



Project<Compose ascii image atlas>

01286120 Elementary Systems Programming

Software Engineering Program

Faculty of Engineering, KMITL

By

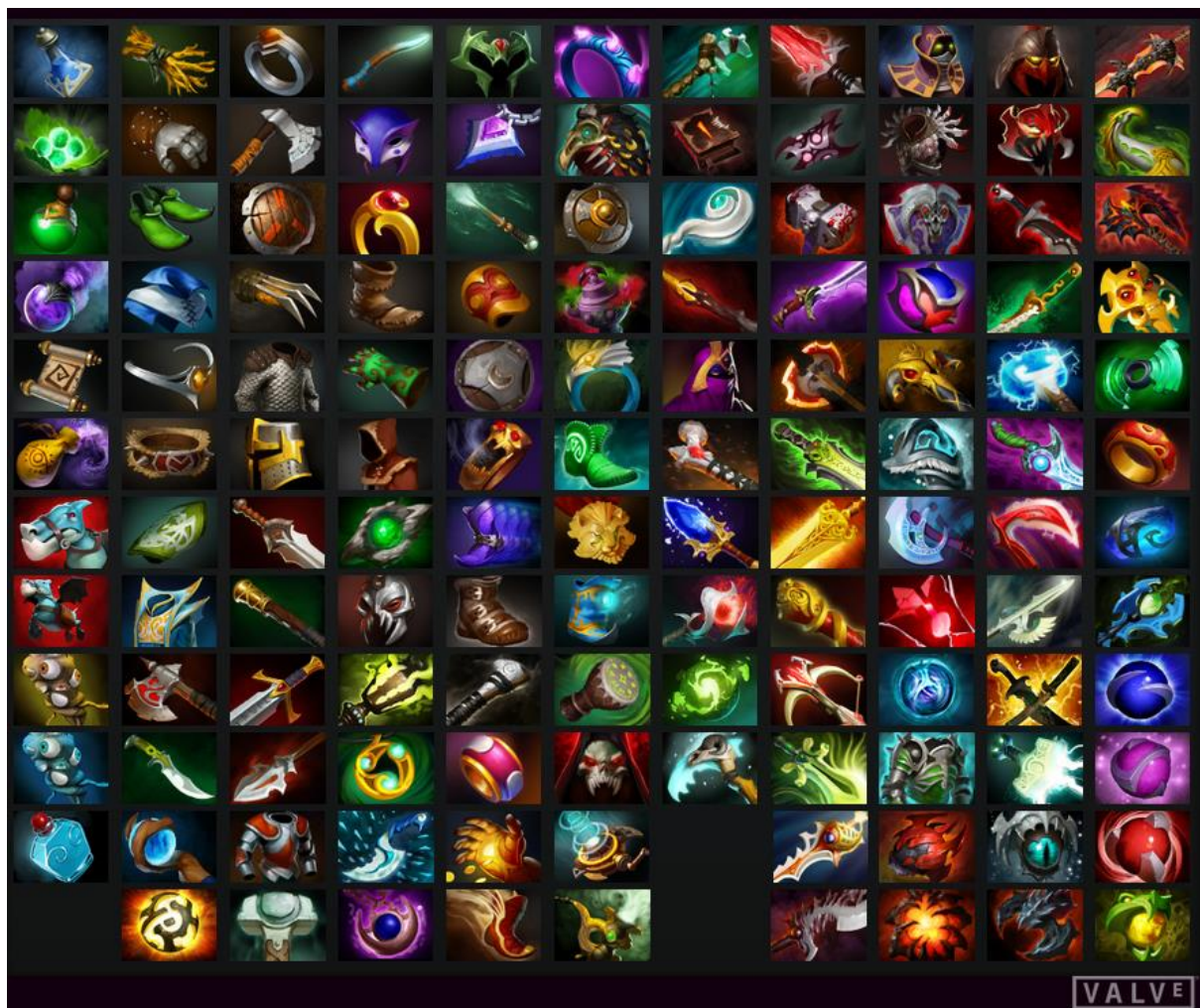
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Compose ascii image atlas

How this project useful?

We use compose image atlas a lot in game

Examples: when game want to down load icon of item in game, game will download all of item sheet in 1 picture and use only specify index for that item this solution will decrease time for loading a lot



How to use it?

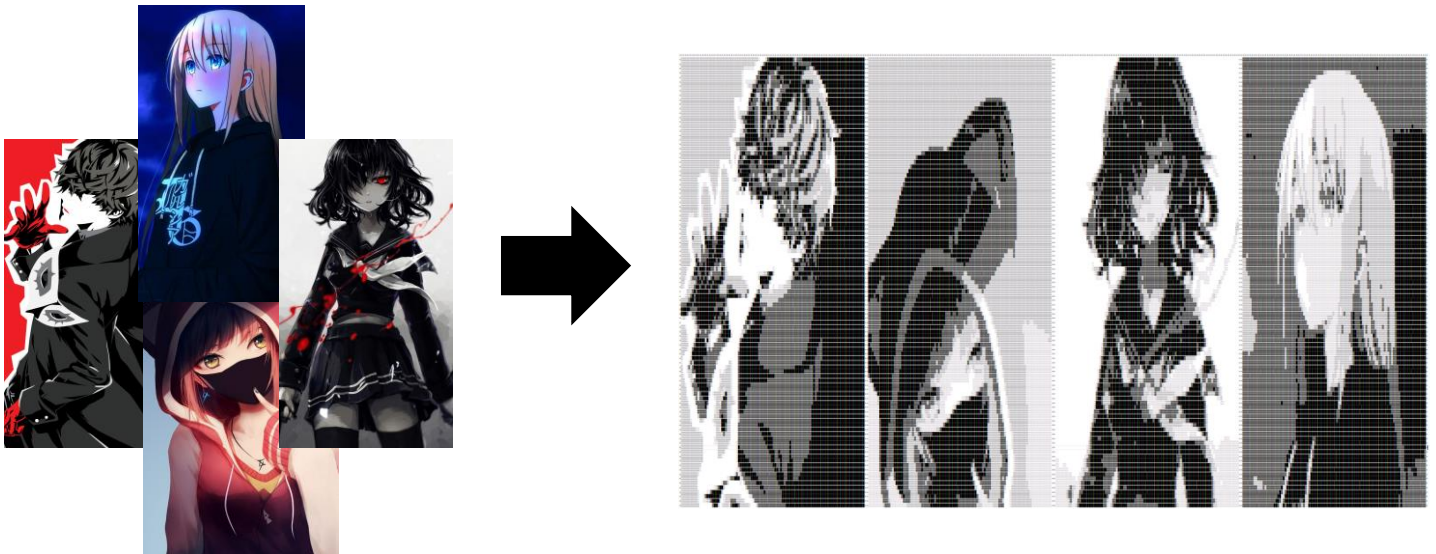
You can use it in command line we have 2 mode

```
USAGE:
  project.exe [FLAGS] [OPTIONS]

FLAGS:
  -h, --help          Prints help information
  -V, --version        Prints version information
  -w                  write all in put to file

OPTIONS:
  -c, --choose <CHOOSE>    write choose picture to file [default: 0]
  --files <FILE>...         Input file(s)
  --target <Target>...      Output file(s) [default: dummy.txt]
PS C:\Users\ADMIN\STUDY\Rust\Project\project>
```

W-mode will convert all of files image to ascii picture and stored them in the target file



Warning: all of your files in this mode must have same width and height

C-mode the first files that must be ascii image from w-mode and you need to choose index of picture in files that will return that picture for you



So how we do that?

The main concept is we treat 1 pixel in picture to 1 character

```
pub fn map_luminance_to_ascii(luminance: f32) -> char {  
    let ascii_chars: [char; 5] = [' ', '█', '▒', '░', '░'];  
    let scale_factor: f32 = 255.0 / 4.0;  
    let index: usize = (luminance / scale_factor).round() as usize;  
    ascii_chars[index]  
}
```

And we have five character for represent the Brightness. if in more it will close to space otherwise if it less it will close to black box we use this solution for convert image to ascii art



Then we will map all of ascii art with '+' that show the limit of picture and when we want to use it we can split it for get one ascii art of them picture