App Tutorial: Scripting

The scripting language that is used for picture creation is JavaScript. This guide won't teach you how to use it, there are many courses that can teach it for free.

When executing the script. The program will call the "set" function on every pixel and set the color of the pixel according to the resulted value. If the number of values in the array do not match the color format you will get an error message.

The most basic script you can make is a rectangle. To create it, every pixel has to be inside the rectangle in a different color then the background. The script will look like this for 8-bit RGB color mode with 100x100 resolution:

```
function set(x,y) {
  if (20 < x && 20 < y && 95 > x && 95 > y)
    return [255, 255, 255];
  else
    return [0, 0, 0];
}
```

The rectangle will start in 20, 20 and its width will be 75 and it's height will be 75.

If you want to draw a circle, the script will look like this:

```
function set(x,y) {
  let d = Math. sqrt ( Math.pow(x-50, 2.0) + Math.pow(y-50, 2.0));
  let r = 40.0;
  if (d < r)
    return [255, 255, 255];
  else
    return [0, 0, 0];
}
```

If the pixel's distance from the center (that is calculated with the Pythagorean theorem) is smaller then the radius (established as r) the pixel will be white, otherwise it will be black.

For math function that you will use are located JavaScript's in the Math library. You can read more about it in W3schools guide here: https://www.w3schools.com/jsref/jsref_obj_math.asp