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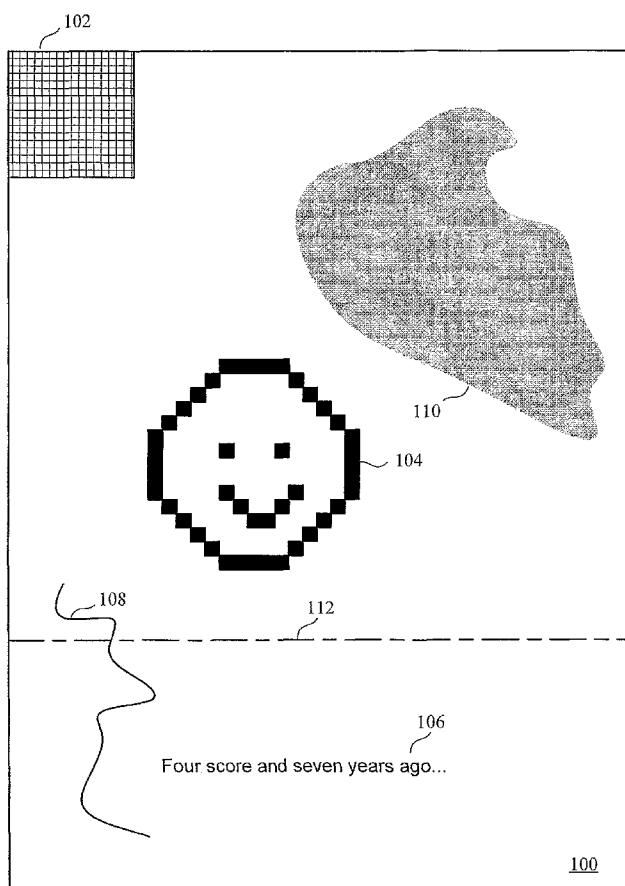
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[Continued on next page]

(54) Title: ADAPTIVE CONTRAST CONTROL SYSTEMS AND METHODS



(57) Abstract: A method of operating on image of a document by portioning it into non-overlapping areas including a matrix of pixels and each pixel has an initial grayscale value. The method including for each area, determining a black point value and a white point value. Determining a revised pixel grayscale value for the pixel using the pixels grayscale value, the pixel's position in the matrix, the black point value for the area comprising the pixel, the white point value for the area comprising the pixel, the black point value for at least one area adjacent to the area comprising the pixel, and/or the white point value for at least one area adjacent to the area comprising the pixel. Producing the image of the document using the revised grayscale values for each pixel.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8): G06K 9/40 (2007.01)

USPC: 382/274

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

USPC: 358/1.8, 3.21, 3.22; 382/267, 274

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC: 358/1.8, 3.21, 3.22; 382/267, 274 (text search)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST(USPT,PGPB,EPO); DialogPRO(Engineering); Google

Search terms: leveling, auto-leveling, grayscale, gray level, black point, white point, black level, white level, conversion, thresholding, mean, average, variance, difference, deviation, subtracting, summing, addition, foreground, background, confidence, calculate, define

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2003/0161007 A1 (MAURER et al.) 28 August 2003 (28.08.2003), entire document	1-4, 9-12, 17, 22-26 ----- 5-8, 13-16, 18-21
Y	US 6,072,912 A (ORITO) 06 June 2000 (06.06.2000), fig 7; col 9, ln 25-50; col 10, ln 14-23	8, 16, 21
Y	US 5,901,243 A (BERETTA) 04 May 1999 (04.05.1999), col 5, ln 7-23	5-7, 13-15 and 18-20
A	US 2004/0105595 A1 (WATANABE et al.) 03 June 2004 (03.06.2004), para [0031]	8, 16, 21
A	US 2002/0093592 A1 (NAKA et al.) 18 July 2002 (18.07.2002), para [0085], [0094]	6, 14, 19

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"O" document referring to an oral disclosure, use, exhibition or other means

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