

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
7 August 2003 (07.08.2003)

PCT

(10) International Publication Number
WO 03/065708 A1

(51) International Patent Classification⁷: **H04N 1/41**

Six Dakota Court, Holmdel, NJ 07733 (US). **SAID, Amir**; 20380 Stevens Creek, Apt. #208, Cupertino, CA 95014-2272 (US).

(21) International Application Number: PCT/US02/40646

(22) International Filing Date:
18 December 2002 (18.12.2002)

(74) Agent: **HEMINGER, Susan, E.**; Hewlett-Packard Company, IP Administration, P. O. Box 272400, Ft. Collins, CO 80527-2400 (US).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/036,979 31 December 2001 (31.12.2001) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant: **HEWLETT-PACKARD COMPANY**
[US/US]; 3000 Hanover Street, M/S 1051, Palo Alto, CA 94304-1112 (US).

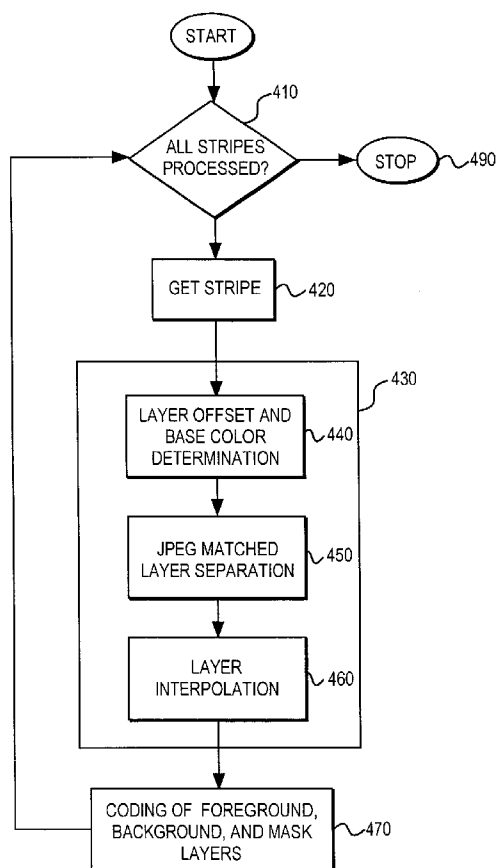
(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

(72) Inventors: **MUKHERJEE, Debargha**; 1422 Vallejo Drive, San Jose, CA 95130 (US). **NASIR, Memon**;

[Continued on next page]

(54) Title: CODE MATCHED LAYER SEPARATION FOR COMPRESSION OF COMPOUND DOCUMENTS

(57) Abstract: Methods for decomposing compound documents for mixed raster content representation are provided. A method for decomposing an image includes the step of decomposing the image into a plurality of stripes (220). Each stripe (310) is decomposed (450) into foreground (120), background (130), and mask (140) layers. The layers are interpolated (460) to modify values of irrelevant pixels in order to achieve more efficient compression. The layers may subsequently be compressed with a coder.



WO 03/065708 A1



ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK,
TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

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.

Published:

— *with international search report*