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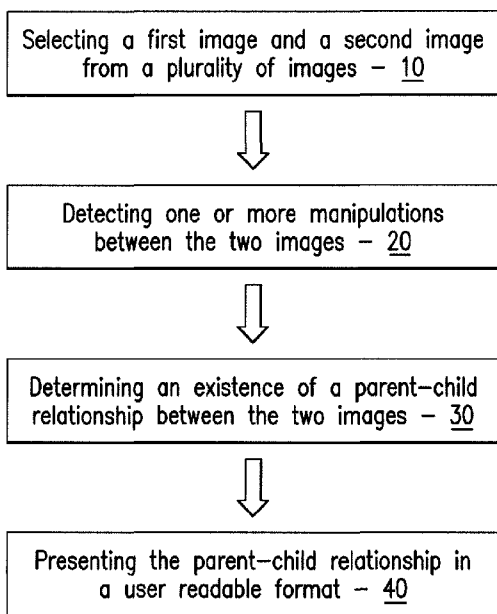
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(54) **Title:** SYSTEMS AND METHODS FOR IMAGE ARCHAEOLOGY



(57) **Abstract:** Systems and methods are described for determining manipulation history among a plurality of images. The described techniques include selecting a pair of images from the plurality of images, detecting one or more manipulations operable to transform one of the images to the other, and based on the manipulations detected, determining a parent-child relationship between the pair or pairs of images. The described techniques can further include repeating the selecting two images, detecting manipulations, and determining the parent-child relationship for each pairs of images in the plurality of images, constructing a visual migration map for the images, and presenting the visual migration map in a user readable format.

FIG. 1

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 09/40029

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G06K 9/46 (2009.01)
USPC - 382/240

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)
IPC(8) - G06K 9/46 (2009.01)
USPC - 382/240

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 382/276, 286, 289, 293-295

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
pubWEST(PGPB,USPT,EPAB,JPAB), WIPO Patentscope, Google Scholar, Google, DialogPRO General Research
Search Terms Used: detect, doctored, image, photo, photograph, picture, altered, manipulation, linking, transform, first, second, forensic, near-duplicate, connected, related, affiliated, corresponding, dependant, interconnect

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2007/0078846 A1 (GULLI et al.) 05 April 2007 (05.04.2007) Whole document, especially paragraphs [0027], [0029]-[0033], [0036], [0043], [0044], [0061], [0065]; Fig 3	1-20
Y	US 6,950,542 B2 (ROESCH et al.) 27 September 2005 (27.09.2005) Whole document, especially col 1 ln 20-22; col 2 ln 39-41, 51-53	1-20
Y	US 2007/0237426 A1 (XIE et al.) 11 October 2007 (11.10.2007) Whole document, especially paragraph [0020]	6
Y	US 2007/0195106 A1 (LIN et al.) 23 August 2007 (23.08.2007) Whole document, especially paragraph [0009]	9
Y	US 2004/0057081 A1 (KUBOTA) 25 March 2004 (25.03.2004) Whole document, especially paragraphs [0009], [0055], [0062], [0064]	10, 11
A	US 2005/0210043 A1 (MANASSE) 22 September 2005 (22.09.2005)	1-20

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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