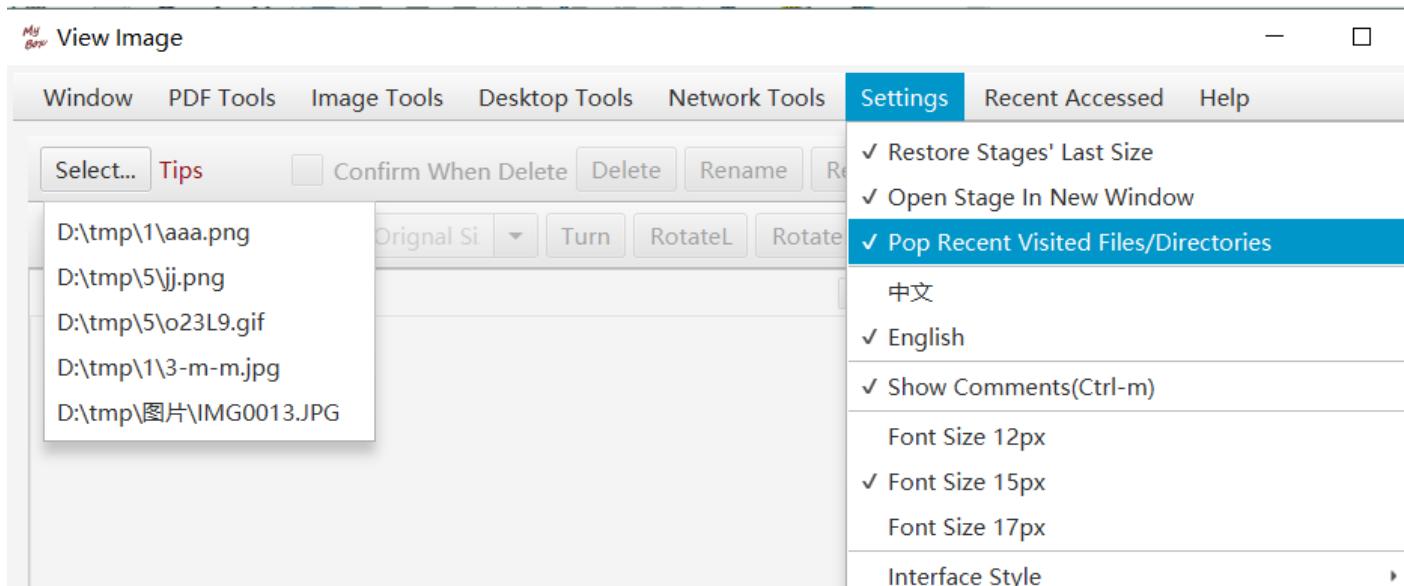
6.6 Open New Stage

To open new window for new scene and keep current scene in current window, select menu item “Settings”-“Open Stage in New Window”.



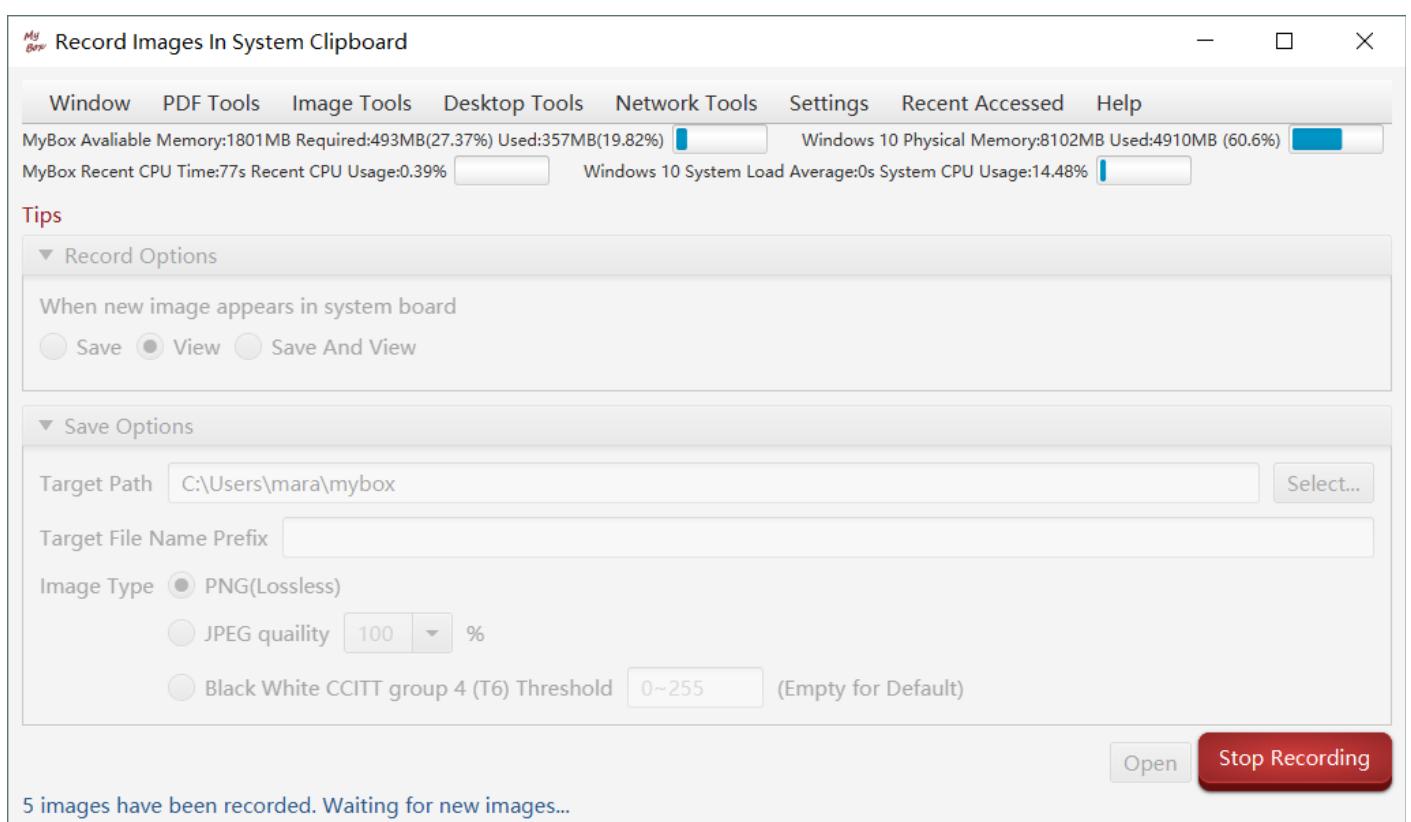
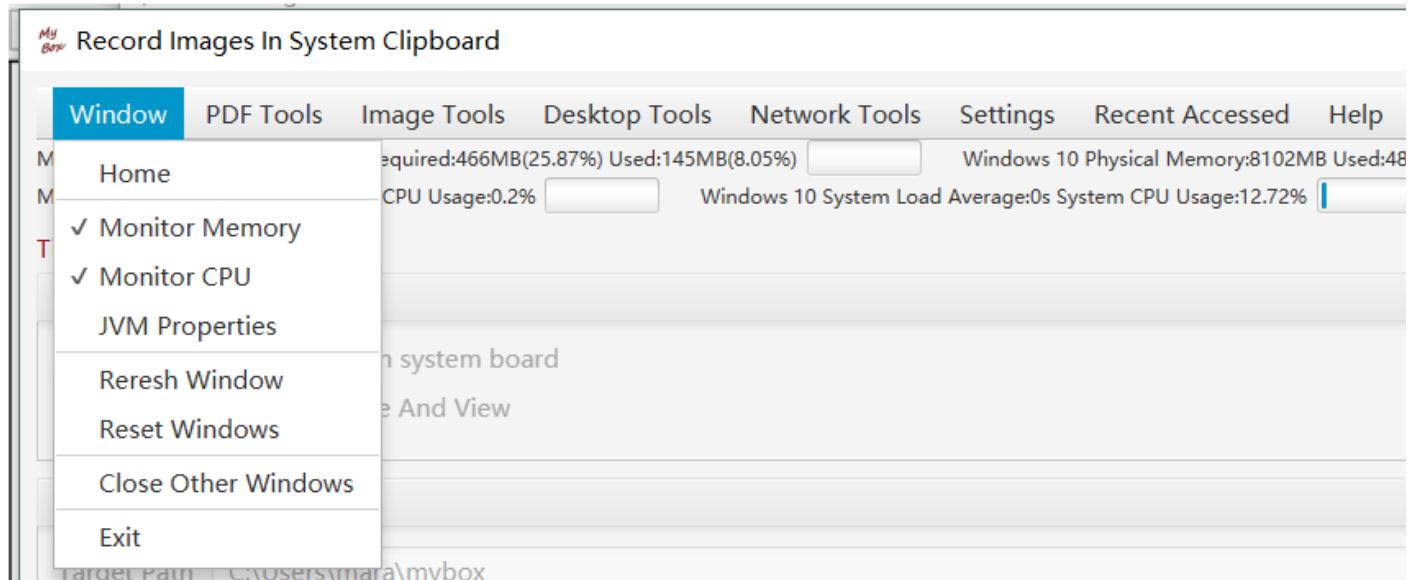
6.7 Pop Recent Visited Files/Directories

When menu item “Settings”-“Pop Recent Visited Files/Directories” is selected, each access of files/directories will be record and list will be popped when mouse is moved upon the button of selection. Example:



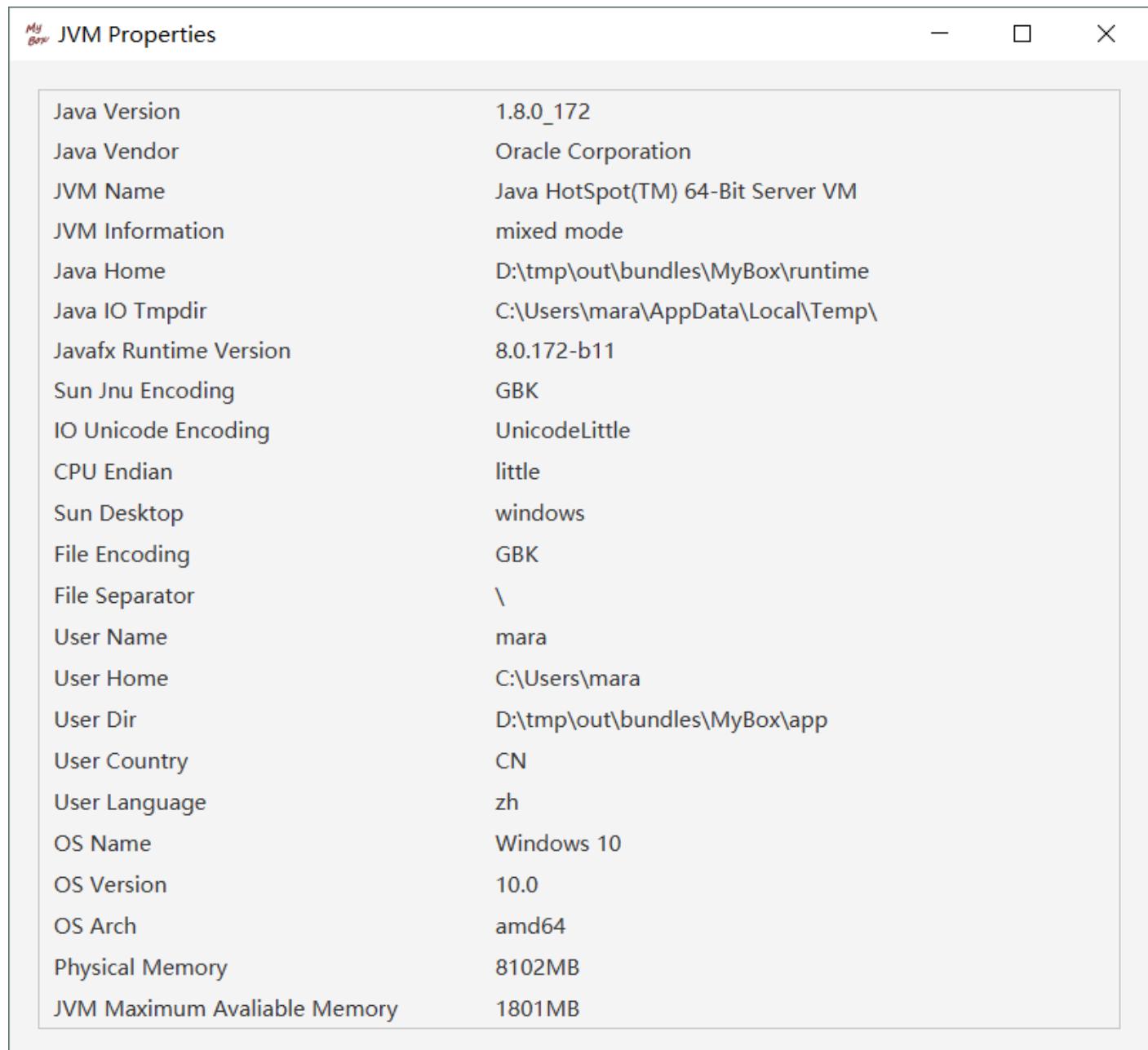
6.8 Monitor Memory and CPU

By selecting menu items “Settings”-“Monitor Memory” or “Monitor CPU”, Memory/CPU usage of system and JVM will be displayed in top of current interface and updated in time.



6.9 View JVM Properties

By selecting menu item “Settings”-“JVM Properties”, a window is popped to list major attributes of current JVM.



The screenshot shows a window titled "JVM Properties" with the title bar "MyBox" partially visible. The window contains a table of system properties:

Java Version	1.8.0_172
Java Vendor	Oracle Corporation
JVM Name	Java HotSpot(TM) 64-Bit Server VM
JVM Information	mixed mode
Java Home	D:\tmp\out\bundles\MyBox\runtime
Java IO Tmpdir	C:\Users\mara\AppData\Local\Temp\
JavaFx Runtime Version	8.0.172-b11
Sun Jnu Encoding	GBK
IO Unicode Encoding	UnicodeLittle
CPU Endian	little
Sun Desktop	windows
File Encoding	GBK
File Separator	\
User Name	mara
User Home	C:\Users\mara
User Dir	D:\tmp\out\bundles\MyBox\app
User Country	CN
User Language	zh
OS Name	Windows 10
OS Version	10.0
OS Arch	amd64
Physical Memory	8102MB
JVM Maximum Available Memory	1801MB

6.10 Shortcuts

Put mouse upon a button, its shortcut will be popped if it has.

Each interface has its definition of shortcuts. Please refer to User Guides of tools.

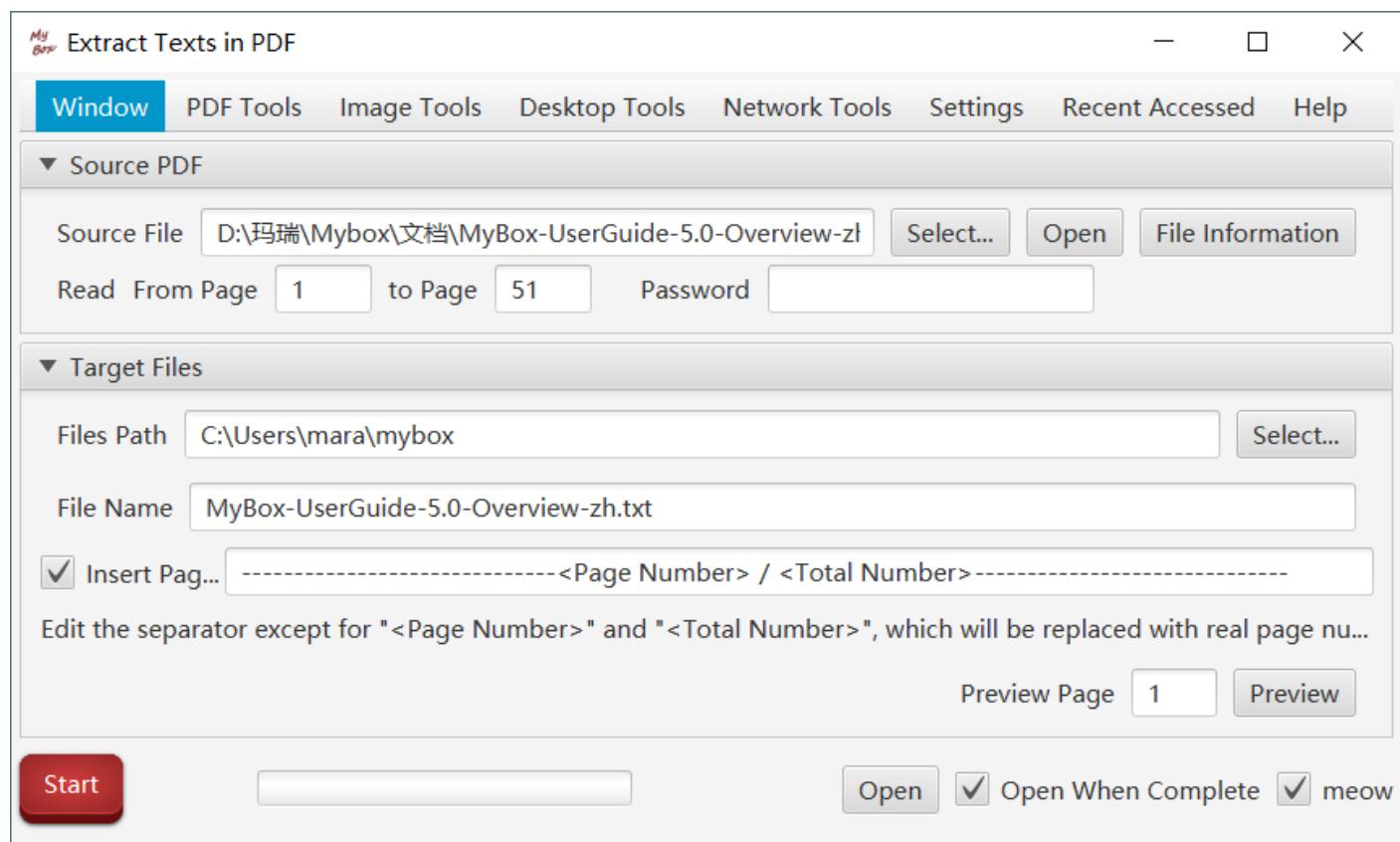
Some well-known shortcuts are listed below, which are consistent with software convention:

"CTRL+c"	Copy
"CTRL+v"	Paste
"CTRL+s"	Save
"CTRL+a"	Select all
"CTRL+z"	Undo
"CTRL+y"	Redo
"F5"	Refresh
"F4"	Close

And Function keys work as their names, like “DELETE”, “PAGE DOWN”, and “PAGE UP”.

6.11 Major Button

Most interface has a red button which is called “Major Button” to trigger the main function of the tool. Example:



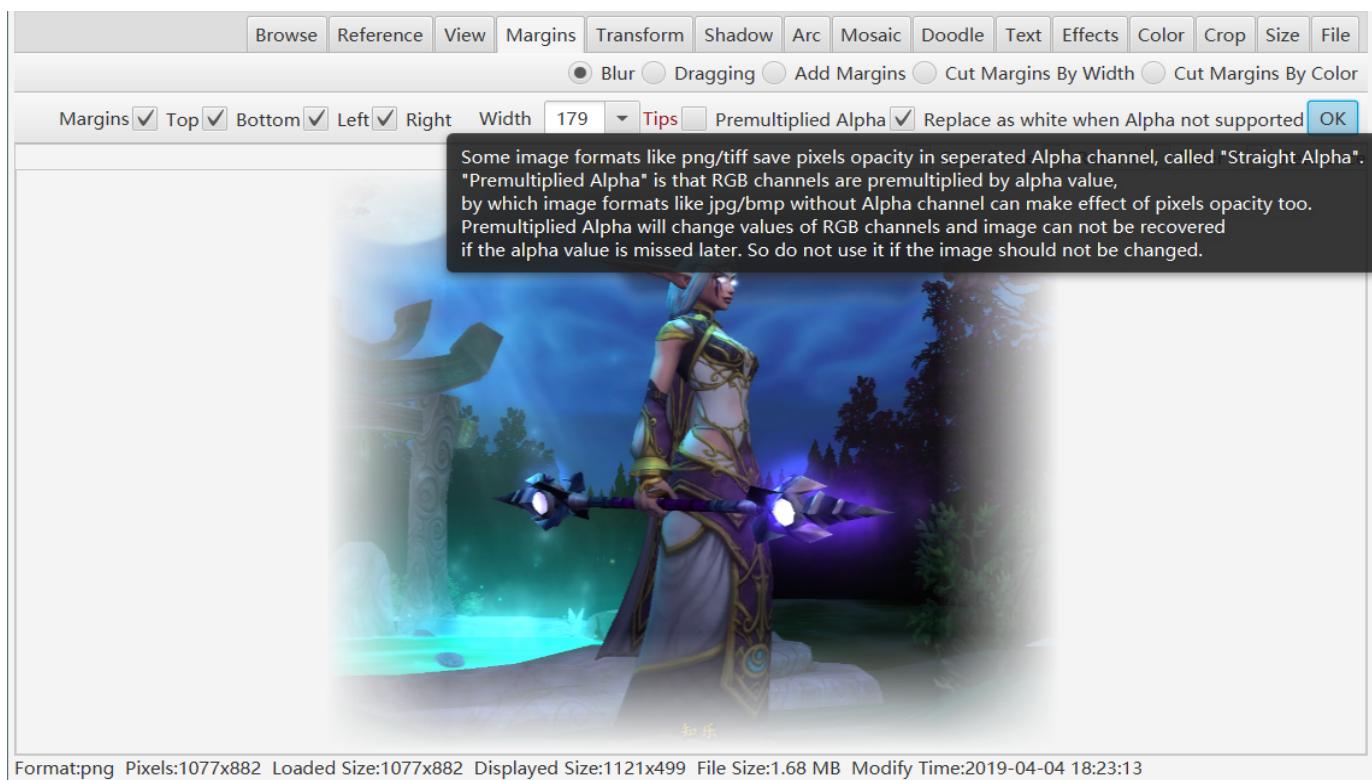
6.12 Default Button

“Default Button” is the button which can be fired by press ENTER key. In most interface, the major button is same as default button. If not, the color of default button is a little different from other buttons. Example:



6.13 Tips

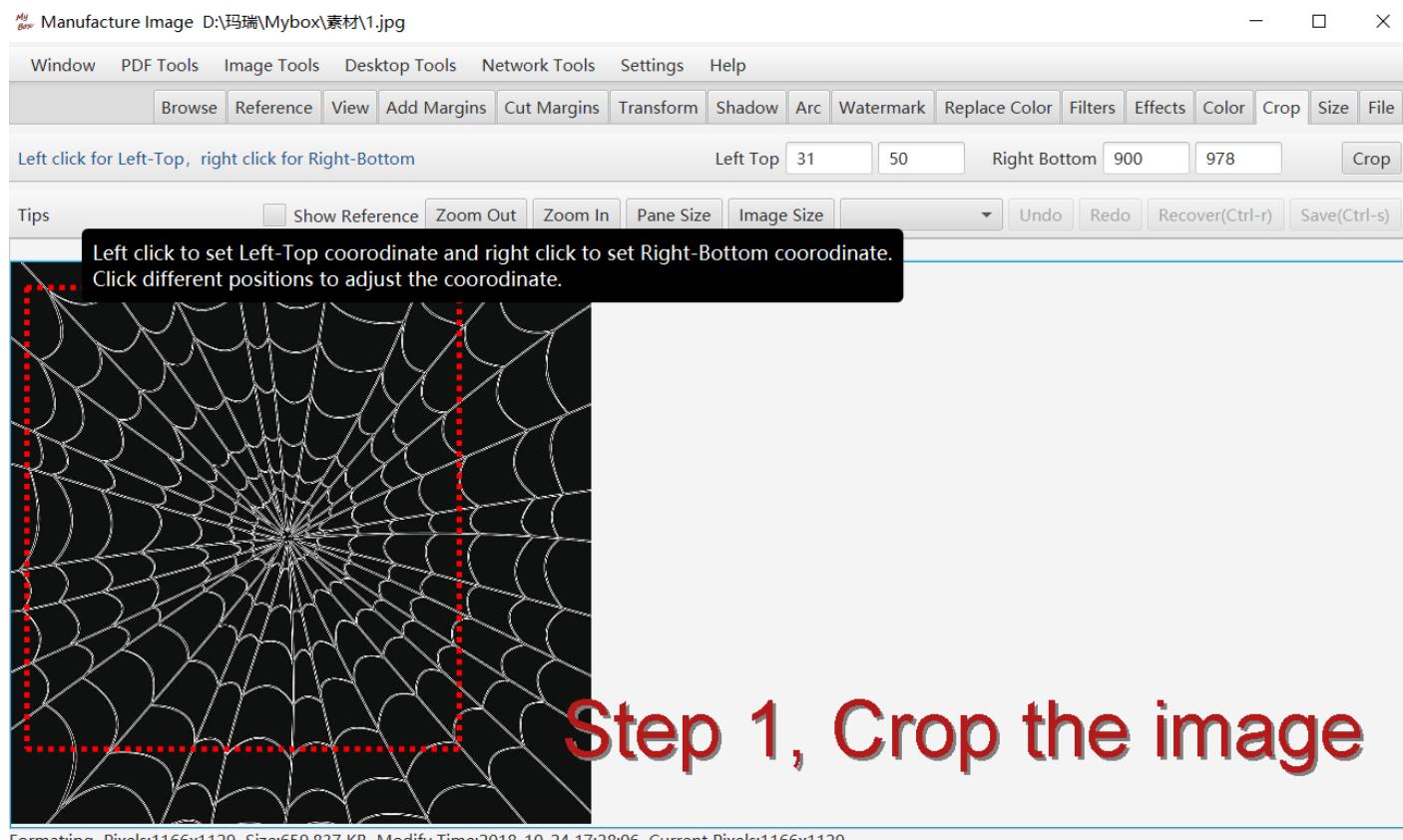
Some interface includes a red label “Tips” which will pop useful information when mouse is moved upon it. Example:



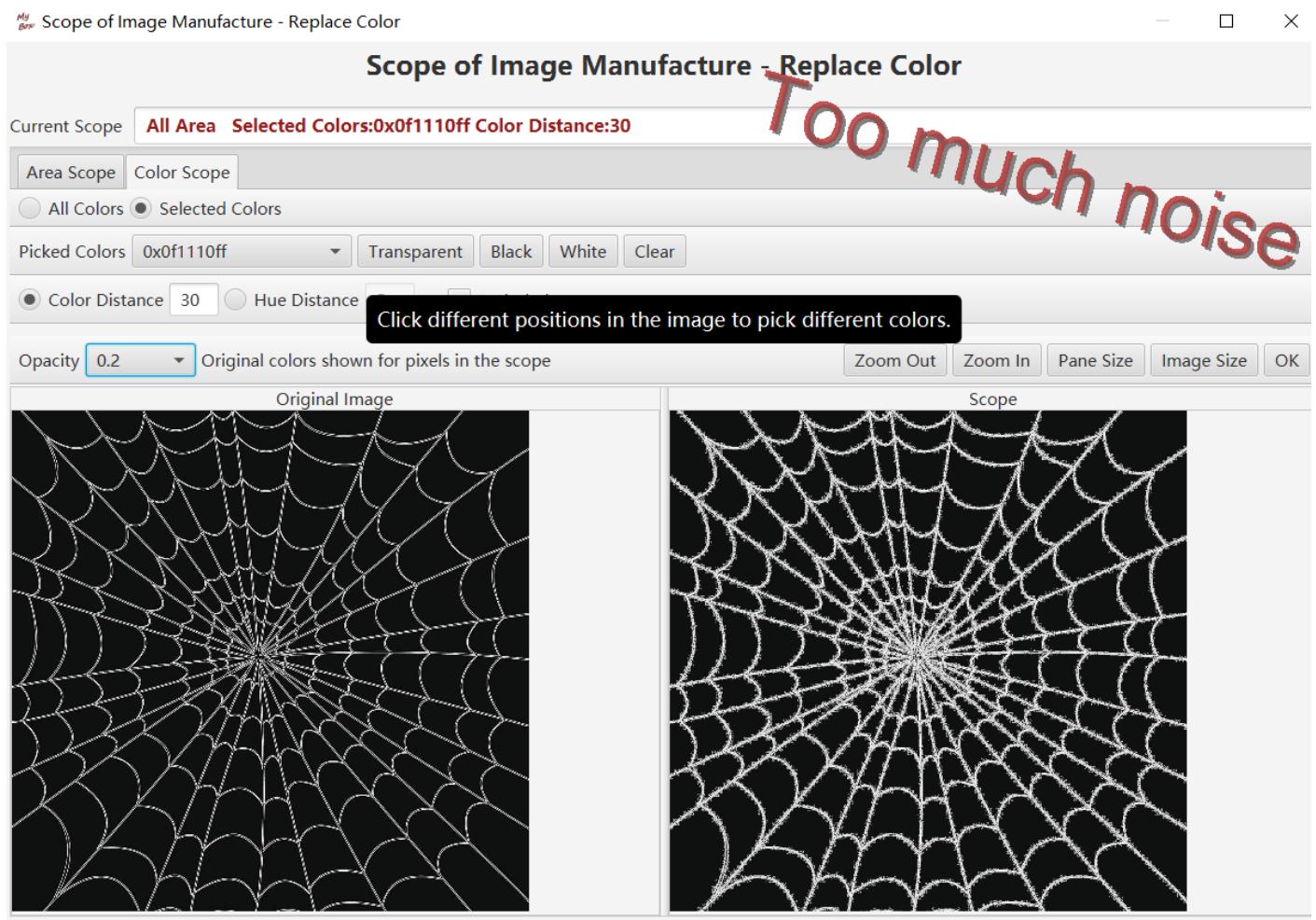
7 Example: Making icon for MyBox with MyBox

MyBox has changed a lot, and snapshots in this chapter is expired. They are still here to demonstrate the steps of image handling.

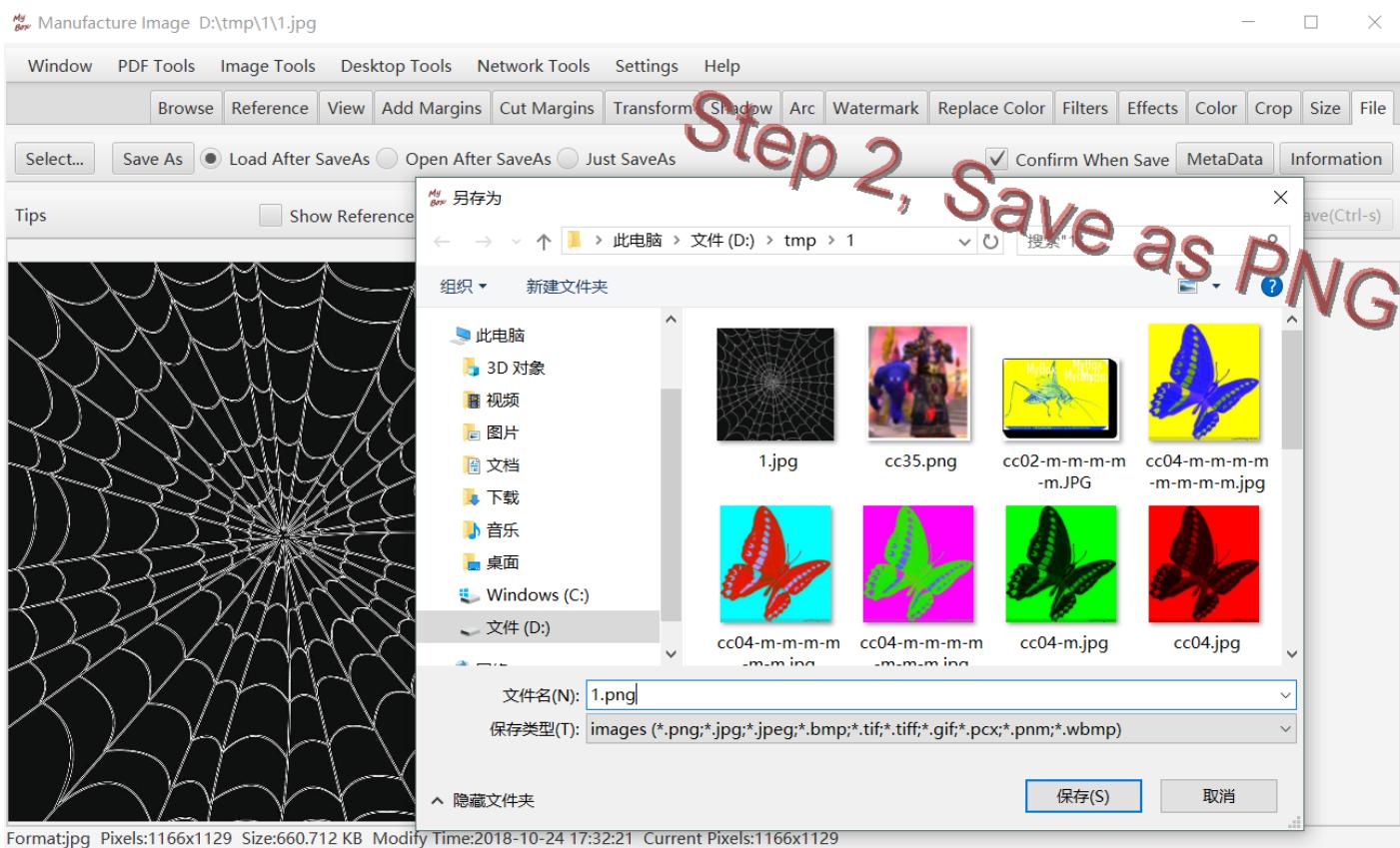
7.1 Crop Image



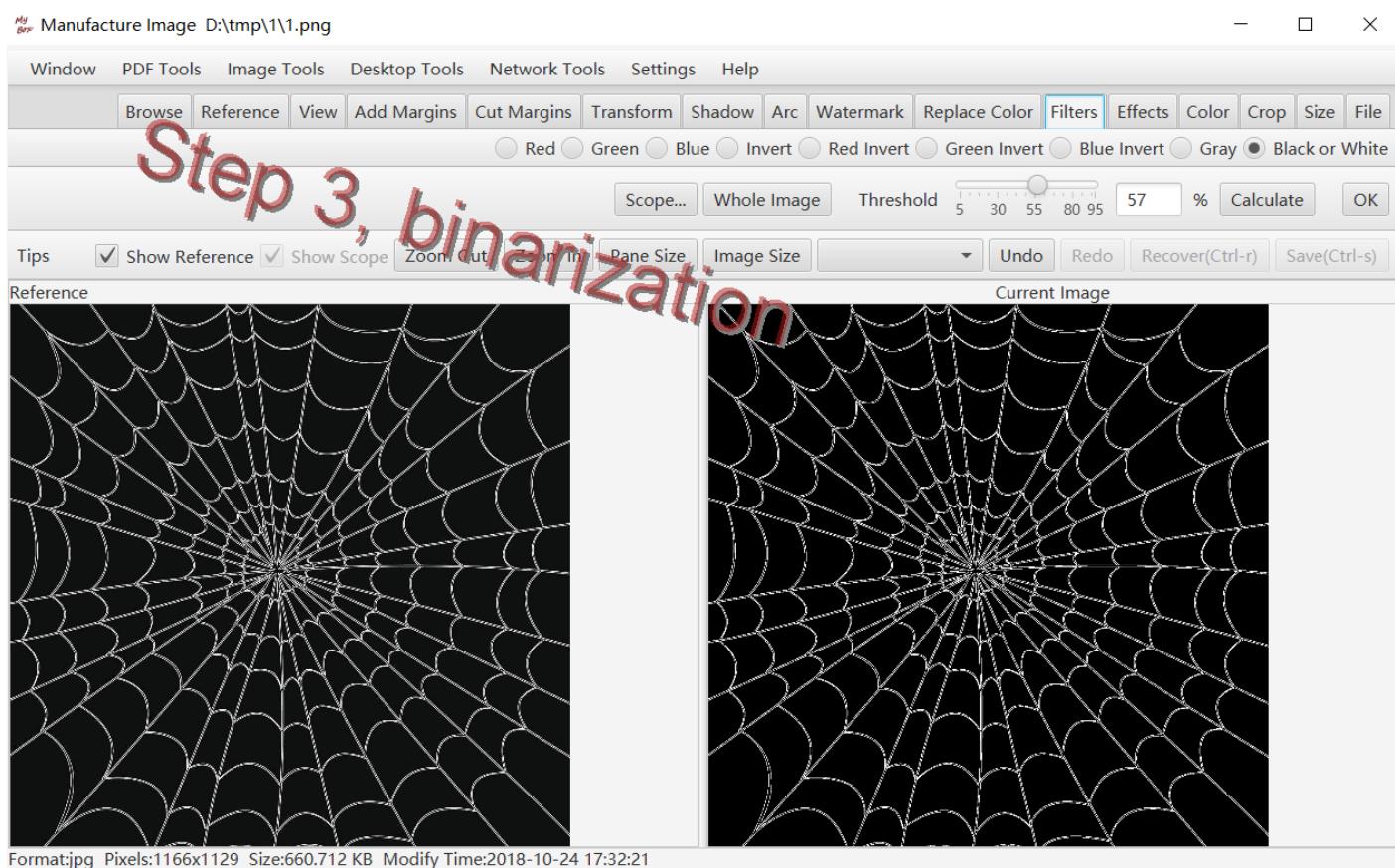
7.2 Check colors



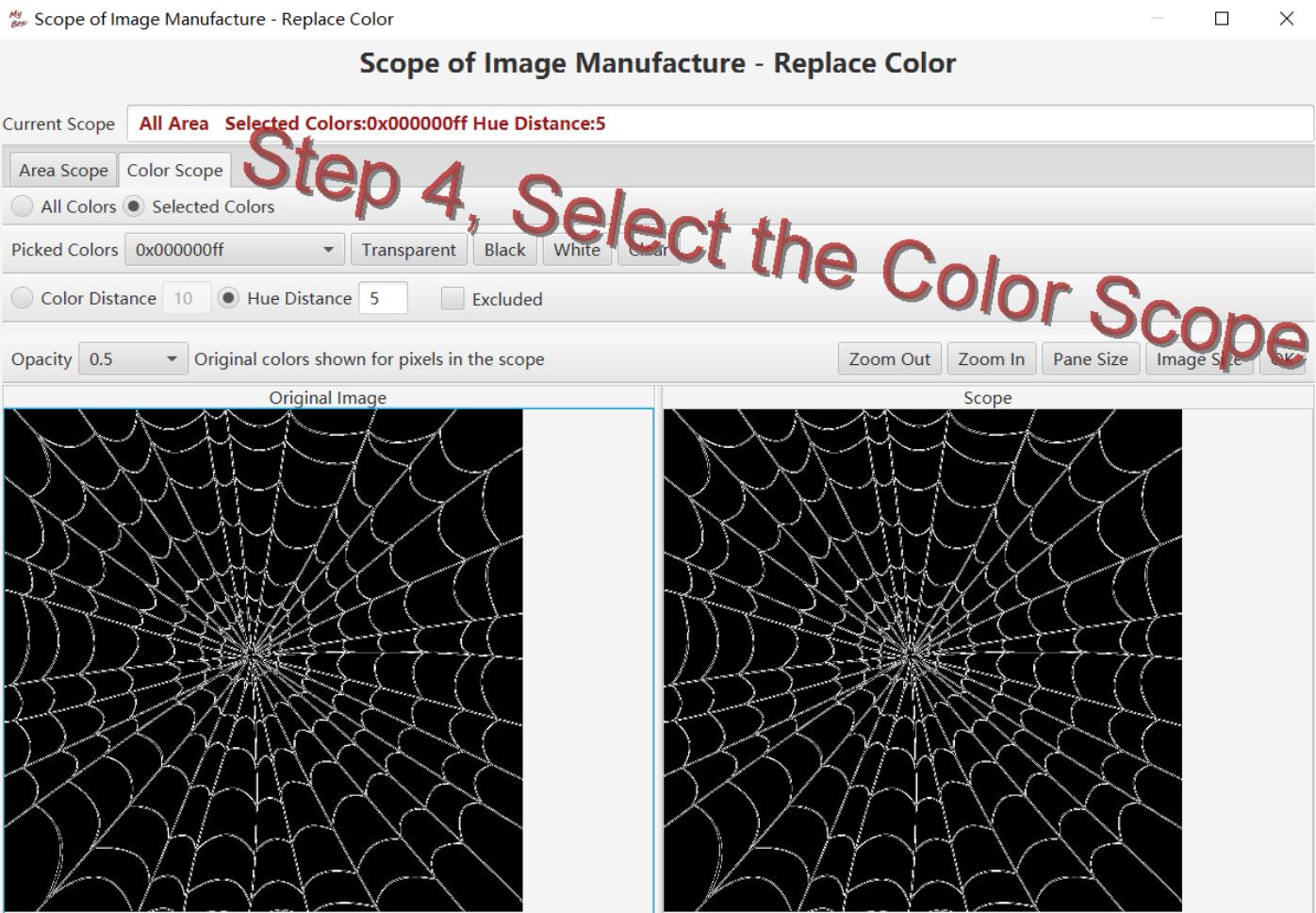
7.3 Save as PNG



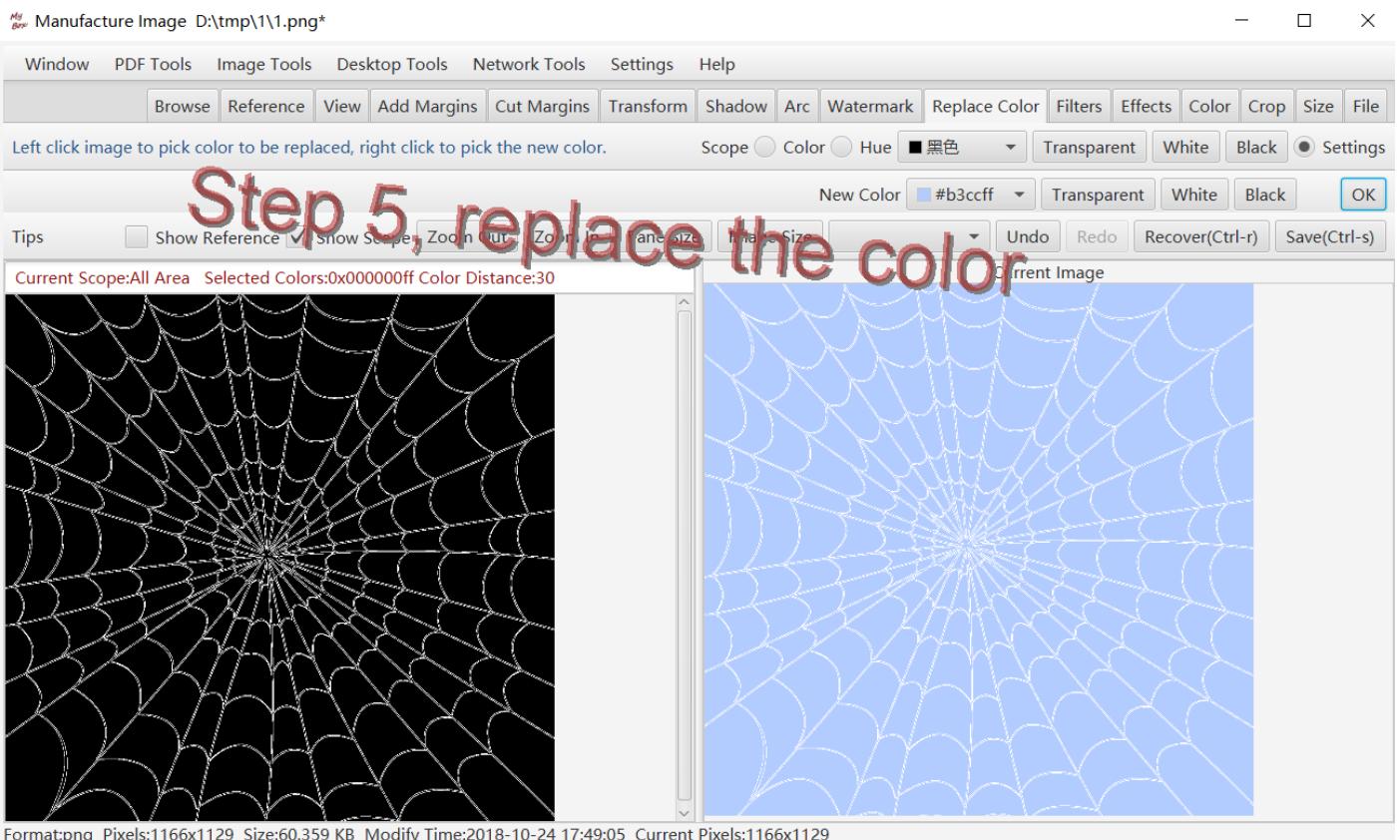
7.4 Filter: Black-White(Binarization)



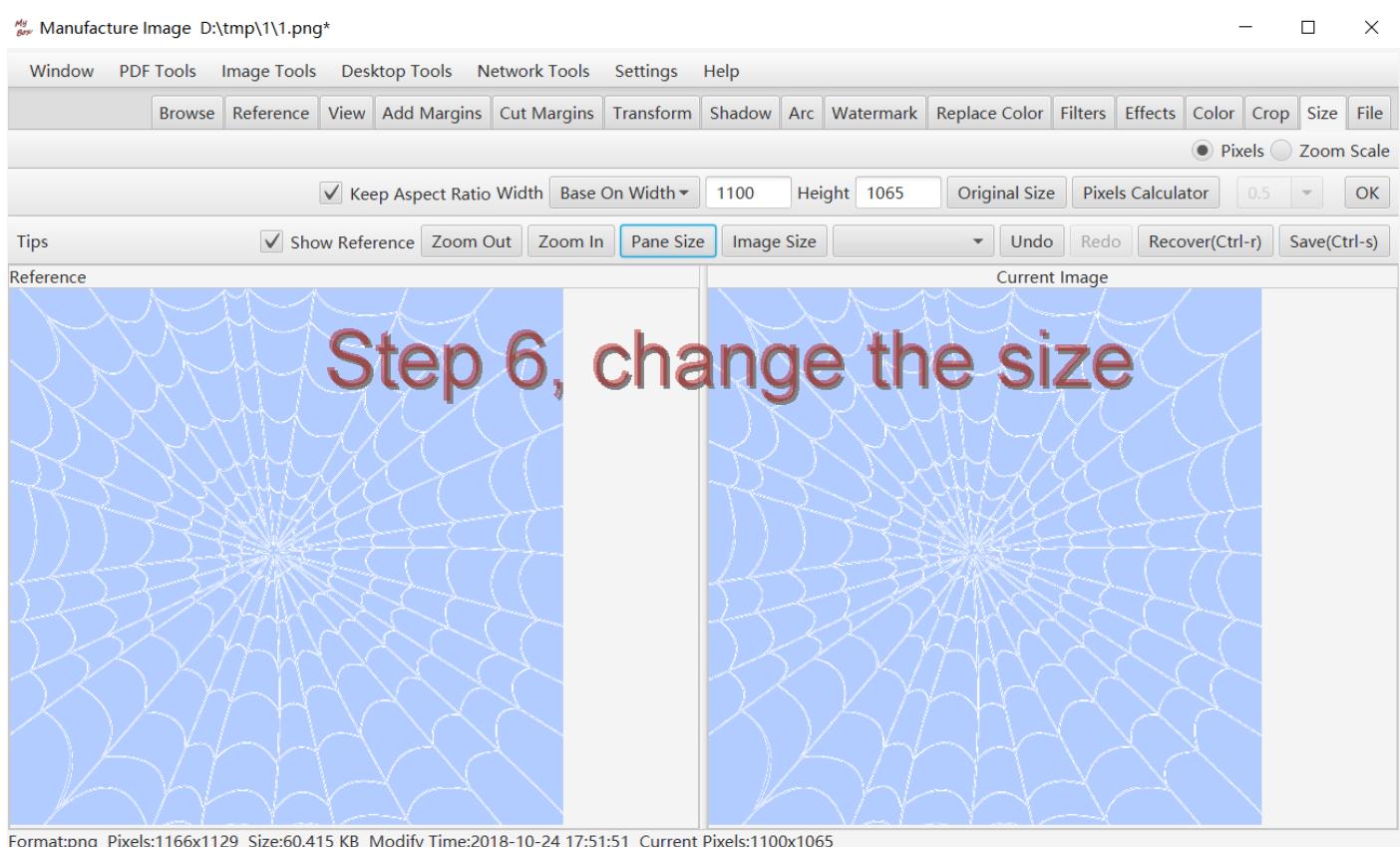
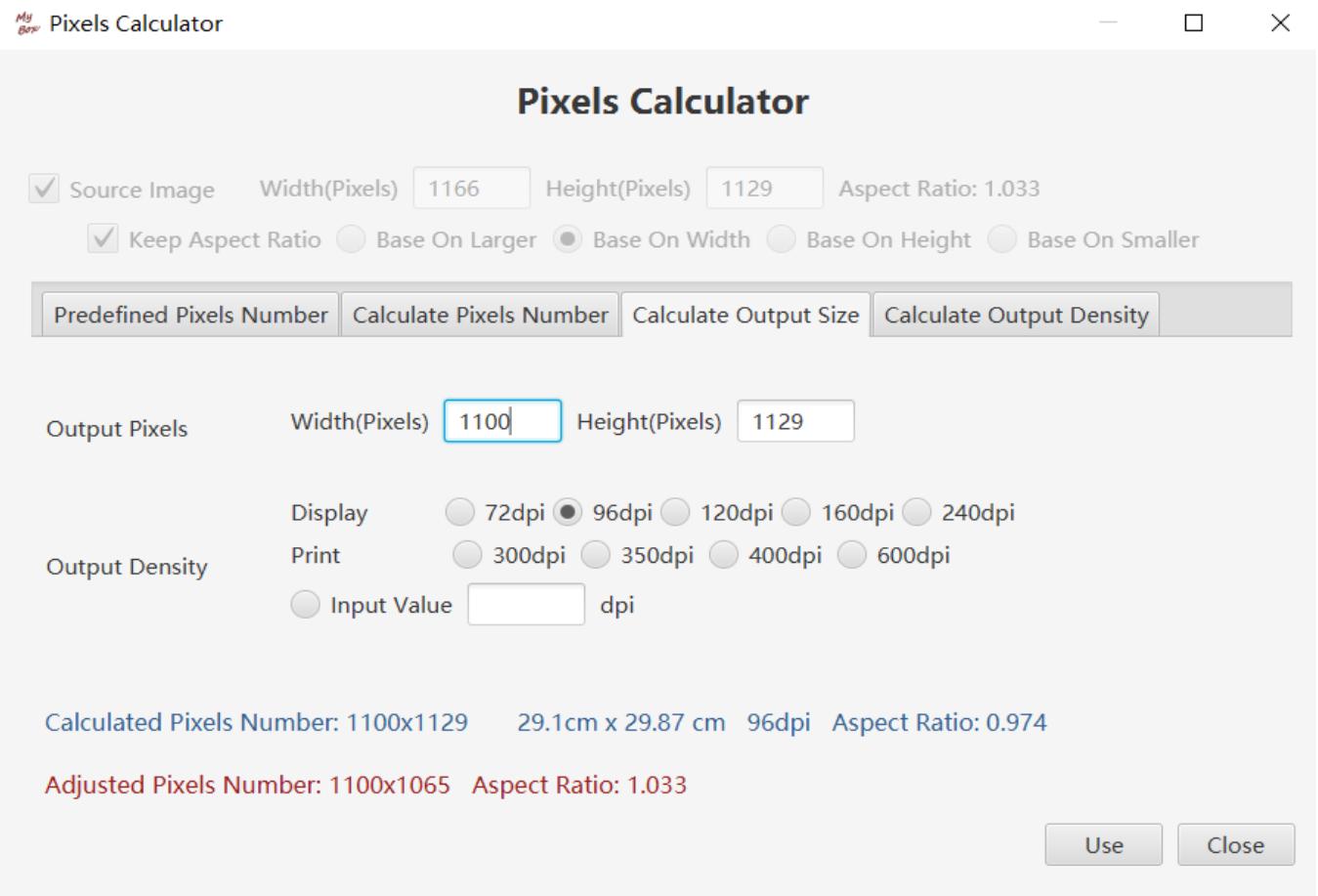
7.5 Set Scope



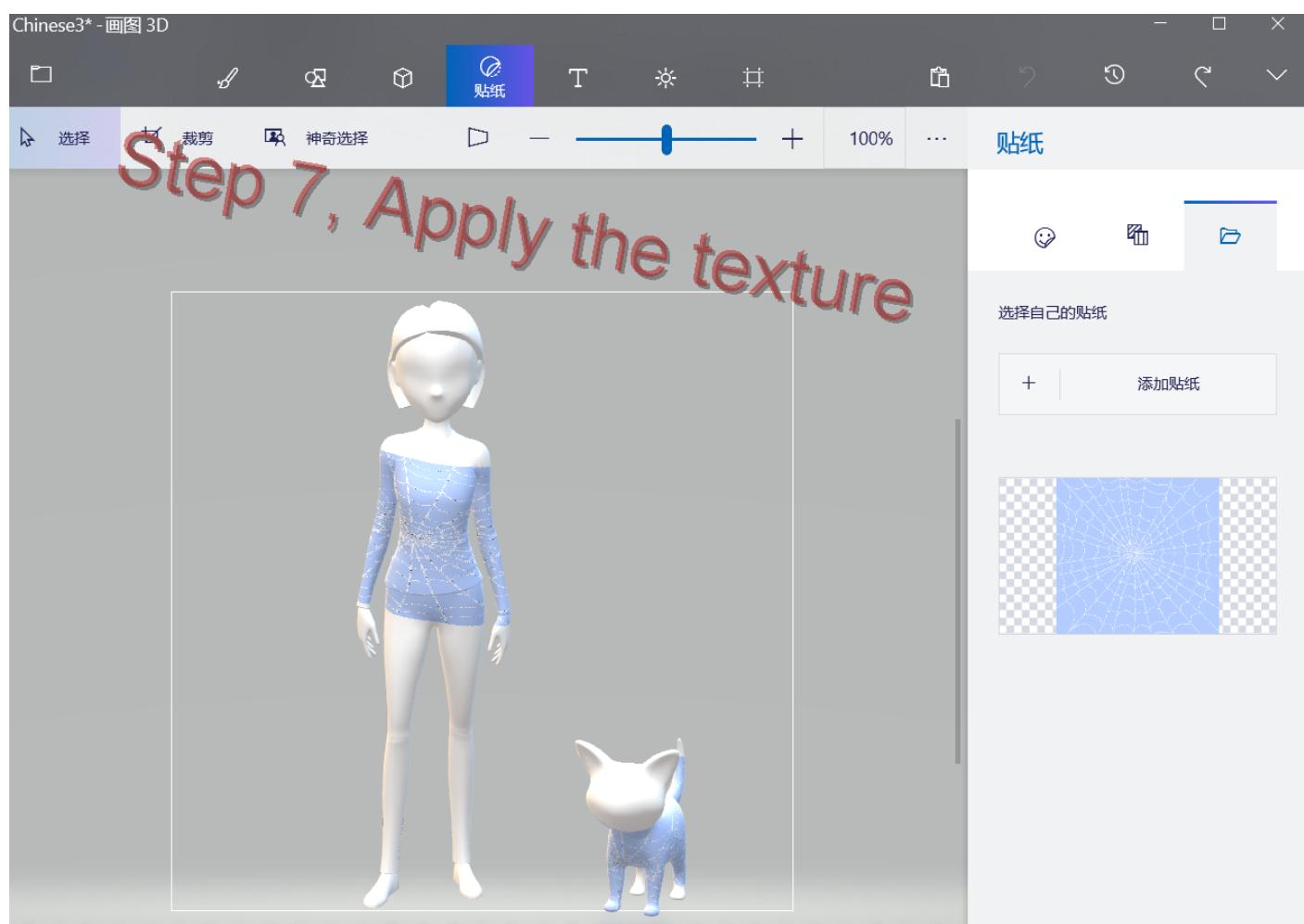
7.6 Replace color: change background color



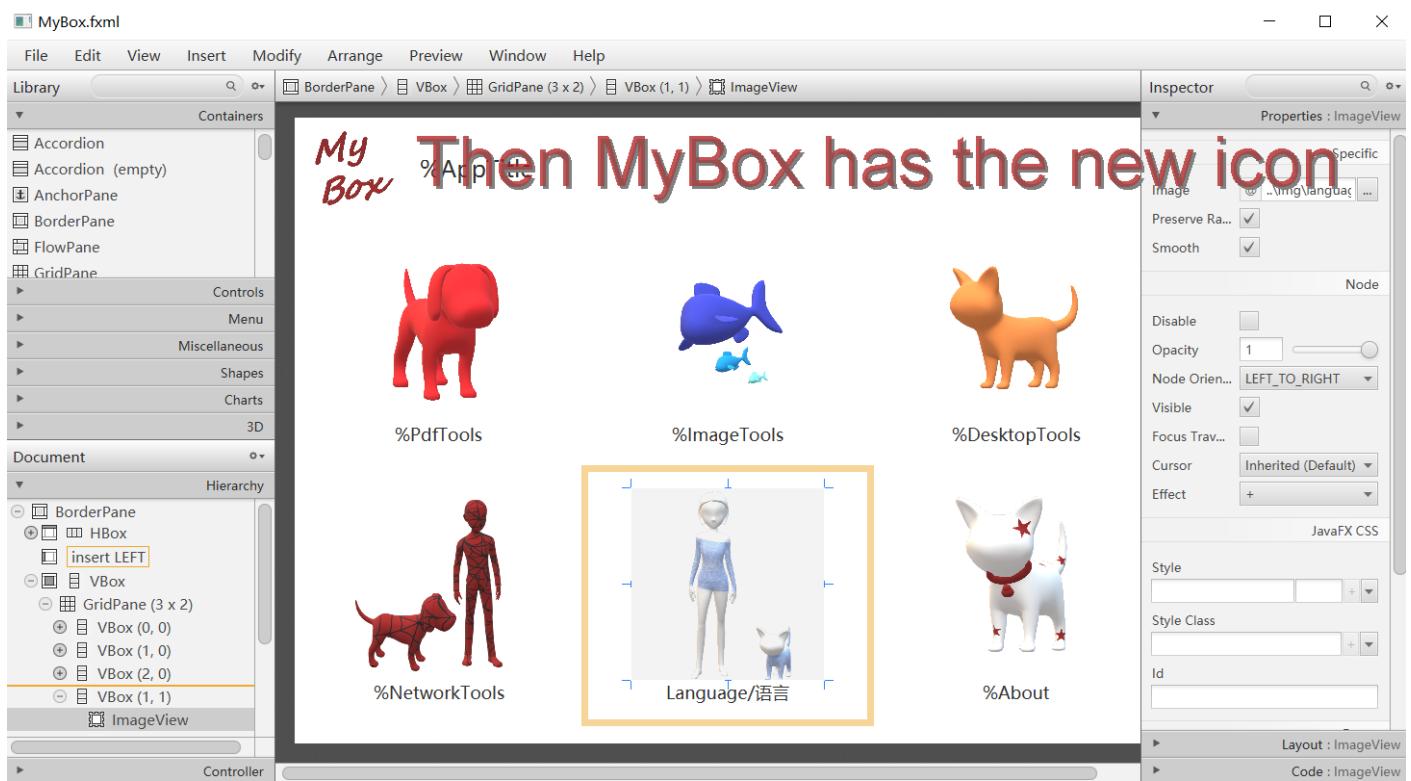
7.7 Change pixels size



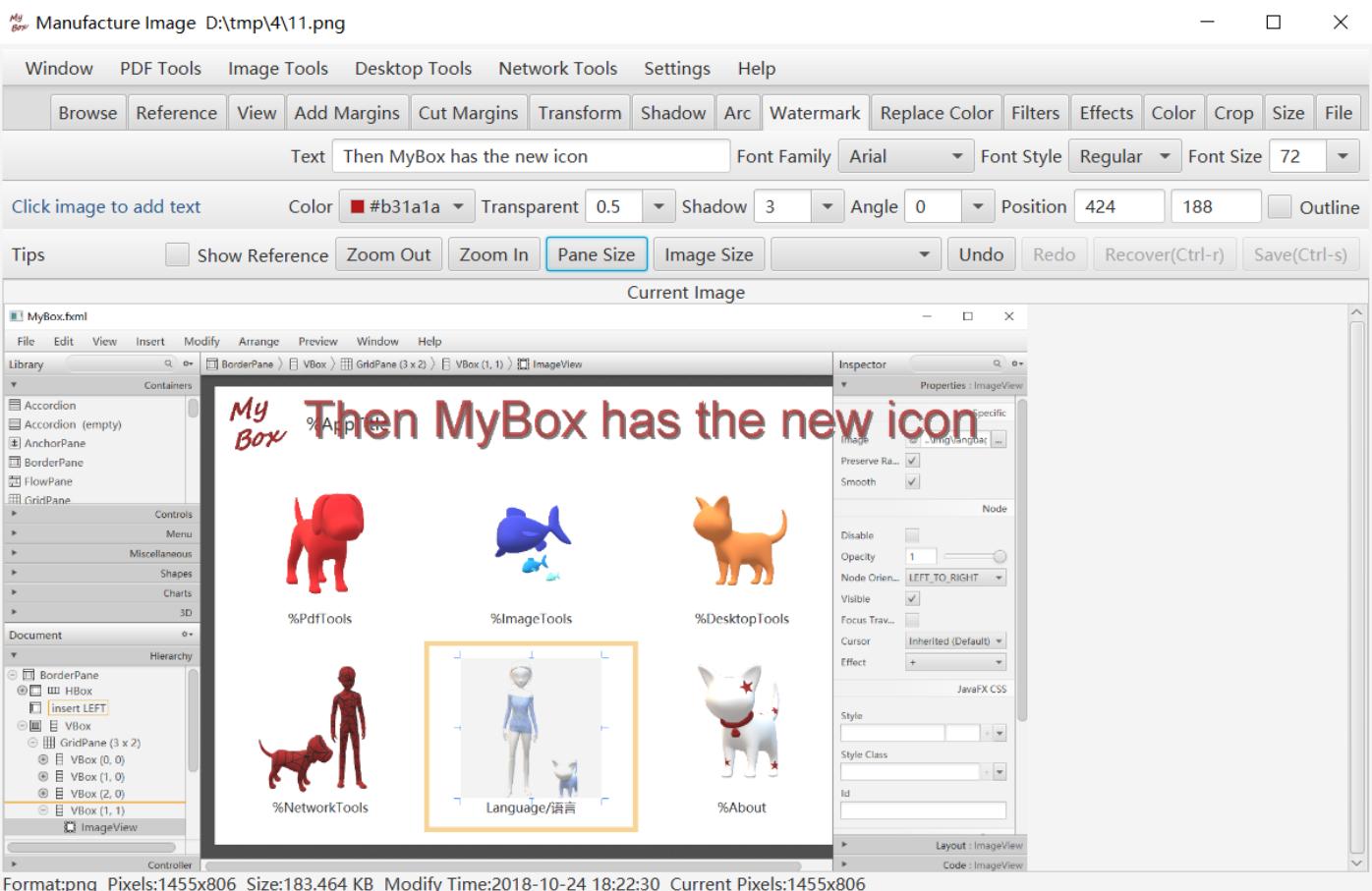
7.8 Make the icon with texture



7.9 Apply the new icon



7.10 Watermark: Write comments on pictures



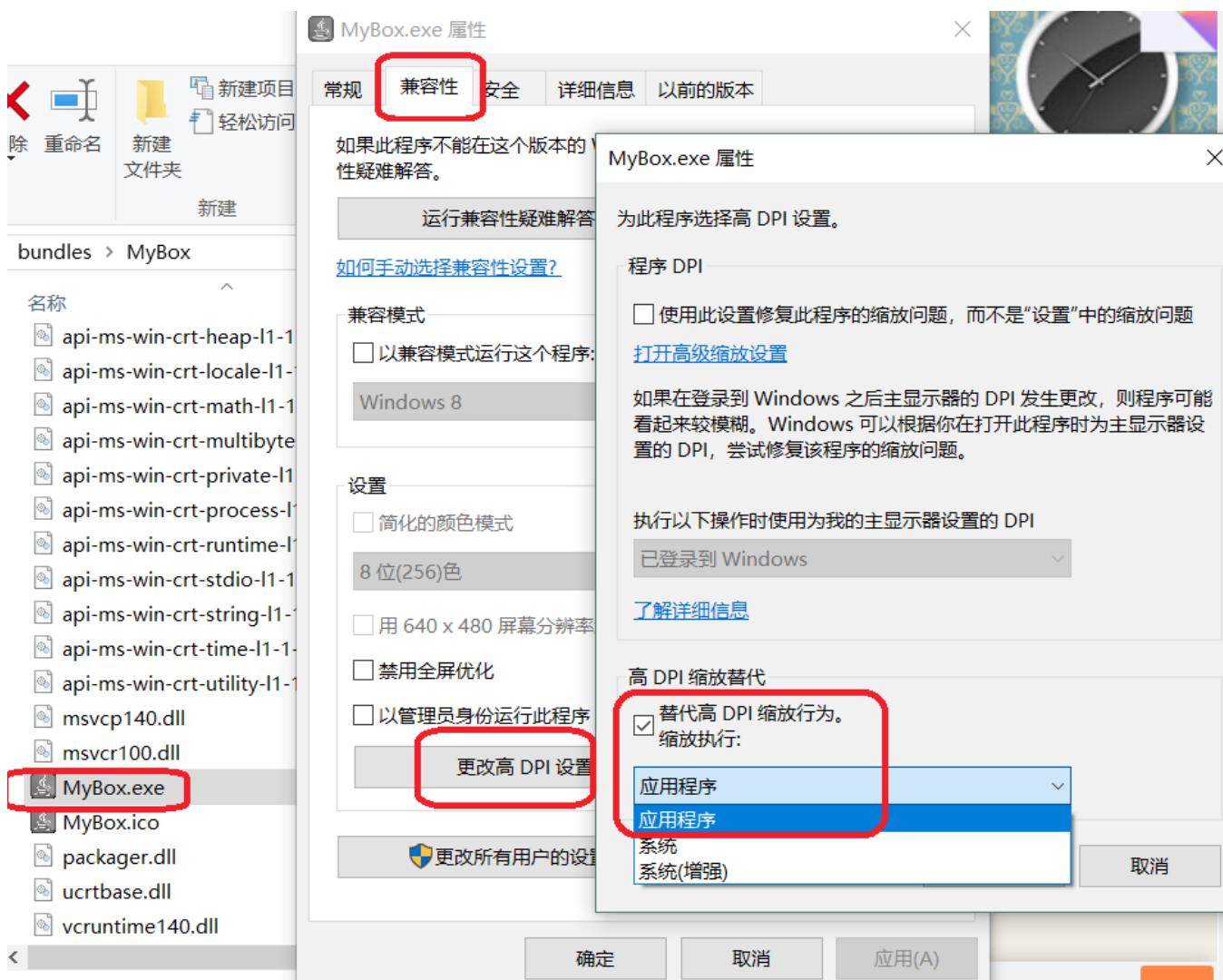
8 About Interface Resolution(dpi-aware)

Traditional screen resolution is 96 dpi, and other resolutions are rarely concerned in operating systems and applications. Now more and more high resolutions monitors are used and current operating systems are already dpi-aware that is displaying the interface according to the actual resolution of the screen. Java 8 has implemented dpi-aware in part but dpi can not be changed dynamically by program.

MyBox is based on Java 8, and the interface is not well when OS resolution is changed in users' env. A typical scenario is that the windows are larger, controllers are blurier and font size is smaller when I set the monitor's display scale as 125% which causes resolution become 72 dpi.

MyBox supports changing font size in any time now. But user need set the program's attribute as following to avoid lower resolution due to system dpi change:

<https://superuser.com/questions/988379/how-do-i-run-java-apps-upscaled-on-a-high-dpi-display>

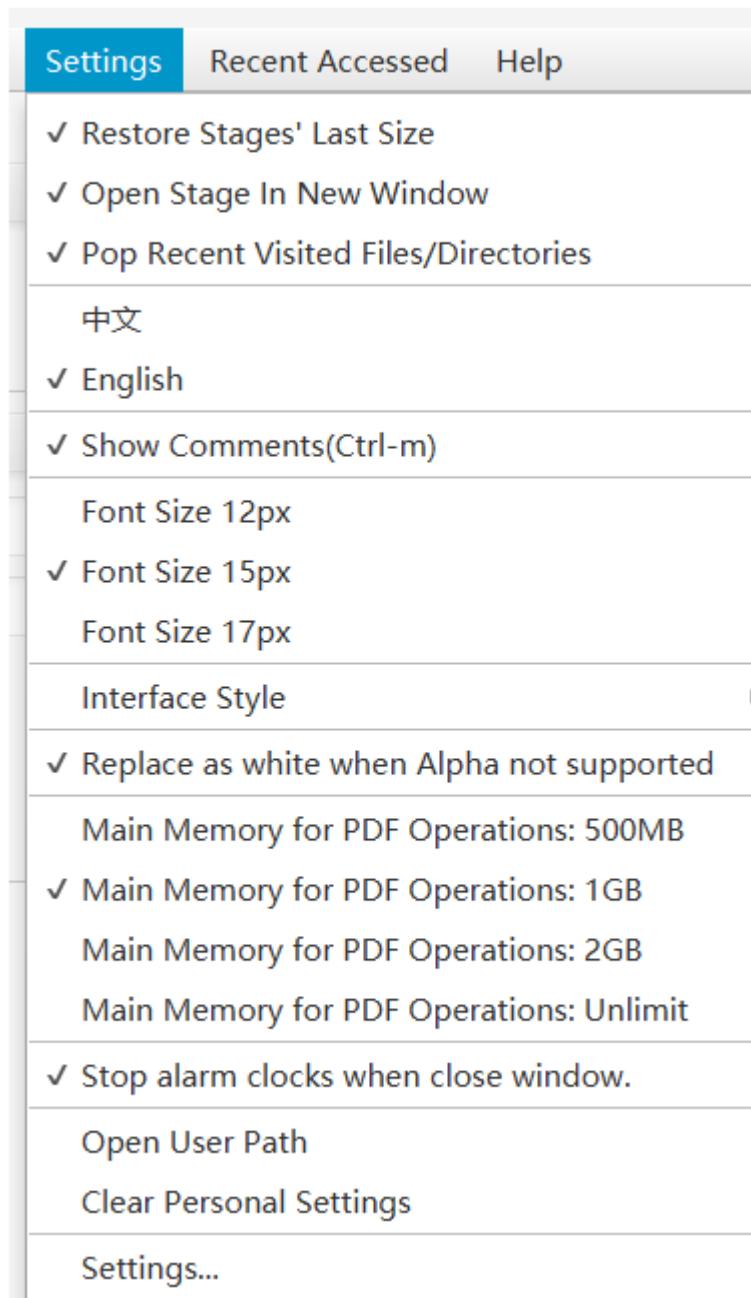


9 Settings

9.1 Menu Settings

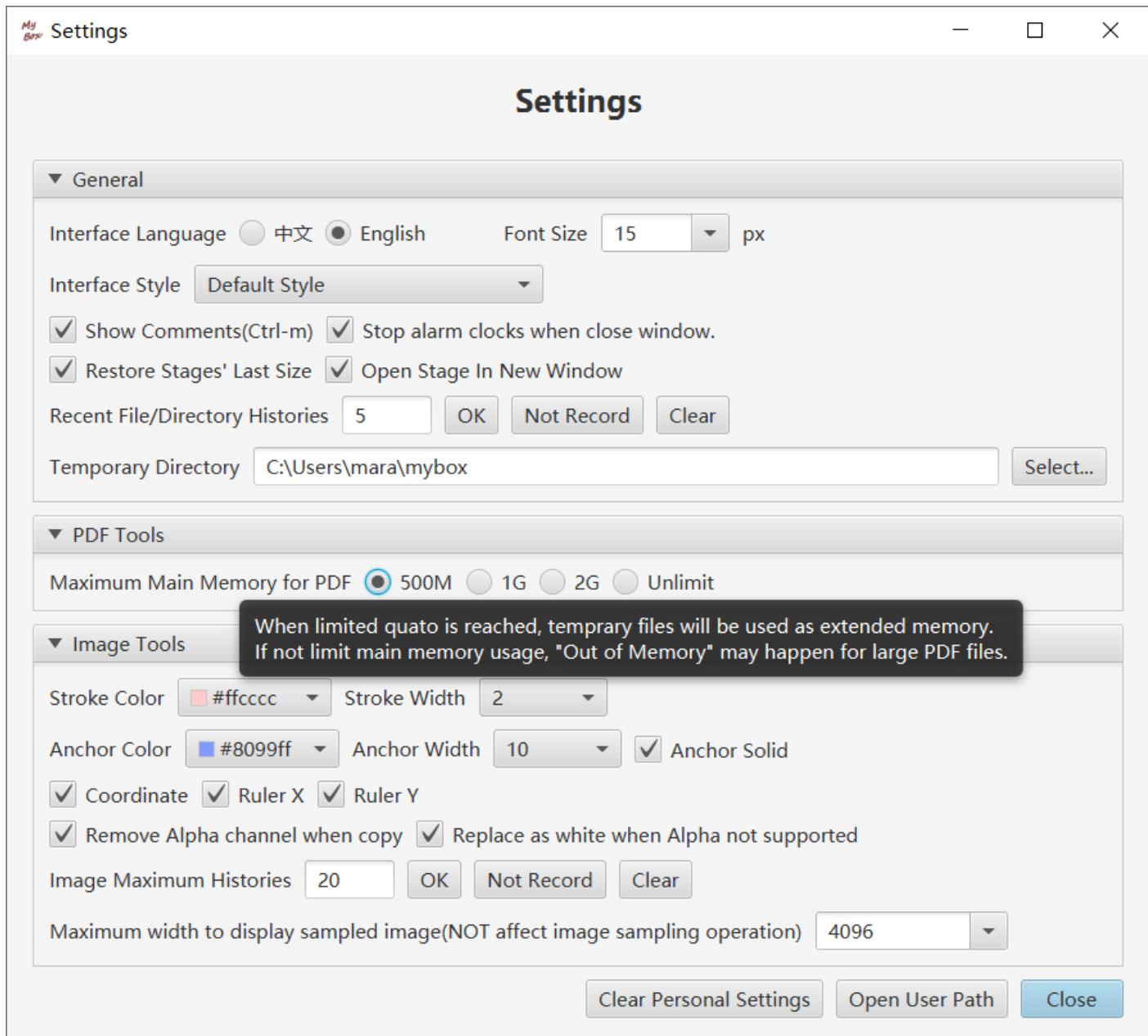
Following can be set directly by clicking the menu items:

1. Check “Restore Stages' Last Size”, “Open Stage in New Window”, “Pop Recent Visited Files/Directories”
2. Select Langugae, font size, interface style, and whether show comments
3. Check Alpha replacing way and select maximum main memory for PDF.
4. Whether close alarm clocks when exit
5. Open personal directory
6. Clear personal settings.



9.2 Settings Window

Open the settings window by clicking menu item “Settings”-“Settings...”:



9.3 Temporary files path

This is the directory used by MyBox tools to save temporary files.

9.4 Maximum main memory for PDF

When limited quota is reached, temporary files will be used as extended memory.

If not limit main memory usage, "Out of Memory" may happen for large PDF files.

9.5 Updating histories of image

Updating histories of image can be record to return to former status.

User can set whether record the histories or set the number of updating histories.

9.6 Maximum width to display sampled image

When pixels number of image is very large, available memory may not be enough to load and display it. MyBox should evaluate this situation and judge whether subsample the image to display it.

This parameter is to limit the maximum width to subsample image to display. It does not affect other operation. Example, when split image or subsample image, pixels of original image instead of pixels of sampled image are read.

9.7 Stroke and Anchor

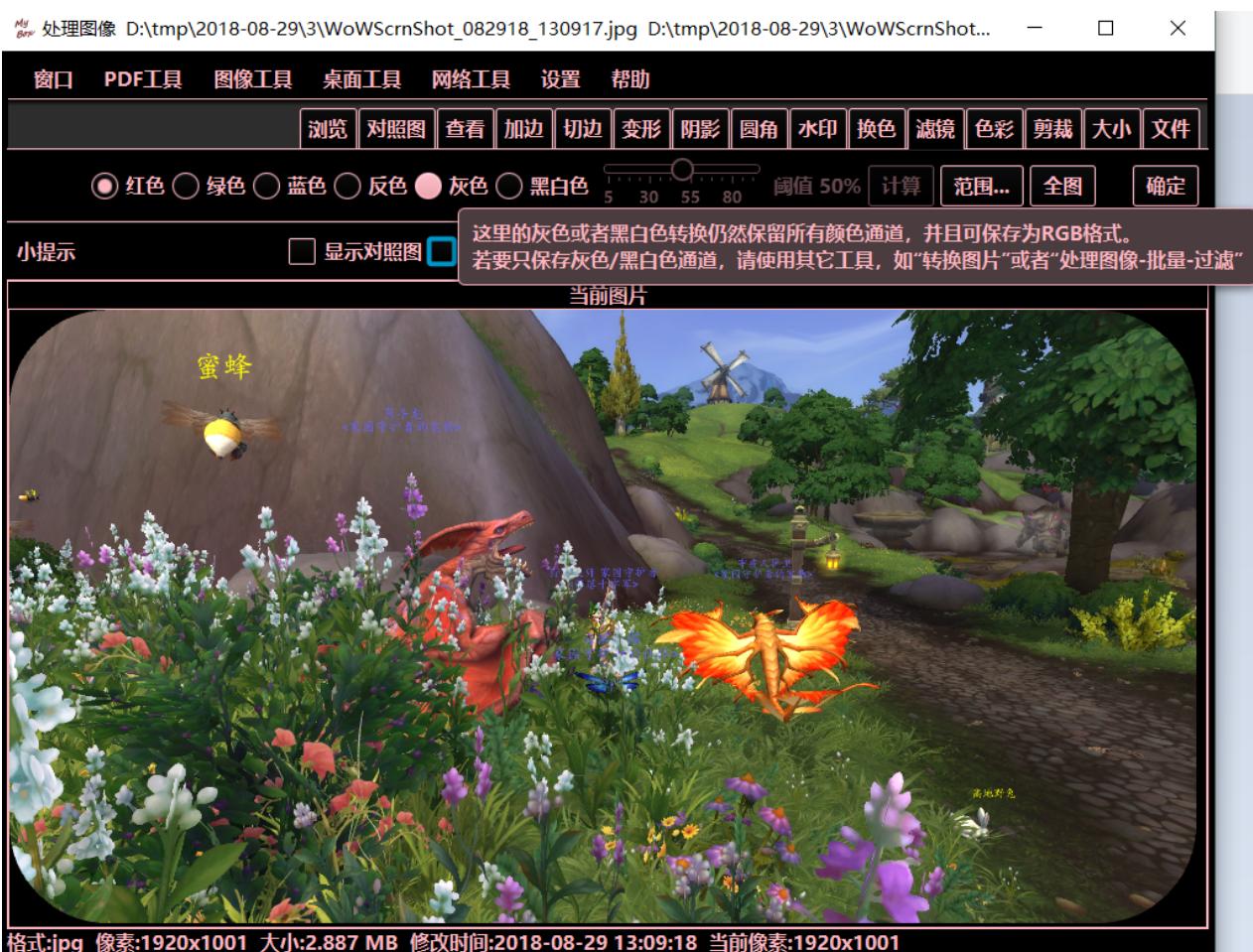
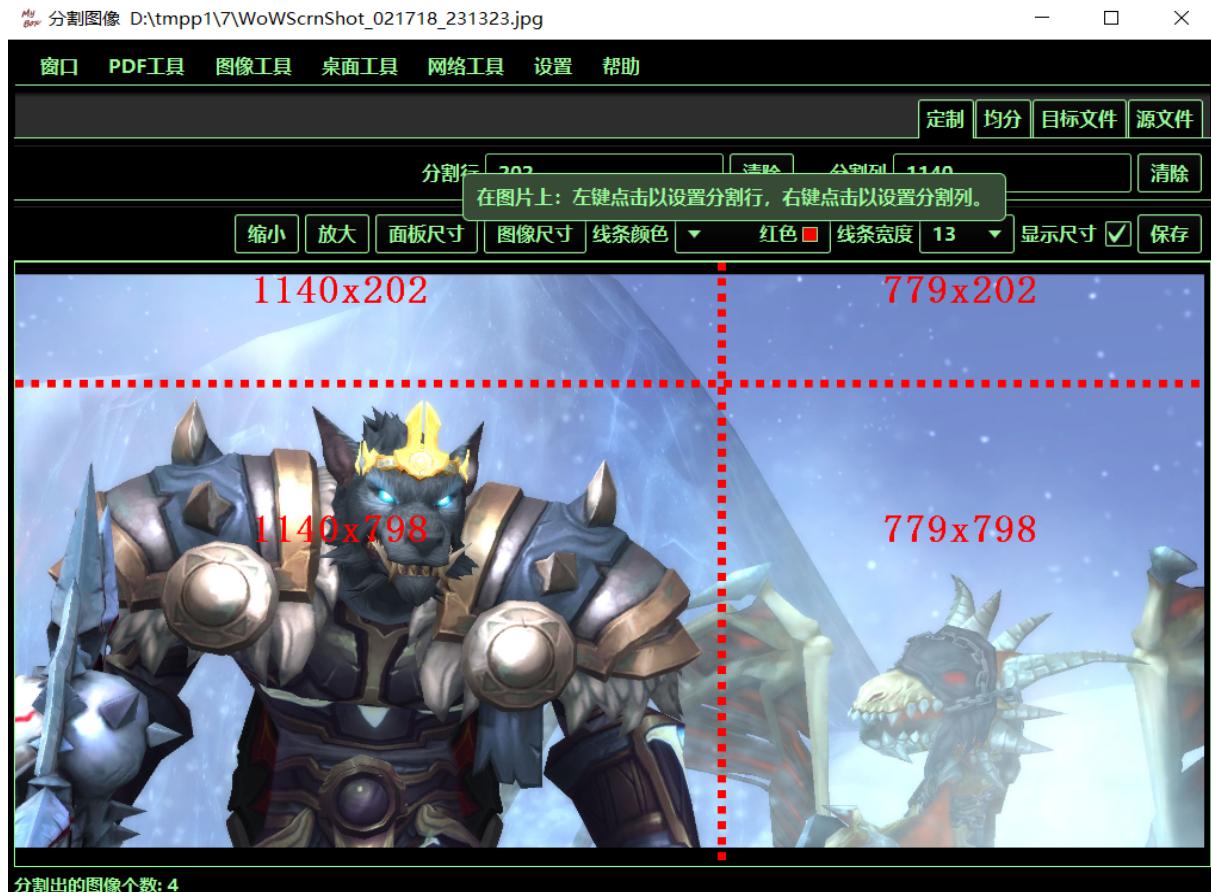
Attributes of stroke and anchor defined here are used for rulers, coordinate, scope line, area line(Like rectangle/circle/ellipse/polygon), and do not affect function “Doodle”-“Shape” which has its definition of stroke width and color.

9.8 Interface Styles

There are multiple interface styles can be selected. But I have to say they looks not graceful nor pleasant. Hope some fine styles made in future.



MyBox User Guide – Overview v5.0



MyBox User Guide – Overview v5.0



MyBox User Guide – Overview v5.0

将多个图片合成为PDF

窗口 PDF工具 图像工具 桌面工具 网络工具 设置 帮助

▼ 源文件

添加 打开 加载 上移 下移 删除 清除 加载图片

源图像	像素	文件	大小	修改时间	
	1920x1001	D:\tmp\2018-08-29\1\WoWScrnSh...	1.831 MB	2018-08-29 12:55:...	<input checked="" type="checkbox"/> 源图像
	1920x1001	D:\tmp\2018-08-29\1\WoWScrnSh...	2.207 MB	2018-08-29 12:49:...	<input checked="" type="checkbox"/> 像素
	1920x1001	D:\tmp\2018-08-29\1\WoWScrnSh...	2.869 MB	2018-08-29 12:48:...	<input checked="" type="checkbox"/> 文件
	1920x1001	D:\tmp\2018-08-29\1\WoWScrnSh...	2.283 MB	2018-08-29 12:48:...	<input checked="" type="checkbox"/> 大小
					<input checked="" type="checkbox"/> 修改时间

▼ 选项

页尺寸 图片尺寸 标准尺寸 A4 (...) 72 dpi 定制 (像素) 595 842

保存的格式 PNG (无损) JPEG质量 100 % 黑白色CCITT group 4 (T6)阈值 [] % (空白以取缺省值)

页边 [20] 添加页码 作者 mara 页眉 [] 字体文件 幼圆

▼ 目标文件

文件名 [] 选择... 打开 保存

处理图像-批量-圆角

窗口 PDF工具 图像工具 桌面工具 网络工具 设置 帮助

▼ 源文件

添加 打开 上移 下移 删除 清除

已处理	文件	大小	修改时间	创建时间
成功	D:\tmpp1\7\WoWScrnShot_021718_230655.jpg	939.431 KB	2018-10-02 00:14:45	2018-10-02 00:14:45
成功	D:\tmpp1\7\WoWScrnShot_021718_230827.jpg	1010.233 KB	2018-10-02 00:14:45	2018-10-02 00:14:45
成功	D:\tmpp1\7\WoWScrnShot_021718_230940.jpg	1004.927 KB	2018-10-02 00:14:45	2018-10-02 00:14:45
成功	D:\tmpp1\7\WoWScrnShot_021718_231142.jpg	1.309 MB	2018-10-02 00:14:45	2018-10-02 00:14:45
成功	D:\tmpp1\7\WoWScrnShot_021718_231209.jpg	1.286 MB	2018-10-02 00:14:45	2018-10-02 00:14:45

▼ 选项

背景 透明 透明 白 黑

圆弧大小 宽度的百分比 [15] % 定制 [15]

当不支持透明色时替换为白色 当不支持透明色时替换为黑色

▼ 目标文件

文件路径 D:\tmpp1\7 选择... 浏览 预览

文件类型 原类型 png jpg bmp tif gif pcx ppm wbmp

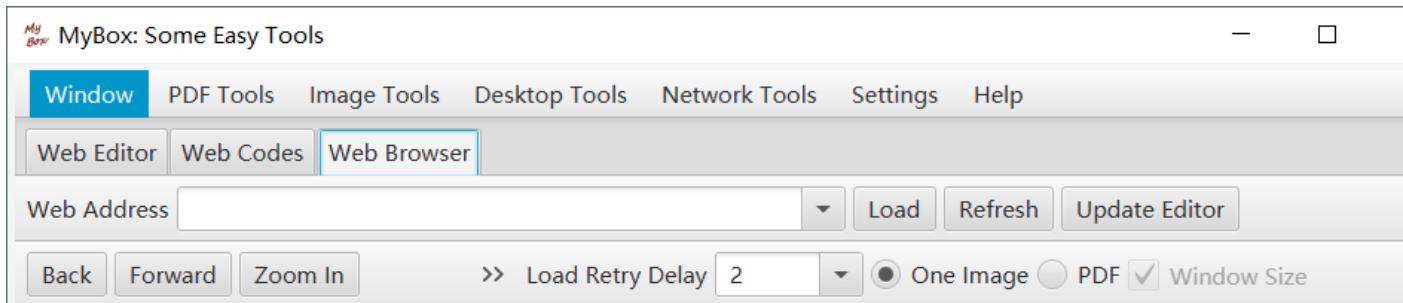
已存在的文件 覆盖 重命名 后缀 [-m] 跳过

开始 5/5 打开

完成. 本次处理: 5 花费: 1 秒, 平均: 0.2 秒每项. 开始时间: 2018-10-04 17:49:27, 结束时间: 2018-10-04 17:49:29

10 Helps

Help pages can be viewed with embedded browser or with external browser.



[About MyBox](#)

MyBox

[About Image Meta Data](#)

[About Java Image I/O Technology](#)

[About Image Compression Type](#)

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About MyBox

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

Project Main Page:

<https://github.com/Mararsh/MyBox>

MyBox is developed with NetBeans8.2 and JavaFX Scene Builder 2.0:

<https://netbeans.org/>

<https://www.oracle.com/technetwork/java/javafxscenebuilder-1x-archive-2199384.html>

It is based on following open sources softwares or libraries:

JavaFx <https://docs.oracle.com/javafx/2/>

PDFBox <https://pdfbox.apache.org/>

jai-imageio <https://github.com/jai-imageio/jai-imageio-core>

javazoom <http://www.javazoom.net/index.shtml>

log4j <https://logging.apache.org/log4j/2.x/>

Derby <http://db.apache.org/derby/>

GifDecoder <https://github.com/DhyanB/Open-Imaging>

10.1 Image Meta Data

Please refer following:

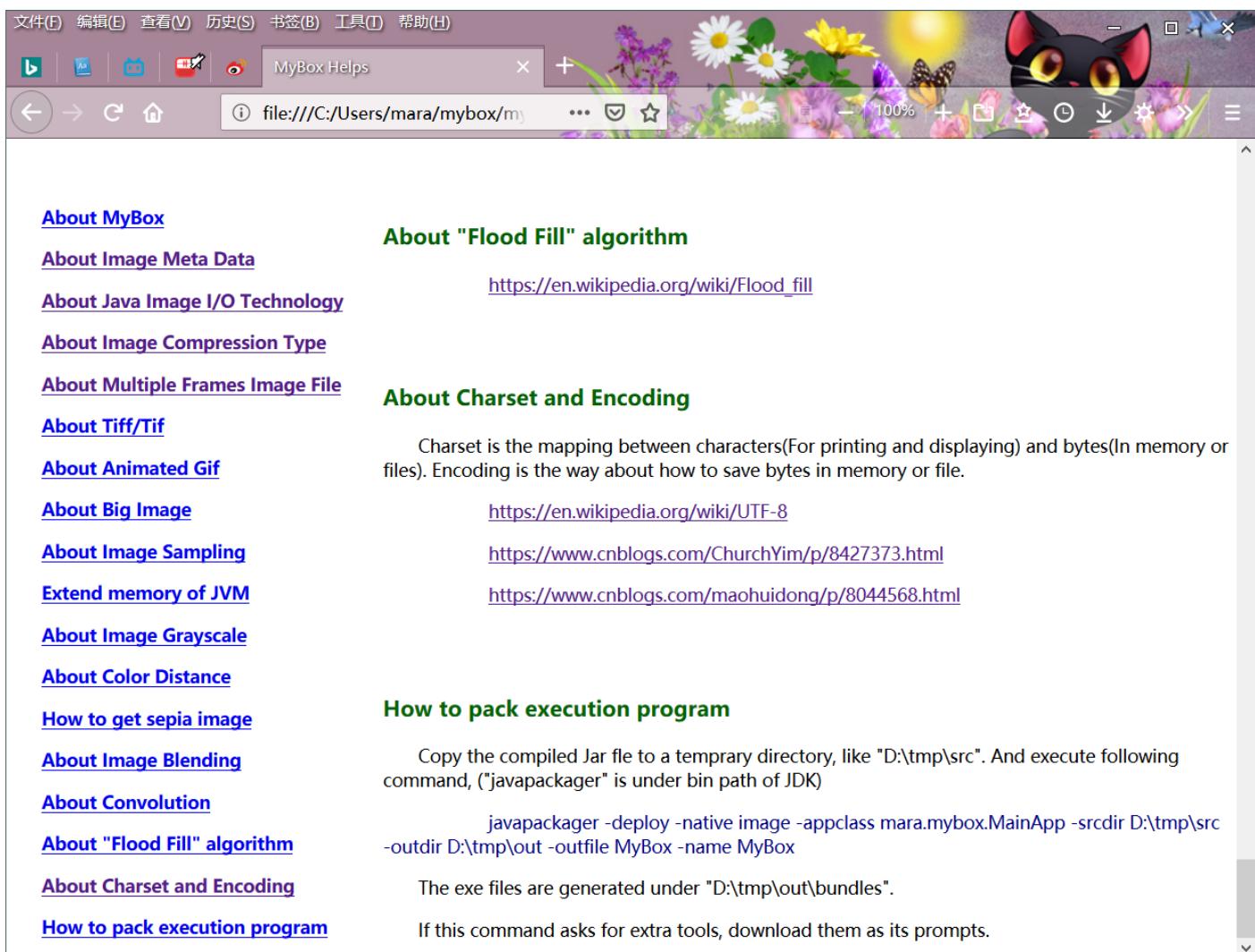
https://docs.oracle.com/javase/10/docs/api/javafx/imageio/metadata/doc-files/standard_metadata.html

https://docs.oracle.com/javase/10/docs/api/javafx/imageio/metadata/doc-files/gif_metadata.html

https://docs.oracle.com/javase/10/docs/api/javafx/imageio/metadata/doc-files/jpeg_metadata.html

https://docs.oracle.com/javase/10/docs/api/javafx/imageio/metadata/doc-files/png_metadata.html

https://docs.oracle.com/javase/10/docs/api/javafx/imageio/metadata/doc-files/tiff_metadata.html



The screenshot shows a Windows-style application window titled "MyBox Helps". The menu bar includes "文件(F)", "编辑(E)", "查看(V)", "历史(S)", "书签(B)", "工具(I)", and "帮助(H)". The toolbar contains icons for back, forward, search, and other functions. The main content area displays a list of links under the heading "About MyBox". To the right, there are sections for "About 'Flood Fill' algorithm", "About Charset and Encoding", and "How to pack execution program", each with associated URLs.

[About MyBox](#)

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About "Flood Fill" algorithm

https://en.wikipedia.org/wiki/Flood_fill

About Charset and Encoding

Charset is the mapping between characters(For printing and displaying) and bytes(In memory or files). Encoding is the way about how to save bytes in memory or file.

<https://en.wikipedia.org/wiki/UTF-8>

<https://www.cnblogs.com/ChurchYim/p/8427373.html>

<https://www.cnblogs.com/maohuidong/p/8044568.html>

How to pack execution program

Copy the compiled Jar file to a temporary directory, like "D:\tmp\src". And execute following command, ("javapackager" is under bin path of JDK)

```
javapackager -deploy -native image -appclass mara.mybox.MainApp -srcdir D:\tmp\src -outdir D:\tmp\out -outfile MyBox -name MyBox
```

The exe files are generated under "D:\tmp\out\bundles".

If this command asks for extra tools, download them as its prompts.

10.2 About Java Image I/O Technology

Please refer following:

<https://docs.oracle.com/javase/8/docs/technotes/guides/imageio/>

https://docs.oracle.com/javase/8/docs/technotes/guides/imageio/spec/imageio_guideTOC.fm.html

<https://docs.oracle.com/javase/tutorial/2d/index.html>

<https://www.javaworld.com/article/2076764/java-se/image-processing-with-java-2d.html>

10.3 About Multiple Frames Image File

It is a file which includes multiple independent images.

Currently MyBox supports multiple frames image files in formats of animated gif and tiff/tif.

10.4 About Tiff/Tif

Please refer following:

- <https://en.wikipedia.org/wiki/TIFF>
- <https://en.wikipedia.org/wiki/GeoTIFF>
- <https://www.adobe.io/open/standards/TIFF.html>

10.5 About Animated Gif

Please refer following:

- <http://giflib.sourceforge.net/whatsinagif/index.html>
- <https://www.jianshu.com/p/df52f1511cf8>
- <https://stackoverflow.com/questions/22259714/arrayindexoutofboundsexception-4096-while-reading-gif-file>
- <https://github.com/DhyanB/Open-Imaging>
- <https://programtalk.com/python-examples/com.sun.media.imageioimpl.plugins.gif.GIFImageWriterSpi/>

10.6 About Big Image

Big image is a picture that includes too many pixels to be loaded and displayed under limitation of current memory usage. For all operations which use image as input, big image should be concerned.

The pressure against memory is the pixels number of the image, instead of the bytes number of image file.

Example, a jpg file of 42M includes 65500x4504 pixels. Each pixel occupies 3 bytes, so the image data requires 844M bytes memory. If need load and display the whole image in interface of JavaFx, data will be transferred between file, BufferedImage, and WritableImage, and at least 2.6G memory will be occupied. In my practice, at least 5G should be defined in "-Xmx" to display this image although about 2.3G is shown as the memory usage.

Another example, a png file of 52M includes 8101x4557 pixels, and it needs only 750M memory to load and display whole image in memory.

The principles of handling big images by MyBox are following:

- 1) Evaluate the required memory for whole image, and judge whether load all data in memory.
(About 5 times of pixels data plus 200M)
- 2) If enough memory is available to load whole image, read all data for next operations. Try best to operate in memory and avoid file I/O.
- 3) If memory may be out, subsample the image for next operations.
- 4) The sample ratio is determined by following rule: Make sure the sampled image is good enough while the sampled data occupy limited memory.
- 5) The sampled image is mainly to display the image, and not suitable for operations against whole image and images merging.
- 6) Some operations, like splitting and subsampling, can be done by reading part of image data and writing-while-reading, so they are suitable for big images.
- 7) Image which can not be loaded wholly may be suitable to be handled batchly. Example, an image of 500M pixels can not be displayed under limitation of 1.8G, thus can not be cropped,

zoomed, or color-adjusted interactively. But when crop, zoom, or color-adjust the image in batch way, the operations may be successful under same memory limitation, since the data need not transferred as interface pixels.

Continually handling images may affect memory usage. Example, memory occupied by previous operation has not been collected by GC and then less memory can be required by current operation. So it is better to restart MyBox to handle big image because it can occupy most of available memory.

In order to handle big image interactively, user can extend the maximum memory for JVM.

10.7 About Image Sampling

There are 2 types of image sampling: Downsampling(Also called Subsampling) and Upsampling(Also called interpolating).

When the pixels number of image is very big, subsampling is helpful to load and display the image under limited memory.

The rule of subsampling is very simple: given the sampling ratio, the image pixels are selected to read. Example, when ratio is 3, only one pixel is read in adjacent matrix of width 3 and height 3.

Image subsampling is mainly used to handle big image. When sample ratio is 1, it acts same as "Crop". The difference between subsampling and functions of "Crop"/"Size" in tool "Image Manufacture" is that subsampling only reads the required part of data in memory and is writing while reading for big image. For small image, subsampling does same things as tool "Image Manufacture" and they both load all data and do operations in memory.

10.8 How to extend maximum memory of JVM

Any of following ways can be used to extend the maximum memory for MyBox: (Assume 5G available)

1) Run following command to launch MyBox:

```
java -Xmx5g -jar MyBox-xxx.jar
```

2) Set following system environment parameter(Or add this value into original JAVA_OPTS)

```
JAVA_OPTS="-Xmx5000m"
```

Restart MyBox to make the parameter in effect.

10.9 Image Grayscale

Please refer following:

https://en.wikipedia.org/wiki/HSL_and_HSV

<https://en.wikipedia.org/wiki/Grayscale>

10.10 Color Distance

Please refer following:

https://en.wikipedia.org/wiki/Color_difference

10.11 How to get sepia image

Please refer following:

<https://stackoverflow.com/questions/21899824/java-convert-a-greyscale-and-sepia-version-of-an-image-with-bufferedimage/21900125#21900125>

10.12 Image Blending

Please refer following:

https://en.wikipedia.org/wiki/Blend_modes

<https://baike.baidu.com/item/混合模式/6700481?fr=aladdin>

<https://blog.csdn.net/bravebean/article/details/51392440>

<https://www.cnblogs.com/bigdream6/p/8385886.html>

10.13 How to use Java 2D

Please refer following:

<https://www.javaworld.com/article/2076764/java-se/image-processing-with-java-2d.html>

10.14 Convolution

Please refer following:

<https://en.wikipedia.org/wiki/Convolution>

[https://en.wikipedia.org/wiki/Kernel_\(image_processing\)](https://en.wikipedia.org/wiki/Kernel_(image_processing))

<http://colah.github.io/posts/2014-07-Understanding-Convolutions/>

10.15 Flood-Fill

https://en.wikipedia.org/wiki/Flood_fill

10.16 About Charset and Encoding

Charset is the mapping between characters(for printing and displaying) and bytes(in memory or files). Encoding is the way about how to save bytes in memory or file.

<https://en.wikipedia.org/wiki/UTF-8>

<https://www.cnblogs.com/ChurchYim/p/8427373.html>

<https://www.cnblogs.com/maohuidong/p/8044568.html>

10.17 How to package execution program

Copy the compiled Jar file and application icon file to a temporary directory, like "D:\tmp\src". And execute following command, ("javapackager" is under bin path of JDK)

`javapackager -deploy -native image -appclass mara.mybox.MyBox -srcdir D:\MyBox\target -outdir D:\tmp\out -outfile MyBox -name MyBox -Bicon=D:\tmp\src\MyBox.ico`

The exe files are generated under "D:\tmp\out".

If this command asks for extra tools, download them as its prompts.

10.18 Image Size

The following concepts are different:

“Orginal Size”: pixels number saved in image file.

“Loaded Size”: pixels number in memory which can be changed by Load/Crop/Transform.

“Display Size”: pixels number in screen after user zooms image in interface.

“Selected Size”: screen area selected by user, which will be mapped to memory area and calculated according to scale ratio of orginal size.

Example, an image has original size 1000x500, loaded size 800x400, display size 600x300, and selected size 700x200.

By setting loaded size, large image can be read in memory while small image can be scaled to view.

Loaded size is different from zooming in interface. Loaded pixels determine memory usage, while interface zooming only affect pixels in screen.

11 Development logs

2019-4-21 v5.0 Select scope or area by dragging anchors.

Doodle: Paste picture, draw shape(rectangle/circle/ellipse/polygon) line or fill color in shape, draw lines by dragging mouse, in image. Stroke width and color, line dotted can be set.

View image: Set load size. Select whether show coordinate and rulers. Rotation can be saved.

Browse Images: Grid Mode/Thumbnails List Mode/File List Mode. Set load size. Rotation can be saved.

Image Manufacture: Dithering can be applied to all scope types except for matting. Opacity can be made by Premultiplied Alpha for formats not supporting alpha. Blur margins. Shadow implemented in low level. Adjust size or margins by dragging anchors. Crop inside/outside in rectangle/circle/ellipse/polygon. Vertical texts.

Interface: Only display useful controls. Enough and not distracting tips. Shortcuts, major buttons, and default buttons. Monitor memory/CPU in time. View JVM properties. Refresh/reset windows. Restore last size of interfaces. Pop recent visited files/directories. Recent visited tools.

Codes refactoring: Implement selection logic by subclass instead of switch statement, to move judgement outside loop. Avoid float calculation in loop. Rationalize inheritance and reduce duplication. Central management of stages' opening/closing to avoid threads residual.

2019-2-20 v4.9 Change image's contrast. Multiple algorithms are supported. Dithering can be selected when handle color quantization.

Statistic data of image's color channels, including mean, variance, skewness, mode, midean, etc. Histograms.

Recorder of images in system clipboard. Change font size any time.

View images: copy/crop/save the selected area.

2019-1-29 v4.8 View PDF file in image mode. Density can be set. Pages can be cropped and saved as images.

Locate function in Text/Bytes Editer: Go to the position of specified character/byte/line.

Cut file, by files number, by bytes number, or by start-end list.

Merge multiple files' bytes as a new file.

A file path can follow program as argument to be opened directly by MyBox. On windows, the default Open Method of image/text/PDF files can be associated with MyBox.exe, to open a file by MyBox by double clicking the file name.

2019-1-15 v4.7 Edit Bytes. Input boxes of general ASCII characters. Break lines by bytes number or by some defined bytes. Find and replace in current page or in whole file, and count. Filter lines by “Include One”, “Not Include All”, “Include All”, or “Not Include Any”. Cumulative filter. Filtered results can be saved. Select whether include lines number. Select charset to decode bytes which can be viewed, scrolled, and selected synchronously. Paginate. Fit for viewing or editing very large file, such as binary file in size of several GBs. Page Size can be set. Make sure correction of finding, replacing, and filtering of bytes that are across pages.

Convert line breaks of files in batching way.

Merge “Rename Files” and “Rename Files under Directories”.

Image Blurring uses “Average Algorithm” which is good enough and quicker.

2018-12-31 v4.6 Edit Text: Detect line break automatically. Can convert line break. Support LF/CR/CRLF. Find and replace. In current page, or in whole file.

Filter lines. By “Include one of strings” or “Not include all of strings”. Cumulative filter. Filtered results can

be saved.

Paginate. Fit for viewing or editing very large file, such as logs in size of several GBs. Page Size can be set. Make sure correction of finding, replacing, and filtering of strings that are across pages.

2018-12-15 v4.5 Text Encoding. File charset can be either detected automatically or set manually. Target file charset can be selected to implement encoding conversion. BOM setting is supported. Hexadecimal codes can be viewed and selected synchronously. Line numbers are shown.

Text Encoding conversion in batch way.

Split image by size.

Copy image or selected part of image in system clipboard(Ctrl-c).

Crop and save part of image in interface of Image Viewer.

2018-12-03 v4.4 View/Extract/Create/Edit multiple frames image file. Support multiple frames Tiff file.

For all operations which use image as input, handle situation of multiple frames image file.

For all operations which use image as input, handle situation of big image which includes too many pixels to be loaded and displayed under limitation of available memory. Evaluate possibility OutOfMemory and judge whether subsample image automatically. After that, show meaningful information and prompt for next step.

Support splitting big image by only reading required part of data and writing while reading. Splitted results can be saved as multiple image files, multiple frames Tiff file, or PDF file.

Support subsampling big image with options of sample region and sample ratio.

2018-11-22 v4.3 Support animated Gif. View: set interval, pause/continue, go special frame, next/previous frame. Extract: set from/to frames, target files' type. Create/Edit: add/delete images, adjust orders, set interval, whether loop, keep images' size or set images' size, save as, what you see is what you get.

Easier and better Scope for Image Manufacture. Type:All, Matting, Rectangle, Circle, Color Matching, Color Matching in Rectangle, Color Matching in Circle. Color Matching can be against red/green/blue channel, saturation, brightness, hue, or whole RGB. Points set of matting and colors set of color matching can be added/deleted easily. All type of scope can be set as Excluded.

Merge functions of “Color”, “Filter”, “Effect”, and “Replace Color”, to reduce interface elements and user inputs.

Multiple Images Viewer: Number of files in each screen can be set; pictures are shown in balanced sizes.

2018-11-13 v4.2 Scope for Image Manufacture: All, Matting, Rectangle, Circle, Color Matching, Hue Matching, Rectangle/Circle plus Color/Hue Matching. “Matting” is like Magic Wand of PhotoShop or “Bucket Fill” of Paint on Windows.

Scope can be applied for Color Increasing/Decreasing, Filtering, Effects, Replacing Color, and Convolution. The scope can be determined by clicking image.

Convolution Kernels Manager: Values of Gaussian Distribution can be filled in automatically; Option about how to handle pixels in edges is supported.

Directories Rename: Strings can be used to filter files to be handled.

Optimize and reorganize codes of Image Manufacture.

More shortcuts.

2018-11-08 v4.1 Image Manufacture type of “Cover”. Following can be set on an image: mosaic rectangle, mosaic circle, frosted rectangle, frosted circle, or picture. Area and size can be set for mosaic or frosted cover. Internal pictures or user's pictures can be selected as cover, with options of size and opacity.

Image Manufacture type of “Convolution”. Convolution kernels can be picked to apply upon images. Batch way is supported.

Convolution Kernels Manager. Kernels for image handling can be created/edited/deleted/copied. The matrix can be normalized automatically. The kernel can be tested. Example kernels are provided.

New Image filters: Yellow/Cyan/Magenta channels.

2018-11-04 v4.0 New channels of Image Color Adjustment: Yellow, Cyan, Magenta. Yellow channel can be used to generate warm-toned image.

New filter of image: Sepia, which is used to make picture old.

New image effect: Emboss. Options like direction, radius, and whether changed as grayscale, can be set.

Images blending. Options like defining intersected area and blending mode can be set.

Online helps are enriched with important information.

2018-10-24 v3.9 Embed Derby database to save program's data. Make sure data are migrated from configuration file to db correctly.

Image manufacture: Record updating histories to return former status. Can set whether record histories or set the number of the updating histories.

English version of User Guides.

2018-10-15 v3.8 Optimize codes: Split the class ImageManufacture into classes of each function.

Optimize interface: Make the tools more friendly. Set shortcuts.

In Image Manufacture, more filters like Red/Green/Blue inverting, and "Outline" for text watermark.

2018-10-09 v3.7 In Weibo Snap Tool, load images sequentially by using javascript event. Make sure the minimum interval to avoid being judged as invalid access by server. Meanwhile monitor the maximum interval to avoid broken iteration due to missed picture or untriggered event by fast loading of small picture.

"Effects" of image manufacturing, including blurring, sharpening, edge detecting, posterizing, and thresholding.

2018-10-04 v3.6 Optimize algorithm of Weibo Snap Tool to make sure all pictures loaded. Check codes to avoid memory leak.

Reduce brightness and saturation of background colors in interface styles.

Add introduction about dpi-aware in document.

2018-10-01 v3.5 Optimize algorithm of Weibo Snap Tool to make sure all pictures loaded.

Provide multiple interface styles.

2018-09-30 v3.4 Fix bugs: 1) In Weibo Snap Tool, adjust the judge conditions of loading pages to make sure all information in the pages can be saved. 2) When close/switch window and task is running, and user select "Cancel", current window should not be closed.

New features: 1) Can set the maximum main memory for PDF operations. 2) Can clear personal settings.

2018-09-30 v3.3 Solve the problem of Weibo website certificate finally. Verified on Windows, CentOS, and Mac.

2018-09-29 v3.2 Weibo Snap Tools: 1) Import certificate automatically on Linux and Windows to have users need not login. But have no way on Mac, so users of Apple computer will have to login Weibo to use Weibo Snap Tool. 2) Can expand all comments and all pictures in the pages before make snapshots. 3) Can save the original pictures of the pages.(Coooooooool)

2018-09-26 v3.1 All image operations can be done in batch way. Fix and optimize algorithms of Color manufacture. Set default font size to fit for different resolutions in different environments. Separate User Guides for each type of tools. Prompt user to login Weibo to install its SSL certificate before start to use Weibo Snap Tools. I am looking for the way to remove this limitation because MyBox has not any interest of touching any private information of users.

2018-09-18 v3.0 Improve Snap Tool for Weibo: Only snap meaningful area in the page, by which half time is cost and half size of PDF files is saved. Can expand the comments of messages. I am so proud of this feature! Can set the maximum size of merged PDF.

Fix bugs of Html Editor and enhance its functions.

2018-09-17 v2.14 Improve Snap Tool for Weibo: Retry times of failure; Do not merge month's PDF file when pages of the month is more than 10.

2018-09-15 v2.13 Show Reference Image and Scope Image separately. Make sure no thread running after program exits. Compress images in PDF in batching way. Snap Tool for Weibo, backup contents of any weibo account automatically. Duration can be set. Both PDF files and html files can be saved.

Weibo pages are loaded dynamically, so locally backed pages can not be loaded and shown correctly. They are backed just for texts in the pages.

This tool might fail to work when weibo would change the accessing channel of pages in future. Who know~

2018-09-11 v2.12 Combine images as PDF file, Compress images in PDF, combine PDF files, split PDF. Support Chinese written in PDF file, and system font file is located automatically while user can input ttf file path. Prompt information is shown more smoothly and friendly. In web browser, font size can be zoom in and zoom out, and web page can be snapped into PDF file with settings of delay and PDF page size.

2018-09-06 v2.11 Image combining which supports array options, background color, interval, edges, and size options. Web browser supports synchronized contents with web editor and snapshots of the whole web page in one image. Image manufacture like shadow, arced corners, adding edges. Implement manufacture of big image and make sure performance is acceptable.

2018-08-11 v2.10 Image Splitting which supports equipartition and custom. Scope of image manufacture is

easier to use. No number limitation is for multiple image files viewed in same screen now.

2018-08-07 v2.9 Image cropping. Scope, including area scope like rectangle and circle and color matching, is supported for image manufacture.

2018-07-31 v2.8 Image edges' cutting. Watermark in image. Undo and redo for image manufacture. Html editor. Text editor.

2018-07-30 v2.7 Image transform, including rotating, mirroring, and shearing.

2018-07-26 v2.6 Improve color replacement: Support original colors' list and hue distance. Support opacity adjustment.

2018-07-25 v2.5 Color palette. And Replace colors in image, by accurate matching of color, or by colors' distance. Color replacement can be used to change the background color of images or eliminate color noise of images.

2018-07-24 v2.4 Improve functions of Image Manufacture and Multiple Images Viewer: Smoothly switching, reference image, and pixels adjustment.

2018-07-18 v2.3 Alarm clocks, with options of time and ring. Support rings of "Meow", wav, and mp3. Can run in background. Thanks my GuaiGuai for her contribution of "Meow".

2018-07-11 v2.2 Fix bug about threads' logic. Files rearrangement that categories files under new directories according to their modify time or create time. This function can be used to handle photos, games screenshots, or system logs which need archived based on time.

2018-07-09 v2.1 Improve interface of image manufacturing and support images browsing. Directory synchronization, with options like copying subdirectories, new files, modified files after some time, original file's attributes, or deleting files and directories which are not in source path, etc.

2018-07-06 v2.0 Extract texts from PDF files in batching way. Convert image files to other formats in batching way. Rename files under directories, with options about files' name and sorting. All of or part of renamed files can be recovered as original names.

2018-07-03 v1.9 Fix issues. Customize page separator line when extract texts from PDF. Improve image manufacture: Adjust saturation, lightness, and hue with parameters and provide filters like gray, invert, or binary.

2018-07-01 v1.8 Extract texts from PDF files. Manufacture image: Adjust saturation, lightness, make it gray, or invert the color.

2018-06-30 v1.7 Improve Pixels Calculator. Support to view multiple images in same screen.

2018-06-27 v1.6 Convert image files to other formats, with options of color, size, compression, quality, etc. Pixels Calculator. Support more image formats: gif, wbmp, pnm, pcx.

2018-06-24 v1.5 Extract images from PDF and save as original format. Support extracting and converting in batching way. Thanks helps from "<https://shuge.org/>" who asked the requirement of extracting images from PDF.

2018-06-21 v1.4 Support reading/writing meta-data of images in format of png, jpg, bmp, tiff. Thanks helps from "<https://shuge.org/>" who asked the requirement of Meta-data of images.

2018-06-15 v1.3 Fix the gray calculation in OTSU; Optimize shared codes; Support PDF password; More friendly interface .

2018-06-14 v1.2 Add options of color conversion for binary image type. Save user's choices. And optimize reading of help document. Thanks helps from "<https://shuge.org/>" who asked the requirement of binary conversion of color with threshold.

2018-06-13 v1.1 Add: image format TIFF and RAW, options of Compression Type and Quality, and Help information. Thanks helps from "<https://shuge.org/>" who asked the requirement of TIFF format.

2018-06-12 v1.0 Convert each page of PDF file to an image with options of format, density, color, compression, and quality. And user can pause/continue the conversion.

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