MINE.dit - Minecraft Pixel Editor Manual

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Contents

1 Introduction

Mine.dit is a versatile Java Swing-based pixel art editor that facilitates pixel drawing and editing, allowing users to create new images or edit existing ones. The program features many essential and desirable image manipulation tools such as fill, crop, layer management and blur.

We have implemented various Minecraft-related features, such as skin editing and block/item texture manipulation. Users can import a Minecraft texture pack, edit various blocks and export the files which are immediately be ready to be used in the game.

1.1 Import

Users can import an existing image from the main menu by choosing "Load" option and using the file navigator. Alternatively, users can choose "Art" mode and navigate to the "File" menu in the corner, and choose "Import Image".

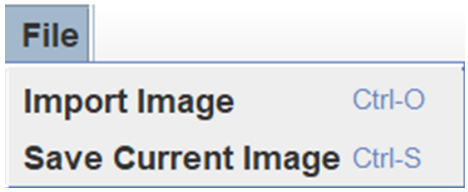

Figure 1: "File Menu: I/O Options"

As labelled, CTRL-O triggers the file navigator to appear and the user may choose to open their desired image.

1.2 Export

Users can export the image they are working on any time in any mode by choosing the "Save Current Image" option in the "File" menu option. Refer to Figure 1. Similarly, CTRL-S will trigger the save file dialog.

2 Editor Modes

On startup, the program presents the main menu. The three main options are: Skin (2.1), Art (2.2) and Block (2.3).

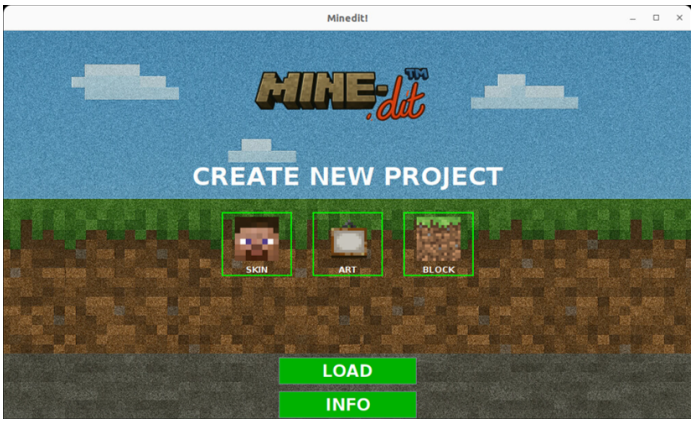

Figure 2: Main Menu

2.1 Skin

In this mode, users are able to load their own skin or start with the default Steve or Alex. This can be done through the "File" menu, where you may choose the option you would like.

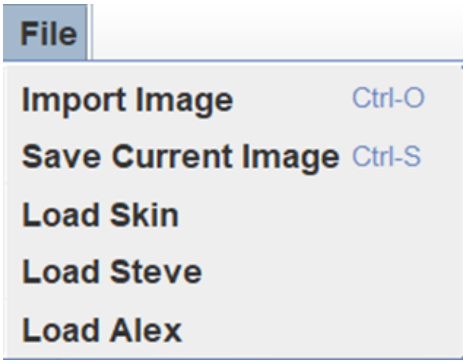

Figure 3: Skin Selection Options

This loads the skin into the canvas area where you may edit it, until you feel satisfied and choose to save.

2.2 Art

In this mode, users may start from scratch. You will be prompted to enter your desired dimensions for the image, and then a blank canvas will be created, where you can create your own image.

2.3 Block

In this mode, users are prompted to either import their own texture pack or use the default Minecraft version 1.16 texture pack. The texture pack is loaded and the user may choose any resource from it to edit.

Users can navigate between texture categories such as: block, item and effects through the drop down menu, which updates the list of resources.

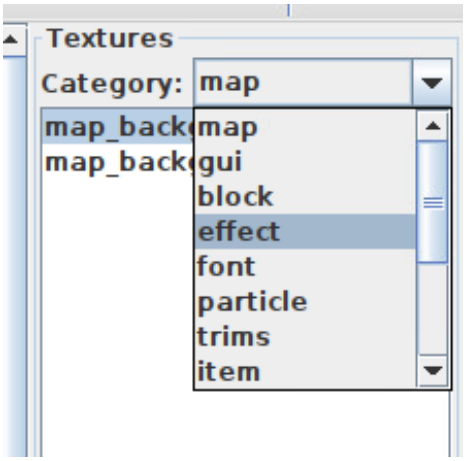

Figure 4: Block Category Options

3 Interface

All the modes share a basic editing interface with a canvas panel, toolbar and sidebar.

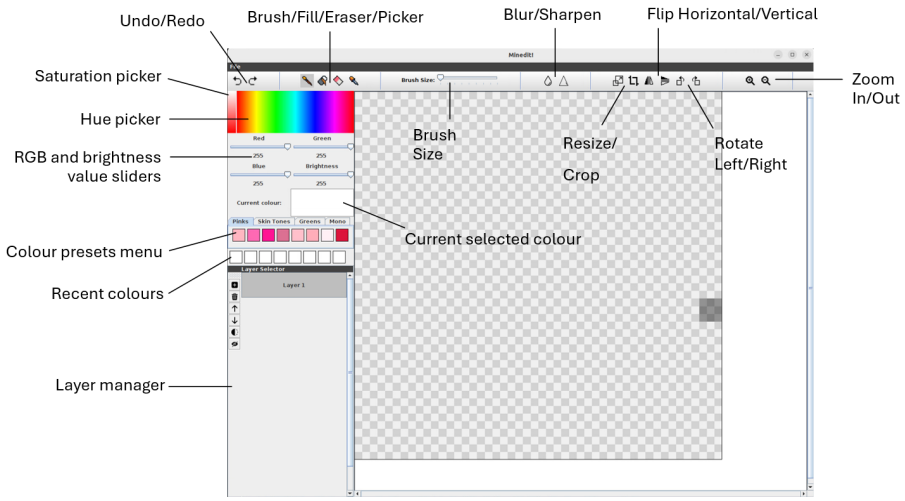

Figure 5: Interface Layout

3.1 Toolbar

The horizontal toolbar at the top of the window holds the following tools (from left to right)...

3.1.1 Undo, Redo

Click undo to undo the last transformation, and redo to revert last undo. This program is capable of keeping track of up to 9 reverts.

3.1.2 Brush

Once the brush tool is selected, any clicks or drags on the canvas panel produces the selected colour.

3.1.3 Fill

Once the fill tool is selected, any closed shapes are filled with the selected colour on click.

3.1.4 Eraser

Once the eraser tool is selected, any clicks over a coloured pixel erases that colour on the selected layer.

3.1.5 Colour picker

Once the colour picker tool is chosen, click on any coloured pixel to select that colour.

3.1.6 Blur

The blur operation blurs the image by an arbitrary degree. Click multiple times to increase the degree of blur.

3.1.7 Sharpen

The sharpen operation sharpens the image by an arbitrary degree. Similarly to the blur, click multiple times to increase the degree of sharpen applied.

3.1.8 Resize

The resize operation prompts the user to enter new dimensions for the image. Once confirmed, the image is resized to the new dimensions.

3.1.9 Crop

The crop tool changes the mouse to a selection tool. The user chooses the area they would like the new image to be. Once confirmed, the image is set to the cropped area.

3.1.10 Flip Horizontal/Vertical

The left icon indicates flip horizontal and the right icon indicates flip vertical. Once clicked, the image is updated to be flipped over the y axis (horizontal) or x axis (vertical).

3.1.11 Rotate Left/Right

The left icon rotates the image left 90 degrees anticlockwise. The right icon rotates the image 90 degrees clockwise.

3.1.12 Zoom In/Out

The left icon magnifies the view size of the canvas while the right icon minimises the view size. This does not affect the actual resolution of the image. Click zoom in/out multiple times until desired view is achieved. The scroll bar on either side of the canvas is to aid navigating the image.

3.2 Colour picker

The color picker menu consists of a hue picker, saturation slider, RGB slides and brightness slider. This allows users to choose the widest range of colours.

Figure 6: Colour menu

Users can either change RGB values or directly choose from the spectrum. Then can then further tune the colour by refining the brightness and saturation sliders.

3.2.1 Colour Presets

There is a presets panel provided with several tabs of colour groups for convenience. Some useful colour groups we included were: Skin Tones, Pinks, Greens and Mono (shades of black and white).

3.2.2 Recent Colours

The row on the bottom are the 8 most recent colours and are updated as the user picks new colours. The user may click on any square and switch to that colour.

3.3 Layer Selection Panel

Layers can be a useful tool when creating pixel art. Users can choose to keep specific changes on certain layers to allow easier manipulation of the image.

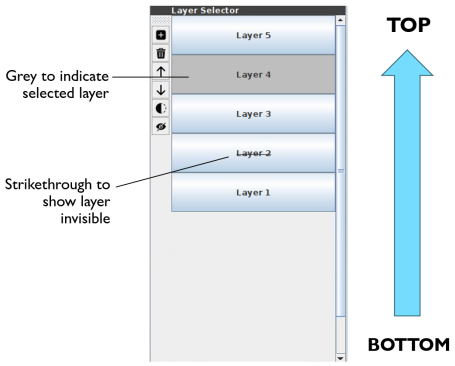

Figure 7: Layer Manager

3.3.1 Add Layer

Add new layer on top of the layer stack. This new layer is 'most visible'.

3.3.2 Delete Selected Layer

Delete the current selected layer indicated in grey.

3.3.3 Move Selected Layer Up

Move the current selected layer up in the order. i.e. It appears over the layer directly above it.

3.3.4 Move Selected Layer Down

Move the current selected layer down in the order. i.e. It appears under the layer directly under it.

3.3.5 Adjust Opacity

Prompts user to enter a value between 0-1 to determine the new opacity of the currently selected layer. 0 being transparent and 1 being opaque.

3.3.6 Toggle Visibility

Toggles visibility of current selected layer. When toggled to invisible, the current layer is invisible, but not deleted. Click this button again to toggle off invisibility.