

CLAIMS

1. An image generation method, comprising:
parsing an original two-dimensional code into a two-dimensional array; and
generating an image using the two-dimensional array according to a preset pattern, comprising:
parsing the preset pattern into a binary image;
performing a bit operation on a value of a corresponding element in the two-dimensional array according to a pixel value of each pixel in the binary image, comprising:
in a case where a pixel value of a pixel in the binary image is 0, if the value of the corresponding element in the two-dimensional array is 1, changing the corresponding value to 0, or if the value of the corresponding element in the two-dimensional array is 0, changing the corresponding value to null; and
in a case where a pixel value of a pixel in the binary image is 1, if the value of the corresponding element in the two-dimensional array is 1, changing the corresponding value to null, or if the value of the corresponding element in the two-dimensional array is 0, changing the corresponding value to 1; and
generating the image based on the result of the bit operation.
2. The method of claim 1, wherein before the step of parsing the preset pattern into a binary image, the method further comprises:
converting the size of the preset pattern to be the same as the size of the original two-dimensional code.
3. The method of claim 2, wherein converting the size of the preset pattern to be the same as the size of the original two-dimensional code comprises converting the size of pixels in the preset pattern to be the same as the size of pixels in the original two-dimensional code.
4. The method of claim 1, wherein the step of generating the image according to the result of the bit operation comprises:
generating a new two-dimensional array according to the result of the bit operation; and
converting the new two-dimensional array to the image according to the following rule:

SUBSTITUTE PAGE

26

in the new two-dimensional array, a value 0 of an element represents white, a value null of an element represents transparency, and a value 1 of an element represents black.

5. The method of any of claims 1 to 4, wherein the preset pattern can be generated by directly superimposing the image on the original two-dimensional code.

6. The method of claim 1, wherein after the step of generating an image by using the two-dimensional array, the method further comprises:

outputting the image to a transparent carrier by using an output device.

7. The method of claim 6, wherein after the step of outputting the image to a transparent carrier by using an output device, the method further comprises:

overlapping the output image with the original two-dimensional code; and

verifying the original two-dimensional code by determining whether a pattern obtained after the overlapping is the preset pattern.

8. The method of claim 7, wherein the step of verifying the two-dimensional code by determining whether a pattern obtained after the coverage is the preset pattern comprises:

determining that the original two-dimensional code is not changed if it is determined that the pattern obtained after the overlapping is the preset pattern; and

determining that the original two-dimensional code has been changed if it is determined that the pattern obtained after the overlapping is not the preset pattern.

9. The method of any preceding claim, wherein the two-dimensional code comprises a matrix with black and white elements, and wherein the two-dimensional array comprises binary digits representing the black and white elements.

10. The method of claim 9, wherein the two-dimensional array comprises a first plurality of one-dimensional arrays.

11. The method of claim 10, wherein the preset pattern comprises an image, the image

comprising a plurality of black and white pixels that are identified with binary digits, and wherein parsing the preset pattern into a binary image comprises:

converting the plurality of black and white pixels to a second plurality of one-dimensional arrays comprising binary digits.

12. The method of claim 11, wherein performing a bit operation on a value of a corresponding element in the two-dimensional array according to a pixel value of each pixel in the binary image comprises performing the bit operation on a value of a corresponding element in the first plurality of one-dimensional arrays according to a pixel value of a pixel in the second plurality of one-dimensional arrays.

13. An image generation device, comprising a plurality of units configured to perform the method of any one of claims 1 to 12.