2Dpainter

A homework-dedicated 2D drawing tool

Basic keybindings

CTRL + Z: Undo
CTRL + Y: Redo
CTRL + S: Save File
Delete: Clear All

Menu

Right-click to open the popup-menu.
Utilities are listed below:

Clear

Clear All, hotkey: `Delete`

Brush

- **Color**: Prompt a input box that enter the RBG value of the color you want, for each value range is 0~255 and seperate them by space. For exmaple, "255 255 255" (exclude quotes) is white and "255 255 0" (exclude quotes) is yellow.
  Press `Enter` after done the input.

- **Size**: Prompt a input box that enter the brush size you want, range is 1~128 (Default is 4).
  Press `Enter` after done the input.

- **Pencil**: Switch to pencil mode that allow you to draw any stuff by mouse left click.

- **Eraser**: Switch to eraser mode that erase the thing on the drawing area by mouse left click.

- **Type**: Pencil drawing types, include:

  - *Square*: The pencil draw point is composed of square.
  - *Circle*: The pencil draw point is composed of circle.
  - *Line*: Draw a line, start from the point you clicked and end from the point you release the left mouse button.

Polygon

Draw a polygon based by the points you mouse left clicked on the drawing area.

- **Add new polygon**: Prompy a input box that enter how many sides of the polygon you want to draw. For instance, 3 for triangle. This will keep your drawing mode so allow you the draw polygons continously, you can switch to other drawing modes via the menu later.
- **Mode: Fill**: The new polygon will be filled with the color based on `Brush:Color`.
- **Mode: No fill**: The new pologon won't be filled.

Insert Text

Insert ASCII text based string on the menu position. An input window will be prompted after choosing this option.
Press `Enter` after done the input.

Undo

Undo last action, hotkey: `CTRL+Z`

Redo

Redo the action after `Undo`, hotkey: `CTRL+Y`

File

Supported format: `.png` `.jpg` `.jpeg` `.bmp`

- Save: Save your masterpiece to the location you choosed.
- Load: Load an image from file, program will crash if you selected a malformed file.

Config

A config file alongside with the executable, default content:

```
[SYSTEM]
Debug = 1
MaxTrace = 16
```

- Debug: Whether show the console
- MaxTrace: Max number of the 'undo', bigger number will consume more memory and vice versa.

心得

寫到後來有種作業系統實習的既視感，粗略估計GL:20%、OS:40%、自己的髒code:40%(其實主要是因為GL大部分的code都是reusable)；寫的過程中各種花式崩潰和Bug真的會讓人暴走。這種軟體果然還是要有團隊來開發比較合適(大概會變成一群人崩潰暴走ㄅ)。想想gimp是用純C/C++(plugins)寫的，真覺得那些開發人員都是令人欽佩的大大啊...