

Day Two Answers

Patent Fundamentals Bootcamp 2020:

An Introduction to Patent Drafting, Prosecution, and Litigation

San Francisco

July 16, 2020

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Public, John Q. et al.

Title: PORTABLE APPARATUS FOR SITTING

Serial No.: 09/876,543

Filing Date: April 2, 2015

Examiner: Millman, Benita

Group Art Unit: 2800

Docket No.: 03179524

Customer No. 50000

San Francisco, California

July 10, 2016

CERTIFICATE OF ELECTRONIC (EFS-WEB) TRANSMISSION

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Dated: _____

By: _____
Patent Attorney, Reg. No. 45,678

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION UNDER 37 C.F.R. § 1.111

Dear Sir:

This Response is submitted in reply to the Office Action dated April 10, 2016 (“Office Action”).

Amendments to the Claims are reflected in the listing of claims which begins on page ____.

Remarks begin on page ____.

Amendments

In the Claims

1. (currently amended) An apparatus comprising:

a substantially planar surface with a first and a second surface; and
at least three elongate members, the at least three elongate members each having a first end and a second end, the first end[[s]] of each of the at least three elongate members connected to the first surface of the planar surface and oriented in a direction with respect to the planar surface such that each of the at least three elongate members are substantially perpendicular to the planar surface and each of the at least three elongate members are substantially parallel to each other, wherein the second end of each of the at least three elongate members are detached from one another.
2. (original) An apparatus according to claim 1, further comprising a support member connected to the second surface of the planar surface and oriented in a direction generally parallel to the elongate members.
3. (original) An apparatus according to claim 1, further comprising exactly three elongate members.
4. (original) An apparatus according to claim 1, further comprising exactly four elongate members.

5. (original) An apparatus according to claim 1, wherein the planar surface and elongate members are wood.

6. (currently amended) An apparatus according to claim 1, wherein the length of each of the elongate members is approximately equal to [[the]] a distance between a [[the]] knee and [[the]] an ankle of an adult human leg.

7. (currently amended) An apparatus according to claim 1, wherein the area of the planar surface is approximately equal to [[the]] an area of [[the]] a back surface of an adult human buttock.

Remarks

OVERALL POINTS:

-MAKE SURE PROPER AMENDMENT FORMAT IS FOLLOWED

-MAKE SURE REMARKS DO NOT CREATE TOO MUCH ESTOPPEL—THE LESS,
THE BETTER

-NO RIGHT ANSWER—THE STUDENTS CAN TRAVERSE OR AMEND, ALTHOUGH
YOU MAY WANT TO POINT OUT THAT THE CLIENT SPECIFICALLY ASKED THE
STUDENT TO GET THE PATENT FAST, WHICH MAY ENCOURAGE AMENDMENT
OVER TRAVERSAL.

1. **Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being
indefinite for failing to particularly point out and distinctly claim the subject matter
which applicant regards as the invention.**

2. **In Claim 1, the term “first ends” lacks antecedent basis.**

CLAIM 1 AMENDED, RATHER THAN TRAVERSED. COULD TRAVERSE, BUT
CLIENT WANTS A FAST PATENT.

3. **In Claim 1, the term “oriented with respect to” is unclear and indefinite.
AMENDED RATHER THAN TRAVERSED.**

4. In Claim 6, the terms “the distance” and “the knee” and “the ankle” lack antecedent basis.

AMENDED RATHER THAN TRAVERSED.

5. To the extent definite, Claim 1 is anticipated by the Easy Living Chair shown in the printed publication attached to this Office Action (“Easy Chair Reference”). Claim 1 is anticipated by the Easy Chair Reference as a printed publication, as a public use bar and as being on sale more than 1 year before the priority date of May 28, 1998.

ASSUME REFERENCE IS PRIOR ART.

6. The Easy Chair Reference discloses:

a substantially planar surface with a first and a second surface (Seat);

and at least three elongate members (Legs),

the members each having a first end and a second end (Legs),

the first ends connected to the first surface of the planar surface and oriented with

respect to the planar surface such that the elongate members are substantially

perpendicular to the planar surface (legs are perpendicular to seat); and

the elongate members are substantially parallel to each other (legs parallel to each

other).

A NUMBER OF POSSIBLE ANSWERS:

1. CAN TRAVERSE THAT THE LEGS ARE NOT “SUBSTANTIALLY PERPENDICULAR” AT THE FLOOR SINCE THEY ARE PARALLEL AT THAT POINT.
2. CAN TRAVERSE THAT THERE ARE NOT 3 LEGS, BUT RATHER 2 LEGS
3. CAN AMEND AS I HAVE AMENDED—AGAIN, CLIENT WANTS FAST PATENT

WRT Claim 2

7. To the extent definite, claim 2 is anticipated by the Easy Chair Reference.

The Easy Chair Reference discloses:

a support member connected to the second surface of the planar surface and oriented in a direction generally parallel to the elongate members (Seat has a back).

-RELY ON AMENDMENTS TO CLAIM 1 TO REMOVE 102 REJECTION

WRT Claim 4

8. To the extent definite, claim 4 is anticipated by the Easy Chair Reference.

The Easy Chair Reference discloses:

exactly four elongate members (chair has four legs).

-RELY ON AMENDMENTS TO CLAIM 1 TO REMOVE 102 REJECTION

WRT Claim 5

9. To the extent definite, claim 5 is anticipated by the Easy Chair Reference.

The Easy Chair Reference discloses:

the surface and elongate members are wood (chair legs appear to be made of wood).

-RELY ON AMENDMENTS TO CLAIM 1 TO REMOVE 102 REJECTION

WRT Claim 6

10. To the extent definite, claim 6 is anticipated by the Easy Chair Reference.

The Easy Chair Reference discloses:

the length of each of the elongate members is approximately equal to the distance between the knee and the ankle of an adult human leg (the chair looks to have the distance from the seat to the floor of the distance from a knee to an ankle).

-RELY ON AMENDMENTS TO CLAIM 1 TO REMOVE 102 REJECTION

-ALSO AMENDED TO REMOVE 112 REJECTIONS

WRT Claim 7

11. To the extent definite, claim 7 is anticipated by the Easy Chair Reference.

The Easy Chair Reference discloses:

the area of the planar surface is approximately equal to the area of the back surface of an adult human buttock (seat is size of human buttock).

-RELY ON AMENDMENTS TO CLAIM 1 TO REMOVE 102 REJECTION

-ALSO, AMENDED TO REMOVE 112 REJECTIONS

12. Claim 3 is rejected under 35 USC 103(a) as obvious in view of the Easy Chair Reference.

13. The Easy Chair Reference discloses a chair with 4 legs. Claim 3 calls for a chair with:

exactly three elongate members.

-RELY ON AMENDMENTS TO CLAIM 1 TO REMOVE 103 REJECTION

III. Conclusion

For the foregoing reasons, the Applicant respectfully asserts that all claims are patentable over the cited prior art and respectfully requests that these claims be allowed.

No fee is believed due with this Response. Should additional fees be due, the Commissioner is authorized to charge any additional fees which may be required or credit any overpayment of fees, to Deposit Account No. 13-0019. A duplicate copy of this Authorization is enclosed.

Respectfully submitted,

July 10, 2016

Patent Attorney
Attorney for Applicant
Reg. No.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Wen-Tien Chen *et al.*

Serial No.: 12/678,921

Art Unit: 1634

Filed: 08/10/2010

Examiner: Martinell, James

Entitled: **Gene Expression Signatures in Enriched Tumor Cell Samples**

**RESPONSE TO NON-FINAL OFFICE ACTION
MAILED 12/20/2012**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Examiner Martinell:

Please enter the following on the record in response to the above-cited Non-Final Office Action mailed on December 20, 2012. A petition for a one-month extension of time is submitted herewith.

The Commissioner is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment to Deposit Account No. 08-1290.

A current version of the Claims begins on page 2.

Amendments to the Specification begin on page 8.

Applicants' Remarks begin on page 14.

STATUS OF THE CLAIMS

The following is a listing of claims that replaces all prior versions, and listing, of claims in the application:

1. (Withdrawn) A method of finding a gene expression signature for a tumor cell comprising:
 - a) providing a reference tumor cell sample and a normal cell sample,
 - b) determining, in said normal cell sample, a CAM-negative normal cell gene expression profile,
 - c) determining, in said reference tumor cell sample, a CAM-avid tumor cell gene expression profile, and
 - d) comparing said CAM-avid tumor cell gene expression profile with said CAM-negative normal cell gene expression profile to identify a reference tumor cell gene signature comprising genes differentially expressed between said CAM-avid tumor cell gene expression profile and said CAM-negative normal cell gene expression profile.
2. (Withdrawn) The method of claim 1 further comprising:
 - a) determining, in said normal cell sample, a CAM-avid normal cell gene expression profile, and
 - b) comparing said CAM-avid reference tumor cell gene signature with said CAM-avid normal cell gene expression profile to identify
 - (i) a first portion of said reference tumor cell gene signature, wherein said first portion is attributable to tumor cell genes, and
 - (ii) a second portion of said signature, wherein said second portion is attributable to CAM-avid normal cell genes.
3. (Withdrawn) A method of finding a gene expression signature for an endogenous tumor cell of epithelial lineage in a sample from a diagnosed subject, comprising:
 - a) providing said sample from said diagnosed subject, and a normal cell sample,

b) determining, in said normal cell sample, a CAM-negative normal cell gene expression profile and a CAM-avid normal cell gene expression profile,

c) determining, in said sample from said diagnosed subject, a CAM-avid endogenous tumor cell gene expression profile,

d) comparing said CAM-avid endogenous tumor cell gene expression profile with said CAM-negative normal cell gene expression profile to identify an initial endogenous tumor cell gene signature comprising genes differentially expressed between said CAM-avid endogenous tumor cell gene expression profile and said CAM-negative normal cell gene expression profile,

e) removing from said initial tumor cell gene signature genes not known to upregulate in cells of epithelial lineage or in metastatic cells, and

f) further removing from said initial tumor cell gene signature genes wherein said differential expression between a gene of a CAM-avid tumor cell or a CAM-avid normal cell gene and a CAM-negative normal cell gene is such that said differential expression indicates up-regulation of the gene in both the CAM-avid tumor cell and in the CAM-avid normal cell, or down-regulation of the gene in both the CAM-avid tumor cell and the CAM-avid normal cell to create an optimal tumor cell gene signature.

4. (Withdrawn) A method of detecting an endogenous tumor cell in an undiagnosed subject, the method comprising comparing a gene signature of a cell suspected of being said endogenous tumor cell for similarity with a diagnostic gene signature selected from the group consisting of a reference tumor cell gene signature and a tumor cell signature of a diagnosed subject.

5. (Withdrawn) The method of claim 4 wherein said diagnostic gene signature is an optimal signature.

6. (Withdrawn) The method of claim 4 wherein said diagnostic gene signature is an effective signature.

7. (Withdrawn) The method of claim 4 wherein said diagnostic gene signature distinguishes a circulating normal cell from a circulating cancer cell selected from the group consisting of colon, breast, melanoma, and ovarian.
8. (Withdrawn) The method of claim 7 wherein said signature comprises at least 2 of the constituents in Table I.
9. (Withdrawn) The method of claim 7 wherein said signature consists of ≥ 2 , ≥ 3 , ≥ 4 , ≥ 5 , or ≥ 6 of the constituents of Table I.
10. (Withdrawn) The method of claim 7 wherein said gene signature comprises at least 2 of the constituents in Table II.
11. (Withdrawn) The method of claim 7, wherein said signature consists of ≥ 2 , ≥ 3 , ≥ 4 , ≥ 5 , or ≥ 6 of the constituents of Table II.
12. (Withdrawn) The method of claim 7 wherein said signature consists of ≥ 2 , ≥ 3 , ≥ 4 , ≥ 5 , or ≥ 6 of the constituents of FIG. 1.
13. (Withdrawn) The method of claim 7 wherein said signature consists of ≥ 2 , ≥ 3 , ≥ 4 , ≥ 5 , or ≥ 6 of the constituents of FIG. 9A.
14. (Withdrawn) A method of distinguishing a circulating colon cancer cell from a different type of circulating cancer cell of epithelial origin comprising comparing an effective or optimal reference colorectal tumor cell gene signature or an effective or optimal colorectal tumor cell signature of a diagnosed subject to an effective or optimal gene expression signature of said different type of circulating cancer cell, wherein the effective colorectal tumor cell signature comprises ≥ 7 , ≥ 8 , ≥ 9 , ≥ 10 , or ≥ 11 of the constituents of Table I.

15. (Withdrawn) The method of claim 14 wherein the colorectal tumor cell signature comprises ≥ 7 , ≥ 8 , ≥ 9 , ≥ 10 , or ≥ 11 of the constituents of FIG. 2A.

16. (Withdrawn) A method of distinguishing a circulating breast cancer cell from a different type of circulating cancer cell of epithelial origin comprising comparing an effective or optimal reference breast tumor cell gene signature or an effective or optimal breast tumor cell signature of a diagnosed subject to an effective or optimal gene expression signature of said different type of circulating cancer cell, wherein the effective breast tumor cell signature comprises ≥ 7 , ≥ 8 , ≥ 9 , ≥ 10 , or ≥ 11 the constituents of Table II.

17. (Withdrawn) A method of distinguishing a circulating tumor cell from a circulating normal cell comprising comparing an effective or optimal reference tumor cell gene signature or an effective or optimal tumor cell signature of a diagnosed subject to an effective or optimal gene expression signature of said normal cell, wherein the tumor cell signature comprises at least one of the genes listed in Table 11 as upregulated in circulating tumor cells.

18. (Currently Amended) A method of detecting a circulating tumor cell in a subject comprising:

- a) providing a sample of blood from said subject;
- b) enriching circulating tumor cells from said sample; and
- c) finding determining a gene expression profile in said enriched sample comprising at least one of the genes selected from the group consisting of KRT8, KRT16, KRT17, KRT18, KRT19 and KRT20;
- d) comparing said gene expression profile to a reference tumor cell gene signature; and
- e) distinguishing the cell type of said tumor cells.

19. (canceled)

20. (Withdrawn) A method of distinguishing a circulating tumor progenitor cell from a circulating normal progenitor cell comprising: comparing an effective or optimal reference tumor progenitor cell gene signature or an effective or optimal tumor progenitor cell signature of a diagnosed subject to an effective or optimal gene expression signature of said normal progenitor cell, wherein the effective or optimal tumor progenitor cell signature comprises at least one of the genes listed in Table 14 as upregulated in circulating tumor progenitor cells.

21. (Withdrawn) The method of claim 20 wherein the tumor progenitor cell signature comprises ≥ 7 , ≥ 8 , ≥ 9 , ≥ 10 , or ≥ 11 of the constituents listed in Table 14 as upregulated in circulating tumor progenitor cells.

22. (Withdrawn) A method of distinguishing a circulating colon cancer cell from a different type of circulating cancer cell of epithelial origin comprising: comparing an effective or optimal reference colorectal tumor cell gene signature or an effective or optimal tumor cell signature of a diagnosed subject to an effective or optimal gene expression signature of said different type of cancer cell, wherein the tumor cell signature comprises at least one of the genes listed in Table 15 as upregulated in circulating tumor progenitor cells.

23. (canceled)

24. (canceled)

25. (Withdrawn) A method of internally controlling a comparison of gene expression signatures between or among circulating tumor cells of epithelial origin, circulating endothelial cells and other circulating cells, comprising: determining said expression signatures together with the expression of a gene selected from the group consisting of ITGA2, CD14 and ITGB.

26. (New) The method of Claim 18, wherein the cell type of said tumor cell is distinguished from other tumor cells of epithelial origin.

27. (New) The method of Claim 18, wherein a colorectal cancer cell is distinguished.

28. (New) The method of Claim 18, wherein a breast cancer cell is distinguished.

29. (New) The method of Claim 18, wherein an ovarian cancer cell is distinguished.

AMENDMENTS TO THE SPECIFICATION

Please replace the BRIEF DESCRIPTION OF THE DRAWINGS, beginning on page 14 and ending on page 17 with the following amended version.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the expression profile of 27 genes associated by hierarchical cluster analysis with LOX human malignant melanoma cells in blood compared with normal cells.

FIG. 2 shows the expression profile of 24 genes associated by hierarchical cluster analysis with circulating colon tumor cells compared with their expression in normal cells, cultured colon tumor cells and breast tumor cells. The 24-gene CTC signature for circulating colon tumor cells included components of putative tumor/epithelial lineage genes (CEACAM6, CEACAM7, KRT16, MAP17, MUC8, PCDHB8); proteases (CTSD, seprase), protease inhibitors (KLK7, SERPINA3, SERPINA4), oncogenes (MAS1), stem cell factor (KITLG), cell structure (LMNA), and functional peptides (S100A6, VIP). FIG 2A. The 24-gene signature in tumor cells from six colon cancer patients cultured for over one day. FIG 2B. The 24-gene signature in circulating breast tumor cells isolated from five patients with late stage breast cancer. FIG 2C.

FIG. 3 shows the expression profile of 25 genes associated with circulating breast tumor cells compared with their expression in normal cells, cultured breast cancer cells and colon tumor cells.

The 25-gene CTC signature for breast cancer that included components of putative tumor/epithelial lineage genes (CDH1, CEA, EMP2, GPR153, LENEPE, MAP17, MUC1); proteases (CPM, seprase, ST14), protease inhibitors (SERPINA6), adhesion and chemokine receptors (BMPR1B, CMKLR1, ITGB1), and functional peptides (PLD1, S100A6, VIPR2). FIG 3A. The 25-gene expression pattern in the breast tumor cells from seven breast cancer patients cultured for over one day. FIG 3B. The breast signature in the circulating colon tumor cells isolated from five patients with late stage colon cancer. FIG 3C.

FIG. 4 is a colorgram of a colon CTC signature effective in discriminating colon cancer from normal cells in a blood sample.

FIG. 5 is a colorgram of a breast CTC signature effective in discriminating breast cancer from normal cells in a blood sample.

FIG. 6 is a colorgram of an enlarged colon CTC signature having 42 constituents.

FIG. 7 is a colorgram of an enlarged breast CTC signature having 62 constituents.

FIG. 8 is a colorgram of an enlarged breast CTC signature having 72 constituents.

FIG. 9 shows expression profile of genes associated with metastatic ovarian tumor cells in ascites (MTCA) compared to primary tumor cells of other types. 37 genes were selected based on two criteria: (1) genes known to upregulate in cells of the epithelial lineage and metastatic tumors, and (2) further hierarchical gene clustering that showed genes upregulated in MTCA and PTC, and genes upregulated in MICA but downregulated in PTC. FIG 9A. Examination of the 37-gene expression pattern in the cells isolated by CAM from PTC of a stage IC serous adenocarcinoma of the ovary and other types of non-epithelial ovarian tumors. FIG 9B. MTCA signature distinguished the tumors in ascites from primary tumors of late stages, from tumors of early stages, and from benign ovarian tumors. FIG 9C.

FIG. 10 shows data for the real-time RT-PCR validation of the nine genes selected from the MTCA gene expression signature in FIG. 9. Expression of the candidate genes selected from the MCTA signature were measured in 54 cell samples derived from patients with benign and malignant ovarian tumors and control leukocytes using quantitative real-time RT-PCR. FIG 10A. Correlation between the MTCA score and tumor cells in the clinical specimens. FIG. 10B.

FIG. 11. shows the 53 genes associated with circulating cells isolated by CAM from 10 healthy subjects and 10 patients with colorectal cancer. Colorgram depicts high (red) and low (blue) relative levels of gene expression.

FIG. 12 shows the KRT and internal control genes associated with circulating tumor cells isolated by CAM. A set of candidate KRT marker genes (KRT8, KRT16, KRT19, KRT17, KRT18 and KRT20) exhibited minimal expression in the normal cell samples and significant expression in the colorectal cancer cell samples. FIG 12A. KRT marker genes (KRT8, KRT16 and KRT19) also showed minimal expression in the

normal cell samples and significant expression in the breast and ovarian cancer cell samples. FIG 12B.

FIG 13. shows data for the validation of the candidate KRT and internal control genes associated with circulating tumor cells isolated by CAM. Columns represent catalogues of cell samples analyzed. Circulating Normal (N) cells were isolated from healthy donors with suffix M for Male and F for Female. Isolated Circulating Colorectal Cancer (CCa) cells and Breast Cancer (BCa) cells with suffix I-IV being stages of the disease. The CTC score in percentage of each sample is given on the top of each column. Colorgram depicts high (red) and low (blue) relative levels of gene expression. Green arrows point to KRT8, KRT16 and KRT19 that were in the marker gene set common to the three cancer types. Blue arrows indicate KRT17, KRT18 and KRT20 that exhibited minimal expression in the normal cell samples and significant expression in one type of the three cancer cell samples. Red arrows indicate the internal control genes that exhibited no difference between normal and cancer cell samples. FIG 13A. Correlation of the CTC score and tumor cells in a blood sample based on patients' tumor type and stage, where the bars represent median values for each subgroup. FIG 13B.

FIG. 14. shows the tumor progenitor cell markers that are preferable CTC markers to be included in a panel for identifying different types of epithelial cancer.

FIG. 15 shows the 15 tumor progenitor cell genes and three internal control genes that are preferable CTC markers. To validate the 15-TP marker genes (PSCA, MUC4, FGFR2, PRKWNK2, KRT16, CD44, KRT8, ALDH1B1, FOLH1, MUC20, AKAP13, KRT19, MDS032, CMRF-35H and CDH5), the CTC score of a sample was used in the testing set of cellular samples that consists of 9 normal, 9 colorectal cancer and 20 breast cancer (FIG. 5A-B). The CTC score of a sample was determined as the percentage of the 15-TP marker genes that exhibited upregulated expression. A significant difference of the mean±standard error CTC score was observed between normal and cancer patients with colorectal and breast tumor types. FIG. 15B.

FIG. 16 shows data from nucleic acid-based blood testing for tumor-associated genes as CTC bio-markers of colorectal cancer. Colorgram depicts high (red) and low (blue) relative levels of gene expression. Green arrows point to the 17-candidate colorectal cancer CTC marker genes that were in the CTC marker gene set specific for

the colorectal tumor type. Red arrows indicate the internal control genes that exhibited no difference between normal and cancer cell samples. FIG 16 A-B. To validate the 17-candidate colorectal cancer CTC marker genes (DTR, PSCA, MUC3A, THRA, CD79B, NOTCH1, MUCDHL, NEUROG2, MDS028, KRT18, FOLH1, CD44, FCER2, SCF, CD7, SOX1 and TEKT3), the CTC score was used in testing the set of cellular samples that consists of 9 normal, 9 colorectal cancers and 20 breast cancers. FIG 16B. Graph at C shows the correlation between the CTC score and tumor cells in a blood sample based on patients' tumor types. The bars represent median values for each subgroup. A significant difference was observed in the mean±standard error CTC score between normal and cancer patients with colorectal and breast tumor types. FIG. 16C.

FIG. 17. shows results from a cell-based blood testing kit for detection of CTCs in a patient with epithelial ovarian cancer. Detection of KRT8⁺/Hs⁺/VWF⁺/CAM⁺ cells (*upper panel*, double arrows) and CD45⁻/Hs⁺/VWF⁺/CAM⁺ cells (*lower panel*, double arrows) as CTCs in a patient with epithelial ovarian cancer. Other CAM-avid circulating cells are KRT8⁺/Hs⁺/VWF⁻/CAM⁻ (*upper panel*, open arrows) or CD45⁻/Hs⁺/VWF⁻/CAM⁻ (*lower panel*, open arrows) and leukocytes are CD45⁺/Hs⁺/VWF⁻/CAM⁻ (*lower panel*, single arrows). Bar = 20 μm.

FIG. 18 shows the 29 genes known to be expressed cell of endothelial cell lineage that are preferable CEC and CTC markers. Colorgram depicts high (red) and low (blue) relative levels of gene expression. Red arrows indicate the internal control genes that exhibited no difference between normal and cancer cell samples. Endothelial genes that are upregulated in CECs and CTCs were identified by microarray analysis of RNA extracted from CAM bound cells of a training set that consists of 10 healthy donors and compared with the RNA extracted from CAM bound cells of 10 colon cancer patients. FIG. 18A. Selected genes were cross-examined using 7 normal samples and 9 breast cancer samples as well as 5 normal samples and 5 ovarian cancer samples. FIG. 18B.

FIG. 19 shows data validating the endothelial progenitor cell genes that are preferable CEC and CTC markers. The panels in FIG 19A compare expression of the 29 endothelial progenitor cell genes and the 3-internal control genes as molecular markers for CECs and CTCs in samples from 9 normal, 9 colorectal cancer and 20 breast cancer samples. Columns represent catalogues of cell samples analyzed: circulating Normal (N)

cells isolated with the one-step Vita-Cap™ assay from healthy donors with suffix M for Male and F for Female; CCA are circulating Colorectal Cancer (CCa) cells, and BCa being Breast Cancer (BCa) cells isolated by the one-step Vita-Cap™ assay with suffix I-IV being stages of the disease. Colorgram depicts high (red) and low (blue) relative levels of gene expression. Red arrows indicate the internal control genes that exhibited no difference between normal and cancer cell samples. The correlation between the CEC and CTC scores in a blood sample of healthy donors and cancer patients is graphed in **FIG 19B**. The bars represent median values for each subgroup.

FIG. 20. Cell-based blood testing for detection of CECs and CTCs in a blood sample. Detection of CD31+/acLDL+/CAM- or CDH5+/acLDL+/CAM- cells in blood samples of a healthy donor and a patient with colon cancer as CECs (**upper three panels**, open arrows). Detection of CD31+/acLDL+/CAM+, CDH5+/acLDL+/CAM+, KRT8+/acLDL+/CAM+ or CD45-/acLDL+/CAM+ cells in blood samples of a patient with colon cancer as CTCs (**lower four panels**, single or double arrows). Bar = 30 µm.

FIG. 21. Detection of CECs and CTCs by means of immuno-phenotyping of the cells isolated by magnetic beads coated with antibody to CD31 and CAM. Detection of CD31+/VWF+ and CDH5^{low}/VWF+ small spindle cells as CECs (**upper two panels**, open arrows). Detection of CD31+/VWF+, CDH5+/VWF+, KRT8+/VWF+ or CD45-/VWF+ large round cells as CTCs (**four panels**, single or double arrows). Bar = 15 µm.

FIG. 22 Proliferation and differentiation of circulating progenitor cells isolated by CAM and CD31 immuno-magnetic cell separation methods from blood of cancer patients *in vitro*. **FIG 22A.** Formation of blood vessel-like cellular network by the isolated circulating progenitor cells. Isolated cells were cultured on type I collagen gel for three days and live cells were photographed under phase contrast microscopy. Cells grew into interconnected network (double arrows) with canal-like structures in the center (single arrow). Bar = 60 µm. **FIG 22B.** Transmission electron micrograph of a cross-section of the cell shown in **FIG 22A**. The canal-like structure (single arrow) is identified as a fold between two connecting cells (double arrows). Bar = 0.1 µm. **FIG 22C.** Colonies of spindle (endothelial) cells grown from the CD31-isolated cells in day 10. Bar = 30 µm. **FIG 22D.** Colonies of epithelioid cells grown from the CD31-isolated cells in day 10. Bar = 30 µm. **FIG 22E.** Colonies of epithelioid cells grown from the CD31-isolated cells in

day 10 and doubly stained with pan-cytokeratin (CK) and VWF antibodies. In addition, Hoechst 33342 dye (Invitrogen, Carlsbad, CA) to locate the cell by labeling available nucleic acid (NA). Tumor cells (single and double arrows) are differentiated, shown as CK+, but lose expression of the endothelial marker (VWF), whereas spindle-shaped cells (open arrows) are CK-/VWF-. Bar = 30 μ m. FIG 22F. Colonies of endothelial/epithelioid cells grown from the CD31-isolated cells in day 10 and stained with CD31 antibodies. Endothelial cells (open arrows) are CD31+/NA+. Bar = 30 μ m.

REMARKS

The Examiner provides a number of objections and rejections. We list them here in the order in which they are addressed.

- I. The disclosure is objected to for lacking a Sequence Listing.
- II. The drawings are objected to for minor informalities.
- III. Claim 18 is rejected under 35 U.S.C. §112 as allegedly being indefinite.
- IV. Claim 18 is rejected under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter.
- V. Claim 18 is rejected under 35 U.S.C. §102(b) as allegedly being anticipated by a variety of references.

I. A Sequence Listing has been provided.

The Examiner objects to the disclosure because nucleic acid sequences and SEQ ID NOs recited in the application are not accompanied by a Sequence Listing. In response, the Applicants have provided a Sequence Listing as required by MPEP §1822 and 37 CFR §1.821-1.829.

II. The Brief Description of the Drawings mentions every part of the figures provided in the application.

The Examiner objects to the drawings because every part of the figures mentioned in the application is allegedly not accounted for in the Brief Description of the Drawings. In response, the Applicants have amended the Brief Description of the Drawings with respect to Figures 2A-C; 3A-C; 9B-C; 10A-B; 12A-B; 13A-B; 16A-C; 18A-B and 19A-B.

III. Claim 18 is not indefinite.

The Examiner rejects Claim 18 under 35 U.S.C. §112 as indefinite for allegedly failing to mention what is enriched in the “enriching said sample” step. The Applicants disagree. Claim 18, as amended, recites that “circulating tumor cells” are enriched from the sample of blood.¹ Since Claim 18 more clearly recites one embodiment of the present invention as required by the Examiner, the Applicants respectfully contend that the present rejection should be withdrawn.

The Applicants emphasize that such amendments are made without acquiescing to the rejection but solely in the interest of furthering prosecution. Importantly, the Applicants hereby expressly reserve the right to pursue the original (or similar) claim(s) in the future.

IV. Claim 18 is directed to statutory subject matter.

The Examiner rejects Claim 18 under 35 U.S.C. §101 as allegedly being directed to non-statutory subject matter. The Applicants disagree. Claim 18, as amended, recites an embodiment in which a gene expression profile of an enriched cell sample is compared to the gene signature of a reference tumor cell such that the cell type of the cell sample is distinguished. Moreover, Claims 27-29 (New) specify the types of tumor cells being distinguished. Since this clearly cannot be confused with a law of nature or naturally occurring phenomenon the Applicants respectfully contend that the present rejection should be withdrawn.

The Applicants emphasize that such amendments are made without acquiescing to the rejection but solely in the interest of furthering prosecution. Importantly, the Applicants hereby expressly reserve the right to pursue the original (or similar) claim(s) in the future. Support for such amendments may be found throughout the specification, including for example: page 11, lines 3-11; page 66, line 20 to page 67, line 7; page 79, lines 11-27; page 94, line 25 to page 95, line 14; page 127, line 31 to page 128, line 17 and page 130, lines 8-29.

¹ Support for such amendments is located throughout the specification, including for example, page 8, lines 25-28.; page 20, lines 9-11; page 57, lines 15-18; page 91, line 22 to page 92, line 7 and page 94, lines 5-9.

V. Claim 18 is not anticipated.

The Examiner rejects Claim 18 under 35 U.S.C. §102(b) as allegedly being anticipated by any one of:

- Levanon *et al.* (U.S. Patent Application Publication 2004/0110227).
- Bevilacqua *et al.* (U.S. Patent Application Publication 2005/0250148).
- Nakamura *et al.* (U.S. Patent Application Publication 2005/0259483).
- Nakamura *et al.* (U.S. Patent Application Publication 2005/0260639).
- Burgess *et al.* (U.S. Patent Application Publication 2006/0134653).
- Nakamura *et al.* (U.S. Patent Application Publication 2006/0204960).

The Applicants disagree. However, such arguments are rendered moot in view of the present amendments, which more clearly recite one embodiment of the claimed method. As such, the Applicants respectfully contend that the present rejection should be withdrawn.

CONCLUSION

Based on the arguments provided above, Applicants believe that Claims 18 and 26-29 are in condition for allowance. Should the Examiner believe a telephone interview would aid in the prosecution of this application, the Applicants encourage the Examiner to call the undersigned.

Respectfully submitted,

Dated: April 22, 2013

By: Jerome E O'Neil
Jerome E. O'Neil
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Smith, John Q.

Title: TAGGING DIGITAL MEDIA

Serial No.: 11/000,001 Filing Date: 09/09/2015

Examiner: Osman, Ramy M Group Art Unit: 2457

Docket No.: SAMPLE Customer No. 50000

San Francisco, California

08/10/2017

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Joe Q. Patent

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RESPONSE TO OFFICE ACTION UNDER 37 C.F.R. § 1.116

Dear Sir:

This Response is submitted in reply to the Final Office Action dated May 10, 2017 ("Office Action").

Amendments to the Claims are reflected in the listing of claims which begins on page ____.
Remarks begin on page ____.

Amendments

In the Claims

1. (Currently Amended) A method comprising:

~~storing an item of digital media in a database;~~

receiving from a device of a first user device a selection of an item of digital media, wherein

the item of digital media is stored in a database;

receiving from the device of the first user device information identifying an identification of a person associated with the selected item of digital media; [[and]]

responsive to receiving the information identifying the person, sending a notification to a

device of a second user device that the person has been identified in connection with the item of digital media; and

enabling the identified person to reject the identification, wherein the identified user is
different from the first user.

2. (Original) The method of claim 1, wherein the notification comprises an email.

3. (Original) The method of claim 1, wherein the digital media is accessible in a social networking system, and the identified person is a user of the social networking system.

4. (Original) The method of claim 1, wherein the item of digital media comprises a digital image.

5. (Original) The method of claim 1, wherein the item of digital media comprises at least one of digital video, digital audio, and digital text.

6. (Original) The method of claim 1, wherein the second user is the person who has been identified in connection with the item of digital media, whereby the person identified in connection with the item of digital media is notified of the identification.

13. (Original) The method of claim 1, wherein receiving information identifying the person comprises:

receiving one or more text characters;

displaying a list of names including the received text characters; and

receiving a selection of a name from the list.

17. (Currently Amended) A computer program product comprising a non-transitory computer-readable storage medium containing computer program code for:

~~storing an item of digital media in a database;~~

~~receiving from a device of a first user device a selection of an item of digital media, wherein the item of digital media is stored in a database;~~

~~receiving from the device of the first user device information identifying an identification of a person associated with the selected item of digital media; [[and]]~~

~~responsive to receiving the information identifying the person, sending a notification to a device of a second user device that the person has been identified in connection with the item of digital media; and~~

enabling the identified person to reject the identification, wherein the identified user is different from the first user.

18. (Original) The computer program product of claim 17, wherein the notification comprises an email.

58. (Canceled)

Remarks

OVERALL POINTS:

MAKE SURE PROPER AMENDMENT FORMAT IS FOLLOWED

MAKE SURE REMARKS DO NOT CREATE TOO MUCH ESTOPPEL—THE LESS, THE BETTER

PROBLEM SET UP ENCOURAGED AMENDMENT OVER TRAVERSAL SINCE EXAMINER AGREED AMENDMENT WOULD OVERCOME CURRENT ART.

1. Interview Summary

JUST NEED TO HAVE TAKEN A STAB AT IT, AS THIS WAS NOT DISCUSSED.

IDEAS FOR WHAT TO INCLUDE/NOT. MAJOR POINTS ARE INCORPORATING 58 INTO 1 AND ADDRESSING ACTOR/ACTION ISSUE (BUT CAN BE HERE OR IN BODY OF RESPONSE). DISCUSS/TIE IN TO TODAY'S PRESENTATION ON TOPIC.

Statement of Substance of Interview

Applicants thank the examiner for the courtesy of an interview in person on November 3, 2010 with Applicant's representative Joe Q. Public. During this interview, claim 1 was discussed and agreement was reached that the amendments herein would overcome the present rejections for the reasons discussed below.

2. Claims 17-18 are rejected under 35 U.S.C. 101, as not falling within a statutory category.

OA SUGGESTED LANGUAGE, USE IT. 101 REJECTIONS ARE COMMON, VARIOUS WAYS TO ADDRESS – TRY TO FIND OUT WHAT EXAMINER WANTS.

Regarding the rejections under § 101, the examiner suggested amendments to product claims 17-18 to recite a "non-transitory" computer readable medium.

3. Claims 1-6, 13, 17-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Etkin (US Pat Pub 2006/0048059) & Scheiderman ("Direct Annotation," 8/2008.

SINCE CLAIM 1 WAS AMENDED TO INCORPORATE 58, THIS SECTION DOES NOT REQUIRE A SEPARATE ARGUMENT FROM BELOW. IF INCLUDED, CAN BE BRIEF. BUT I'D JUST COMBINE ALL AS IN EXAMPLE BELOW.

4. Claim 58 is rejected under 35 U.S.C. 103(a) as being unpatentable over Etkin, Shneiderman, in further view of Lunt (US Pat Pub 2005/0235062).

NEED TO EXPLAIN HOW LUNT IS DIFFERENT FROM CLAIM (WHICH IS GIVEN PER EXAMINER'S ADMISSION THAT INCORPORATING CLAIM 58 WOULD OVERCOME CURRENT REJECTION).

Response to Rejections under 103(a)

The claims were rejected as obvious by U.S. Publication No.2006/0048059 to Etkin in view of "Direct Annotation" by Shneiderman, and/or in further view of U.S. Publication No. 2005/0235062 to Lunt.

The claimed invention recites techniques for associating people with digital media, such as a digital photograph. In claim 1, for example, a first user selects an item of digital media and identifies a person associated with that item of digital media. This causes a notification

sent to a second user, where the notification indicates that the person has been identified in connection with the item of digital media.

To address these rejections, applicants suggested incorporating into the independent claims features relevant to dependent claim 58. In particular, claim 58 further recites “sending to the identified person a request to accept or reject the identification.” This way, even though a user can upload a photo and tag other people in the user's own photo album, the other people who are tagged have veto power to accept or reject their association with the media item.

Lunt, at ¶¶ 155-157, was cited for the features of claim 58 (now incorporated into claim 1); however, Lunt is describing something different. In Lunt, a user B uploads a photo to the profile of user A and adds a caption. User A can subsequently accept the photo, after which it is added to the user's profile. What Lunt discloses is being able to prevent someone else from adding photos to your profile, which is different from the claimed feature of being able to prevent others from tagging you in their own photos.

In addition, the claims have been amended to specify “a device of” the first, second, and third users, rather than first, second, and third “user devices,” which a single user might operate. Moreover, the claims have been amended to distinguish Lunt and the other references by expressly stating that “the identified user [in the media item] is different from the first user.”

5. Dependent claims:

RELY ON AMENDMENTS TO CLAIM 1 TO REMOVE 103 REJECTIONS

6. Other considerations/discussion points.

AFTER FINAL PRACTICE: AMENDMENT NOT MATTER OF RIGHT (NOR
INTERVIEW)/MAY NOT BE ENTERED, ETC.

7. Conclude.

STANDARD FORMAT.

Conclusion

Based on the foregoing, the application is in condition for allowance of all claims, and a Notice of Allowance is respectfully requested. If the examiner believes for any reason direct contact would help advance the prosecution of this case to allowance, the examiner is encouraged to telephone the undersigned at the number given below.

Respectfully submitted,

08/10/2017

/Joe Q. Patent/

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US007945653B2

(12) **United States Patent**
Zuckerberg et al.

(10) **Patent No.:** US 7,945,653 B2
(45) **Date of Patent:** May 17, 2011

(54) **TAGGING DIGITAL MEDIA**

(75) Inventors: **Mark Zuckerberg**, Palo Alto, CA (US);
Aaron Sittig, Palo Alto, CA (US); **Scott Marlette**, Palo Alto, CA (US)

(73) Assignee: **Facebook, Inc.**, Palo Alto, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 962 days.

(21) Appl. No.: **11/580,210**

(22) Filed: **Oct. 11, 2006**

(65) **Prior Publication Data**

US 2008/0091723 A1 Apr. 17, 2008

(51) **Int. Cl.**
G06F 15/173 (2006.01)

(52) **U.S. Cl.** **709/223; 709/206; 709/217; 709/225**

(58) **Field of Classification Search** **709/204, 709/206, 217, 223, 225, 219**

See application file for complete search history.

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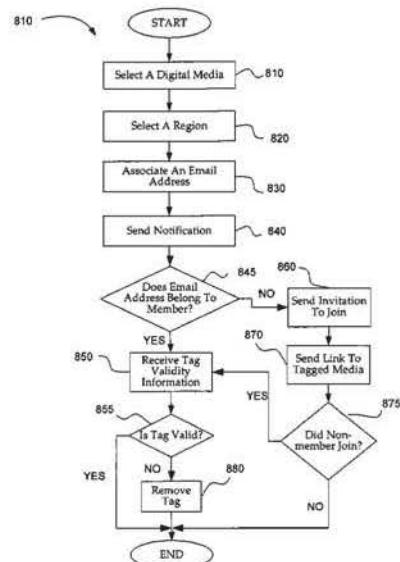
Primary Examiner — Ramy M Osman

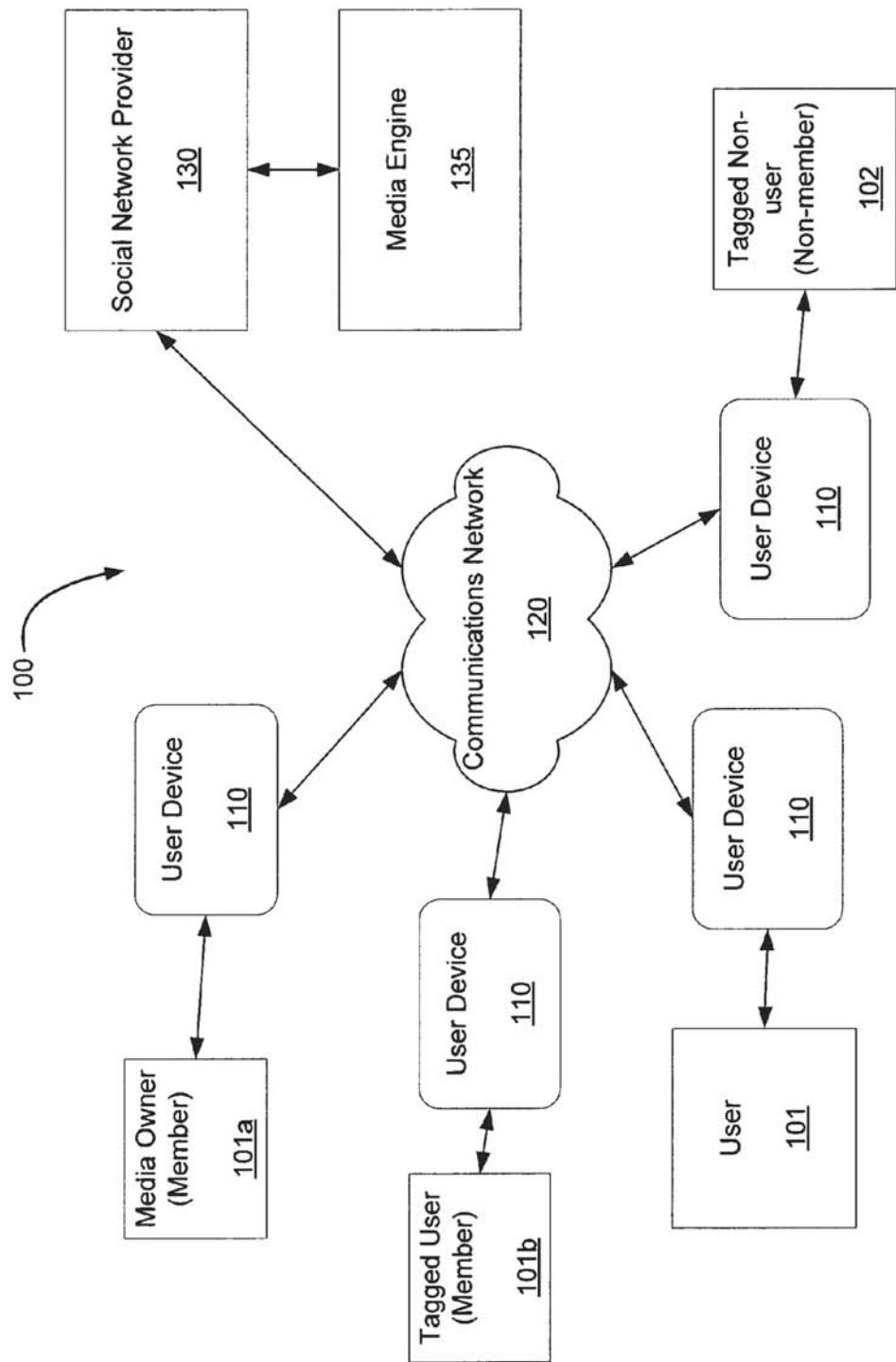
(74) Attorney, Agent, or Firm — Fenwick & West LLP

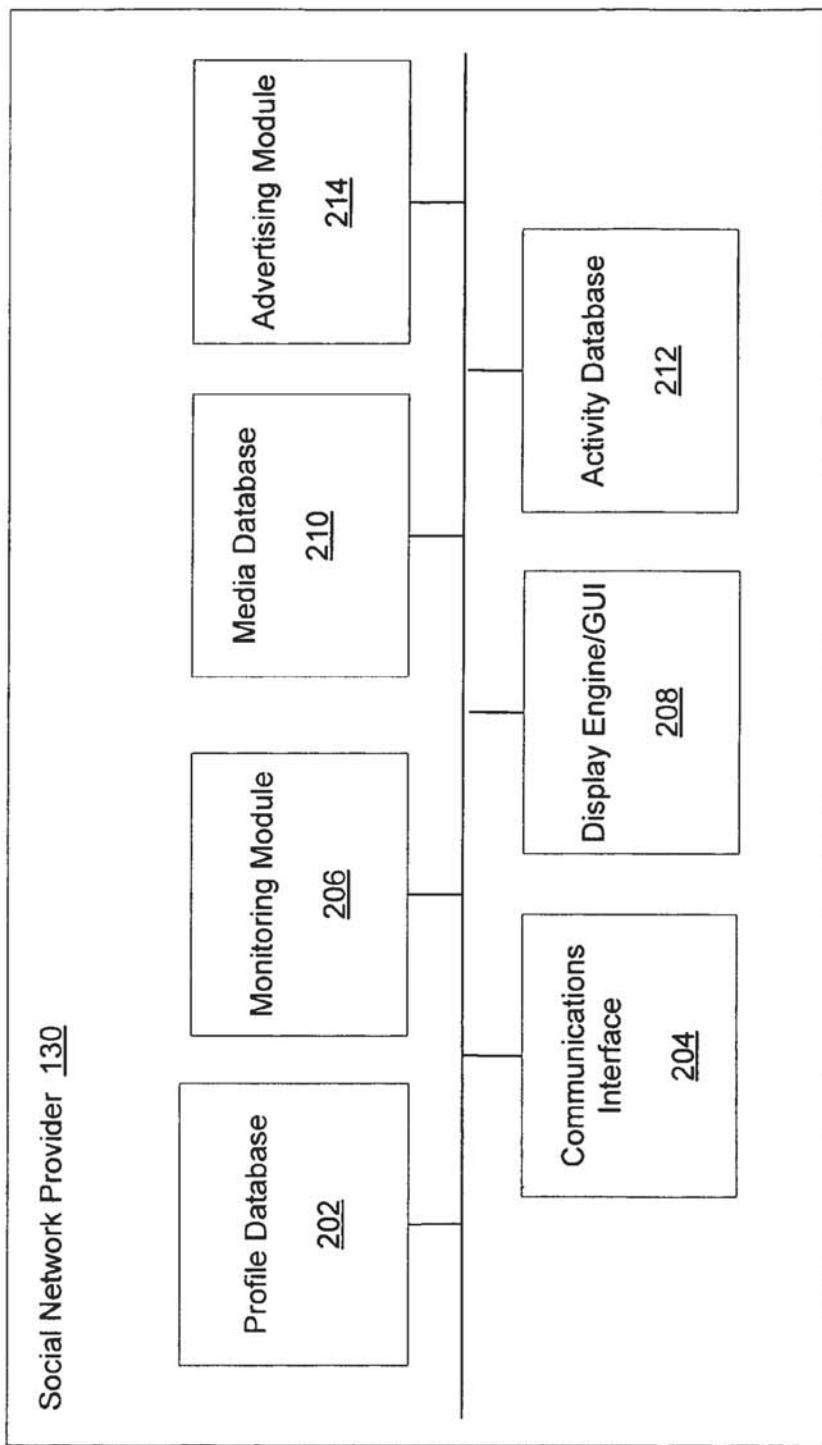
(57) **ABSTRACT**

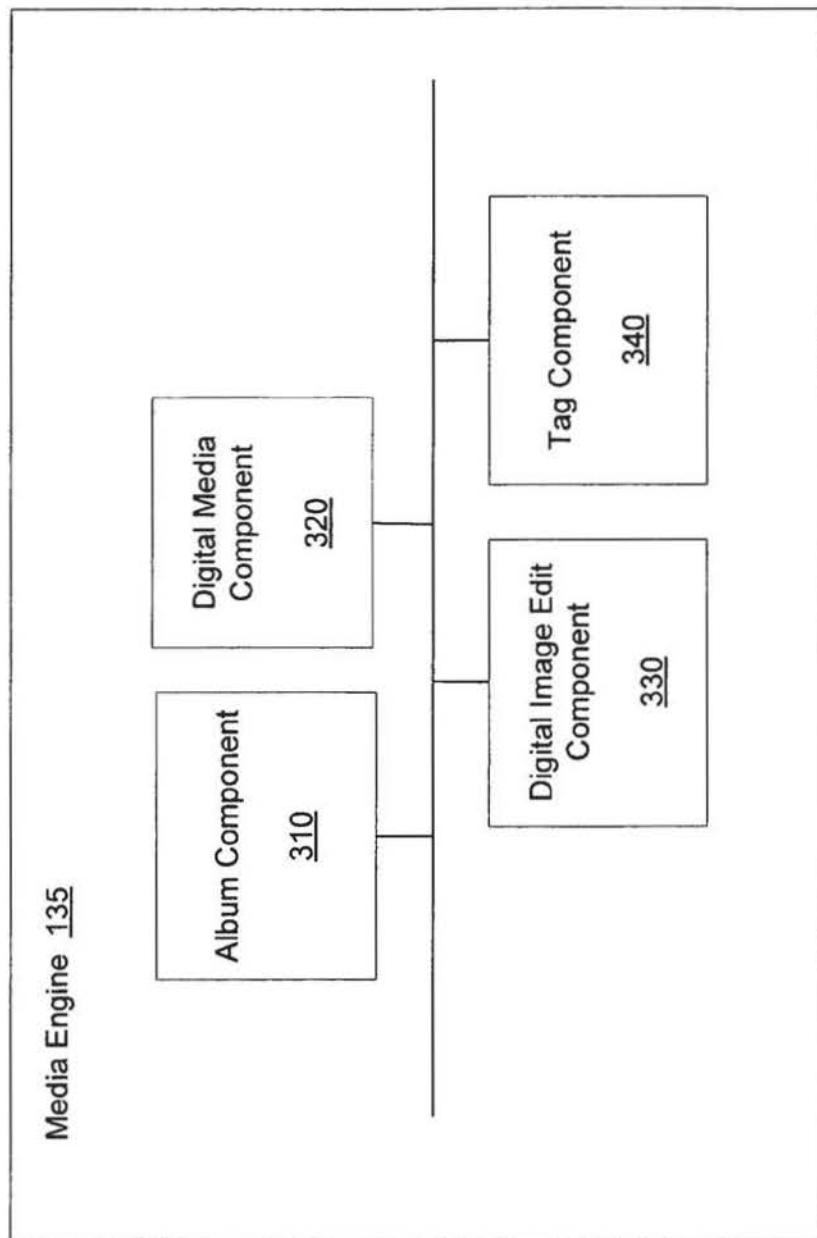
A method for tagging digital media is described. The method includes selecting a digital media and selecting region within the digital media. The method may further include associating a person or entity with the selected region and sending a notification of the association the person or entity or a different person or entity. The method may further include sending advertising with the notification.

34 Claims, 11 Drawing Sheets



**FIG. 1**

**FIG. 2**

**FIG. 3A**

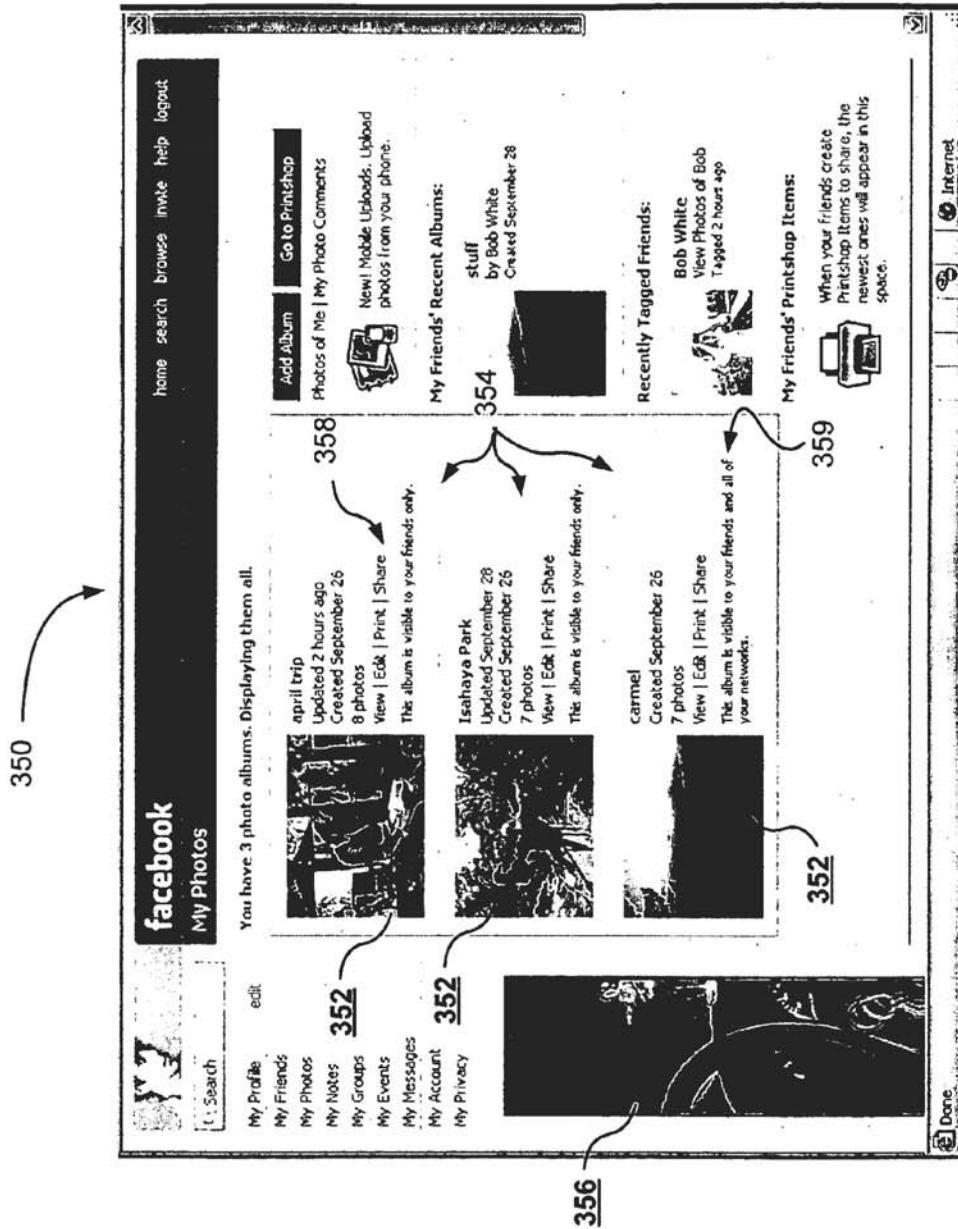


FIG. 3B

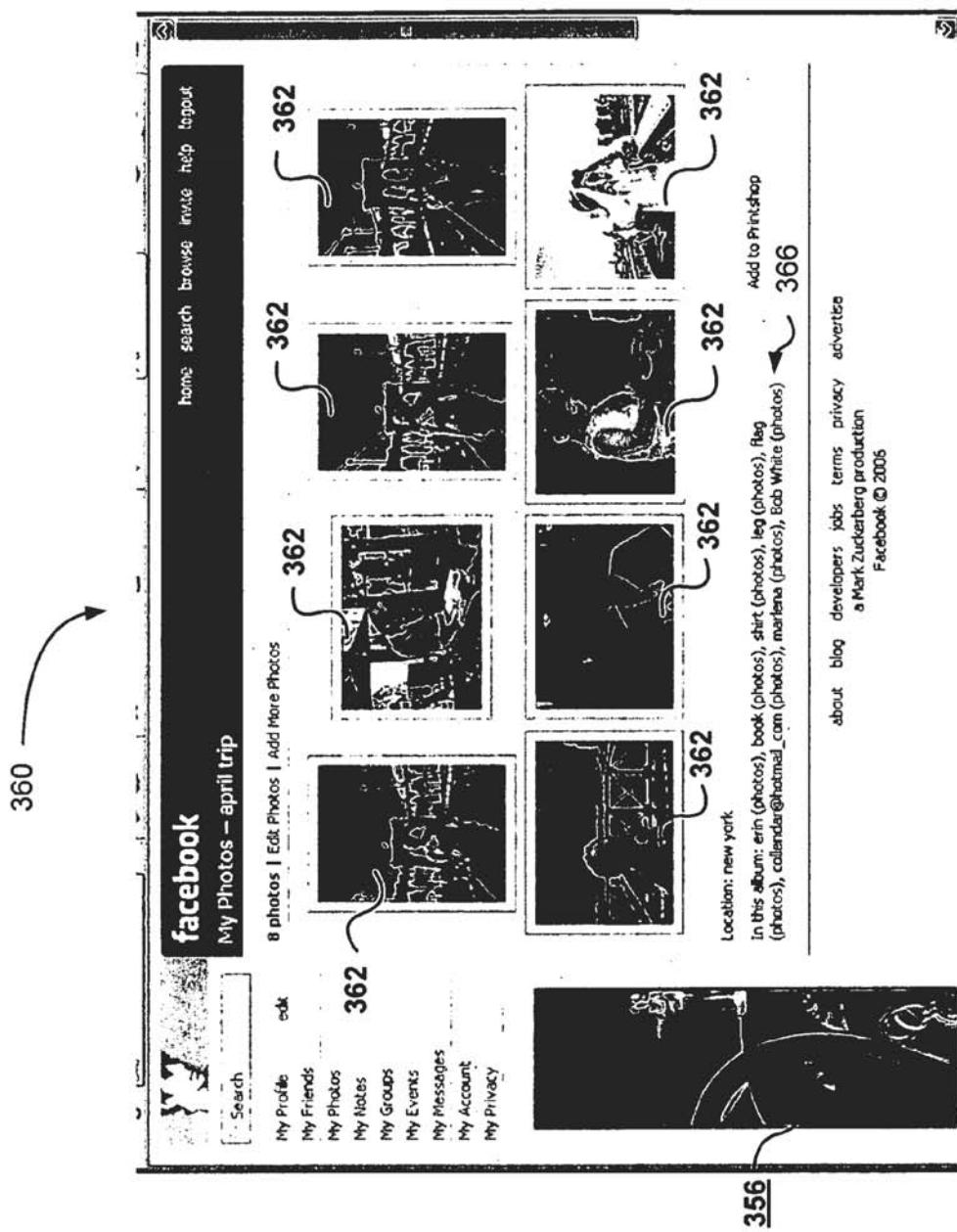


FIG. 3C

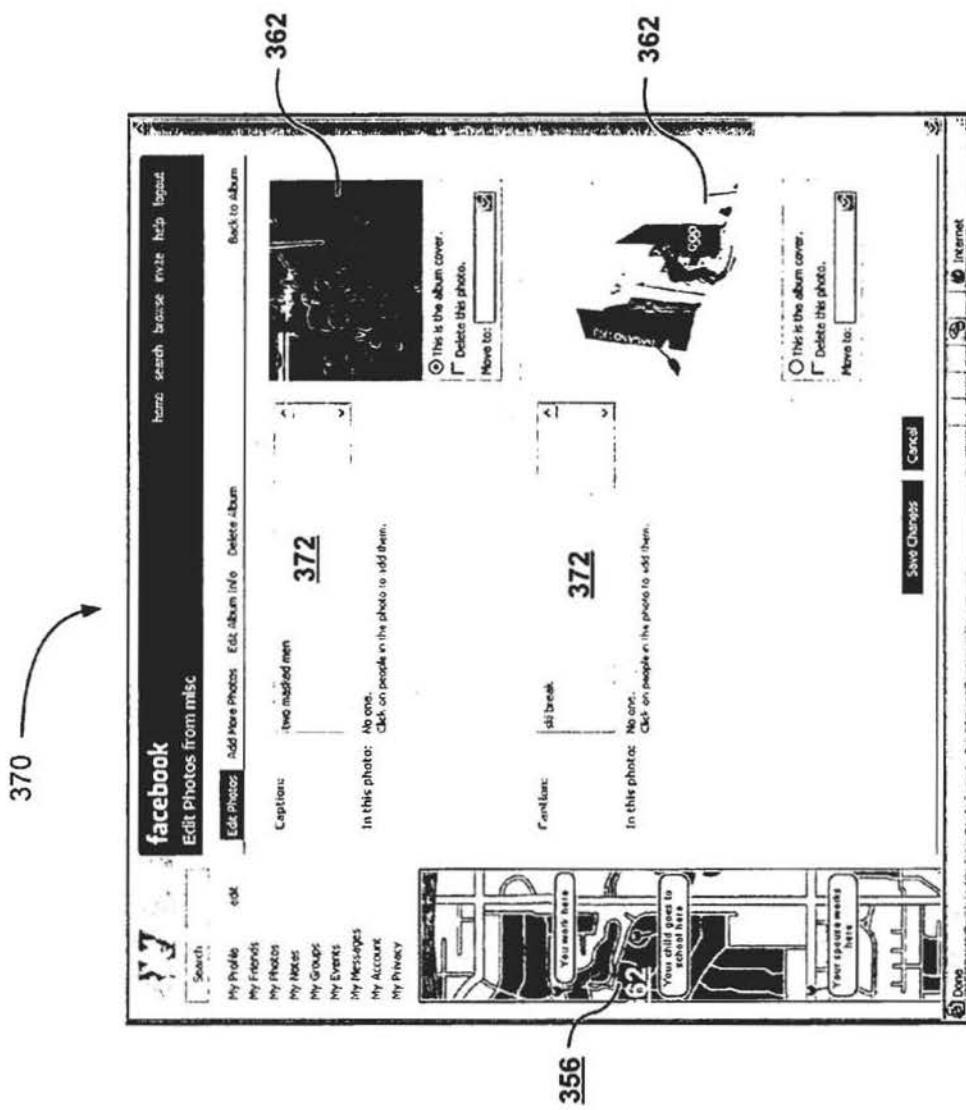
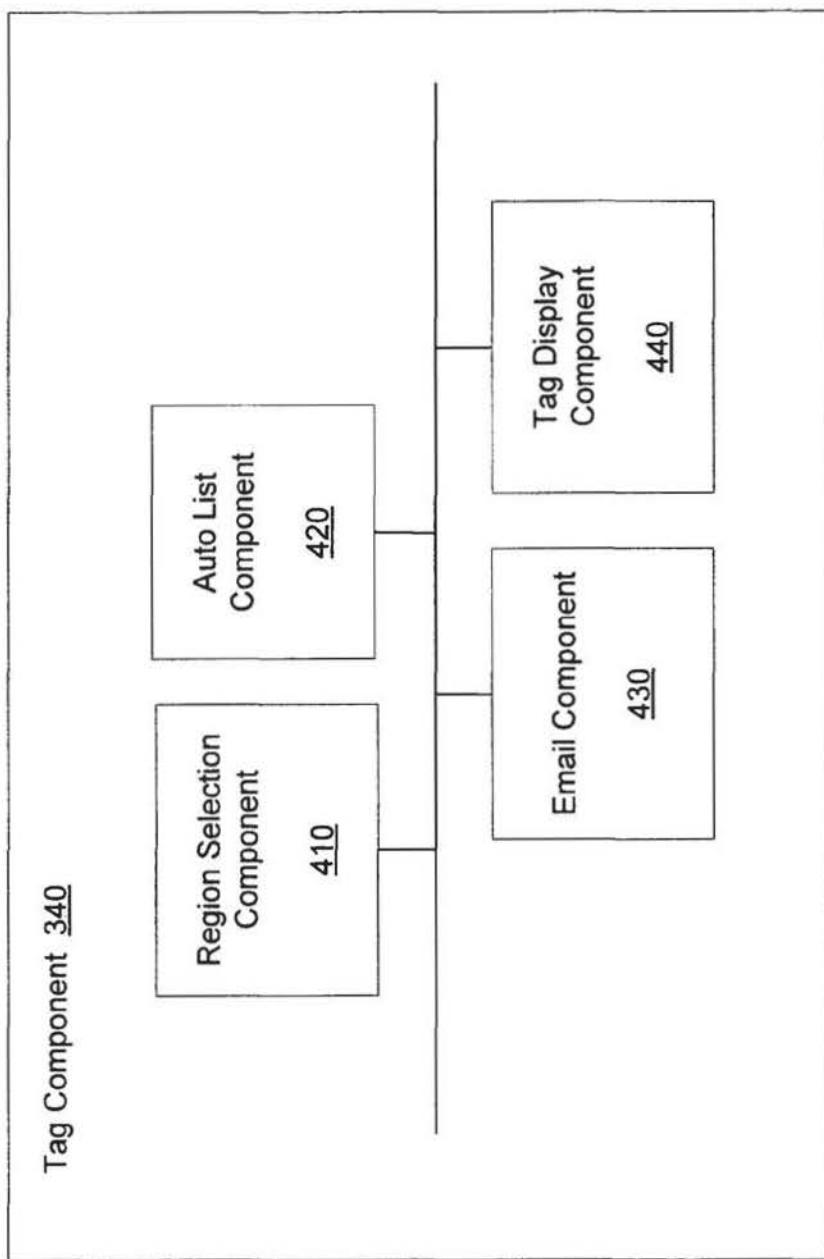


FIG. 3D

**FIG. 4**

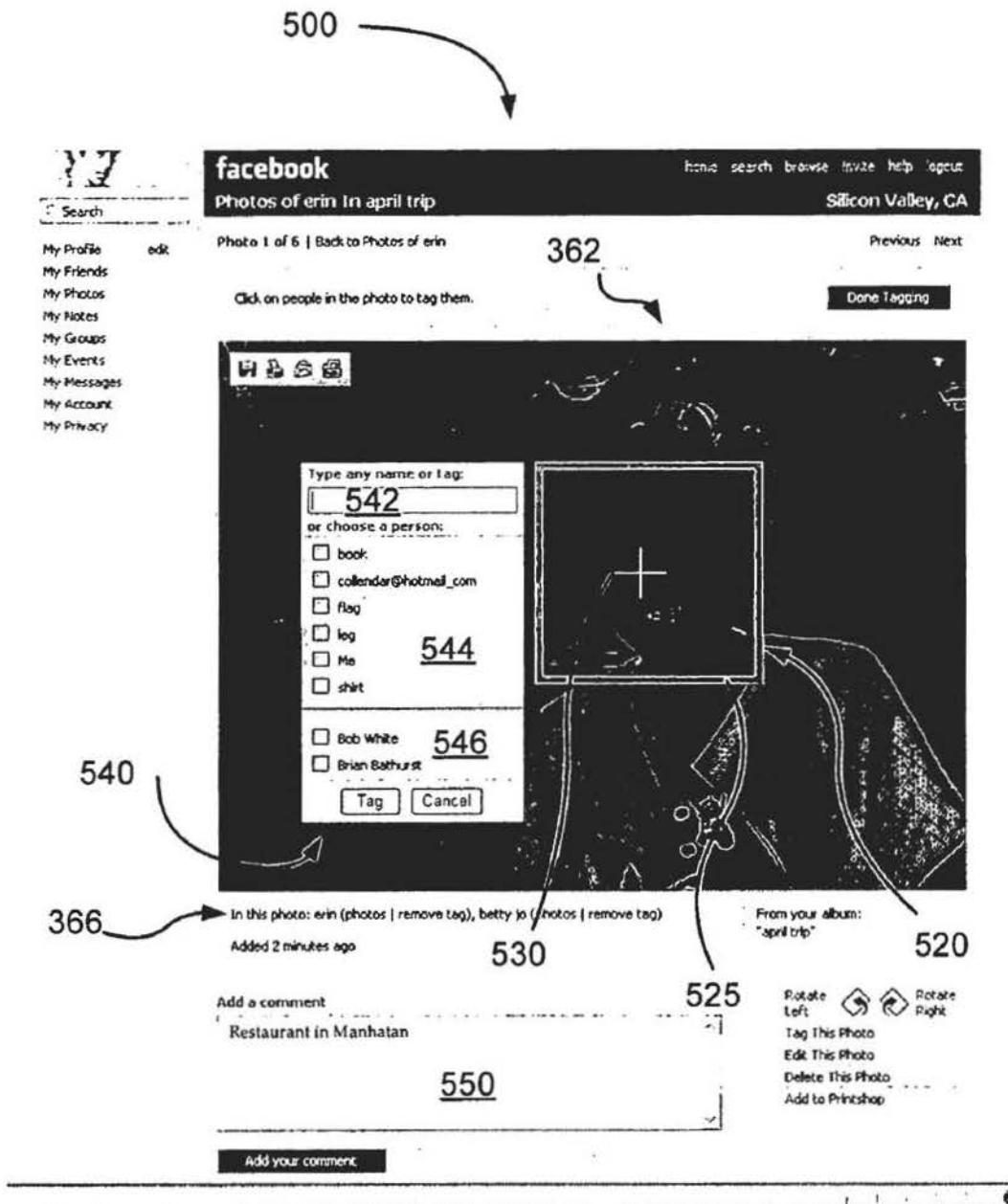


FIG. 5

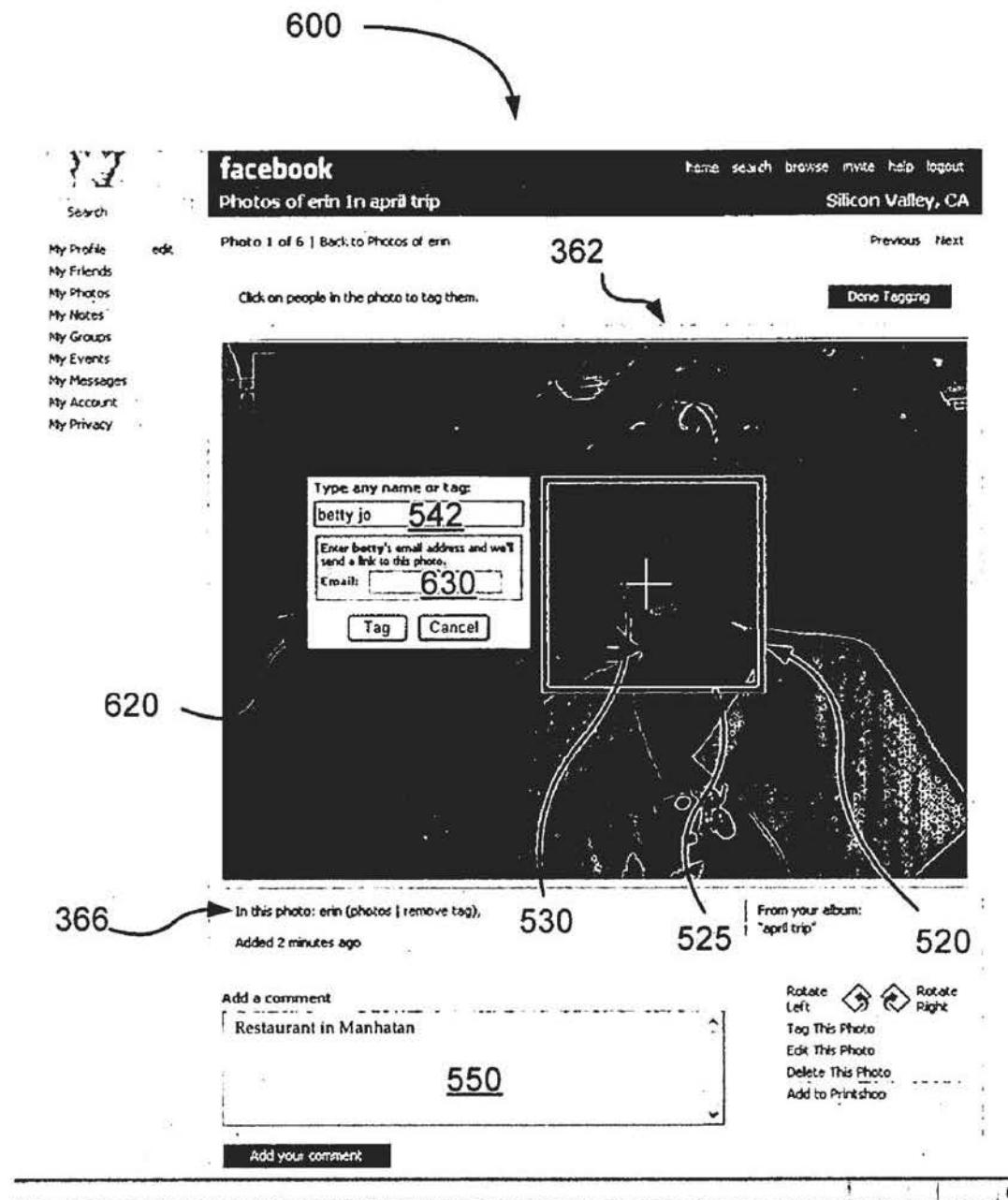


FIG. 6

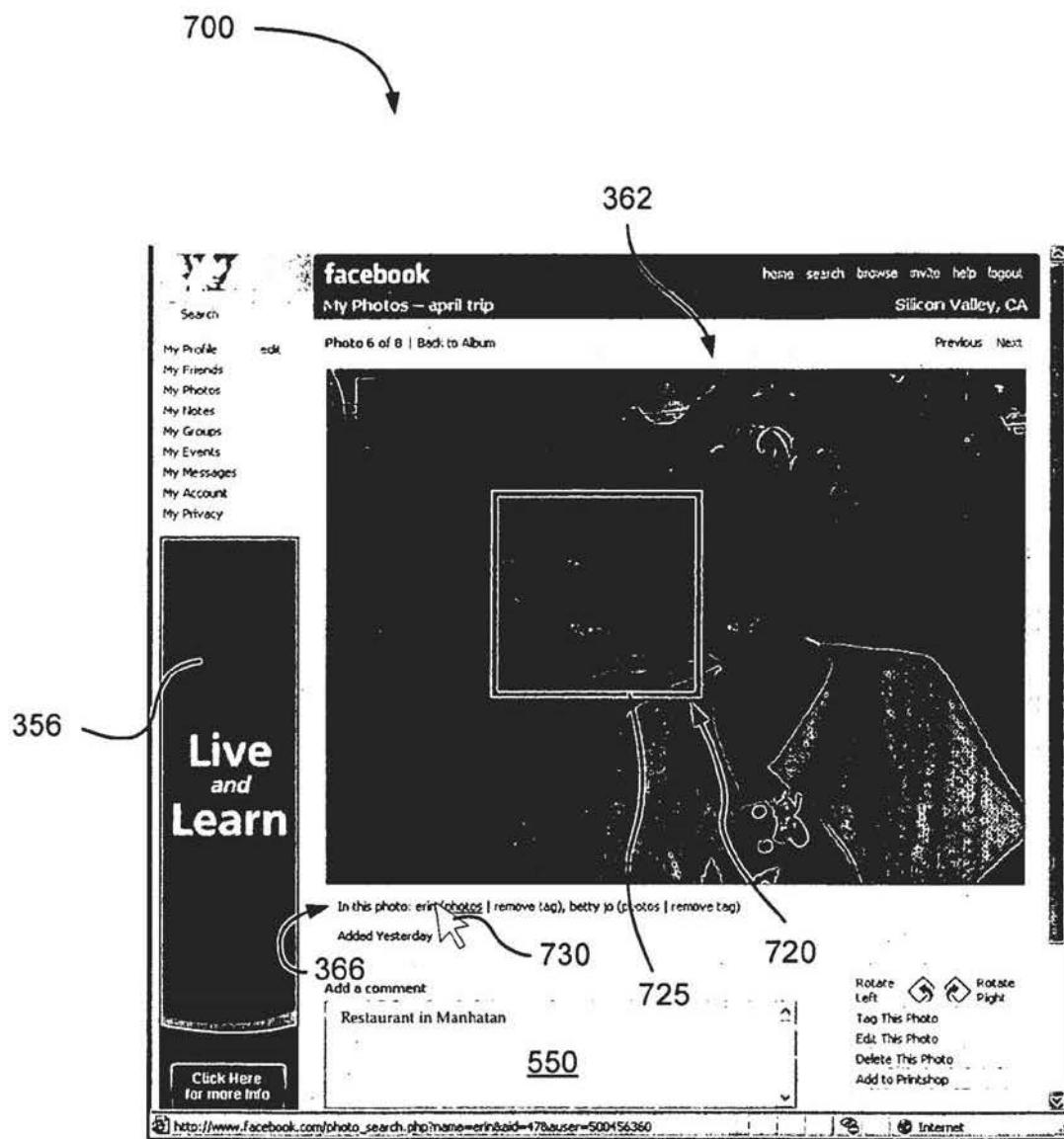


FIG. 7

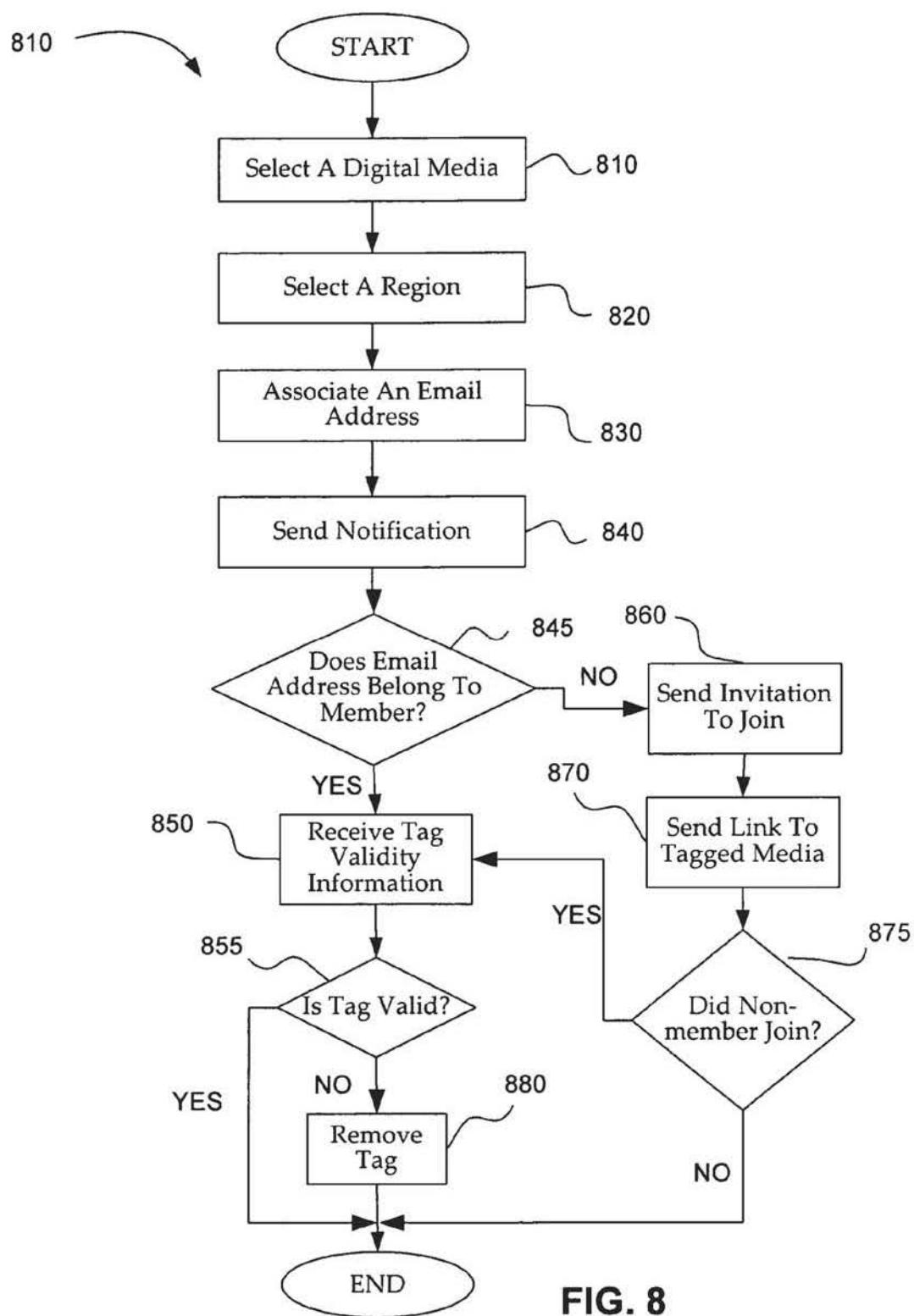


FIG. 8

1**TAGGING DIGITAL MEDIA****CROSS-REFERENCE TO RELATED APPLICATIONS**

The present application incorporates by reference U.S. Provisional Patent Application Ser. No. 60/750,844 filed on Dec. 14, 2005 for "Systems and Methods for Social Mapping," U.S. Provisional Patent Application Ser. No. 60/753,810 filed on Dec. 23, 2005 for "Systems and Methods for Social Timeline," U.S. patent application Ser. No. 11/493,291 filed on Jul. 25, 2006 for "Systems and Methods for Dynamically Generating a Privacy Summary," U.S. patent application Ser. No. 11/502,757 filed on Aug. 11, 2006 for "Systems and Methods for Generating Dynamic Relationship-Based Content Personalized for Members of a Web-Based Social Network," U.S. patent application Ser. No. 11/503,093 filed on Aug. 11, 2006 for "Systems and Methods for Measuring User Affinity in a Social Network Environment," U.S. patent application Ser. No. 11/503,037 filed on Aug. 11, 2006 for "Systems and Methods for Providing Dynamically Selected Media Content to a User of an Electronic Device in a Social Network Environment," and U.S. patent application Ser. No. 11/503,242 filed on Aug. 11, 2006 for "System and Method for Dynamically Providing a News Feed About a User of a Social Network."

FIELD OF THE INVENTION

The present invention relates generally to internet digital content, and more particularly to systems and methods for tagging digital media.

DESCRIPTION OF RELATED ART

Various websites have developed systems for organizing photos into albums available for viewing by other network users.

Some social networking websites offer mechanisms that may allow the user to select particular photos or albums for immediate viewing. Typically, however, these photos are disparate and disorganized. In other words, the user must spend time visually searching through albums, photo by photo, for individuals or objects that are not presented in a coherent or consolidated manner. Often, many of the photos do not depict persons or objects of interest to the user. Just as often, the user remains unaware of the existence of some photos that were overlooked. What is needed is a method to organize digital media and automatically generate notifications to persons or entities interested in the digital media.

SUMMARY OF THE INVENTION

The present invention includes systems and methods for tagging digital media in a social network environment administered by a social network server. In various embodiments, digital media may include digital images, digital video, digital audio, digital audio visual media, computer games, digital books, digital text, and/or the like. A user of a social network may upload digital media (e.g., a digital image) to a file (e.g., an album) on their web page thus becoming a media owner of the digital image. The media owner may select and tag a region of the image by clicking on a point in the digital image to select the region and typing appropriate text to tag the region. The media owner may select and tag multiple regions. In one embodiment, the tagged region is indicated by a border superimposed over the digital image. In one embodiment, the

2

tagged text is displayed with the image, and the border is viewed by selecting the tagged text (e.g., by placing the cursor over the tagged text). Users in the social network environment may visit the media owner's web page via the network and select the tagged text to view the tagged region in the digital image. In some embodiments, other users can tag the media owner's images.

In some embodiments, the tagged text includes contact information (e.g., an email address) identifying a tagged user within the social network environment. In various embodiments, contact information includes an email address, a phone number, a mailing address, a user account, a user name, a text message number, a voice mail user number, a pager number, an instant message address, and/or the like. Contact information may also include a name of a person or entity or information regarding a third person or entity. The tagged user may receive an automatic email notification via the social network that his or her email address has been used to tag the digital image. The notification may include a hyperlink providing the tagged user an opportunity to view the digital media and tagged region, and/or visit the media owner's web page. The hyperlink may further provide the tagged user an opportunity to confirm or disaffirm the tagged text that includes the email address. When the tagged text has been disaffirmed, tags may not be displayed to other users visiting the media owner's web page.

In some embodiments, the tagged text includes contact information (e.g., an email address) for a tagged non-user outside the social network environment (non-member). The tagged non-user may receive an automatic email notification via the internet that his or her email address has been used to tag the digital media. The notification may include a hyperlink providing the tagged non-user an opportunity to view the digital media and the tagged region and, optionally, visit the owner's web page. The hyperlink may further provide the tagged non-user an invitation to become a member of the social network environment. Upon becoming a member of the social network environment, the tagged non-user and may visit the owner's web page (as a tagged user) and confirm or disaffirm the tagged text including the tagged non-user's email address.

Exemplary embodiments describe methods for tagging digital media. In some embodiments, the methods include selecting the digital media and selecting a region within the digital media. The method further includes associating a person or entity with the selected region within the digital media and may further include sending a notification of the association to the person or entity, or to a third person or entity.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates an exemplary social network environment for tagging digital media;

FIG. 2 is a block diagram of an exemplary social network provider;

FIG. 3A is a block diagram of an exemplary media engine;

FIG. 3B is an exemplary screen shot of an album web page;

FIG. 3C is an exemplary screen shot of a digital image web page;

FIG. 3D is an exemplary screen shot of a digital image edit web page;

FIG. 4 is a block diagram of an exemplary tag component;

FIG. 5 is an exemplary screen shot of a tag web page;

FIG. 6 is an exemplary screen shot of a tag web page;

FIG. 7 is an exemplary screen shot of a tag web page; and

FIG. 8 is a flow diagram of an exemplary process for tagging digital images in a social network.

DETAILED DESCRIPTION

FIG. 1 illustrates an exemplary environment for tagging digital media, such as in a social network environment 100. One or more users 101, at user devices 110, are coupled to a social network provider 130 via a communications network 120. In various embodiments, user devices 110 include a computer terminal, a personal digital assistant (PDA), a wireless telephone, a digital camera, and/or the like. In various embodiments, the communications network 120 includes a local area network (LAN), a wide area network (WAN), a wireless network, an intranet, an internet, and/or the like. In one embodiment, users 101 comprise various types of users, including a user who is a digital media owner 101a (e.g., a user 101 who uploads digital media) and a user who is a tagged user 101b (e.g., a user 101 associated with a region in the digital media). In various embodiments, digital media includes digital images, digital video, digital audio, digital audiovisual media, digital text, digital books, online game icons, online game avatars, and/or the like. For the purposes of illustration, digital images are discussed herein. However, one skilled in the art would understand that the discussion applies equally to a wide variety of digital media. The use of digital images is not intended to be limiting.

The social network provider is an entity or person that provides social networking services, communication services, dating services, company intranets, online games, and so forth. For example, the social network provider 130 may host a website that allows one or more users 101, e.g., the media owner 101a and/or the tagged user 101b, at one or more user devices 110, to communicate with one another via the website. The social network environment 100 offers users 101, e.g., the media owner 101a, an opportunity to connect or reconnect with the one or more other users 101, e.g., the tagged user 101b and/or other users 101 that attended, for example, the same university as the media owner 101a. In some embodiments, a social network environment 100 includes a segmented community. A segmented community according to one embodiment is a separate, exclusive or semi-exclusive social network environment 100, or social network environment 100 wherein each user 101 who is an authenticated segmented community member may access and interact with other members of their respective segmented community.

The social network environment 100 may further offer users 101 an opportunity to connect or reconnect with one or more non-users outside the social network environment 100. One example of such non-user is a tagged non-user 102. The tagged non-user 102 may be coupled to the social network provider 130, at a user device 110 via the communications network 120.

The social networking environment 100 further includes a media engine 135. The media engine 135 is configured to provide the user 101 media services for manipulating media (e.g., digital images) within the social network environment 100. Examples of digital image manipulation include creating albums within the user's 101 web page, uploading digital images to the user's 101 albums, associating captions with the digital images, tagging the digital images with information about regions within the digital images, stacking digital images, deleting digital images, deleting albums, and the like.

Referring now to FIG. 2, a block diagram of an exemplary social network provider, such as the social network provider 130 shown in FIG. 1, is shown. The social network provider

130 includes a profile database 202, a communications interface 204, a monitoring module 206, a media database 210, a display engine/GUI 208, an activity database 212, and an advertising module 214. Although the social network provider 130 is described as being comprised of various components (the profile database 202, the communications interface 204, the monitoring module 206, the display engine/GUI 208, the media database 210, the activity database 212, and the advertising module 214), fewer or more components may 10 comprise the social network provider 130 and still fall within the scope of various embodiments.

The profile database 202 is provided for storing data associated with each of the users, such as the user 101 associated with user device 110. When the user 101 subscribes to services provided by the social network provider 130, a user profile may be generated for user 101. For example, the user 101 may select privacy settings, provide contact information, provide personal statistics, specify memberships in various organizations, indicate interests, list affiliations, post class 15 schedules, detail work activities, or group other users 101 according to one or more categories. When the user 101 adds additional information to the user profile, such as adding additional albums, the user profile in the profile database 202 may be updated with icons of the additional albums. The user profile may be stored, modified, added, and so forth to any storage medium. A timestamp may be associated with the user profile, in the profile database 202. Examples of timestamps include order of occurrence in the profile database 202, date, time of day, and the like.

According to some embodiments, the user profile is created outside of the social network environment 100 and provided to the profile database 202 for local access by the social network provider 130. Alternatively, the profile database 202 is located remotely and accessed by the social network provider 130.

The communications interface 204 is configured to communicate with users 101, such as via the user device 110 over the network 104. The user device 110 communicates various types of information, such as digital media (e.g., digital images), privacy settings selections, groupings of other users 101, and so forth, to the social network provider 130 via the communications interface 204. Any type of communications interface 204 is within the scope of various embodiments.

The monitoring module 206 tracks one or more user's 101 activities on the social network environment 100. For example, the monitoring module 206 can track the user's 101 interaction with one or more items of digital media, such as digital images, news stories, other users' 101 profiles, email to other users 101, chat rooms provided via the social network provider 130, and so forth. Any type of user activity can be tracked or monitored via the monitoring module 206. The information, digital media (e.g., digital images), people, groups, stories, and so forth, with which the user 101 interacts, may be represented by one or more objects, according to various embodiments. The monitoring module 206 may determine an affinity of the user 101 for subjects, other user's 101 digital images, relationships, events, organizations, and the like, according to users' 101 activities.

The display engine/GUI 208 displays the one or more items of digital media (e.g., digital images), profile information, and so forth, to users 101. Users 101 can interact with the social network provider 130 via the display engine/GUI 208. For example, users 101 can select albums, access individual digital images, access other users' 101 digital images available via the social network provider 130, and so forth, via the display engine/GUI 208. The albums and/or digital images may be displayed in a field in the display engine/GUI 208.

The media database 210 is configured to store data about digital media (e.g., digital images) for users 101. Information about the digital images includes album location, captions, tags, date information, access privileges, and the like. In various embodiments, the media owner 101a can assign an image to a selected album, associate captions with the images, and associate tags with the images, using the media database 210. In one embodiment, the media owner 101a may tag a digital image using the email address of the tagged user 101b and associating the email address with a region of the digital image. The association between the digital image and the email address may be stored in the media database 210. The media owner 101a can store access privileges to a digital image, according to groups, networks, and so forth, in the media database 210.

The activity database 212 is configured to store activity data (e.g., tracked by the monitoring module 206) about each user 101. The activities may be tracked by the monitoring module 206. Activities monitored by the monitoring module 206 may be stored in the activity database 212. Activity entries in the activity database 212 may include a timestamp indicating time and date of the activity, the type of activity, the user 101 initiating the activity, any other users 101 who are objects of the activity, and the like. Activities may be stored in multiple databases, including the activity database, the profile database, the relationship database, and so forth. Examples of activities stored in the activity database 212 include creating albums, uploading digital images, deleting digital images, deleting albums, tagging digital images, and/or the like. For example, an entry in the activity database 212 may record that a digital image was uploaded to an album at 14:52 on March 31, or that the digital image was tagged at 15:12 on March 31.

According to various embodiments, one or more networks are provided for each user 101 within the social network environment 100. For example, user 101 may have a network comprised of other users 101 within the social network environment who are grouped according to a university attended, a network comprised of people grouped according to the user's geographical location of residence, a network comprised of people grouped according to a common field of work, a network comprised of people grouped according to a particular business, and so forth. A common network may establish a relationship between user 101 and other users 101 in the common network.

The advertising module 214 is configured to provide advertising to users 101 via the communications interface 204 and/or the display engine/GUI 208. The advertising module 214 may determine appropriate advertising using the profile database 202, the monitoring module 206, and/or the activity database 212. For example, the monitoring module 206 may communicate to the advertising module 214 that a digital image upload is in progress via the communications interface 204. The advertising module 214 selects the advertising according to the profile of the user 101 in the profile database 202 and displays the advertising to the user 101 via the display engine/GUI 208 during the upload. Since the user 101 is likely to be focused on the display, watching for the upload to complete, the advertising module 214 may further tailor selection of the advertising for effect on the focused user 101.

Any type of network may be provided by the social network provider 130. In other words, a network may comprise people grouped according to any type of category, such as various social networks described herein, like "friends," "geographical location," and so forth. User 101 may specify the networks, the categories, subcategories, and so forth and/or these may be predetermined by the social network provider 130. The networks, categories, the subcategories, and so

forth, may comprise a relationship with the user 101, as discussed herein, but do not necessarily comprise the only relationship user 101 has with the other users 101.

FIG. 3A is a block diagram of an exemplary media engine 135. The media engine 135 is configured to provide the user 101 media services for manipulating digital media (e.g., digital images) within the social network environment 100. Examples of digital image manipulation include creating albums within the user's 101 web page, uploading digital images to the user's 101 albums, associating captions with the digital images, tagging the digital images with information about regions within the digital images, deleting digital images, deleting albums, and the like.

The media engine 135 includes an optional album component 310, a digital media component 320, a digital image edit component 330, and a tag component 340. Although the media engine 135 is described as being comprised of various components (e.g., the album component 310, the digital media component 320, the digital image edit component 330, and the tag component 340), fewer or more components may comprise the media engine 135 and still fall within the scope of various embodiments.

The album component 310 is configured to create albums and/or delete albums. An album may be a collection of digital media (e.g., digital images, digital audio, digital video, and/or the like). Various embodiments of an album include a list of digital media, a folder containing media files, a file, and/or the like.

FIG. 3B is an exemplary screen shot of an album web page 350. The album web page 350 includes one or more album icons 352. In various embodiments, creating an album includes assigning a name to the album, recording a time stamp for the album, recording descriptive text about the album, assigning access privileges for who can view and/or modify the contents of the album, and the like.

The album component 310 is further configured to display information about the album. In some embodiment, the information about the albums includes a list of albums and the number of albums associated with the user 101. The album component 310 further includes an optional album caption 354. The album caption 354 may include, in various combinations, an album name, a time stamp, descriptive text about the album, privilege information, the number of digital images in the album, the access privileges, and the like. In some embodiments, the album component 310 uses a digital image from the album as the album icon 352. In various embodiments, the album component 310 displays further information about the albums including which album is the most recently updated, which album is the most popular, which albums contain digital images that have been tagged by other users 101, and/or the like.

Optionally, the album component 310 displays advertising 356, which may be received from the advertising module 214. In various embodiments, the album component 310 includes one or more links 358 and software code configured to view the album and/or the contents of the album, edit the album and/or the contents of the album, print the album and/or the contents of the album, share the album and/or the contents of the album with other users 101, and the like. In some embodiments, a privacy setting 359 may be associated with the album by the album component 310. The privacy setting 359 may limit access to, for example, users 101 who are friends of the media owner 101a, any user 101 of the social network environment 100 who is within the media owner's 101a personal network, any user 101 of the social network environment 100, and so forth.

FIG. 3C is an exemplary screen shot of a digital image web page 360. The digital media component 320 is configured to upload digital media (e.g., one or more digital images 362) to an album. In various embodiments, the digital images 362 may be uploaded from a local disk on the user device 110, a personal digital assistant, a cell phone, a camera, remote user device 110, and the like. Optionally, the digital media component 320 resizes the digital image 362 while uploading the digital image 362. The digital images 362 may be uploaded to a storage device associated with the social network environment (e.g., a storage device on the user device 110, the social network provider 130, and/or the like). According to some embodiments, the digital images 362 are stored outside of the social network environment 100 and provided to the digital media component 320 for local access via the social network provider 130. Alternatively, the digital images 362 are located remotely and accessed by the social network provider 130. The digital media component 320 is further configured to delete digital images 362 from the album.

The digital media component 320 is further configured to display information about the digital images 362. In some embodiments, the information about the digital images 362 includes a list of digital images 362 in the album and the number of digital images 362 in the album that are associated with the user 101. In various embodiments, the information further includes, for each digital image 362, the name of the digital image 362, a representative icon, a date stamp, the access privileges, and the like. In some embodiments, the digital media component 320 provides the user 101 an option to select a digital image 362 for use in the album as the representative icon for an album. In various embodiments, the digital media component 320 displays further information about the digital images 362 including which digital image 362 is the most recently updated, which digital image 362 is the most popular, which digital images 362 have been tagged by other users 101, and the like. Optionally, the digital media component 320 displays advertising 356, which may again be received from the advertising module 214. In various embodiments, the digital media component 320 includes links and software code configured to view the digital image 362, edit the digital image 362, print the digital image 362, share the digital image 362 with other users 101, and the like. In some embodiments, the digital media component 320 includes a tag list 366.

FIG. 3D is an exemplary screen shot of a digital image edit web page 370. The digital image edit component 330 is configured to provide the user 101 with various editing functions to apply to the digital images 362. In various embodiments, the editing functions include rotation, sizing, color adjustment, cropping, tagging, and the like. For example, captions for the digital images 362 may be entered in a caption text entry box 372. In some embodiments, a radio button may be used to designate the corresponding digital image 362 as the album icon 352. The tag component 340 is configured to select a region in the image and associate text with the region. In some embodiments, the tag component 340 includes digital image editing functions.

Although digital images 362 and information about the digital images 362 are described as being manipulated and/or displayed by the various components of media engine 135, the media engine 135 may manipulate and display information about various other forms of digital media, including digital images, digital video, digital audio, digital audiovisual media, digital text, and/or the like.

FIG. 4 is a block diagram of an exemplary tag component 340. The tag component 340 includes a region selection component 410, an auto list component 420, a tag display com-

ponent 440, and an email component 430. The operation of these components is discussed below with reference to FIG. 5. Although the tag component 340 is described as being comprised of various components (e.g., the region selection component 410, the auto list component 420, the email component 430, and the tag display component 440), fewer or more components may comprise the tag component 340 and still fall within the scope of various embodiments. Although the tag component 340 is described as operating on digital images 362, the tag component 340 may operate on various digital media, e.g., digital images, digital video, digital audio, digital audiovisual media, digital text, and/or the like.

FIG. 5 is an exemplary screen shot of a tag web page 500 illustrating various functions of the components of the exemplary tag component 340. The region selection component 410 is configured to receive input from a user 101 (e.g., the media owner 101a, the tagged user 101b, and etc.) and/or a non-member, (e.g., the tagged non-user 102). The region selection component 410 is further configured to select a region (e.g., a selected region 520) within a digital image 362 according to the input. In some embodiments, the user 101 moves a cursor 530 on the user device 110 to a point in the digital image 362 using a mouse, trackball, track pad, or the like. The user 101 clicks on the point and the region selection component 410 places a border 525 around the selected region 520. In various embodiments, the shape of the selected region 520 may be a rectangle, circle, ellipse, or polygon. The size of the selected region 520 may be fixed, may be determined by the user 101, or may be automatically determined. In various embodiments, the point the media owner 101a clicks on may be in the center, a corner, or some other location of the selected region 520.

The social network environment 100 further includes a media engine 135. The media engine 135 is configured to provide the user 101 media services for manipulating media (e.g., digital images) within the social network environment 100. Examples of digital image manipulation include creating albums within the user's 101 web page, uploading digital images to the user's 101 albums, associating captions with the digital images, tagging the digital images with information about regions within the digital images, stacking digital images, deleting digital images, deleting albums, and the like.

A comment field 550 may contain text including general information related to the digital image 362. Text may be entered into the comment field 550 by the media owner 101a of the image.

The auto list component 420 is configured to present a list of likely tags to the user 101 to associate with the selected region 520. In one embodiment, a tag list 540 pops-up upon clicking on the selected region 520. The tag list 540 may include a text entry window 542 and a list of previously used tags. As text is entered in the text entry window 542, the list of previously used tags may be culled to include only those that match the text in some manner. In some embodiments, the list of previously used tags includes a text list 544 and a friends list 546. Examples of text strings in the text list 544 include names, words, objects, email addresses, phone numbers, user accounts, user names, text message numbers, voice mail user number, pager numbers, instant message addresses, and/or the like. Examples of entries in the friends list 546 include contacts within the social network environment 100, approved contacts, selected email addresses, selected phone numbers, selected instant message addresses, selected text message addresses, and/or the like. Clicking any of the previously used tags may associate the tag with the selected

region 520. Clicking any of the entries in the friends list 546 may associate the friend's email address with the selected region 520.

Turning now to FIG. 6, an exemplary screen shot of a tag web page 600 further illustrating various functions of the components of the exemplary tag component 340 is shown. The tagged user 101b and/or the tagged non-user 102 may be notified that they have been tagged. The screen shot of the tag web page 600 differs from the tag web page 500 in that an email box 620 is displayed by the email component 430 on the digital image 362, instead of the tag list 540. The email component 430 may be configured to receive contact information (e.g., an email address) for a tagged non-user 102 and/or a tagged user 101b. In further embodiments, content information may also include a name of a person or entity, or information for a third person or entity. In some embodiments, the email component 430 is configured to send a notification to the tagged user 101b and/or to a tagged non-user 102, that they have been tagged in a digital image 362. Optionally, the email component 430 may be configured to send a notification to a third person or entity that a digital image 362 has been tagged.

In some embodiments, the email component 430 determines that text in the text entry window 542 may correspond to an unknown person, and presents the email box 620. The email box 620 includes an email entry field 630. If the user 101 enters an email address, the email component 430 is configured to send the notification to the email address entered in the email entry field 630.

If the email address entered in the email entry field 630 corresponds to a user in the social network (e.g., a tagged user 101b), the email notification may include a link to the tagged user 101b to view the tagged digital image 362 and/or confirm the tag. If the email address is not recognized by the email component 430 as an email address for a user 101 (e.g., a member of the social network environment 100) then the email component 430 may presume that the email address corresponds to a non-member (e.g., a tagged non-user 102). The email notification that may be sent to the tagged non-user 102 may include a link to view the tagged digital image 362 and/or confirm the tag. The email notification may further provide an invitation to become a member of the social network environment 100. In some embodiments, the tagged non-user 102 may be permitted to view the tagged digital image 362 but not confirm the tag until becoming a member of the social network environment 100. The email notification may further include advertising, e.g., advertising generated by the advertising module 214.

Turning now to FIG. 7, an exemplary screen shot of a tag web page 700 is shown. FIG. 7 includes a selected region 720, a border 725, and a cursor 730. The screen shot of the tag web page 700 differs from the tag web page 500 in that the border 725 associated with a tag "erin" is displayed in a different location on the digital image 362 instead of the border 525. The selected region 720 differs from the selected region 520 in FIG. 5-6, in that a different region of the image 362 is selected. The cursor 730 differs from the cursor 530 in that the cursor 730 is pointing to the tag "erin" in the tag list 366 instead of a point in the image 362.

FIG. 7 illustrates the tag list 366 including two tags, namely, "erin" and "betty jo." The tag display component 440 is configured to permit the user 101 to display entries in the tag list 366 that have been associated with selected regions 720 in the digital image 362. Multiple selected regions 720

may be associated with tags. In one embodiment, the tag display component 440 highlights selected regions 720 associated with entries in the tag list 366 when the cursor hovers near and/or over entries in the tag list 366. FIG. 7 illustrates the cursor 730 hovering over the tag "erin" in the tag list 366. The tag display component 440 highlights the selected region 720 using the border 725. In some embodiments, the advertising module 214 provides advertising 356 to the tag display component 440 for display while the user 101 is viewing the digital image 362 and/or tags, or adding tags and/or adding comments.

FIG. 8 is a flow diagram of an exemplary process 800 for tagging digital media, (e.g., the digital images) such as in a social network (e.g., the social network environment 100). At step 810, an item of digital media (e.g., a digital image 362) in the social network environment 100 is selected for tagging. In various embodiments, the digital image 362 is selected by a member of the social network environment 100, e.g., a user 101, the media owner 101a, the tagged user 101b, and the like, via a user device 110. In some embodiments, the digital image 362 is selected by a non-member of the social network environment 100. The social network provider 130 may receive the selection from the user 101 via the communications network 120.

At step 820 a region (e.g., the selected region 520) in the digital image 362 is selected for association with a tag. In some embodiments, the user 101 selects the selected region 520 using a mouse, trackball, touch pad, or the like to move a cursor (e.g., the cursor 530) to a point within the image 362, and clicking on the point. Optionally, the user 101 clicks on a point with the cursor 530 and drags the cursor 530 to another point (e.g., click and drag) to define the selected region 520. In some embodiments, the region selection component 410 displays a border (e.g., the border 525) to indicate the selected region 520.

At step 830 contact information (e.g., an email address) is associated with the selected region 520 using a tag. Contact information may also include a name of a person or entity, or information for a third person or entity. A tag in the form of text may be associated with the selected region 520. In various embodiments, the text may include a hyperlink, an email address and/or user address of a friend in the social network environment 100, an email address and/or user address of a user 101 of the social network environment 100, an email address of a non-member of the social network environment 100, a phone number, an instant text message address, a pager number, a text message number, a mailing address, and/or the like. The tag may be input by the user 101. In some embodiments, the tag is suggested by the auto list component 420 of the tag component 340. Optionally, the social network provider 130 selects the tag.

At step 840 a notification of the tag is sent. In one embodiment, the notification of the tag is sent to the email address associated with the selected region 520, for example, using the email component 430. In further embodiments, the notification of the tag is sent to a third person or entity. In some embodiments, the notification includes a link enabling the tagged user 101b, or the tagged non-user 102, to view the tagged digital image 362. Optionally, the notification sent at step 840 includes an invitation to become a member of the social network environment 100 and/or advertising, e.g., advertising generated by the advertising component module 214.

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At step 845 it is determined if the email address belongs to a user 101 who is member of the social network environment 100 (e.g., the tagged user 101b). If the email address belongs to the tagged user 101b then the method proceeds to step 850 in which tag validity information is received from the tagged user 101b. In some embodiments, step 850 includes displaying the digital image 362 and tag to the tagged user 101b and providing the tagged user 101b an option to confirm the tag or disaffirm the tag (e.g., using radio buttons).

At step 855 it is determined if the tag is valid. For example, if the tagged user 101b confirms the tag in step 850 then the tag is valid. However, if the tagged user 101b disaffirms the tag in step 850 then the tag is not valid. If the tag is valid, the method 800 ends. If the tag is not valid then the method proceeds to step 880 and removes the tag and ends. In some embodiments, the media owner 101a can override the validity information. Optionally, the tag is hidden from users 101 other than the media owner 101a instead of removed.

If the email address does not belong to a user 101 who is a member of the social network environment 100 (e.g., belongs to the tagged non-user 102) the method proceeds to step 860. In step 860 an invitation is sent to the tagged non-user 102 to become a member of the social network environment 100. The invitation to become a member of the social network environment 100 may include a link to a membership registration web page. Optionally, the advertising module 214 attaches advertising to the invitation to become a member of the social network environment 100 at step 860. In optional step 870, a link is sent to the digital image 362 that will enable the tagged non-user 102 to view the digital image 362 and the tag associated with a region 520. In an alternative embodiment, at step 870 the digital image 362 associated with the tagged text, is sent to the tagged non-user 102 for viewing the digital image 362 and the tagged text associated with the region 520.

In one embodiment, the tagged non-user 102 follows the link to the membership registration web page and optional step 875 determines if the tagged non-user 102 has become a member of the social network environment 100. The process proceeds to step 850 upon completion of the registration. If the tagged non-user 102 elects not to become a member of the social network environment 100, the method 800 ends. In some embodiments, if the tagged non-user 102 elects to become a member, the tagged non-user 102 becomes a tagged user 101b and thus may review the digital images 362 that have been tagged with the new tagged user's 101b email address at any time.

Several embodiments are specifically illustrated and/or described herein. However, it will be appreciated that modifications and variations are covered by the above teachings and within the scope of the appended claims without departing from the spirit and intended scope thereof. For example, media may be tagged with hyperlink to advertising. For example, video clips may be tagged. For example audio may be used instead of text to tag the digital media. For example, digital images may be used instead of text to tag the digital media. For example, hyperlinks to video may be used instead of text to tag the digital media. For example, objects in online games may be tagged. Various embodiments of the invention include logic stored on computer readable media, the logic configured to perform methods of the invention.

The embodiments discussed herein are illustrative of the present invention. As these embodiments of the present invention are described with reference to illustrations, various

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modifications or adaptations of the methods and or specific structures described may become apparent to those skilled in the art. All such modifications, adaptations, or variations that rely upon the teachings of the present invention, and through which these teachings have advanced the art, are considered to be within the spirit and scope of the present invention. Hence, these descriptions and drawings should not be considered in a limiting sense, as it is understood that the present invention is in no way limited to only the embodiments illustrated.

What is claimed is:

1. A method comprising:

receiving from a device of a first user a selection of an item of digital media, wherein the item of digital media is stored in a database;

receiving from the device of the first user an identification of a person associated with the selected item of digital media;

responsive to receiving the information identifying the person, sending a notification to a device of a second user that the person has been identified in connection with the item of digital media; and

enabling the identified person to reject the identification, wherein the identified user is different from the first user.

2. The method of claim 1, wherein the notification comprises an email.

3. The method of claim 1, wherein the digital media is accessible in a social networking system, and the identified person is a user of the social networking system.

4. The method of claim 1, wherein the item of digital media comprises a digital image.

5. The method of claim 1, wherein the item of digital media comprises at least one of digital video, digital audio, and digital text.

6. The method of claim 1, wherein the second user is the person who has been identified in connection with the item of digital media, whereby the person identified in connection with the item of digital media is notified of the identification.

7. The method of claim 1, wherein the second user is a person other than the person who has been identified in connection with the item of digital media.

8. The method of claim 1, wherein sending the notification that the person has been identified further comprises:

receiving contact information of the person from a server computer; and

sending the notification to the person using the received contact information.

9. The method of claim 1, wherein the information identifying the person associated with the selected item of digital media is received from a user other than the first user.

10. The method of claim 1, further comprising:
receiving a response from the person accepting the identification;

responsive to receiving the response, storing at the server the identification of the person in connection with the item of digital media.

11. The method of claim 1, further comprising:
receiving a response from the person rejecting the identification;

responsive to receiving the response, removing the identification of the person in connection with the item of digital media.

12. The method of claim 1, further comprising:
determining whether the identified person is a user of a social networking system; and

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responsive to determining that the identified person is not a user of the social networking system, sending to the person an invitation to join or use the social networking system.

13. The method of claim 1, wherein receiving information identifying the person comprises:

- receiving one or more text characters;
- displaying a list of names including the received text characters; and
- receiving a selection of a name from the list.

14. The method of claim 1, further comprising:

- receiving a selection of the item of digital media from a device of a third user;
- responsive to receiving the selection of the item of digital media, displaying the item of digital media with a tag for the person identified in connection with the item of digital media.

15. The method of claim 14, wherein the tag comprises a link to a webpage associated with the person.

16. The method of claim 14, further comprising:

- receiving a user interaction with the tag; and
- responsive to receiving the user interaction with the tag, displaying on the item of digital media an indication of a region within the item of digital media associated with the person identified.

17. A computer program product comprising a non-transitory computer-readable storage medium containing computer program code for:

- receiving from a device of a first user a selection of an item of digital media;
- receiving from the first user an identification of a person associated with the selected item of digital media;
- responsive to receiving the information identifying the person, sending a notification to a second user that the person has been identified in connection with the item of digital media; and
- enabling the identified person to reject the identification, wherein the identified user is different from the first user.

18. The computer program product of claim 17, wherein the notification comprises an email.

19. The computer program product of claim 17, wherein the item of digital media comprises a digital image.

20. The computer program product of claim 17, wherein the item of digital media comprises at least one of digital video, digital audio, and digital text.

21. The computer program product of claim 17, wherein the second user is the person who has been identified in connection with the item of digital media, whereby the person identified in connection with the item of digital media is notified of the identification.

22. The computer program product of claim 17, wherein the second user is a person other than the person who has been identified in connection with the item of digital media.

23. The computer program product of claim 17, wherein sending the notification that the person has been identified comprises:

- retrieving contact information of the person from a server computer; and
- sending the notification to the person using the retrieved contact information.

24. The computer program product of claim 17, wherein receiving information identifying the person comprises receiving the information from a third user.

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25. The computer program product of claim 17, wherein the medium further contains computer program code for:

- receiving a response from the person accepting the identification;
- responsive to receiving the response, storing the identification of the person in connection with the item of digital media.

26. The computer program product of claim 17, wherein the medium further contains computer program code for:

- receiving a response from the person rejecting the identification;
- responsive to receiving the response, removing the identification of the person in connection with the item of digital media.

27. The computer program product of claim 17, wherein the medium further contains computer program code for:

- determining whether the identified person is a user of a social networking system; and

- responsive to determining that the identified person is not a user of the social networking system, sending to the person an invitation to join or use the social networking system.

28. The computer program product of claim 17, wherein receiving information identifying the person comprises:

- receiving one or more text characters;
- displaying a list of names including the received text characters; and
- receiving a selection of a name from the list.

29. The computer program product of claim 17, wherein the medium further contains computer program code for:

- receiving a selection of the item of digital media from a third user;
- responsive to receiving the selection of the item of digital media, displaying the item of digital media with a tag for the person identified in connection with the item of digital media.

30. The computer program product of claim 29, wherein the tag comprises a link to a webpage associated with the person.

31. The computer program product of claim 29, wherein the medium further contains computer program code for:

- receiving a user interaction with the tag; and
- responsive to receiving the user interaction with the tag, displaying on the item of digital media an indication of a region within the item of digital media associated with the person identified

receiving from a device of a first user a selection of an item of digital media.

32. A method comprising:

- receiving from a device of a first user information tagging an entity in association with an item of digital media, wherein the item of digital media is stored in a database;
- storing the association between the identified entity and the item of digital media;
- responsive to receiving the information tagging the entity in association with the item of digital media, sending a notification of the tagging to a device of a second user; and

enabling the second user to reject the identification, wherein the identified entity is different from the first user.

33. A method comprising:

- receiving from a device of a first user a selection of a region of the item of digital media, wherein the item of digital media is stored in a database;
- receiving information identifying a person associated with the selected region of the item of digital media;

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receiving a selection of the item of digital media from a device of a second user;
responsive to receiving the selection of the item of digital media from the device of the second user, displaying the item of digital media to the device of the second user with a tag for the person who was identified in connection with the item of digital media, wherein the tag comprises a link to a page of information associated with the person; and

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enabling the identified person to reject the identification, wherein the identified user is different from the first user.

34. The method of claim **33**, further comprising:
receiving a user selection of the tag; and
responsive to receiving the selection of the tag, displaying on the item of digital media an indication of the region within the item of digital media associated with the identified person.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,945,653 B2
APPLICATION NO. : 11/580210
DATED : May 17, 2011
INVENTOR(S) : Mark E. Zuckerberg, Aaron Sittig and Scott Marlette

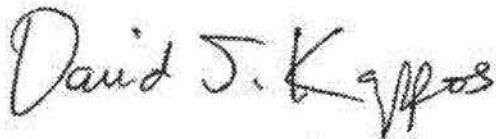
Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Pg. Item (56) 2nd col. line 8, please insert the following reference:

--2008/0033776 A1* 2/2008 Marchese--

Signed and Sealed this
Twenty-sixth Day of July, 2011



David J. Kappos
Director of the United States Patent and Trademark Office

SAMPLE PATENT

For use by jurors viewing

**An Introduction
to the Patent System**

FJC videotape # 4342-V/02

These materials were produced by the Federal Judicial Center in furtherance of the Center's statutory mission to develop and conduct education programs. The views expressed are those of the authors and not necessarily those of the Federal Judicial Center.

Produced by the Federal Judicial Center
2002



(12) **United States Patent**
PUBLIC et al.

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(45) **Date of Patent:** Dec. 6, 2016

(54) **PORTABLE APPARATUS FOR
SITTING**

5,064,247 11/1991 Clark et al.
3,336,078 8/1961 Haley
2,575,221 11/1951 Horner et al.

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(21) **Appl. No.:** 09/876,543

(57) **ABSTRACT**

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A portable apparatus for use while sitting. The apparatus includes a planar surface or seat with at least three elongate members or legs attached to one side of the planar surface or seat. The elongate members or legs are generally parallel to each other and below the planar surface or seat in use. The apparatus may include a support member or back that is attached to the opposite side of the planar surface or seat and extends upward in use.

Related U.S. Application Data

(60) Provisional application No. 60/999,111 May 28, 1998.

(51) **Int. Cl.⁶** ..A47C 007/02

(52) **U.S. Cl.** .297/452.1

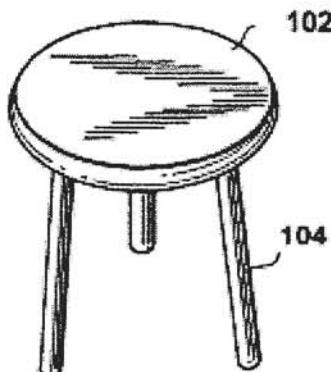
(58) **Field of Search** .297/452.1,440.2

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6,250,718 6/2001 Newhouse et al.

7 Claims, 2 Drawing Sheets



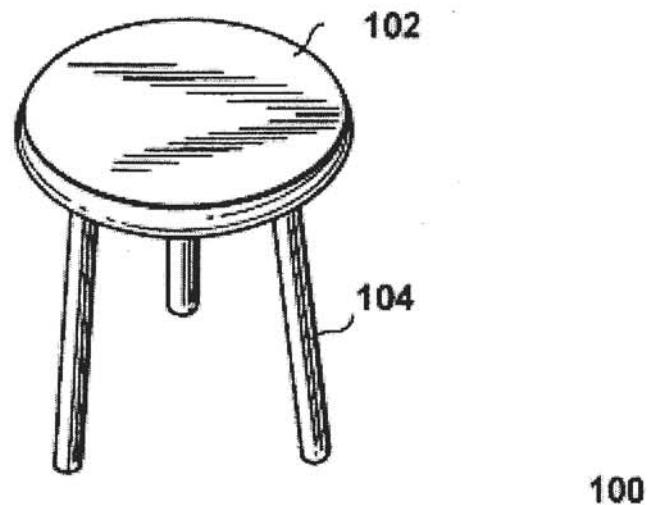


FIG. 1

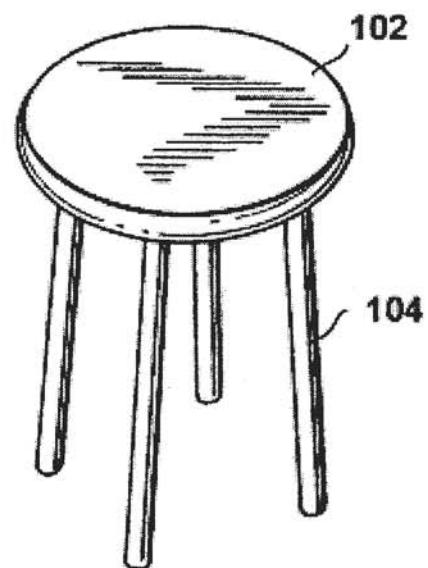


FIG. 2

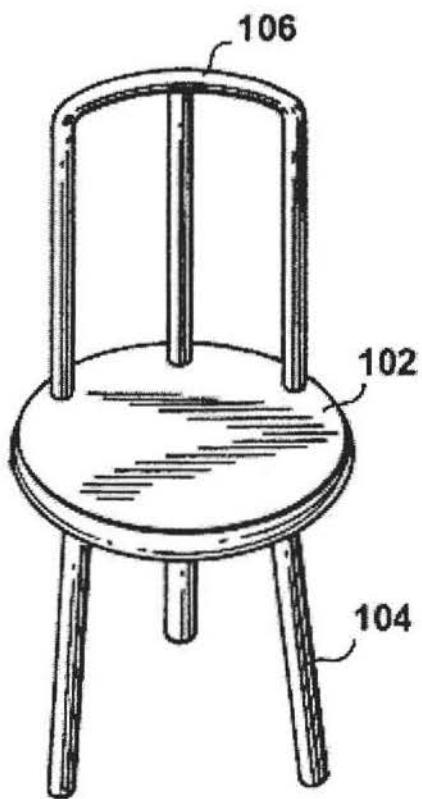


FIG.3

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**PORTRABLE APPARATUS FOR
SITTING**

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to an apparatus for supporting a human in a sitting position, and more particularly to an apparatus that is portable and stable.

2. Background of Related Art

As known in the prior art, a person walking around their environment and from place to place can become tired and want to rest. One way to rest is to lie on the ground. However, in many areas the ground is dirty and people usually want to rest without becoming dirty. In some areas, rocks, logs and stumps are abundant and people have found that placing their buttock on these rocks, logs and stumps allows them to rest without lying on the ground and becoming dirty. People using this resting technique often say that they "sit" on the rocks, logs or stumps, or are "sitting," and the position when their buttock is on the rock, log or stump is known as a sitting position. In some areas there are very few rocks, logs and stumps and so humans find it difficult to sit. This can be a particular problem in areas with homes, where the rocks, logs and stumps are used to construct the home, and are no longer available for sitting.

Even in areas where rocks, logs and stumps are plentiful, they may not be concentrated in the locations where people want to sit, such as when they gather together as a group around a fire and tell stories.

What is needed is an apparatus that people can use for sitting in all areas, such as areas with few rocks, logs and stumps. What is also needed is an apparatus that is portable so people can easily carry or

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move the apparatus from place to place, allowing them to sit with others in groups.

SUMMARY OF THE INVENTION

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In one embodiment, the invention provides an apparatus that includes a substantially planar surface or seat with a first and a second surface, and at least three elongate members or legs. The members or legs each have a first end and a second end. The first ends are connected to the first surface of the planar surface and are oriented with respect to the planar surface such that the legs are substantially perpendicular to the planar surface and are substantially parallel to each other. The length of the legs is approximately equal to the distance between the knee and the ankle of an adult leg. The planar surface is approximately equal in area to the area of the back surface of an adult buttock.

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In one embodiment, the apparatus includes three elongate members or legs.

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In one embodiment, the apparatus includes four elongate members or legs.

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In one embodiment, the apparatus includes a support member or back that is attached to the second surface of the planar surface or seat.

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DESCRIPTION OF THE DRAWINGS

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The foregoing features and other aspects of the invention are explained in the following description taken in conjunction with the accompanying figures wherein:

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FIG. 1 illustrates one embodiment of the invention with three elongate members, or legs attached to a planar surface or seat;

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FIG. 2 illustrates one embodiment of the invention with four elongate members or legs attached to a planar surface or seat; and

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FIG. 3 illustrates one embodiment of the invention with a support member or back attached to a planar surface or seat.

It is understood that the drawings are for illustration only and are not limiting.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring first to FIG. 1, one embodiment of apparatus 100 of the invention includes a planar surface or "seat" 102. Planar surface or seat 102 is preferably formed of wood, and in some embodiments planar surface or seat 102 is round, rectangular or square.

Elongate members or "legs" 104 of apparatus 100 have two ends, with one end connected to planar surface 102. In the embodiment that is illustrated in FIG. 1, apparatus 100 has three elongate members 104. In the embodiment that is illustrated in FIG. 2, apparatus 100 has four elongate members 104.

Although not illustrated in the figures, in one embodiment, elongate members 104 are first formed as separate pieces and then they are joined to planar surface 102. In another embodiment, elongate members 104 and planar surface 102 are all formed together. In one embodiment, when elongate members 104 and planar surface 102 are formed as separate pieces and then joined, the connection between elongate members 104 and planar surface 102 is generally rigid and semi-permanent, such as with glue. In another embodiment elongate members 104 are generally rigid and easily connected and removed from planar surface 102, such as by threading.

The physical relationship between elongate members 104 and planar surface 102 is such that elongate members 104 are generally parallel to each other and also perpendicular to planar surface 102. This configuration is illustrated in FIGS. 1 and 2. It is possible that elongate members

104 are not generally parallel to each other. However, when elongate members are strongly divergent (i.e., form a wide angle) the configuration has less strength and may result in breakage of elongate members 104.

As illustrated in FIGS. 1 and 2, apparatus 100 includes at least three elongate members. When fewer than three elongate members were tried, it was found that apparatus 100 was not particularly stable and resting was therefore difficult. With three elongate members, as illustrated in FIG. 1, apparatus 100 is very stable and it has been found that as long as the length of the elongate members is generally the same, slight differences in length do not matter. With four elongate members, as illustrated in FIG. 2, apparatus 100 is even more stable, although it has been found that a substantially uniform length of elongate members 104 is important. Therefore, there are relative advantages and disadvantages for each of the three "leg" and four "leg" embodiments illustrated in FIGS. 1 and 2 respectively.

Referring now to FIG. 3, another embodiment of apparatus 100 includes a support member 106. In this embodiment, support member 106 is connected to the side of planar surface 102 that is opposite the side of planar surface 102 where elongate members 104 are connected. It has been found that by configuring support member 106 so that it extends in a generally opposite direction from the elongate members, a person can place or lean their back against the support member while resting. This has been shown to significantly enhance the resting and sitting experience. For this reason, support member 106 is also termed a "back".

For ease of description herein, the embodiment with only legs (FIGS. 1 and 2) is called a stool, and the embodiment with legs and a back (FIG. 3) is called a chair.

In normal sitting use, apparatus 100 is oriented as illustrated in FIGS. 1 and

2, with the elongate members below planar surface 102. In this configuration, the ends of elongate members 104 that are furthest from planar surface 102 contact the ground. This elevates planar surface 102 above the ground, and also positions planar surface 102 in a generally horizontal or parallel orientation to the ground.

In order for apparatus 100 to be most effective when used for sitting, there are certain preferred sizes or dimensions for planar surface 102 and elongate members 104. In one embodiment, the area of planar surface or seat 102 is generally about the same area as the area of an adult buttock. In one embodiment, the length of elongate members 104 is generally about the same as the distance from the knee to the ankle of the leg of an adult. This is one of the reasons for using the term "leg" to apply to elongate members 104. Of course, if apparatus 100 is constructed for use by children, the length of leg 104 may be somewhat shorter. The same considerations apply for the area of planar surface 102.

Although illustrative embodiments have been described herein in detail, it should be noted and will be appreciated by those skilled in the art that numerous variations may be made within the scope of this invention without departing from the principle of this invention and without sacrificing its chief advantages.

Unless otherwise specifically stated, the terms and expressions have been used herein as terms of description and not terms of limitation. There is no intention to use the terms or expressions to exclude any equivalents of features shown and described or portions thereof and this invention should be defined in accordance with the claims that follow.

a substantially planar surface with a first and a second surface; and

at least three elongate members, the members each having a first end and a second end, the first ends connected to the first surface of the planar surface and oriented with respect to the planar surface such that the elongate members are substantially perpendicular to the planar surface and the elongate members are substantially parallel to each other.

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2. An apparatus according to claim 1, further comprising a support member connected to the second surface of the planar surface and oriented in a direction generally parallel to the elongate members.
3. An apparatus according to claim 1, further comprising exactly three elongate members.
4. An apparatus according to claim 1, further comprising exactly four elongate members.
5. An apparatus according to claim 1, wherein the planar surface and elongate members are wood.
6. An apparatus according to claim 1, wherein the length of each of the elongate members is approximately equal to the distance between the knee and the ankle of an adult human leg.
7. An apparatus according to claim 1, wherein the area of the planar surface is approximately equal to the area of the back surface of an adult human buttock.

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We claim:

1. An apparatus comprising: