

CLAIMS

1. A computer-implemented method for barcode identification, the computer-implemented method comprising:

extracting a row of pixels from a barcode image based on an extraction policy defining an extraction interval that dynamically changes between repeated extractions;

parsing the row of pixels to obtain a first character string corresponding to the row of pixels;

determining whether the first character string satisfies a character rule; and

in response to determining that the first character string satisfies the character rule, generating an identification result comprising the first character string of a barcode in the barcode image.

2. The computer-implemented method of claim 1, further comprising:

in response to determining that the first character string does not satisfy the character rule, determining whether the first character string matches a second character string, wherein the second character string corresponds to a row of pixels that are different from the row of pixels corresponding to the first character string and the row of pixels are last extracted from the barcode image based on the extraction policy.

3. The computer-implemented method of claim 2, further comprising:

in response to determining that the first character string matches the second character string, determining the first character string as the identification result of the barcode in the barcode image.

4. The computer-implemented method of claim 2, further comprising:

in response to determining that the first character string is different from the second character string, returning to the step of extracting the row of pixels from the barcode image based on the extraction policy.

5. The computer-implemented method of claim 2, wherein the extraction policy is to extract pixels starting from a default row at an interval of a fixed number of rows, until a target extraction row goes beyond the barcode image.

6. The computer-implemented method of claim 2, wherein the extraction policy is to extract pixels starting from a default row to a target extraction row based on the extraction interval that dynamically changes a number of rows to be extracted, until the target extraction row goes beyond the barcode image.

7. The computer-implemented method of claim 6, wherein the extraction interval overlaps with at least a portion of a proceeding extraction interval or a subsequent extraction interval.

8. The computer-implemented method of claim 5, further comprising:
counting a number of occurrence frequencies of each character string obtained through parsing when the target extraction row goes beyond the barcode image; and
determining a character string whose number of occurrence frequencies is largest and is greater than 1 as the identification result of the barcode in the barcode image.

9. The computer-implemented method of claim 8, further comprising:
determining that barcode identification fails when the number of occurrence frequencies of each character string obtained through parsing is 1.

10. The computer-implemented method of claim 5, further comprising:
determining that barcode identification fails if no character string is obtained through parsing when the target extraction row goes beyond the barcode image.

11. The computer-implemented method of claim 1, wherein the character rule is that no consecutive predetermined characters exist, and the consecutive predetermined characters do not comprise a set number of uppercase letters, lowercase letters, integers, and spaces.

12. The computer-implemented method of claim 1, further comprising:

obtaining an image including the barcode; and
processing the image by performing at least one of a compression operation, a greyscale processing, and a binarization operation.

13. An apparatus for barcode identification, the apparatus comprising a plurality of modules configured to perform the computer-implemented method of any one of claims 1 to 12.