

EXHIBIT A

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

(10) **Patent No.:** **US 9,710,928 B2**
(45) **Date of Patent:** ***Jul. 18, 2017**

(54) **SYSTEM AND PROCESS FOR
AUTOMATICALLY FINDING OBJECTS OF A
SPECIFIC COLOR**

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(71) Applicants: **Alon Atsmon**, Ganey-Tikva (IL); **Dan Atsmon**, Rehovot (IL)

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(72) Inventors: **Alon Atsmon**, Ganey-Tikva (IL); **Dan Atsmon**, Rehovot (IL)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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This patent is subject to a terminal disclaimer.

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(21) Appl. No.: **15/230,433**

Applicant-Initiated Interview Summary Dated Feb. 19, 2016 From the US Patent and Trademark Office Re. U.S. Appl. No. 14/833,099.

(22) Filed: **Aug. 7, 2016**

(Continued)

(65) **Prior Publication Data**

US 2016/0343149 A1 Nov. 24, 2016

Primary Examiner — Ali Bayat

Related U.S. Application Data

(57) **ABSTRACT**

(63) Continuation of application No. 14/833,099, filed on Aug. 23, 2015, now Pat. No. 9,412,182, which is a (Continued)

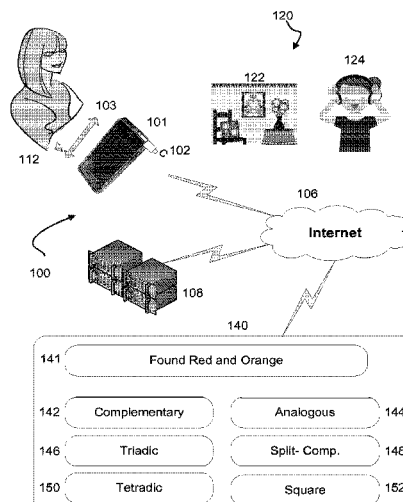
A computer implemented method, system and computer program product for identifying the Main Colors and the matching colors of a visual object, and then viewing on a mobile device select items comprising the matching colors, such as from a merchant's catalogue. A visual object is analyzed for color content, and the results are stored on a system database located on the device or on a remote server. The color analysis of the objects comprise advanced image processing techniques, such as Main Color extraction using color space transformation comprising HSV, RGB and CYMK to map between pixels in the image. The user can subsequently view a display on their mobile identifying the visual object's Main Colors and at least one Harmonic Color; and then select and view all items (i.e. products in a database) comprising one Harmonic Color, and/or all items of a specific type and Harmonic Color.

(51) **Int. Cl.**
G06K 9/00 (2006.01)
G06T 7/40 (2017.01)
(Continued)

(52) **U.S. Cl.**
CPC **G06T 7/408** (2013.01); **G06F 17/3025** (2013.01); **G06K 9/4652** (2013.01);
(Continued)

(58) **Field of Classification Search**
CPC G06K 9/6201; G06K 9/4652; G06F 17/3025;
H04N 1/6058; H04N 1/60;
(Continued)

20 Claims, 9 Drawing Sheets



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Related U.S. Application Data

- continuation of application No. 14/292,914, filed on Jun. 1, 2014, now Pat. No. 9,117,143, which is a continuation of application No. 13/356,815, filed on Jan. 24, 2012, now Pat. No. 8,744,180.
- (60) Provisional application No. 61/438,993, filed on Feb. 3, 2011, provisional application No. 61/435,358, filed on Jan. 24, 2011.
- (51) **Int. Cl.**
G06Q 10/00 (2012.01)
G06F 17/30 (2006.01)
G06K 9/46 (2006.01)
G06K 9/62 (2006.01)
H04N 5/232 (2006.01)
G06T 7/90 (2017.01)
- (52) **U.S. Cl.**
CPC **G06K 9/6201** (2013.01); **G06Q 10/00** (2013.01); **G06T 7/90** (2017.01); **H04N 5/23229** (2013.01); **G06T 2207/10024** (2013.01)
- (58) **Field of Classification Search**
CPC H04N 1/64; H04N 1/32106; H04N 2201/325; G06T 11/60; G06T 2207/20021; G06T 2207/20144; G06T 2207/30108; G06T 7/0081
See application file for complete search history.

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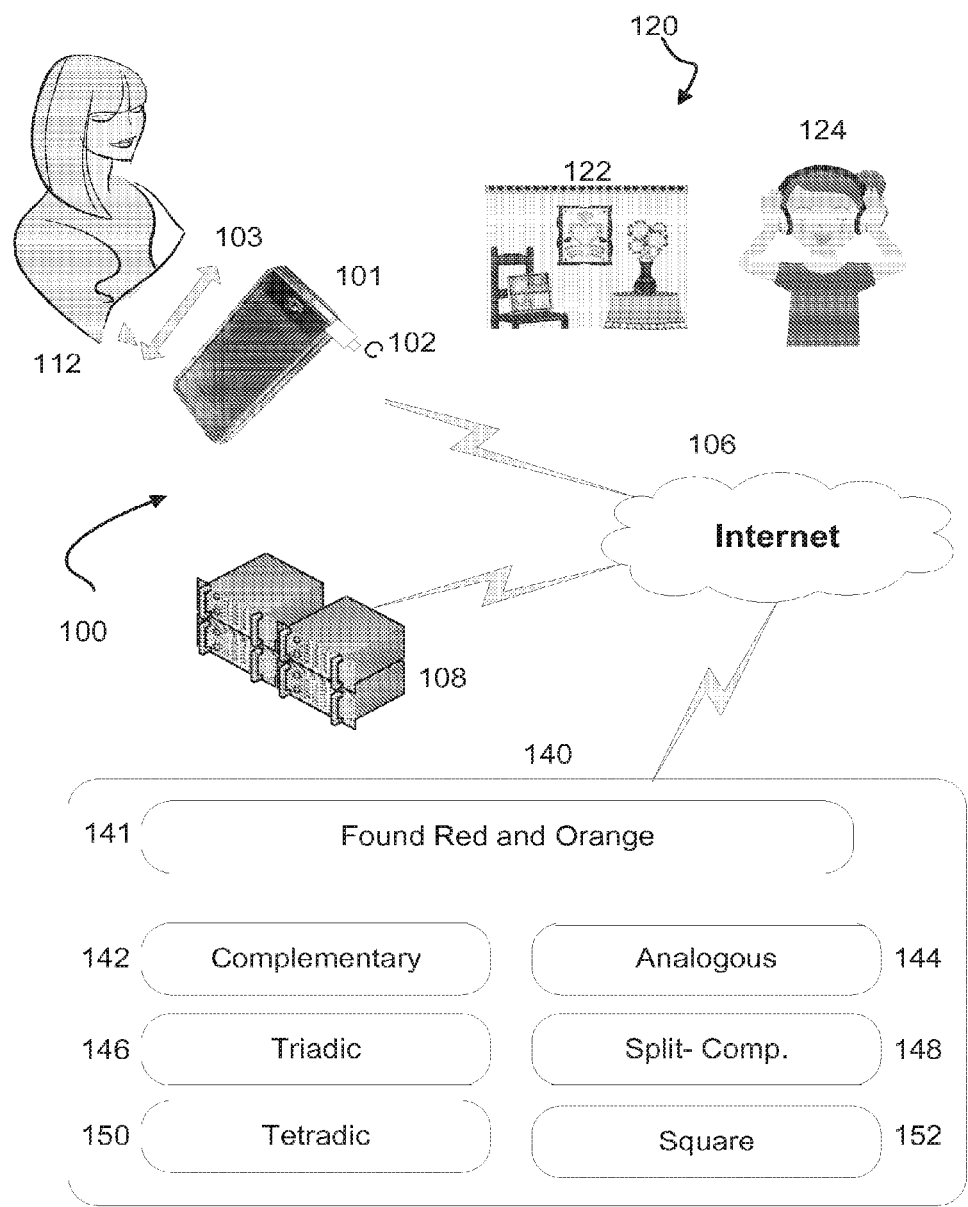


Figure 1

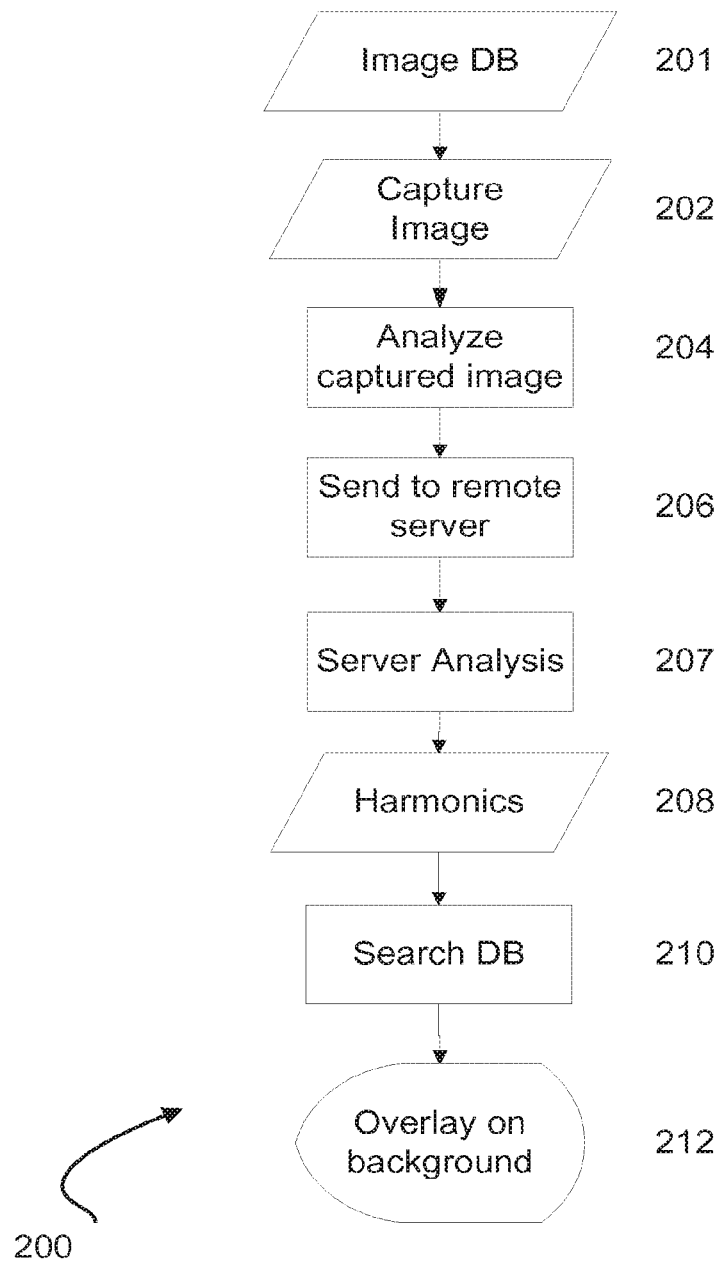


Figure 2

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