UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | ISSUE DATE | PATENT NO. | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 16/507,595 | 01/03/2023 | 11544944 | US-0152.11(14538-668) | 4037 |

16530 7590 12/14/2022

Crowell
P.O. Box 10395
Chicago, IL 60610

# ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 646 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PAIR WEB site http://pair.uspto.gov for additional inventors):

Charles Lee Oakes III, San Antonio, TX;
Randy Ray Morlen, San Antonio, TX;
Michael Frank Morris, San Antonio, TX;
Reynaldo Medina III, San Antonio, TX;
Greg Alan Harpel, San Antonio, TX;

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

United Services Automobile Association (USAA), San Antonio, TX;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

**Information Disclosure Statement**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 37 | 11,042,941 B1 | 06/22/2021 | Shanna Limas |
| | 38 | 11,062,130 B1 | 07/13/2021 | Reynaldo Medina III |
| | 39 | 11,062,131 B1 | 07/13/2021 | Reynaldo Medina III |
| | 40 | 11,064,111 B1 | 07/13/2021 | Bharat Prasad |
| | 41 | 11,062,283 B1 | 07/13/2021 | Bharat Prasad |
| | 42 | 11,068,976 B1 | 07/20/2021 | Teddy Voutour |
| | 43 | 11,070,868 B1 | 07/20/2021 | Maland Mortensen |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | 44 | WO 2005/043857 | 05/12/2005 | WO | Yes |
| | 45 | WO 01/61436 | 08/23/2001 | WO | |
| | 46 | EP 0984410 | 03/08/2000 | ~~WP~~ EP | |
| | 47 | CN 1897644 A | 01/17/2007 | CN | Yes |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 48 | Andrew S. Tanenbaum, Modern Operating Systems, Second Edition (2001) |
| | 49 | Arnold et al, The Java Programming Language, Fourth Edition (2005) |
| | 50 | Consumer Assistance & Information – Check 21 https://www.fdic.gov/consumers/assistance/protection/check21.html (FDIC) |
| | 51 | Halonen et al., GSM, GPRS, and EDGE Performance: Evolution Towards 3G/UMTS, Second Edition (2003) |
| | 52 | Heron, Advanced Encryption Standard (AES), 12 Network Security 8 (2009) |
| | 53 | Immich et al., Performance Analylsis of Five Interprocess CommunicAtion Mechanisms Across UNIX Operating Systems, 68 J. Syss. & Software 27 (2003) |
| | 54 | Leach, et al., A Universally Unique Identifier (UUID) URN Namespace, (July 2005) retrieved from https://www.ietf.org/rfc/rfc4122.txt |
| | 55 | N. Ritter & M. Ruth, The Geo Tiff Data InterchAnge Standard for Raster Geographic Images, 18 Int. J. Remote Sensing 1637 (1997) |
| | 56 | Pbmplus – image file format conversion package, retrieved from https://web.archive.org/web/20040202224728/https:/www.acme.com/software/pbmplus/ |
| | 57 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-23 of Patent 10,482,432, dated July 14, 2021, IPR2021-01071, 106 pages |
| | 58 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-7, 10-21 and 23 of Patent 10,482,432, dated July 14, 2021, IPR2021-01074 |
| | 59 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-18 of Patent 10,621,559, dated July 21, 2021, IPR2021-01076, 111 pages |
| | 60 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-18 of Patent 10,621,559, filed July 21, 2021, IPR2021-01077; 100 pages |
| | 61 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-30 of Patent 10,013,681, filed August 27, 2021, IPR2021-01381, 127 pages |
| | 62 | Petition filed by PNC Bank N.A. for Inter Partes Review of Patent 10,013,605, filed August 27, 2021, IPR2021-01399, 113 pages |
| | 63 | Readdle, Why Scanner Pro is Way Better Than Your Camera? (June 27, 2016) retrieved from https://readdle.com/blog/why-scanner-pro-is-way-better-than-your-camera |

Change(s) applied to document,
/J.T./
11/3/2022

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

**Information Disclosure Statement**

Application No. To be assigned

Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A1025 | 2007/0030357 | 02/08/2007 | Levien et al. |
| | A1026 | 2007/0076941 | 04/05/2007 | Carreon et al. |
| | A1027 | 2007/0175977 A1 | 08/02/2007 | Bauer et al. |
| | A1028 | 2007/0262137 A1 | 11/15/2007 | Brown |
| | A1029 | 2008/0046362 A1 | 02/21/2008 | Easterly |
| | A1030 | 2009/0171795 A1 | 07/02/2009 | Clouthier et al. |
| | A1031 | 2009/0257641 | 10/15/2009 | Liu et al. |
| | A1032 | 2012/0045112 A1 | 02/23/2012 | Lundblad et al. |
| | A1033 | 2012/0099792 A1 | 04/26/2012 | Chevion et al. |
| | A1034 | 2012/0185383 A1 | 07/01/2012 | Atsmon |
| | A1035 | 2013/0120595 | 05/16/2013 | Roach et al. |
| | A1036 | 2014/0032406 A1 | 01/30/2014 | Roach et al. |
| | A1037 | 2014/0279453 A1 | 09/19/2014 | Belchee et al. |
| | A1038 | US 4,027,142 | 05/3/1977 | Paup et al. |
| | A1039 | US 4,417,136 | 11/22/1983 | Rushby et al. |
| | A1040 | US 5,187,750 | 02/16/1993 | Behera |
| | A1041 | US 5,237,158 | 08/17/1993 | Kern et al. |
| | A1042 | US 5,530,773 | 06/25/1996 | Thompson |
| | A1043 | US 6,149,056 | 11/21/2000 | Stinson et al. |
| | A1044 | US 6,351,553 | 02/26/2002 | Hayosh |
| | A1045 | US 6,574,377 B1 | 06/03/2003 | Cahill et al. |
| | A1046 | US 6,760,470 B1 | 07/06/2004 | Bogosian et al. |
| Change(s) applied to document /J.T/ 11/3/2022 | A1047 | US 7,027,171 B1 04/2006 | ~~04/11/200~~ | Watanabe |
| | A1048 | US 7,028,886 B1 | 04/18/2006 | Maloney |
| | A1049 | US 7,935,441 B2 | 05/03/2011 | Tononishi |
| | A1050 | US 10,181,087 B1 | 01/15/2019 | Danko |
| | A1051 | US 10,235,660 B1 | 03/19/2019 | Bueche, Jr. et al. |
| | A1052 | US 2002/0152170 A1 | 10/17/2002 | Dutta |
| | A1053 | US 2003/0018897 A1 | 01/23/2003 | Bellis, Jr. et al. |
| | A1054 | US 2003/0200107 A1 | 10/23/2003 | Allen et al. |
| | A1055 | US 2004/0017482 A1 | 01/29/2004 | Weitman |
| | A1056 | US 2004/0201741 A1 | 10/14/2004 | Ban |
| | A1057 | US 2005/0015342 A1 | 01/20/2005 | Murata et al. |
| | A1058 | UD 2006/0015450 a1 | 01/19/2006 | Guck et al. |
| | A1059 | US 2006/0045379 A1 | 03/02/2006 | Heaney, Jr. et al. |
| | A1060 | US 2006/0202014 A1 | 09/14/2006 | VanKirk et al. |
| | A1061 | US 2008/0065524 A1 | 03/13/2008 | Matthews et al. |
| | A1062 | US 2008/0071679 A1 | 03/20/2008 | Foley |
| | A1063 | US 2008/0097907 A1 | 04/24/2008 | Till et al. |
| | A1064 | US 2013/0198071 A1 | 08/01/2013 | Jurss |
| | A1065 | US 2013/0297353 A1 | 11/07/2013 | Strange |
| | A1066 | US 2014/0067661 A1 | 03/06/2014 | Elischer |
| | A1067 | US 2015/0090782 A1 | 04/02/2015 | Dent |
| | A1068 | US 2006/0221198 A1 | 10/05/2006 | Fry et al. |
| | A1069 | US 7,793,833 B2 | 09/14/2010 | Yoon et al. |
| | A1070 | US 2006/0248009 A1 | 11-2006 | Hicks; Sydney Smith |
| | A1071 | US 6,023,705-A | 02-2000 | Bellinger; David T. |
| | A1072 | US 2003/0217005 A1 | 11-2003 | Drummond, Jay Paul |
| | A1073 | US 2005/0097046 A1 | 05-2005 | Singfield, Joy Shantia |
| | A1074 | US 7,440,924 B2 | 10-2008 | Buchanan; Danne L. |
| | A1075 | US 2002/0152169 | 10-2002 | Dutta, Rabindranath |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

Page 21 of 43

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

Change(s) applied to document, /J.T./ 11/3/2022

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A921 | 7,120,461 B2 10/2006 | ~~10/10/20016~~ | Cho |
| | A922 | 7,419,093 B1 | 09/02/2008 | Blackson et al. |
| | A923 | 2007/0262148 A1 | 11/15/2007 | Yoon |
| | A924 | 1,748,489 | 02/25/1930 | G. L. McCarthy et al. |
| | A925 | 2,292,825 | 08/11/1942 | J. J. Dilks et al. |
| | A926 | 4,346,442 | 08/24/1982 | Musmanno |
| | A927 | 5,122,950 | 06/16/1992 | Benton et al. |
| | A928 | 5,134,564 | 07/28/1992 | Dunn et al. |
| | A929 | 5,175,682 | 12/29/1992 | Higashiyama et al. |
| | A930 | 5,233,547 | 08/03/1993 | Kapp et al. |
| | A931 | 5,268,968 | 12/07/1993 | Yoshida |
| | A932 | 5,283,829 | 02/01/1994 | Anderson |
| | A933 | 5,345,090 | 09/06/1994 | Hludzinski |
| | A934 | 5,383,113 | 01/17/1995 | Kight et al. |
| | A935 | 5,444,616 | 08/22/1995 | Nair et al. |
| | A936 | 5,859,935 | 01/12/1999 | Johnson et al. |
| | A937 | 6,023,705 | 02/08/2000 | Bellinger et al. |
| | A938 | 6,072,941 | 06/06/2000 | Suzuki et al. |
| | A939 | 6,128,603 | 10/03/2000 | Dent et al. |
| | A940 | 6,151,409 | 11/21/2000 | Chen et al. |
| | A941 | 6,181,837 | 01/30/2001 | Cahill et al. |
| | A942 | 6,339,766 | 01/15/2002 | Gephart |
| | A943 | 6,354,490 | 03/12/2002 | Weiss et al. |
| | A944 | 6,502,747 | 01/07/2003 | Stoutenburg et al. |
| | A945 | 6,647,136 | 11/11/2003 | Jones et al. |
| | A946 | 6,760,414 | 07/06/2004 | Schurko et al. |
| | A947 | 6,873,728 | 03/29/2005 | Bernstein et al. |
| | A948 | 7,046,991 | 05/16/2006 | Little |
| | A949 | 7,117,171 | 10/03/2006 | Pollin |
| | A950 | 7,120,461 | 10/10/2006 | Cho |
| | A951 | 7,349,585 | 03/25/2008 | Li |
| | A952 | 7,369,713 | 05/06/2008 | Suino |
| | A953 | 7,388,683 | 06/17/2008 | Rodriguez et al. |
| | A954 | 7,419,093 | 09/02/2008 | Blackson et al. |
| | A955 | 7,460,700 | 12/02/2008 | Tsunachima et al. |
| | A956 | 7,577,614 | 08/18/2009 | Warren et al. |
| | A957 | 8,313,020 | 11/20/2012 | Ramachandran |
| | A958 | 8,369,650 | 02/05/2013 | Zanfir et al. |
| | A959 | 8,374,963 | 02/12/2013 | Billman |
| | A960 | 8,433,127 | 04/30/2013 | Harpel et al. |
| | A961 | 8,699,779 | 04/15/2014 | Prasad, et al. |
| | A962 | 8,731,321 | 05/20/2014 | Fujiwara et al. |
| | A963 | 8,751,345 | 06/10/2014 | Borzyche et al. |
| | A964 | 8,751,356 | 06/10/2014 | Garcia |
| | A965 | 8,751,379 | 06/10/2014 | Bueche, Jr. |
| | A966 | 8,837,806 | 09/16/2014 | Ethington et al. |
| | A967 | 8,843,405 | 09/23/2014 | Hartman et al. |
| | A968 | 8,959,033 | 02/17/2015 | Oakes, III et al. |
| | A969 | 8,990,862 | 03/24/2015 | Smith |
| | A970 | 9,009,071 | 04/14/2015 | Watson et al. |
| | A971 | 9,036,040 | 05/19/2015 | Danko |
| | A972 | 9,064,284 | 06/23/2015 | Janiszeski et al. |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A869 | 8,065,307 | 11/22/2011 | Haslam et al. |
| | A870 | 2011/0285874 A1 | 11/24/2011 | Showering et al. |
| | A871 | 2011/0310442 | 12/22/2011 | Popadic et al. |
| | A872 | 8,091,778 | 01/10/2012 | Block et al. |
| | A873 | 8,116,533 | 02/14/2012 | Kiplinger et al. |
| | A874 | 2012/0047070 | 02/23/2012 | Pharris |
| | A875 | 2012/0062732 | 03/15/2012 | Marman et al. |
| | A876 | 2012/0089514 A1 | 04/12/2012 | Kraemling et al. |
| | A877 | 8,159,520 | 04/17/2012 | Dhanoa |
| | A878 | 8,203,640 | 06/19/2012 | Kim et al. |
| | A879 | 8,204,293 | 06/19/2012 | Csulits et al. |
| | A880 | 2012/0185388 | 07/19/2012 | Pranger |
| | A881 | 8,235,284 | 08/07/2012 | Prasad et al. |
| | A882 | 8,266,076 | 09/11/2012 | Lopez et al. |
| | A883 | 2012/0229872 | 09/13/2012 | Dolev |
| | A884 | 8,271,385 | 09/18/2012 | Emerson et al. |
| | A885 | 8,290,237 | 10/16/2012 | Burks et al. |
| | A886 | 8,320,657 | 11/27/2012 | Burks et al. |
| | A887 | 8,332,329 | 12/11/2012 | Thiele |
| | A888 | 8,351,677 | 01/08/2013 | Oakes, III et al. |
| | A889 | 8,351,678 | 01/08/2013 | Medina, III |
| | A890 | 8,358,826 | 01/22/2013 | Medina et al. |
| | A891 | 2013/0021651 A9 | 01/24/2013 | Popadic et al. |
| | A892 | 8,364,563 | 01/29/2013 | Choiniere, Sr. |
| | A893 | 8,391,599 | 03/05/2013 | Medina, III |
| | A894 | 8,392,332 | 03/05/2013 | Oakes, III et al. |
| | A895 | 8,401,962 | 03/19/2013 | Bent et al. |
| | A896 | 8,422,758 | 04/16/2013 | Bueche, Jr. |
| | A897 | 8,433,127 | 04/30/2013 | Harpel et al. |
| | A898 | 8,433,647 | 04/30/2013 | Yarbrough |
| | A899 | 8,452,689 | 05/28/2013 | Medina, III |
| | A900 | 8,464,933 | 06/18/2013 | Prasad et al. |
| | A901 | 2013/0223721 | 08/29/2013 | Nepomniachtchi et al. |
| Change(s) applied | A902 | 8,538,124 | 09/17/2013 | Harpel et al. |
| to document, | A903 | 8,542,921 | 09/24/2013 | Medina |
| /J.T./ | A904 | 8,548,267 | 10/01/2013 | Yacoub et al. |
| 11/3/2022 | A905 | 8,559,766 | 10/15/2013 | Tilt et al. |
| | A906 | 8,582,862 | 11/12/2013 | Nepomniachtchi et al. |
| | A907 | 8,611,635 | 12/17/2013 | Medina, III |
| | A908 | 8,660,952 B1 | 02/25/2014 | Viera |
| | A909 | 8,708,227 | 04/29/2014 | Oakes, III et al. |
| | A910 | 8,732,081 | 05/20/2014 | Oakes, III et al. |
| | A911 | 8,799,147 | 08/05/2014 | Walls et al. |
| | A912 | 2014/0236820 A1 | 08/21/2014 | Carlton |
| | A913 | 2015/0039528 A1 | 02/05/2015 | Minogue |
| | A914 | 8,977,571 | 03/10/2015 | Bueche, Jr. et al. |
| | A915 | 9,058,512 | 06/16/2015 | Medina, III |
| | A916 | 9,286,514 | 03/15/2016 | Newman |
| | A917 | 9,424,569 | 08/23/2016 | Sherman et al. |
| | A918 | 9,569,756 | 02/14/2017 | Bueche, Jr. et al. |
| | A919 | 9,818,090 | 11/14/2017 | Bueche, Jr. et al.q |
| | A920 | 6,931,255 B2 08/2005 | ~~08/16/2015~~ | Mekuria |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: October 21, 2020 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

EFSWEB ORIGINAL

| | | |
|---|---|---|
| **SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT** (Not for submission under 37 CFR 1.99) | Application Number | 16/507,595 |
| | Filing Date | July 10, 2019 |
| | First Named Inventor | Charles Lee Oakes |
| | Art Unit | 3697 |
| | Confirmation Number | 4037 |
| | Examiner Name | I. Jung Liu |
| | Attorney Docket No. | US-0152.11 \| 14538-668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | F1 | 6,697,091 B1 | 02/24/2004 | Rzepkowski et al. |
| | F2 | 6,044,883 B1 04/2000 | ~~09/13/2005~~ | ~~Abrahams~~ Noyes |
| | F3 | 7,389,912 B2 | 06/24/2008 | Starrs |
| | F4 | 8,341,077 B1 | 12/25/2012 | Nichols et al. |
| | F5 | 10,713,629 B1 | 07/14/2020 | Medina, III |
| | F6 | 10,719,815 B1 | 07/21/2020 | Oakes, III et al. |
| | F7 | 10,769,598 B1 | 09/08/2020 | Oakes, III et al. |
| | F8 | 2004/0205459 A1 | 10/14/2004 | Green |
| | F9 | 2005/0100216 A1 | 05/12/2005 | Myers et al. |

Change(s) ~~applied~~ to document, /J.T./ 11/3/2022

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | F10 | WO 2005/124657 A1 | 12/29/2005 | WIPO | |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | F11 | Higgins, Ray et al., "Working With Image Cash Letters (ISLs) X9.37, 180 or 187 files", *All My Papers*, 2009, 36 pgs. |
| | F12 | X9.100-180, "The New ICL Standard is Published", *All My Papers*, 2006, 3 pgs. |
| | F13 | X9.37 Specifications \| X9Ware LLC, dated 2018, 3 pgs. |
| | F14 | "Getting Started with ICLs aka X9.37 Files", *All My Papers*, 5/2/2006, 39 pgs. |
| | F15 | Federal Reserve Banks Plan Black-and-White Image Standard and Quality Checks, May 2004, 2 pgs. |
| | F16 | Caplan, J. et al., :Most Influential Gadgets and Gizmos 2002: Sanyo SCP-5300", 2002, 1 pg. |
| | F17 | Hill, "From J-Phone to Lumina 1020: A complete history of the camera phone", *Digital Trends*, 2020, 9 pgs. |
| | F18 | Hoffman, J., "Before there Were Smartphones, There was I-Mode", 1999, 5 pgs. |
| | F19 | "Vodafane calls on mobiles to go live!", 2002, 8 pgs. |

| | | | |
|---|---|---|---|
| Examiner Signature | | Date Considered | |



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

OK TO ENTER: /I.L./ 11/14/2022

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 11, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | |
|---|---|---|---|
| In re Appln. of: Charles Lee Oakes III, et al. | | | |
| Appln. No.: | 16/507,595 | Examiner: | I Jung Liu |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: US-0152.11 \| 514538.5000668 | | | |

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**AMENDMENT UNDER 37 CFR 1.312 and COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE**

Dear Sir:

Please amend the application as indicated below pursuant to 37 C.F.R. §1.312 and consider the accompanying remarks.

**Amendments to the Claims** being on page 2 of this paper.

**Remarks** begin on page 8 of this paper.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 16/507,595 | 07/10/2019 | Charles Lee Oakes III | US-0152.11(14538-668) | 4037 |

16530 7590 11/15/2022

Crowell
P.O. Box 10395
Chicago, IL 60610

| EXAMINER | |
|---|---|
| LIU, I JUNG | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3697 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 11/15/2022 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| ***Corrected*** ***Notice of Allowability*** | **Application No.** 16/507,595 | **Applicant(s)** Oakes et al. | |
|---|---|---|---|
| | **Examiner** I JUNG LIU | **Art Unit** 3697 | **AIA (FITF) Status** Yes |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 11/11/2022.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 25-44 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   **Certified copies:**

   a) ☐ All  b) ☐ Some*  c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 11/7/2022.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/I JUNG LIU/
Primary Examiner, Art Unit 3697

***Notice of Pre-AIA or AIA Status***

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

The closest prior arts of record are Singfield (US Publication Number: 2005/0097046) and Hicks et al. (US Publication Number 2006/0248009 A1). Singfield teaches wireless electronic check deposit scanning and cashing machine with web-based online account cash management computer application system.

Hicks et al. teaches a payment gateway operable to receive a payments file from an originating entity. The payments gateway then invokes a policy associated with the originating entity, with the policy comprising references to at least a subset of a plurality of receiving entities.

Regarding claim 25, the closest prior arts of record when taken individually or in combination with other prior arts do not teach or disclose the subject matter of receive input entered by the customer indicating an amount of the check; use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check; assist the customer as to an orientation for taking the photo; and using a wireless network, transmit a copy of the photo over the Internet from the customer's handheld mobile device to the bank; a bank computer programmed to: check for errors in the check in the photo by: performing optical character recognition on the check in the photo to determine an amount shown on the check, and comparing the amount shown to the amount entered by the customer; and the system being configured to update a balance of an account after determining that no errors were found in the check in the photo.

Regarding claim 38, the closest prior arts of record when taken individually or in combination with other prior arts do not teach or disclose the subject matter of a customer's handheld mobile device

including: camera software that controls the digital camera; and a downloaded app associated with a bank to control the camera software and to control submitting a check for deposit by causing the customer's handheld mobile device to perform the following steps: instructing the customer to have the digital camera take photos of front and back sides of the check; using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check; assisting the customer as to an orientation for taking the photos; receiving input from the customer indicating an amount of the check; and using a wireless cellular network, transmitting a copy of the photos over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank after the photos of the check are presented to the customer; a computer associated with the bank programmed to update a balance of an account to reflect the check submitted for mobile check deposit by the customer's handheld mobile device; and the system configured to perform additional steps including: confirming that the mobile check deposit can go forward after optical character recognition is performed on the check, the optical character recognition determining an amount of the check, performing duplicate detection, and comparing the determined amount to the amount indicated by the customer; and generating a log file for the mobile check deposit, the log file including an image of the check submitted for mobile check deposit.

Regarding claim 41, the closest prior arts of record when taken individually or in combination with other prior arts do not teach or disclose the subject matter of a bank computer programmed to update a balance of an account to reflect an amount of a check submitted for mobile check deposit by the customer's handheld mobile device, the customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to perform: receiving input entered by the customer indicating an amount of the check; using a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check,

assisting the customer as to an orientation for taking the photo, and after taking the photo, using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank; and the system being configured to update the balance of the account after optical character recognition reads a Magnetic Ink Character Recognition (MICR) line of the check in the photo.

The instant invention is both a combination of technical elements directed to computer and electronic technology. While at some level abstract the ordered combination makes it significantly more than the idea itself. Further applicant specification makes it clear that this is an invention of technology.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I JUNG LIU whose telephone number is (571)270-1370. The examiner can normally be reached Monday-Friday.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christine Behncke can be reached on 571/272-8103. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To

file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

I JUNG LIU
Examiner
Art Unit 3697

/I JUNG LIU/
Primary Examiner, Art Unit 3697

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:
Date: November 7, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

| **SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT** (Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 16/507,595 |
| | Filing Date | July 10, 2019 |
| | First Named Inventor | Charles Lee Oakes |
| | Art Unit | 3697 |
| | Confirmation Number | 4037 |
| | Examiner Name | LIU, I JUNG |
| | Attorney Docket No. | US-0152.11(514538.5000668) |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**US PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | US 2005/0165641 A1 | 07/2005 | Peter Zhe CHU |
| | 2 | US 2007/0244811 A1 | 10/2007 | John Tumminaro |
| | 3 | US 2008/0040280 A1 | 02/2008 | Steven Davis |
| | 4 | US 8,483,473 B2 | 07/2013 | John J. Roach |
| | 5 | US 2002/0152169 A1 | 10/2002 | Rabindranath Dutta |
| | 6 | US 7,647,897 B2 | 01/2010 | John E. Jones |
| | 7 | US 2003/0046223 A1 | 03/2003 | Stuart Crawford |
| | 8 | US 2011/0112985 A1 | 05/2011 | Peter George Kocmond |
| | 9 | US 2012/0150767 A1 | 06/2012 | Varkki Chacko |
| | 10 | US 2009/0240574 A1 | 09/2009 | Steven A. Carpenter |
| | 11 | US 2005/0102208 A1 | 05/2005 | Jerome Edward Gudgeon |
| | 12 | US 2013/0324160 A1 | 12/2013 | Alessandro Sabatellil |
| | 13 | US 2013/0332219 A1 | 12/2013 | Victoria Clark |
| | 14 | US 2014/0156501 A1 | 06/2014 | Justin Xavier Howe |
| | 15 | US 2011/0054780 A1 | 03/2011 | Adil Dhanani |
| | 16 | US 2006/0270421 A1 | 11/2006 | Alan Phillips |
| | 17 | US 2012/0098705 A1 | 04/2012 | Karl Yost |
| | 18 | US 2012/0052874 A1 | 03/2012 | Nitin Kumar |
| | 19 | US 2012/0036014 A1 | 02/2012 | Guruaj Sunkada |
| | 20 | US 2011/0105092 A1 | 05/2011 | Michelle Felt |
| | 21 | US 2011/0083101 A1 | 04/2011 | Eyal M. Sharon |
| | 22 | US 2011/0082747 A1 | 04/2011 | Farooq Khan |
| | 23 | US 2011/0015963 A1 | 01/2011 | Girish Bhimrao Chafle |
| | 24 | US 2010/0287250 A1 | 11/2010 | Mark Carlson |
| | 25 | US 2010/0112975 A1 | 05/2010 | DeWayne Allan Sennett |
| | 26 | US 2010/0069093 A1 | 03/2010 | James Morrison |
| | 27 | US 2009/0176511 A1 | 07/2009 | James Morrison |
| | 28 | US 2018/0197118 A1 | 07/2018 | Kevin McLaughlin |
| | 29 | US 2012/0296768 A1 | 11/2012 | Phillip Fremont-Smith |
| | 30 | US 2012/0109793 A1 | 05/2012 | Gary Evan Abeles |
| | 31 | US 11,121,989 B1 | 09/2021 | Joseph Benjamin Castinado |
| | 32 | US 2019/0122222 A1 | 04/2019 | Edward Yoshio Uechi |
| | 33 | US 7,296,734 B2 | 11/2007 | Robert Kenneth Pliha |
| | 34 | US 8,118,654 B1 | 02/2012 | Jean-Francois Pascal Nicolas |
| | 35 | US 7,873,556 B1 | 01/2011 | Carrie Dolan |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 11/14/2022 |
|---|---|---|---|





ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. 16/507,595 Attorney Docket No. US-0152.11(514538.5000668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 36 | US 7,865,425 B2 | 01/2011 | Henri Waelbroeck |
| | 37 | US 7,766,223 B1 | 08/2010 | Steven M. Mello |
| | 38 | US 2010/0076890 A1 | 03/2010 | Gak Wee Low |
| | 39 | US 2010/0069155 A1 | 03/2010 | Jay M. Schwartz |
| | 40 | US 2013/0346307 A1 | 12/2013 | Phillip Kopp |
| | 41 | US 2021/0097615 A1 | 04/2021 | Duke Lee Gunn Jr. |
| | 42 | US 2017/0132583 A1 | 05/2017 | Rahul Nair |
| | 43 | US 2017/0039637 A1 | 02/2017 | Jose San Pedro Wandelmer |
| | 44 | US 2014/0351137 A1 | 11/2014 | John D. Chisholm |
| | 45 | US 2014/0203508 A1 | 07/2014 | Anita Pedde |
| | 46 | US 10,217,375 B2 | 02/2019 | Willard H. Waldron |
| | 47 | US 10,210,767 B2 | 02/2019 | Joseph N. Johansen |
| | 48 | US 2017/0068421 A1 | 03/2017 | Mark Carlson |
| | 49 | US 2015/0134517 A1 | 05/2015 | Brian Cosgray |
| | 50 | US 2014/0244476 A1 | 08/2014 | Simon Shvarts |
| | 51 | US 2013/0346306 A1 | 12/2013 | Phillip Kopp |
| | 52 | US 7,974,869 B1 | 07/2011 | Rajeev Sharma |
| | 53 | US 2011/0016109 A1 | 01/2011 | Sergei Vassilvitskii |
| | 54 | US 2010/0262607 A1 | 10/2010 | Sergei Vassilvitskii |
| | 55 | US 2010/0161408 A1 | 06/2010 | Steven R. Karson |
| | 56 | US 2009/0222347 A1 | 09/2009 | Gordon Whitten |
| | 57 | US 2009/0171723 A1 | 07/2009 | Chad G. Jenkins |
| | 58 | US 2005/0273430 A1 | 12/2005 | Robert Kenneth Pliha |
| | 59 | US 2014/0207673 A1 | 07/2014 | Matt Jeffries |
| | 60 | US 2014/0207674 A1 | 07/2014 | Denise Schroeder |
| | 61 | US 2013/0191261 A1 | 07/2013 | Brent A. Chandler |
| | 62 | US 6,930,718 | 08/16/2005 | Parulski et al. |
| | 63 | US 8,064,729 | 07/17/2001 | Li |
| | 64 | US 2005/0078192 | 10/13/2004 | Sakurai |
| | 65 | US 2006/0026140 | 04/01/2005 | King |
| | 66 | US 2008/0192129 | 0/14/2008 | Walker |
| | 67 | US 2005/0128333 | 06/16/2005 | Park |
| | 68 | US 2006/0171697 | 02/02/2006 | Nijima |
| | 69 | US 8,009,931 | 08/30/2011 | Li |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | 70 | CN 1967565 A | 05/23/2007 | China | Yes |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | |
|---|---|---|
| | 71 | Tiwari, Rajnish et al., "Mobile Banking as Business Strategy", IEEE Xplore, July 2006 |
| | 72 | Lyn C. Thomas, "A survey of credit and behavioural scoring: forecasting financial risk of lending to consumers", International Journal of Forecasting, (Risk) (2000) |
| | 73 | Non-Final Office Action issued on U.S. Application 14/293,159 on August 11, 2022 (14538-335) |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 11/14/2022 |
|---|---|---|---|





ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. 16/507,595 Attorney Docket No. US-0152.11(514538.5000668)

| EXAMINER INITIAL | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | |
|---|---|---|
| | 74 | Non-Final Office Action issued on U.S. Application 16/455,024 on September 7, 2022 (14538-662) |
| | 75 | Non-Final Office Action issued on U.S. Application 17/071,678 on September 14, 2022 (14538-705) |
| | 76 | Non-Final Office Action issued on U.S. Application 17/180,075 on October 4, 2022 (14538-715) |
| | 77 | Non-Final Office Action issue on U.S. Application 17/511,822 on September 16, 2022 (14538-731) |
| | 78 | Non-Final Office Action issued on U.S. Application 17/568,849 on October 4, 2022 (14538-736) |
| | 79 | Yong Gu Ji et al., "A Usability Checklist for the Usability Evaluation of Mobile Phone User Interface", International Journal of Human-Computer Interaction, 20(3), 207-231 (2006) |
| | 80 | Printout of news article dated February 13, 2008, announcing a Nokia phone providing audio cues for capturing a document image |
| | 81 | IPR Petition 2022-01593, Truist Bank v. United Services Automobile Association filed October 11, 2022 |

**1. PRIORITY INFORMATION:**

☐ This application claims priority under 35 USC §120 to the following United States patent application(s): _____. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

**2. CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

| Examiner Signature | /I JUNG LIU/ | Date Considered | 11/14/2022 |
|---|---|---|---|





ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. 16/507,595 Attorney Docket No. US-0152.11(514538.5000668)

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☒ Applicant has calculated a processing fee in the amount of $260 (large entity) to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging Deposit Account No. 50-4184..

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

November 7, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

| Examiner Signature | /I JUNG LIU/ | Date Considered | 11/14/2022 |
|---|---|---|---|





ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 11, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | |
|---|---|---|---|
| In re Appln. of: Charles Lee Oakes III, et al. | | | |
| Appln. No.: | 16/507,595 | Examiner: | I Jung Liu |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: US-0152.11 \| 514538.5000668 | | | |

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

**AMENDMENT UNDER 37 CFR 1.312 and**
**COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE**

Dear Sir:

Please amend the application as indicated below pursuant to 37 C.F.R. §1.312 and consider the accompanying remarks.

**Amendments to the Claims** being on page 2 of this paper.

**Remarks** begin on page 8 of this paper.

**AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims**

1. – 24. (Canceled)

25. (Currently Amended) A system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including:

a customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to:

receive input entered by the customer indicating an amount of the check;

use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check;

assist the customer as to an orientation for taking the photo; and

using a wireless network, transmit a copy of the photo over the Internet from the customer's handheld mobile device to the bank;

a bank computer programmed to:

check for errors in the check in the photo by:

performing optical character recognition on the check in the photo to determine an amount shown on the check, and

comparing the amount shown[[-]]_to the amount entered by the customer; and

the system being configured to update a balance of an account after determining that no errors were found in the check in the photo.

26. (Previously Presented) The system of claim 25, wherein the bank computer is configured to confirm that mobile deposit of the check can proceed after duplicate detection is performed on the check in the photo.

27. (Previously Presented) The system of claim 26, wherein the system is configured to initiate the mobile deposit of the check after bank computer confirms that the mobile deposit can proceed.

28. (Previously Presented) The system of claim 25, wherein the system is configured to perform the update the balance after it is determined that a mark or signature is present in an endorsement location in the photo of a back side of the check.

29. (Previously Presented) The system of claim 25, wherein use of the display of the customer's handheld mobile device to assist the customer includes instructing the customer to have the digital camera take a photo of a front side of the check and a photo of a back side of the check.

30. (Previously Presented) The system of claim 25, wherein the system is configured to convert the photo into a bi-tonal Tag Image File Format (TIFF).

31. (Previously Presented) The system of claim 25, wherein the customer's handheld mobile device further includes camera software that controls a customer's digital camera, the camera software being separate

from the downloaded app, the downloaded app at least partially controlling the camera software.

32. (Previously Presented) The system of claim 25, wherein the downloaded app manages taking the photo.

33. (Previously Presented) The system of claim 25, wherein the downloaded app instructs the customer to place the check in front of the digital camera before taking the photo.

34. (Previously Presented) The system of claim 25, wherein the system is configured to generate a log file for the mobile deposit of the check, wherein the log file includes an image of the check submitted for mobile deposit of the check.

35. (Previously Presented) The system of claim 25, wherein the copy of the photo is a modified version of the photo taken with the digital camera.

36. (Previously Presented) The system of claim 35, wherein the copy of the photo has a different format than the photo taken with the digital camera.

37. (Previously Presented) The system of claim 25, further comprising a third-party vendor computer.

38. (Previously Presented) A system for allowing a customer to deposit a check using a customer's own handheld mobile device with a digital camera, the system configured to authenticate the customer using data representing a customer fingerprint, the system including:

a customer's handheld mobile device including:

camera software that controls the digital camera; and

a downloaded app associated with a bank to control the camera software and to control submitting a check for deposit by causing the customer's handheld mobile device to perform the following steps:

instructing the customer to have the digital camera take photos of front and back sides of the check;

using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check;

assisting the customer as to an orientation for taking the photos;

receiving input from the customer indicating an amount of the check; and

using a wireless cellular network, transmitting a copy of the photos over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank after the photos of the check are presented to the customer;

a computer associated with the bank programmed to update a balance of an account to reflect the check submitted for mobile check deposit by the customer's handheld mobile device; and

the system configured to perform additional steps including:

confirming that the mobile check deposit can go forward after optical character recognition is performed on the check, the optical character recognition determining an amount of the check, performing duplicate detection, and comparing the determined amount to the amount indicated by the customer;

and

generating a log file for the mobile check deposit, the log file including an image of the check submitted for mobile check deposit.

39. (Previously Presented) The system of claim 38, wherein the digital camera is separate from the customer's handheld mobile device.

40. (Previously Presented) The system of claim 38, wherein the customer's handheld mobile device is a Personal Digital Assistant (PDA).

41. (Previously Presented) A system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including:

a bank computer programmed to update a balance of an account to reflect an amount of a check submitted for mobile check deposit by the customer's handheld mobile device, the customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to perform:

receiving input entered by the customer indicating an amount of the check;

using a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check,

assisting the customer as to an orientation for taking the photo, and

after taking the photo, using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank; and

the system being configured to update the balance of the account after optical character recognition reads a Magnetic Ink Character Recognition (MICR) line of the check in the photo.

42. (Previously Presented) The system of claim 41, wherein the digital camera is separate from the customer's handheld mobile device.

43. (Previously Presented) The system of claim 41, wherein the downloaded app manages taking the photo.

44. (Previously Presented) The system of claim 41, wherein the system is configured to generate a log file for the mobile check deposit, wherein the log file includes an image of the check submitted for mobile check deposit.

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

16530 7590 10/24/2022

Crowell
P.O. Box 10395
Chicago, IL 60610

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**CERTIFICATE OF ELECTRONIC FILING**
**I hereby certify that this Fee(s) Transmittal is being electronically transmitted to the United States Patent and Trademark Office via the EFS pursuant to 37 CFR 1.8 on the date indicated below.**

| | |
|---|---|
| Patricia Chiovari | (Typed or printed name) |
| /Patricia Chiovari/ | (Signature) |
| November 11, 2022 | (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 16/507,595 | 07/10/2019 | Charles Lee Oakes III | US-0152.11(14538-668) | 4037 |

TITLE OF INVENTION: DIGITAL CAMERA PROCESSING SYSTEM

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | UNDISCOUNTED | $1200 | $0.00 | $0.00 | $1200 | 01/24/2023 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| LIU, I JUNG | 3697 | 705-039000 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Crowell & Moring LLP
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: UNITED SERVICES AUTOMOBILE ASSOCIATION (USAA)

(B) RESIDENCE: (CITY and STATE OR COUNTRY): SAN ANTONIO, TEXAS

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ☒ Corporation or other private group entity ❑ Government

4a. Fees submitted: ☒ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 50-4184

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Kent E. Genin/ Date November 11, 2022

Typed or printed name Kent E. Genin Registration No. 37,834

Doc Code: MFEE.C.AD
Document Description: Maintenance Fee Address Change

PTO/AIA/47 (12-20)
Approved for use through 09/30/2021. OMB 0651-0016
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no person is required to respond to a collection of information unless it displays a valid OMB control number.

# "FEE ADDRESS" INDICATION FORM

**Address to:**
**Mail Stop Maintenance Fee**
**Director of the United States Patent and Trademark Office**
**P.O. Box 1450**
**Alexandria, VA 22313-1450**

**-OR-**

**Fax to:**
**571-273-6500**

**INSTRUCTIONS:** The issue fee must have been paid for the application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application.

**When to check the first box below:** If you have a Customer Number to represent the fee address.

**When to check the second box below:** If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

☑ Customer Number: 16530

***OR***

☐ The attached Request for Customer Number form (PTO/SB/125)

| PATENT NUMBER (if known) | APPLICATION NUMBER |
|---|---|
| | 16/507,595 |

Completed by (check one):

☐ Applicant/Inventor

☑ Attorney or Agent of record 37,834 (Reg. No.)

☐ Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(c) (Form PTO/AIA/96) is enclosed or was filed on _____ (Date)

/Kent E. Genin/ (Signature)

Kent E. Genin (Typed or printed name)

312-321-4200 (Requester's telephone number)

November 11, 2022 (Date)

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. If the assignee is a juristic entity, this form must be signed by a patent practitioner (attorney or agent) of record. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted

This collection of information is required by 37 CFR 1.363. The information is required to obtain or retain a benefit by the public, which is to indicate (and for the USPTO to process) a fee address. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND COMPLETED FORMS TO THE PREVIOUS ADDRESS. **SEND COMPLETED FORMS TO: Mail Stop Maintenance Fee, Director of the United States Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

## Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 47007473 |
| **Application Number:** | 16507595 |
| **International Application Number:** | |
| **Confirmation Number:** | 4037 |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes |
| **Customer Number:** | 16530 |
| **Filer:** | Kent E. Genin/Juan Garibay |
| **Filer Authorized By:** | Kent E. Genin |
| **Attorney Docket Number:** | US-0152.11(14538-668) |
| **Receipt Date:** | 11-NOV-2022 |
| **Filing Date:** | 10-JUL-2019 |
| **Time Stamp:** | 15:06:06 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | DA |
| Payment was successfully received in RAM | $1200 |
| RAM confirmation Number | E2022AAF06421682 |
| Deposit Account | 504184 |
| Authorized User | Juan Garibay |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:<br>37 CFR 1.16 (National application filing, search, and examination fees)<br>37 CFR 1.17 (Patent application and reexamination processing fees) | |

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Issue Fee Payment (PTO-85B) | 514538-5000668-Issue-Fee-11112022.pdf | 245952<br>1b456bed90b65c5d3253917d26abbf28bc50857b | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Maintenance Fee Address Change | 514538-5000668-Fee-Address-Change-11112022.pdf | 205906<br>990fb8ea4f662f14b69be7e9c21d2293117eaede | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | | 514538-5000668-Comments-11112022.pdf | 47114<br>6586988dfb795dff3f3cc906ca86923dda629613 | yes | 9 |

**Multipart Description/PDF files in .zip description**

| Document Description | Start | End |
|---|---|---|
| Amendment after Notice of Allowance (Rule 312) | 1 | 1 |
| Claims | 2 | 7 |
| Applicant Arguments/Remarks Made in an Amendment | 8 | 9 |

| | | | | | |
|---|---|---|---|---|---|
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Transmittal Letter | 514538-5000668-Transmittal-11112022.pdf | 42018<br>9028b711a71e3876d63c0225f7edb8d4deb34d34 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Fee Worksheet (SB06) | fee-info.pdf | 38046<br>ff25ec2c864b769a8915ff517f06b47d13e97e88 | no | 2 |

| Warnings: | |
|---|---|
| Information: | |
| Total Files Size (in bytes): | 579036 |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**
**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**
**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## REMARKS

### I. Amendments

A Notice of Allowance for the above-captioned application was mailed on October 24, 2022. The issue fee is being submitted with this amendment. Pursuant to 37 C.F.R. §1.312(a), Applicant requests consideration and entry of the above amendment, which is non-substantive in nature. Specifically, the amendment includes a correction to claim 25 to address an obvious minor matter of form. Applicant submits that the scope of the claims remains unchanged and that no new matter has been added to the claims as a result of this amendment.

### II. Comments on Reasons for Allowance

Applicant provides the following comments on the Examiner's Statement of Reasons for Allowance.

Reasons for allowance are only warranted in instances in which "the record of the prosecution as a whole does not make clear the Examiner's reason for allowing a claim or claims" 37 C.F.R. 1.104(e). In the present case, Applicant believes the record as a whole makes clear the reasons for allowance and therefore no statement by the Examiner is necessary or warranted. Therefore, the record should reflect that Applicant does not necessarily agree with the statement and the reasons for allowance.

For example, Applicant notes that the Reasons for Allowance only recites portions of claims 25, 38 and 41. Applicant's claims should be limited only by the terms used therein. Applicant hereby submits these comments in an effort to ensure that the claims were properly construed based only upon limitations that are actually present therein and/or to ensure that the claims are not interpreted so as to include any additional claim limitations that are not found in the respective claims.

Respectfully submitted,

November 11, 2022
Date

/Kent E. Genin/
Kent E. Genin Reg. No. 37,834
Attorney for Applicant

CROWELL & MORING
PO BOX 10395
CHICAGO, IL 60610
(312) 321-4200

Crowell

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 11, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | |
|---|---|---|---|
| In re Appln. of: Charles Lee Oakes III, et al. | | | |
| Appln. No.: | 16/507,595 | Examiner: | I Jung Liu |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: US-0152.11 \| 514538.5000668 | | | |

# TRANSMITTAL

Mail Stop Issue Fee
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

**Attached is/are**:

☒ Amendment under 37 CFR 1.312 and Comments on Statement of Reasons for Allowance; Part B – Fee(s) Transmittal; and "Fee Address" Indication Form.

**Fee calculation**:

☐ No additional fee is required.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

| | | | | | Fee | | Small Entity Fee | | Micro Entity Fee | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Claims Remaining After Amendment | | Highest No. Previously Paid | Present Extra | Rate | Add'l Fee | Rate | Add'l Fee | Rate | Add'l Fee |
| Total | | Minus | | | x $100 = | $ | x $ 50 = | $ | x $25 = | $ |
| Independent | | Minus | | | x $480 = | $ | x $240 = | $ | x $120 = | $ |
| First Presentation of Multiple Dep. Claim | | | | | + $860 = | $ | + $430 = | $ | + $215 = | $ |
| | | | | | Total | $ | Total | $ | Total | $ |

**Fee payment:**

☒ Please charge Deposit Account No. 50-4184 in Financial Manager in the amount of $1200 for Issue Fee.

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

November 11, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

# Electronic Patent Application Fee Transmittal

| | |
|---|---|
| **Application Number:** | 16507595 |
| **Filing Date:** | 10-Jul-2019 |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes |
| **Filer:** | Kent E. Genin/Tricia Chiovari |
| **Attorney Docket Number:** | US-0152.11(14538-668) |

Filed as Large Entity

**Filing Fees for Utility under 35 USC 111(a)**

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Basic Filing:** | | | | |
| **Pages:** | | | | |
| **Claims:** | | | | |
| **Miscellaneous-Filing:** | | | | |
| **Petition:** | | | | |
| **Patent-Appeals-and-Interference:** | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | |
| UTILITY APPL ISSUE FEE | 1501 | 1 | 1200 | 1200 |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Extension-of-Time:** | | | | |
| **Miscellaneous:** | | | | |
| | | | **Total in USD ($)** | **1200** |

[19] State Intellectual Property Office of the People's Republic of China

[51] Int. Cl.
*G06K 9/00 (01-2006)*

# [12] Specification of Application for Invention Patent

[21] Application No. 200610118618.3

[43] Publication Date May 23, 2007

[11] Publication No. CN 1967565A

[22] Filing Date 11-22-2006
[21] Appl. No. 200610118618.3
[71] Applicant Shanghai Hehe Information Technology Development Co. Ltd.
Address 335 Guoding Rd., Shanghai 200433
[72] Inventor ZHU Lin

[74] Patent Agency Shanghai Dezhao Intellectual Property Agency Co., Ltd.
Agent CHENG Zhongde

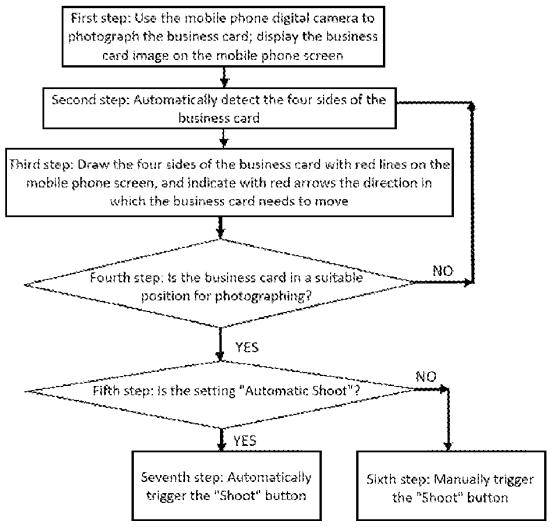
Claims 3 pages; Description 6 pages; Drawings 3 pages

**[54] Title of the invention**

A method of scanning business cards using a mobile phone with a digital camera

**[57] Abstract**

A method of scanning business cards using a mobile phone with a digital camera; the method, which pertains to the technical field of mobile phone apps, uses said mobile phone to add useful information included on a business card, such as name and address, directly to the address book of a mobile phone and includes steps for photographing the business card using the mobile phone: detecting the four sides of the targeted business card on the mobile phone screen, using lines of one color to draw the detected four sides of the targeted business card so that the mobile phone user can clearly see the position and shape of the business card on the screen, and using arrows based on the current position of the business card to prompt the mobile phone user to move the business card in the direction pointed to by the arrows until the business card arrives at a position suitable for photographing; when the business card is in a position suitable for photographing, the four sides of said business card become a second color, prompting the mobile phone user to prepare to take a photograph; to photograph the targeted business card, the mobile phone user needs only to hold the mobile phone steady and trigger the "shoot" button, either manually or automatically by the mobile phone, thus overcoming a drawback, namely the tendency of the camera to shake while taking a photograph.



1. A method of scanning business cards using a mobile phone with a digital camera, comprising four steps: (1) using the built-in digital camera of the mobile phone to photograph the targeted business card; (2) using OCR technology to automatically recognize text in the photograph taken of the targeted business card in step (1); (3) using text classification technology to automatically locate useful information, such as name, address, postal code, telephone number, fax number, and email address, within the text recognized in step (2) and displaying such as recognition results on said mobile phone screen; and (4) the mobile phone automatically adding the confirmed recognition results to the address book of said mobile phone after the mobile phone user has checked, corrected, and confirmed the recognition results; the method needs to be implemented on a mobile phone that has a digital camera, said mobile phone having both a camera system containing a single-chip microcomputer system and a business card recognition system, wherein the memory of said single-chip microcomputer system stores programs that are for controlling and commanding the CPU to execute the following operations to ensure that the method can be implemented normally: displaying the image of the targeted business card on said screen, displaying corner points on said screen, assessing the edges of the targeted business card, drawing lines in a first color, drawing arrows in the first color, determining whether the corner points coincide with the corner vertices of the targeted business card, drawing the lines in a second color, and triggering the "shoot" button, characterized in that, in step (1), the camera system in said mobile phone photographs the targeted business card according to the operating steps below:

first step: aiming the lens of the built-in digital camera of said mobile phone at the targeted business card, said camera system displaying an image of the targeted business card on the screen of said mobile phone and separately displaying four corner points in places near the four corners on said screen, indicating to the mobile phone user that the vertices of the four corners of the targeted business card should coincide, respectively, with said four corner points when the targeted business card is in a position suitable for photographing;

second step: said camera system automatically detecting the four sides of the targeted business card;

third step: using lines of the first color to draw the four sides of the targeted business card detected in the second step on said screen, and using indicating arrows of the first color to indicate the direction in which the targeted business card should move;

fourth step: said camera system checking whether the targeted business card is in a suitable position for photographing; if not, returning to and executing the second step; if so, using lines in the second color to draw the four sides of the targeted business card on said screen to indicate to the mobile phone user that the targeted business card is in a suitable position for photographing and that it is now possible to take the photograph; proceeding to and executing the fifth step;

fifth step: the mobile phone user discerning the photography setting of the mobile phone; if it is "manual shoot," proceeding to and executing the sixth step; if it is "automatic shoot," proceeding to and executing the seventh step;

sixth step: the mobile phone user holding the mobile phone steady and pressing the "shoot" button of said mobile phone to obtain

an image of the targeted business card;

seventh step: said camera system automatically triggering the “shoot” button of said mobile phone to obtain an image of the targeted business card.

2. The method of scanning business cards using a mobile phone with a digital camera as described in claim 1, characterized in that the first color in the third step is red and the second color in the fourth step is green.

3. The method of scanning business cards using a mobile phone with a digital camera as described in claim 1, characterized in that said camera system displays on said screen instructional text guiding the mobile phone user to perform correct operations during the execution of each step.

4. The method of scanning business cards using a mobile phone with a digital camera as described in claim 1, characterized in that the method is implemented on a mobile phone with a digital camera having the following technical specifications:

mobile phone brand: Dopod 830;

digital camera resolution: 2 Mpix;

CPU operating frequency: 195 MHz;

memory capacity in single-chip microcomputer system: 44 Mbit;

screen diagonal: 2.8 in;

screen resolution: 320 x 240 pix;

mobile phone operating system: Microsoft Windows Mobile 5.0.

5. The method of scanning business cards using a mobile phone with a digital camera as described in claim 1, characterized in that the first color in the third step is red and the second color in the fourth step is green; and that said camera system displays on said screen instructional text guiding the mobile phone user to perform correct operations during the execution of each step.

6. The method of scanning business cards using a mobile phone with a digital camera as described in claim 1, characterized in that the first color in the third step is red and the second color in the fourth step is green; and that the method is implemented on a mobile phone with a digital camera having the following technical specifications:

mobile phone brand: Dopod 830;

digital camera resolution: 2 Mpix;

CPU operating frequency: 195 MHz;

memory capacity in single-chip microcomputer system: 44 Mbit;

screen diagonal: 2.8 in;

screen resolution: 320 x 240 pix;

mobile phone operating system: Microsoft Windows Mobile 5.0.

7. The method of scanning business cards using a mobile phone with a digital camera as described in claim 1, characterized in that said camera system displays on said screen instructional text guiding the mobile phone user to perform correct operations during the execution of each step; and that the method is implemented on a mobile phone with a digital camera having the following technical specifications:

mobile phone brand: Dopod 830;

digital camera resolution: 2 Mpix;

CPU operating frequency: 195 MHz;

memory capacity in single-chip microcomputer system: 44 Mbit;

screen diagonal: 2.8 in;

screen resolution: 320 x 240 pix;

mobile phone operating system: Microsoft Windows Mobile 5.0.

8. The method of scanning business cards using a mobile phone with a digital camera as described in claim 1, characterized in that the first color in the third step is red and the second color in the fourth step is green; that said camera system displays on said screen instructional text guiding the mobile phone user to perform correct operations during the execution of each step; and that the method is implemented on a mobile phone with a digital camera having the following technical specifications:

mobile phone brand: Dopod 830;

digital camera resolution: 2 Mpix;

CPU operating frequency: 195 MHz;

memory capacity in single-chip microcomputer system: 44 Mbit;

screen diagonal: 2.8 in;

screen resolution: 320 x 240 pix;

mobile phone operating system: Microsoft Windows Mobile 5.0.

A method of Scanning Business Cards Using a Mobile Phone with a Digital Camera

## Field of the Invention

The present invention relates to a method of scanning business cards using a mobile phone with a digital camera, and the field of the invention is mobile phone apps.

## Background of the Invention

Digital cameras that are built into mobile phones are becoming increasingly widespread, and the resolutions of the digital cameras are also increasing. This trend has created the necessary conditions for business card scanning apps on mobile phones with digital cameras.

Business card scanning technology is the technology whereby a mobile phone with a digital camera adds useful information included on a business card, such as name, address, postal code, telephone number, fax number, and email address, directly to the address book of the mobile phone. The greatest advantage that this technology has over the traditional method of scanning business cards with a scanner is that the above-described task of adding useful information can be carried out using just the mobile phone and its built-in digital camera without an additional scanner. To implement this technology, it is necessary to complete the following four steps: (1) use the built-in digital camera of the mobile phone to photograph the business card; (2) use OCR (optical character recognition) technology to automatically recognize text in the photograph taken in step (1) of the business card; (3) use text classification technology to automatically locate useful information, such as name, address, postal code, telephone number, fax number, and email address, within the text recognized in step (2) and display such as recognition results on the mobile phone screen; (4) after the mobile phone user checks, corrects, and confirms the recognition results, the mobile phone automatically adds the confirmed recognition results to the address book of the mobile phone. This technology can quickly input business card information into an address book without the trouble and inconvenience of manual input. Of the four steps described above, (2), (3), and (4) are mature prior art whose implementation does not involve any difficulty. The task of step (1) is to take a business card photograph that is complete and that is as large and clear as possible. Unlike scanning a business card with a scanner, step (1) can be completed only if the mobile phone user participates in the photograph-taking operation; however, the majority of mobile phone users have not mastered

photography techniques, with the result that the business card photograph that is ultimately taken often contains a large amount of "noise," such as projection distortion, incomplete content, excessively small pictures, or fuzzy images; as shown in FIGS. 1(b), 1(c), and 2, the impact on business card photograph quality is severe, which in turn severely affects the recognition rate of the business card scan, with the result that many errors are mixed in with the text automatically recognized by OCR technology and many errors are also mixed in with the names and other useful information located by text classification technology, thus depriving the business card scanning technology that can be implemented by a mobile phone and its built-in digital camera of its practical value.

The following is prior art that attempts to solve the problem of step (1).

United States Patent Application 20030133703 submitted by Lin-Chen Yu et al. describes a device for fixing a mobile phone and a business card. The mobile phone and a business card are fixed to the device; when a photograph of the business card is taken with the built-in digital camera of the mobile phone, it can ensure there will be no projection distortion of the business card photograph and that the camera will not shake during shooting. The drawback of this technology is that it requires the mobile phone user to carry around an additional device that is not often used. As mentioned above, a major advantage of scanning business cards using the built-in digital camera of a mobile phone is that there is no need for an additional device; this technology causes a mobile phone with a digital camera to lose the advantage it has in scanning business cards.

Many models of mobile phones with high-resolution digital cameras currently on the market have a business card scanning feature, e.g., Motorola's "Ming" phone. This mobile phone uses another method to photograph business cards: three red lines are drawn at specific locations on the mobile phone screen to remind the mobile phone user when photographing a business card that three sides of the business card should coincide with the three red lines. When the three sides of the business card roughly coincide with said three red lines, said red lines become green lines, and the digital camera of the mobile phone simultaneously enters a countdown phase; when the countdown phase ends, the mobile phone digital camera automatically photographs the business card. The drawback to this technology is that, when a business card is photographed using a mobile phone digital camera, relative motion exists between the business card and the digital camera, and the image on the mobile phone screen continuously changes; the mobile phone user not only finds it difficult to have a clear view of the current location of the business card, but also does not know how to move the business card so as to make the business card coincide with said three red lines.

Summary of the Invention

An object of the present invention is to introduce a method of scanning business cards using a mobile phone with a digital camera. The method is implemented on a mobile phone having a digital camera and involves a business card scanning feature, but does not have the drawbacks of the background art.

To achieve the object described above, the present invention employs the technical solution below. While retaining steps (2), (3), and (4) of the background art above, it improves step (1) by: detecting the four sides of the targeted business card on the mobile phone screen, drawing the detected four sides of the targeted business card using lines of a first color so that the mobile phone user can clearly see the position and shape of the business card on the screen, and using arrows based on the current position of the business card to prompt the mobile phone user to move the targeted business card in the direction pointed to by the arrows until the business card arrives at a position suitable for photographing; when the relative positions of the mobile phone digital camera and the business card are suitable for photographing, the four sides of said business card become a second color, prompting the mobile phone user to prepare to take a photograph; to photograph the targeted business card, the mobile phone user needs only to hold the mobile phone steady and trigger the "shoot" button of the digital camera, either manually or automatically by the mobile phone, thus overcoming a drawback, namely the tendency of the camera to shake during shooting.

The technical solution of the present invention will now be described in detail, with reference to the drawings; this solution comprises seven steps, wherein the first, third, and fourth steps are depicted in FIGS. 4, 5, and 6, respectively.

A method of scanning business cards using a mobile phone with a digital camera, comprising four steps: (1) using the built-in digital camera of the mobile phone to photograph the targeted business card; (2) using OCR technology to automatically recognize text in the photograph taken of the targeted business card in step (1); (3) using text classification technology to automatically locate useful information, such as name, address, postal code, telephone number, fax number, and email address, within the text recognized in step (2) and displaying such as recognition results on said mobile phone screen; (4) the mobile phone automatically adding the confirmed recognition results to the address book of said mobile phone after the mobile phone user has checked, corrected, and confirmed the recognition results; the method needs to be implemented on a mobile phone that has a digital camera, said mobile phone having both a camera system containing a single-chip microcomputer system and a business card recognition system, wherein the memory of said single-chip microcomputer system stores programs for controlling and commanding the CPU to execute the following operations to ensure that the method can be implemented normally:

displaying the image of the targeted business card on said screen, displaying corner points on said screen, assessing the edges of the targeted business card, drawing lines in a first color, drawing arrows in the first color, determining whether the corner points coincide with the corner vertices of the targeted business card, drawing the lines in a second color, and triggering the "shoot" button, characterized in that, in step (1), the camera system in said mobile phone photographs the targeted business card according to the operating steps below:

first step: aiming the lens of the built-in digital camera of said mobile phone at the targeted business card, said camera system displaying an image of the targeted business card on the screen of said mobile phone and separately displaying four corner points in places near the four corners on said screen, indicating to the mobile phone user that the vertices of the four corners of the targeted business card should coincide, respectively, with said four corner points when the targeted business card is in a position suitable for photographing;

second step: said camera system automatically detecting the four sides of the targeted business card;

third step: using lines of the first color to draw the four sides of the targeted business card detected in the second step on said screen, and using indicating arrows of the first color to indicate the direction in which the targeted business card should move;

fourth step: said camera system checking whether the targeted business card is in a suitable position for photographing; if not, returning to and executing the second step; if so, using lines in the second color to draw the four sides of the targeted business card on said screen to indicate to the mobile phone user that the targeted business card is in a suitable position for photographing and that it is now possible to take the photograph; proceeding to and executing the fifth step;

fifth step: the mobile phone user discerning the photography setting of the mobile phone; if it is "manual shoot," proceeding to and executing the sixth step; if it is "automatic shoot," proceeding to and executing the seventh step;

sixth step: the mobile phone user holding the mobile phone steady and pressing the "shoot" button of said mobile phone to obtain an image of the targeted business card;

seventh step: said camera system automatically triggering the "shoot" button of said mobile phone to obtain an image of the targeted business card.

The technical solution of the present invention is further characterized in that the first color in the third step is red and the second color in the fourth step is green.

The technical solution of the present invention is further characterized in that said camera system displays on said screen instructional text guiding the mobile phone user to perform correct operations during the execution of each step.

The method of the present invention is especially suited for taking photographs of targeted business cards on a mobile phone with a digital camera or on a mobile device with a camera.

The present invention has the following advantages over the background art:

1. It uses screen prompts to guide the mobile phone user to take high-quality photographs of targeted business cards.

The four sides of the targeted business card detected on said screen enable the mobile phone user to clearly view the current position and shape of the targeted business card, and the prompt arrows can let the mobile phone user clearly know how to move the targeted business card in order to take an acceptable photograph. Screen prompts guide any mobile phone user who is not adept at taking photographs to take high-quality photographs of targeted business cards.

2. As a result of the automatic shooting feature, the mobile phone camera photographs targeted business cards without shaking and thereby helps to improve the quality of photographs taken of targeted business cards.

The above two advantages ensure that said mobile phone can take targeted business card photographs that are high-quality and do not contain any "noise," thus ensuring the recognition accuracy of said business card recognition system and increasing the usefulness and convenience of said business card recognition system.

Description of the Drawings

FIGS. 1(a) and 1(b) are illustrations of projection shrinkage and projection magnification.

FIG. 2 is an illustration of a fuzzy image of a targeted business card resulting from a shaking camera.

FIG. 3 is a flowchart of operations in the method of the present invention.

FIG. 4 is a first screen display of the screen of said mobile phone, wherein the four red right angles are four corner points.

FIG. 5 is a second screen display of the screen of said mobile phone, wherein four red lines are

the four sides of a targeted business card, and the red prompt arrows indicate the direction in which the targeted business card needs to move.

FIG. 6 is a third screen display of the screen of said mobile phone, wherein four green lines are the four sides of the targeted business card, four green right angles are the four corner points, and the fact that the four sides and four corner points have turned from red to green indicates that the targeted business card is in a suitable position for photographing.

Specific Embodiments

First embodiment

The present embodiment is implemented in complete accordance with the method described in "Summary of the Invention" on a mobile phone having the technical specifications below:

mobile phone brand: Dopod 830;
digital camera resolution: 2 Mpix;
CPU operating frequency: 195 MHz;
memory capacity in single-chip microcomputer system: 44 Mbit;
screen diagonal: 2.8 in;
screen resolution: 320 x 240 pix;
mobile phone operating system: Microsoft Windows Mobile 5.0.

Second embodiment

The present embodiment is entirely the same as the first embodiment with the exception of the following: the first color in the third step is red and the second color in the fourth step is green.

Third embodiment

The present embodiment is entirely the same as the second embodiment with the exception of the following: said camera system displays on said screen instructional text guiding the mobile phone user to perform correct operations during the execution of each step.

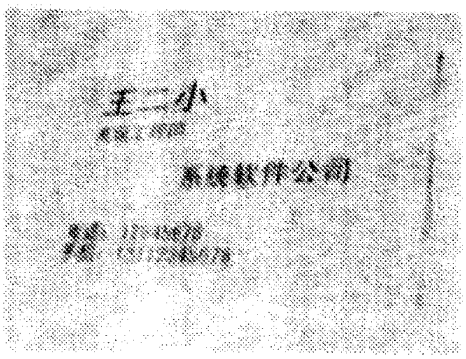



*Wang Erxiao*
*Senior Engineer*

*System Software Company*

*Telephone: 12345678*
*Mobile: 13112345678*

FIG. 1(a)




*Wang Erxiao*
*Senior Engineer*

*System Software Company*

*Telephone: 12345678*
*Mobile: 13112345678*

FIG. 1(b)

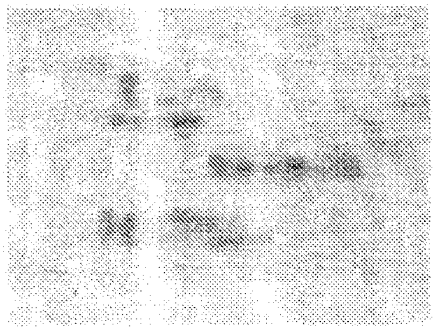


FIG. 2

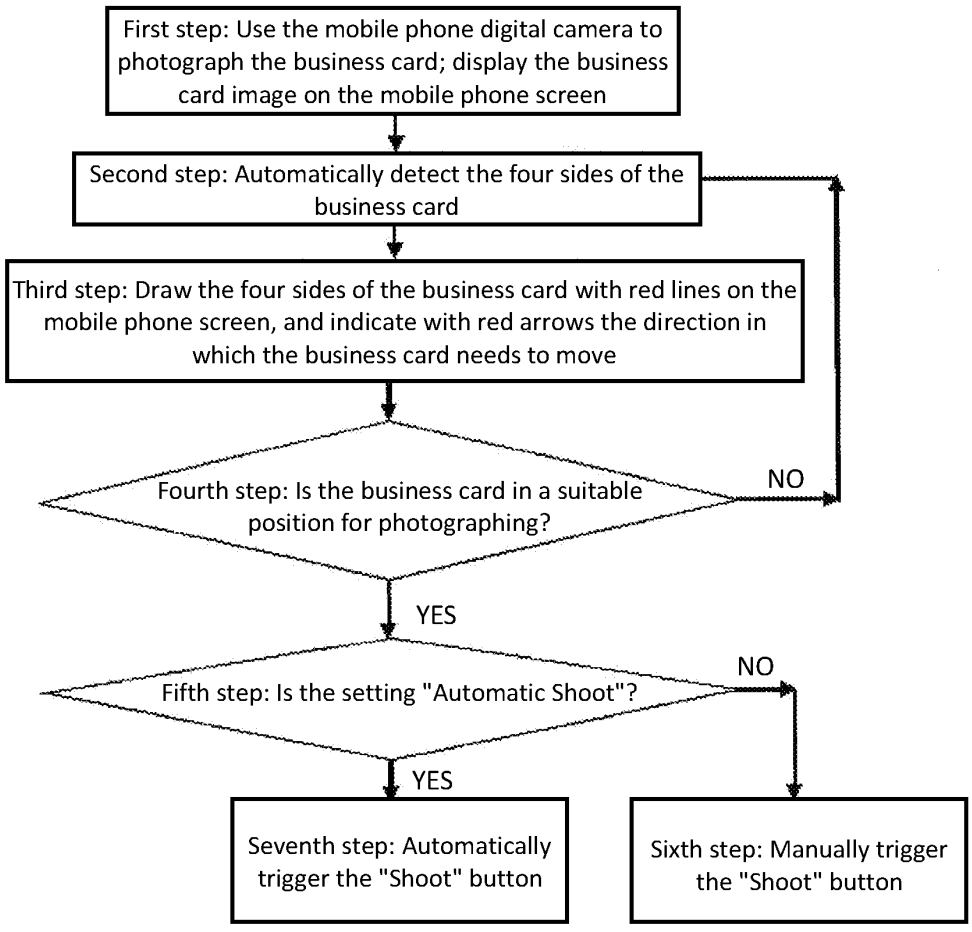

First step: Use the mobile phone digital camera to photograph the business card; display the business card image on the mobile phone screen
Second step: Automatically detect the four sides of the business card
Third step: Draw the four sides of the business card with red lines on the mobile phone screen, and indicate with red arrows the direction in which the business card needs to move
Fourth step: Is the business card in a suitable position for photographing?
NO
YES
Fifth step: Is the setting "Automatic Shoot"?
NO
YES
Seventh step: Automatically trigger the "Shoot" button
Sixth step: Manually trigger the "Shoot" button

FIG. 3

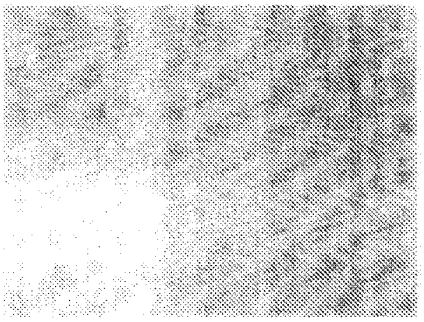


FIG. 4




Wang Erxiao
Senior Engineer

System Software Company

Telephone: 12345678
Mobile: 13112345678

FIG. 5




Wang Erxiao
Senior Engineer

System Software Company

Telephone: 12345678
Mobile: 13112345678

FIG. 6

I, Peter Erickson, declare as follows:

1. I am over 21 years of age and am competent to make this declaration.

2. I am a native speaker of English.

3. I am fluent in Chinese.

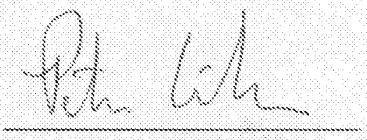
4. I have over 20 years of experience translating Chinese to English.

5. I translated the attached patent document "Zhu - CN1967565A" from Chinese to English.

6. I certify that the translation of the document "Zhu - CN1967565A" is, to the best of my knowledge, a true and accurate translation from Chinese to English.

7. In signing this declaration, I understand that the translation and this declaration may be filed as evidence in a contested case. I acknowledge that I may be subject to cross-examination within the United States.

8. I declare under penalty of perjury that all statements made herein are true and accurate to the best of my knowledge and belief, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed: September 10, 2022 By: 

Peter Erickson

[19] 中华人民共和国国家知识产权局

[51] Int. Cl.
*G06K 9/00 (2006.01)*

[12] 发明专利申请公布说明书

[21] 申请号 200610118618.3

[43] 公开日 2007 年 5 月 23 日

[11] 公开号 CN 1967565A

[22] 申请日 2006.11.22
[21] 申请号 200610118618.3
[71] 申请人 上海合合信息科技发展有限公司
地址 200433 上海市国定路 335 号
[72] 发明人 朱 林

[74] 专利代理机构 上海德昭知识产权代理有限公司
代理人 程宗德

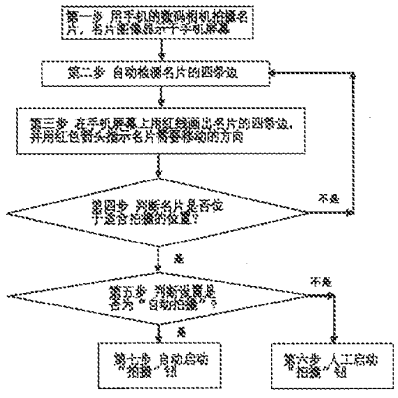
权利要求书 3 页 说明书 6 页 附图 3 页

[54] 发明名称

一种用带数码相机的手机实现名片扫描的方法

[57] 摘要

一种用带数码相机的手机实现名片扫描的方法，属手机应用的技术领域，该方法用所述的手机将名片所载的诸如姓名、地址之类的有用信息直接添加到手机的地址簿中，包括用手机拍摄名片的步骤：在手机的屏幕上检测待摄名片的四条边，用一种颜色的线画出检测到的待摄名片的四条边，使手机用户看清名片在屏幕上的位置和形状，并根据名片的当前位置用箭头提示手机用户沿箭头所指方向移动名片，至名片进入适合拍摄的位置；当名片位于适合拍摄的位置时，所述的名片的四条边变为第二种颜色，提示手机用户拍摄准备就绪；手机用户只需稳稳握住手机，人工或手机自动启动“拍摄”钮，完成待摄名片的拍摄，从而克服了拍摄时相机易发生抖动的弊病。



1、一种用带数码相机的手机实现名片扫描的方法，包括四个步骤：（1）用手机自带的数码相机拍摄待摄名片的图像；（2）用 OCR 技术自动识别（1）步摄得的待摄名片图像中的文字；（3）用文本分类技术自动找出（2）步识别的文字中的诸如姓名、地址、邮编、电话号码、传真号码、电子邮箱地址之类的有用信息，并将它们作为识别结果显示于所述的手机的屏幕；（4）手机用户对识别结果进行校核，经改错和确认后，手机自动将确认的识别结果添加到所述的手机的地址簿中，该方法需在带数码相机的手机内施行，在所述的手机内有含单片机系统的拍摄系统和名片识别系统，在所述的单片机系统的存储器中存储有以下程序，控制和指挥 CPU 执行以下确保该方法能正常施行的操作：待摄名片的影像显示于所述的屏幕，角点显示于所述的屏幕，判定待摄名片的边缘，用第一种颜色画线，用第一种颜色画箭头，判定待摄名片的角的顶点与角点的重合，用第二种颜色画线，启动“拍摄”钮，其特征在于，（1）步中，所述的手机内的拍摄系统按以下操作步骤拍摄待摄名片的图像：

第一步，将所述的手机自带的数码相机的镜头对准待摄名片，所述的拍摄系统将待摄名片的影像显示在所述的手机的屏幕上，并在所述的屏幕上的靠近四角的地方分别显示四个角点，提示手机用户待摄名片处于适合拍摄位置时待摄名片的四个角的顶点应分别与所述的四个角点重合；

第二步，所述的拍摄系统自动检测待摄名片的四条边；

第三步，在所述的屏幕上用第一种颜色的线画出第二步检测到的待摄名片的四条边，并用第一种颜色的指示箭头指示待摄名片应该移动的方向；

第四步，所述的拍摄系统检查待摄名片是否位于适合拍摄位置，如不，返回并执行第二步，如是，在所述的屏幕上用第二种颜色的线画出待摄名片的四条边，提示手机用户待摄名片位于适合拍摄的位置，可以拍摄，进入并执行第五步；

第五步，手机用户判别手机的拍摄设置，如为“人工拍摄”，进入并执行第六步，如为“自动拍摄”，进入并执行第七步；

第六步，手机用户稳稳握住手机，按所述的手机的“拍摄”钮，得到

待摄名片的影像；

第七步，所述的拍摄系统自动启动所述的手机的“拍摄”钮，得到待摄名片的影像。

2、根据权利要求 1 所述的用带数码相机的手机实现名片扫描的方法，其特征在于，第三步中，第一种颜色是红色，第四步中，第二种颜色是绿色。

3、根据权利要求 1 所述的用带数码相机的手机实现名片扫描的方法，其特征在于，在执行每一个步骤时，所述的拍摄系统把指导手机用户正确操作的指示语句显示于所述的屏幕。

4、根据权利要求 1 所述的用带数码相机的手机实现名片扫描的方法，其特征在于，该方法在具有以下技术指标的带数码相机的手机内施行：

手机的牌号：多普达 830 型；

数码相机的分辨率：2Mpix.；

CPU 工作频率：195MHz；

单片机系统内的存储器容量：44Mbit；

屏幕对角线长度：2.8in.；

屏幕分辨率：320*240 pix.；

手机操作系统：微软的 windows mobile 5.0。

5、根据权利要求 1 所述的用带数码相机的手机实现名片扫描的方法，其特征在于，第三步中，第一种颜色是红色，第四步中，第二种颜色是绿色，在执行每一个步骤时，所述的拍摄系统把指导手机用户正确操作的指示语句显示于所述的屏幕。

6、根据权利要求 1 所述的用带数码相机的手机实现名片扫描的方法，其特征在于，第三步中，第一种颜色是红色，第四步中，第二种颜色是绿色，该方法在具有以下技术指标的带数码相机的手机内施行：

手机的牌号：多普达 830 型；

数码相机的分辨率：2Mpix.；

CPU 工作频率：195MHz；

单片机系统内的存储器容量：44Mbit；

屏幕对角线长度：2.8in.；

屏幕分辨率：320*240 pix.；

手机操作系统：微软的 windows mobile 5.0。

7、根据权利要求 1 所述的用带数码相机的手机实现名片扫描的方法，其特征在于，在执行每一个步骤时，所述的拍摄系统把指导手机用户正确操作的指示语句显示于所述的屏幕，该方法在具有以下技术指标的带数码相机的手机内施行：

手机的牌号：多普达 830 型；

数码相机的分辨率：2Mpix.；

CPU 工作频率：195MHz；

单片机系统内的存储器容量：44Mbit；

屏幕对角线长度：2.8in.；

屏幕分辨率：320*240 pix.；

手机操作系统：微软的 windows mobile 5.0。

8、根据权利要求 1 所述的用带数码相机的手机实现名片扫描的方法，其特征在于，第三步中，第一种颜色是红色，第四步中，第二种颜色是绿色，在执行每一个步骤时，所述的拍摄系统把指导手机用户正确操作的指示语句显示于所述的屏幕，该方法在具有以下技术指标的带数码相机的手机内施行：

手机的牌号：多普达 830 型；

数码相机的分辨率：2Mpix.；

CPU 工作频率：195MHz；

单片机系统内的存储器容量：44Mbit；

屏幕对角线长度：2.8in.；

屏幕分辨率：320*240 pix.；

手机操作系统：微软的 windows mobile 5.0。

# 一种用带数码相机的手机实现名片扫描的方法

## 技术领域

本发明涉及一种用带数码相机的手机实现名片扫描的方法，属手机应用的技术领域。

## 背景技术

目前手机自带数码相机越来越普及，且数码相机的分辨率也越来越高。这就为带数码相机的手机作名片扫描的应用创造了条件。

名片扫描技术指用带数码相机的手机将名片所载的诸如姓名、地址、邮编、电话号码、传真号码、电子邮箱地址之类的有用信息直接添加到手机的地址簿中的技术。与传统的利用扫描仪来扫描名片的方法相比，该技术的最大好处是上述的添加有用信息的任务，靠手机及其自带的数码相机就能实现，不需要附加的扫描仪。实现该技术需要完成以下四个步骤：（1）用手机自带的数码相机拍摄名片的图像；（2）用 OCR（optical character recognition，光学文字识别）技术自动识别（1）步摄得的名片图像中的文字；（3）用文本分类技术自动找出（2）步识别的文字中的诸如姓名、地址、邮编、电话号码、传真号码、电子邮箱地址之类的有用信息，并将它们作为识别结果显示于手机的屏幕；（4）手机用户对识别结果进行校核，经改错和确认后，手机自动将确认的识别结果添加到手机的地址簿中。该技术可快速地将名片信息输入地址簿中，省却了手工输入的麻烦和不便。上述的四个步骤中，（2）、（3）和（4）是成熟的已有技术，实施时没有任何困难。步骤（1）的任务是用手机自带的数码相机拍摄到一幅完整的、画面尽可能大和清晰的名片图像。跟用扫描仪扫描名片不一样，步骤（1）需要手机用户参与拍摄操作才能完成，而手机用户居多不掌握

摄影技术，致使最终拍摄到的名片图像经常会含有大量“噪声”，如投影变形、内容不完整、画面偏小或图像模糊等，如图 1(b)、图 1(c)和图 2 所示，严重影响拍摄到的名片图像的质量，从而严重影响到名片扫描的识别率，造成用 OCR 技术自动识别出来的文字中混有很多错误和用文本分类技术找出的姓名等有用信息中也混有很多错误，使利用手机及其自带的数码相机能实现的名片扫描技术失去了它的实用性。

以下是一些试图解决步骤（1）存在问题的已有技术。

Lin-Chen Yu 等人提交的 United States Patent Application 20030133703 描述了一个用来固定手机和名片的装置。将手机和名片固定在该装置上，在用手机自带的数码相机拍摄名片时，可确保拍摄到的名片图像不会有投影变形和拍摄时相机不会发生抖动。该技术的缺点是要求手机用户随身携带一个利用率不高的附加装置。前已述及，不需要附加装置是手机自带的数码相机实现名片扫描的一大优点，该技术使带数码相机的手机在实现名片扫描方面失去优势。

目前多款市售的带高分辨率数码相机的手机具有名片扫描功能，其中之一就是摩托罗拉的“明” 牌手机。该手机采用另一种方法拍摄名片：在手机的屏幕上的特定位置画了三条红线，提示手机用户在拍摄名片时名片的三条边应与所述的三条红线重合。当名片的三条边与所述的三条红线大致重合时，所述的红线变成绿线，同时手机的数码相机进入倒计时时期，倒计时时期结束时，手机的数码相机自动拍摄名片。该技术的缺点是用手机的数码相机拍摄名片时，数码相机与名片之间存在相对运动，手机的屏幕上的图像在不断地改变，手机用户既不容易看清名片当前所处的位置，也不知道如何移动名片，才能使名片与所述的三条红线重合。

## 发明内容

本发明的目的是推出一种用带数码相机的手机实现名片扫描的方法。该法在带数码相机的手机中实施，具有名片扫描功能，却没有背景技术的缺点。

为达到上述目的，本发明采用以下技术方案。在保留上述的背景技术的（2）、（3）和（4）步的基础上，对（1）步进行改进：在手机的屏幕上检测待摄名片的四条边，用第一种颜色的线画出检测到的待摄名片的四条边，使手机用户看清名片在屏幕上的位置和形状，并根据名片的当前位置用箭头提示手机用户沿箭头所指方向移动待摄名片，至名片进入适合拍摄的位置；当手机的数码相机与名片的相对位置适合拍摄时，所述的名片的四条边变为第二种颜色，提示手机用户拍摄准备就绪；手机用户只需稳稳握住手机，人工或手机自动启动数码相机的“拍摄”钮，完成待摄名片的拍摄，从而克服了拍摄时相机易发生抖动的弊病。

现结合附图详细说明本发明的技术方案，该方案包括七个步骤，其中第一、三和四步分别如图 4、5 和 6 所示。

一种用带数码相机的手机实现名片扫描的方法，包括四个步骤：（1）用手机自带的数码相机拍摄待摄名片的图像；（2）用 OCR 技术自动识别（1）步摄得的待摄名片图像中的文字；（3）用文本分类技术自动找出（2）步识别的文字中的诸如姓名、地址、邮编、电话号码、传真号码、电子邮箱地址之类的有用信息，并将它们作为识别结果显示于所述的手机的屏幕；（4）手机用户对识别结果进行校核，经改错和确认后，手机自动将确认的识别结果添加到所述的手机的地址簿中，该方法需在带数码相机的手机内施行，在所述的手机内有含单片机系统的拍摄系统和名片识别系统，在所述的单片机系统的存储器中存储有以下程序，控制和指挥 CPU 执行以下确保该方法能正常施

行的操作：待摄名片的影像显示于所述的屏幕，角点显示于所述的屏幕，判定待摄名片的边缘，用第一种颜色画线，用第一种颜色画箭头，判定待摄名片的角的顶点与角点的重合，用第二种颜色画线，启动“拍摄”钮，其特征在于，（1）步中，所述的手机内的拍摄系统按以下操作步骤拍摄待摄名片的图像：

第一步，将所述的手机自带的数码相机的镜头对准待摄名片，所述的拍摄系统将待摄名片的影像显示在所述的手机的屏幕上，并在所述的屏幕上的靠近四角的地方分别显示四个角点，提示手机用户待摄名片处于适合拍摄位置时待摄名片的四个角的顶点应分别与所述的四个角点重合；

第二步，所述的拍摄系统自动检测待摄名片的四条边；

第三步，在所述的屏幕上用第一种颜色的线画出第二步检测到的待摄名片的四条边，并用第一种颜色的指示箭头指示待摄名片应该移动的方向；

第四步，所述的拍摄系统检查待摄名片是否位于适合拍摄位置，如不，返回并执行第二步，如是，在所述的屏幕上用第二种颜色的线画出待摄名片的四条边，提示手机用户待摄名片位于适合拍摄的位置，可以拍摄，进入并执行第五步；

第五步，手机用户判别手机的拍摄设置，如为“人工拍摄”，进入并执行第六步，如为“自动拍摄”，进入并执行第七步；

第六步，手机用户稳稳握住手机，按所述的手机的“拍摄”钮，得到待摄名片的影像；

第七步，所述的拍摄系统自动启动所述的手机的“拍摄”钮，得到待摄名片的影像。

本发明的技术方案的进一步特征在于，第三步中，第一种颜色是红色，第四步中，第二种颜色是绿色。

本发明的技术方案的进一步特征在于，在执行每一个步骤时，所述的拍摄系统把指导手机用户正确操作的指示语句显示于所述的屏幕。

本发明的方法特别适于在带数码相机的手机中，也可在带摄像头的移动设备中，用来拍摄待摄名片的影像。

与背景技术相比，本发明具有以下优点：

1、通过屏幕提示，引导手机用户拍摄到高质量的待摄名片的图像。

通过在所述的屏幕上检测到的待摄名片的四条边可以让手机用户清楚地看到待摄名片的当前位置和形状，提示箭头可以让手机用户清楚地知道应如何移动待摄名片才能拍摄到合格的图像。通过屏幕提示，引导任何一个不谙摄影技术的手机用户拍摄到高质量的待摄名片的图像。

2、自动拍摄功能使手机的相机在不抖动的情况下拍摄待摄名片的图像，有助于提高摄得的待摄名片的图像的质量。

以上两个优点确保所述的手机能摄得不含任何“噪声”的、高质量的待摄名片的图像，从而保证所述的名片识别系统的识别准确率和提高所述的名片识别系统的可用性和易用性。

## 附图说明

图 1(a)和图 1(b)分别是投影形变小和投影形变大的示意图。

图 2 示出了相机抖动造成待摄名片的图像模糊的示意图。

图 3 是本发明的方法的操作流程图。

图 4 是所述的手机的屏幕的屏幕显示之一，其中，四个红色直角分别是四个角点。

图 5 是所述的手机的屏幕的屏幕显示之二，其中，四条红线是

待摄名片的四条边，红色提示箭头提示待摄名片需要移动的方向。

图 6 是所述的手机的屏幕的屏幕显示之三，其中，四条绿线是待摄名片的四条边，四个绿色直角是四个角点，四条边和四个角点由红色转变为绿色，表示待摄名片位于适合拍摄的位置。

## 具体实施方式

实施例 1

本实施例完全按 “发明内容”所述的的方法在具有以下技术指标的带数码相机的手机内施行：

手机的牌号：dopod(多普达)830 型；

数码相机的分辨率：2Mpix.；

CPU 工作频率：195MHz；

单片机系统内的存储器容量：44Mbit；

屏幕对角线长度：2.8in.；

屏幕分辨率：320*240 pix.；

手机操作系统：微软的 windows mobile 5.0。

实施例 2

本实施例除以下不同外，其余的部分与实施例 1 完全相同：第三步中，第一种颜色是红色，第四步中，第二种颜色是绿色。

实施例 3

本实施例除以下不同外，其余的部分与实施例 2 完全相同：在执行每一个步骤时，所述的拍摄系统把指导手机用户正确操作的指示语句显示于所述的屏幕。




图 1 (a)

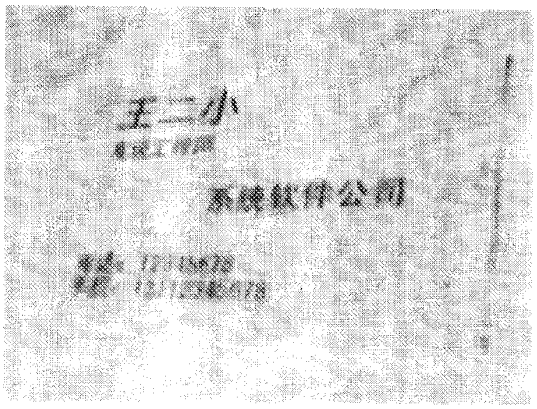



图 1 (b)

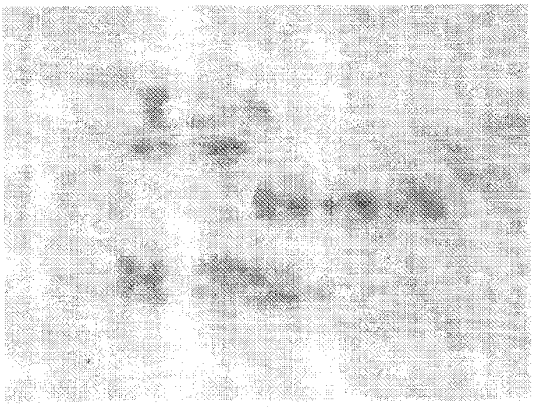


图 2

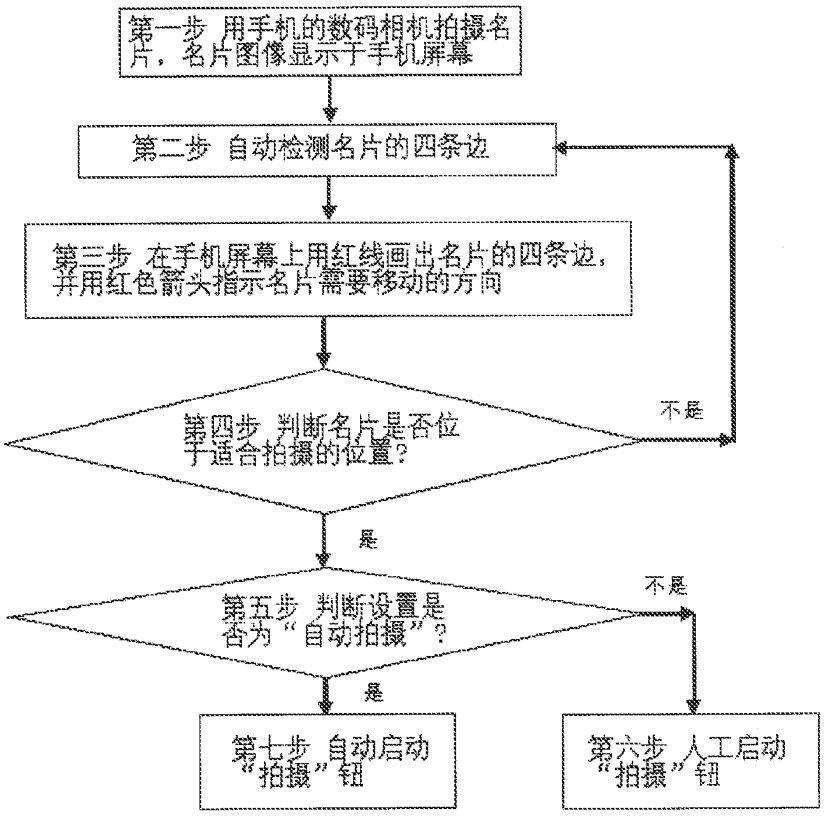

第一步 用手机的数码相机拍摄名片，名片图像显示于手机屏幕
第二步 自动检测名片的四条边
第三步 在手机屏幕上用红线画出名片的四条边，并用红色箭头指示名片需要移动的方向
第四步 判断名片是否位于适合拍摄的位置？
不是
是
第五步 判断设置是否为“自动拍摄”？
不是
是
第七步 自动启动“拍摄”钮
第六步 人工启动“拍摄”钮

图 3

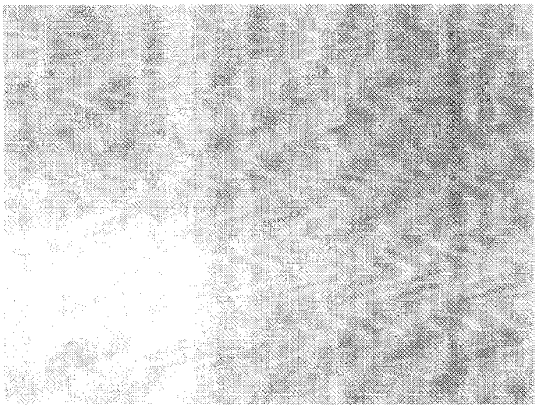


图 4


王二小
系统软件公司
电话：12345678
手机：13112345678

图 5


王二小
系统软件公司
电话：12345678
手机：13112345678

图 6

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 7, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

| **SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT** (Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 16/507,595 |
| | Filing Date | July 10, 2019 |
| | First Named Inventor | Charles Lee Oakes |
| | Art Unit | 3697 |
| | Confirmation Number | 4037 |
| | Examiner Name | LIU, I JUNG |
| | Attorney Docket No. | US-0152.11(514538.5000668) |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**US PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | US 2005/0165641 A1 | 07/2005 | Peter Zhe CHU |
| | 2 | US 2007/0244811 A1 | 10/2007 | John Tumminaro |
| | 3 | US 2008/0040280 A1 | 02/2008 | Steven Davis |
| | 4 | US 8,483,473 B2 | 07/2013 | John J. Roach |
| | 5 | US 2002/0152169 A1 | 10/2002 | Rabindranath Dutta |
| | 6 | US 7,647,897 B2 | 01/2010 | John E. Jones |
| | 7 | US 2003/0046223 A1 | 03/2003 | Stuart Crawford |
| | 8 | US 2011/0112985 A1 | 05/2011 | Peter George Kocmond |
| | 9 | US 2012/0150767 A1 | 06/2012 | Varkki Chacko |
| | 10 | US 2009/0240574 A1 | 09/2009 | Steven A. Carpenter |
| | 11 | US 2005/0102208 A1 | 05/2005 | Jerome Edward Gudgeon |
| | 12 | US 2013/0324160 A1 | 12/2013 | Alessandro Sabatellil |
| | 13 | US 2013/0332219 A1 | 12/2013 | Victoria Clark |
| | 14 | US 2014/0156501 A1 | 06/2014 | Justin Xavier Howe |
| | 15 | US 2011/0054780 A1 | 03/2011 | Adil Dhanani |
| | 16 | US 2006/0270421 A1 | 11/2006 | Alan Phillips |
| | 17 | US 2012/0098705 A1 | 04/2012 | Karl Yost |
| | 18 | US 2012/0052874 A1 | 03/2012 | Nitin Kumar |
| | 19 | US 2012/0036014 A1 | 02/2012 | Guruaj Sunkada |
| | 20 | US 2011/0105092 A1 | 05/2011 | Michelle Felt |
| | 21 | US 2011/0083101 A1 | 04/2011 | Eyal M. Sharon |
| | 22 | US 2011/0082747 A1 | 04/2011 | Farooq Khan |
| | 23 | US 2011/0015963 A1 | 01/2011 | Girish Bhimrao Chafle |
| | 24 | US 2010/0287250 A1 | 11/2010 | Mark Carlson |
| | 25 | US 2010/0112975 A1 | 05/2010 | DeWayne Allan Sennett |
| | 26 | US 2010/0069093 A1 | 03/2010 | James Morrison |
| | 27 | US 2009/0176511 A1 | 07/2009 | James Morrison |
| | 28 | US 2018/0197118 A1 | 07/2018 | Kevin McLaughlin |
| | 29 | US 2012/0296768 A1 | 11/2012 | Phillip Fremont-Smith |
| | 30 | US 2012/0109793 A1 | 05/2012 | Gary Evan Abeles |
| | 31 | US 11,121,989 B1 | 09/2021 | Joseph Benjamin Castinado |
| | 32 | US 2019/0122222 A1 | 04/2019 | Edward Yoshio Uechi |
| | 33 | US 7,296,734 B2 | 11/2007 | Robert Kenneth Pliha |
| | 34 | US 8,118,654 B1 | 02/2012 | Jean-Francois Pascal Nicolas |
| | 35 | US 7,873,556 B1 | 01/2011 | Carrie Dolan |

| Examiner Signature | | Date Considered | |
|---|---|---|---|

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 36 | US 7,865,425 B2 | 01/2011 | Henri Waelbroeck |
| | 37 | US 7,766,223 B1 | 08/2010 | Steven M. Mello |
| | 38 | US 2010/0076890 A1 | 03/2010 | Gak Wee Low |
| | 39 | US 2010/0069155 A1 | 03/2010 | Jay M. Schwartz |
| | 40 | US 2013/0346307 A1 | 12/2013 | Phillip Kopp |
| | 41 | US 2021/0097615 A1 | 04/2021 | Duke Lee Gunn Jr. |
| | 42 | US 2017/0132583 A1 | 05/2017 | Rahul Nair |
| | 43 | US 2017/0039637 A1 | 02/2017 | Jose San Pedro Wandelmer |
| | 44 | US 2014/0351137 A1 | 11/2014 | John D. Chisholm |
| | 45 | US 2014/0203508 A1 | 07/2014 | Anita Pedde |
| | 46 | US 10,217,375 B2 | 02/2019 | Willard H. Waldron |
| | 47 | US 10,210,767 B2 | 02/2019 | Joseph N. Johansen |
| | 48 | US 2017/0068421 A1 | 03/2017 | Mark Carlson |
| | 49 | US 2015/0134517 A1 | 05/2015 | Brian Cosgray |
| | 50 | US 2014/0244476 A1 | 08/2014 | Simon Shvarts |
| | 51 | US 2013/0346306 A1 | 12/2013 | Phillip Kopp |
| | 52 | US 7,974,869 B1 | 07/2011 | Rajeev Sharma |
| | 53 | US 2011/0016109 A1 | 01/2011 | Sergei Vassilvitskii |
| | 54 | US 2010/0262607 A1 | 10/2010 | Sergei Vassilvitskii |
| | 55 | US 2010/0161408 A1 | 06/2010 | Steven R. Karson |
| | 56 | US 2009/0222347 A1 | 09/2009 | Gordon Whitten |
| | 57 | US 2009/0171723 A1 | 07/2009 | Chad G. Jenkins |
| | 58 | US 2005/0273430 A1 | 12/2005 | Robert Kenneth Pliha |
| | 59 | US 2014/0207673 A1 | 07/2014 | Matt Jeffries |
| | 60 | US 2014/0207674 A1 | 07/2014 | Denise Schroeder |
| | 61 | US 2013/0191261 A1 | 07/2013 | Brent A. Chandler |
| | 62 | US 6,930,718 | 08/16/2005 | Parulski et al. |
| | 63 | US 8,064,729 | 07/17/2001 | Li |
| | 64 | US 2005/0078192 | 10/13/2004 | Sakurai |
| | 65 | US 2006/0026140 | 04/01/2005 | King |
| | 66 | US 2008/0192129 | 0/14/2008 | Walker |
| | 67 | US 2005/0128333 | 06/16/2005 | Park |
| | 68 | US 2006/0171697 | 02/02/2006 | Nijima |
| | 69 | US 8,009,931 | 08/30/2011 | Li |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | 70 | CN 1967565 A | 05/23/2007 | China | Yes |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | |
|---|---|---|
| | 71 | Tiwari, Rajnish et al., "Mobile Banking as Business Strategy", IEEE Xplore, July 2006 |
| | 72 | Lyn C. Thomas, "A survey of credit and behavioural scoring: forecasting financial risk of lending to consumers", International Journal of Forecasting, (Risk) (2000) |
| | 73 | Non-Final Office Action issued on U.S. Application 14/293,159 on August 11, 2022 (14538-335) |

| Examiner Signature | | Date Considered | |
|---|---|---|---|

| EXAMINER INITIAL | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | |
|---|---|---|
| | 74 | Non-Final Office Action issued on U.S. Application 16/455,024 on September 7, 2022 (14538-662) |
| | 75 | Non-Final Office Action issued on U.S. Application 17/071,678 on September 14, 2022 (14538-705) |
| | 76 | Non-Final Office Action issued on U.S. Application 17/180,075 on October 4, 2022 (14538-715) |
| | 77 | Non-Final Office Action issue on U.S. Application 17/511,822 on September 16, 2022 (14538-731) |
| | 78 | Non-Final Office Action issued on U.S. Application 17/568,849 on October 4, 2022 (14538-736) |
| | 79 | Yong Gu Ji et al., "A Usability Checklist for the Usability Evaluation of Mobile Phone User Interface", International Journal of Human-Computer Interaction, 20(3), 207-231 (2006) |
| | 80 | Printout of news article dated February 13, 2008, announcing a Nokia phone providing audio cues for capturing a document image |
| | 81 | IPR Petition 2022-01593, Truist Bank v. United Services Automobile Association filed October 11, 2022 |

**1. PRIORITY INFORMATION:**

☐ This application claims priority under 35 USC §120 to the following United States patent application(s): _____. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

**2. CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

| Examiner Signature | | Date Considered | |
|---|---|---|---|

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☒ Applicant has calculated a processing fee in the amount of $260 (large entity) to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging Deposit Account No. 50-4184..

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

November 7, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

| | | | |
|---|---|---|---|
| Examiner Signature | | Date Considered | |

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 46974719 |
| **Application Number:** | 16507595 |
| **International Application Number:** | |
| **Confirmation Number:** | 4037 |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes |
| **Customer Number:** | 16530 |
| **Filer:** | Kent E. Genin/Juan Garibay |
| **Filer Authorized By:** | Kent E. Genin |
| **Attorney Docket Number:** | US-0152.11(14538-668) |
| **Receipt Date:** | 07-NOV-2022 |
| **Filing Date:** | 10-JUL-2019 |
| **Time Stamp:** | 16:05:04 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | DA |
| Payment was successfully received in RAM | $260 |
| RAM confirmation Number | E2022A7G05351673 |
| Deposit Account | 504184 |
| Authorized User | Juan Garibay |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:<br>37 CFR 1.16 (National application filing, search, and examination fees)<br>37 CFR 1.17 (Patent application and reexamination processing fees) | |

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal Letter | 514538-5000668-Transmittal-11072022.pdf | 41509<br>e13a554212adc9e4f7e1964eee5195a3d68eb228 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Information Disclosure Statement (IDS) Form (SB08) | 514538-5000668-IDS-11072022.pdf | 54550<br>98cf63b5f9aab694d9195a9e55316adaa8d71c68 | no | 4 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| This is not an USPTO supplied IDS fillable form | | | | | |
| 3 | Foreign Reference | 70-CN1967565A.pdf | 4710415<br>f1d58f3bcbe83592f995822416900a0ccf664ce0 | no | 27 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Non Patent Literature | 71-Rajnish_Tiwari-1.pdf | 420558<br>04cc2d500c1c60dd971b83a28a785888554cc05d | no | 26 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Non Patent Literature | 72-LynCThomas.pdf | 354416<br>98e7724954f0f3a19a46041c61d1c10ceb491360 | no | 24 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 6 | Non Patent Literature | 73-14538-335-08-11-2022-NFOA.pdf | 957079<br>3c79d9297c905994b759d309b1095565138c55b5 | no | 15 |
| **Warnings:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **Information:** | | | | | |
| 7 | Non Patent Literature | 74-14538-662-09-07-2022-NFOA.pdf | 1242555<br>ef2119c78d9b2d3cf5956701dfc36bd9ff468c6c | no | 20 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 8 | Non Patent Literature | 75-14538-705-09-14-2022-NFOA.pdf | 579525<br>7ba43850ae42d6689eed4364e5265ad41a2764e5 | no | 10 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 9 | Non Patent Literature | 76-14538-715-10-04-2022-NFOA.pdf | 526375<br>7d820efdbbf9423c27c0f0f1c01cf6fc1bee0916 | no | 9 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 10 | Non Patent Literature | 77-14538-731-09-16-2022-NFOA.pdf | 444174<br>1c7bee7e5021a73590d43c6e4bdf87a473e60882 | no | 8 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 11 | Non Patent Literature | 78-14538-736-10-04-2022-NFOA.pdf | 362388<br>9fb21a7a332d3c9398a3782d5ac8f698f0959b99 | no | 7 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 12 | Non Patent Literature | 79-Yong-Fu-A-Usability-Checklist.pdf | 995206<br>248d61eee79d7bf03b32b4d93874e036852b8568 | no | 25 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 13 | Non Patent Literature | 80-Printout-Nokia-Article.pdf | 864820<br>12d68f81d66c035eae933dca4a0f8fc861e44a10 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 14 | Non Patent Literature | 81-IPR-Petition-IPR2022-01593.pdf | 1729462<br>47781c993da5b3b92a125d6267dc9db2191bd6cd | no | 115 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 15 | Fee Worksheet (SB06) | fee-info.pdf | 38271<br>e2b0edcfb601345fa4f0da5c293db85f168e423b | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 13321303 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**
**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**
**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

Crowell

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 7, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | |
|---|---|---|---|
| In re Appln. of: | Charles Lee Oakes et al. | | |
| Appln. No.: | 16/507,595 | Examiner: | LIU, I JUNG |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: | US-0152.11(514538.5000668) | | |

# TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

**Attached is/are**:

☒ Supplemental Information Disclosure Statement; and References 70-81.

**Fee calculation**:

☐ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☒ A petition or processing fee in an amount of $260 under 37 CFR § 1.17(p).

☐ An additional filing fee has been calculated as shown below:

| | | | | | Fee | | Small Entity Fee | | Micro Entity Fee | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Claims Remaining After Amendment | | Highest No. Previously Paid | Present Extra | Rate | Add'l Fee | Rate | Add'l Fee | Rate | Add'l Fee |
| Total | | Minus | | | x $100 = | $ | x $ 50 = | $ | x $25 = | $ |
| Independent | | Minus | | | x $480 = | $ | x $240 = | $ | x $120 = | $ |
| First Presentation of Multiple Dep. Claim | | | | | + $860 = | $ | + $430 = | $ | + $215 = | $ |
| | | | | | Total | $ | Total | $ | Total | $ |

**Fee payment:**

☒ Please charge Deposit Account No. 50-4184 in the amount of $260 for Information Disclosure Statement.

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

November 7, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

| Electronic Patent Application Fee Transmittal | | | | | |
|---|---|---|---|---|---|
| **Application Number:** | 16507595 | | | | |
| **Filing Date:** | 10-Jul-2019 | | | | |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM | | | | |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes | | | | |
| **Filer:** | Kent E. Genin/Tricia Chiovari | | | | |
| **Attorney Docket Number:** | US-0152.11(14538-668) | | | | |
| Filed as Large Entity | | | | | |
| **Filing Fees for Utility under 35 USC 111(a)** | | | | | |
| **Description** | | **Fee Code** | **Quantity** | **Amount** | **Sub-Total in USD($)** |
| **Basic Filing:** | | | | | |
| **Pages:** | | | | | |
| **Claims:** | | | | | |
| **Miscellaneous-Filing:** | | | | | |
| **Petition:** | | | | | |
| **Patent-Appeals-and-Interference:** | | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | | |
| **Extension-of-Time:** | | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Miscellaneous:** | | | | |
| SUBMISSION- INFORMATION DISCLOSURE STMT | 1806 | 1 | 260 | 260 |
| | | **Total in USD ($)** | | **260** |

# Bibliographic Data

Application No: 16/507,595

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☑ No ☐ Met After Allowance

Verified and Acknowledged: /I JUNG LIU/ Examiner's Signature | Initials

Title: DIGITAL CAMERA PROCESSING SYSTEM

| FILING or 371(c) DATE | CLASS | GROUP ART UNIT | ATTORNEY DOCKET NO. |
|---|---|---|---|
| 07/10/2019 | 705 | 3697 | US-0152.11(14538-668) |
| RULE | | | |

**APPLICANTS**

United Services Automobile Association (USAA), San Antonio, TX, UNITED STATES

**INVENTORS**

Charles Lee Oakes III, San Antonio, TX, UNITED STATES

Randy Ray Morlen, San Antonio, TX, UNITED STATES

Michael Frank Morris, San Antonio, TX, UNITED STATES

Reynaldo Medina III, San Antonio, TX, UNITED STATES

Greg Alan Harpel, San Antonio, TX, UNITED STATES

Gabriel Glenn Gavia, San Antonio, TX, UNITED STATES

Bharat Prasad, San Antonio, TX, UNITED STATES

Frank Kyle Major, San Antonio, TX, UNITED STATES

Jeffrey Neal Pollack, San Antonio, TX, UNITED STATES

**CONTINUING DATA**

This application is a CON of 16165622 10/19/2018 PAT 10402638

16165622 is a CON of 16025679 07/02/2018 PAT 11023719

16025679 is a CON of 15663284 07/28/2017 PAT 10013605

15663284 is a CON of 14225090 03/25/2014ABN

16025679 is a CON of 14225090 03/25/2014ABN

14225090 is a CON of 11590974 10/31/2006 PAT 8708227

**FOREIGN APPLICATIONS**

**IF REQUIRED, FOREIGN LICENSE GRANTED****

07/23/2019

**STATE OR COUNTRY**

UNITED STATES

**ADDRESS**

Crowell
P.O. Box 10395
Chicago, IL 60610
UNITED STATES

**FILING FEE RECEIVED**

$200

**Title Not Available**

| DOCUMENT ID | DATE PUBLISHED |
|---|---|
| JP 3708807 B2 | 2005-10-19 |

**DATE FILED**
2000-08-04

**FOREIGN APPLICATION PRIORITY DATA**

| COUNTRY | APPLICATION NO | APPLICATION DATE |
|---|---|---|
| ES | ES200000724A | 2000-03-24 |
| ES | ES200001573A | 2000-06-23 |
| ES | ES200001574A | 2000-06-23 |

**CPC CURRENT**

| TYPE | CPC | DATE |
|---|---|---|
| CPCI | G 06 Q 20/10 | 2013-01-01 |
| CPCI | G 06 Q 20/3223 | 2013-01-01 |
| CPCI | G 06 Q 20/40 | 2013-01-01 |
| CPCI | G 06 Q 20/20 | 2013-01-01 |
| CPCI | G 07 F 9/002 | 2020-05-01 |
| CPCI | G 06 Q 20/223 | 2013-01-01 |
| CPCI | G 06 Q 20/04 | 2013-01-01 |
| CPCI | G 07 F 9/001 | 2020-05-01 |
| CPCI | G 06 Q 20/425 | 2013-01-01 |
| CPCA | G 06 Q 20/326 | 2020-05-01 |

**KWIC Hits**


**Abstract**

A system and a process for processing payments and transactions between payers (13) and payees (27, 29, 14, 14a, 13a, 46) associated to the system, using a first server (20) interconnected with telecommunication means (18, 19, 28, 47) with first data storage means (22) containing information on each associated payer (13) consisting of at least an admissible telephone number, at least a authorization criterion for authorizing a transaction, and a safety criterion associated to the admissible telephone number, as well as an admissible identification code of each payee; second data storage means (21) that contain a second information referring to the type of digital mobile telephone (16, 41) belonging to each telephone number; selecting means (20h) for verifying one of the telecommunication equipments (18, 19) that communicates with the digital mobile telephone (16, 41) identified by the admissible telephone number by means of a telecommunication service being compatible with the type of digital mobile telephone (16, 41) as identified. <IMAGE>

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | **Examiner** | **Art Unit** |
| | I JUNG LIU | 3697 |

| ✓ | Rejected | - | Cancelled | N | Non-Elected | A | Appeal |
|---|---|---|---|---|---|---|---|
| = | Allowed | ÷ | Restricted | I | Interference | O | Objected |

| CLAIMS | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ☑ Claims renumbered in the same order as presented by applicant | | | | ☐ CPA | | ☐ T.D. | | ☐ R.1.47 | | |
| **CLAIM** | | **DATE** | | | | | | | | |
| Final | Original | 10/19/2022 | | | | | | | | |
| | 1 | - | | | | | | | | |
| | 2 | - | | | | | | | | |
| | 3 | - | | | | | | | | |
| | 4 | - | | | | | | | | |
| | 5 | - | | | | | | | | |
| | 6 | - | | | | | | | | |
| | 7 | - | | | | | | | | |
| | 8 | - | | | | | | | | |
| | 9 | - | | | | | | | | |
| | 10 | - | | | | | | | | |
| | 11 | - | | | | | | | | |
| | 12 | - | | | | | | | | |
| | 13 | - | | | | | | | | |
| | 14 | - | | | | | | | | |
| | 15 | - | | | | | | | | |
| | 16 | - | | | | | | | | |
| | 17 | - | | | | | | | | |
| | 18 | - | | | | | | | | |
| | 19 | - | | | | | | | | |
| | 20 | - | | | | | | | | |
| | 21 | - | | | | | | | | |
| | 22 | - | | | | | | | | |
| | 23 | - | | | | | | | | |
| | 24 | - | | | | | | | | |
| | 25 | = | | | | | | | | |
| | 26 | = | | | | | | | | |
| | 27 | = | | | | | | | | |
| | 28 | = | | | | | | | | |
| | 29 | = | | | | | | | | |
| | 30 | = | | | | | | | | |
| | 31 | = | | | | | | | | |
| | 32 | = | | | | | | | | |
| | 33 | = | | | | | | | | |
| | 34 | = | | | | | | | | |
| | 35 | = | | | | | | | | |
| | 36 | = | | | | | | | | |
| | 37 | = | | | | | | | | |
| | 38 | = | | | | | | | | |
| | 39 | = | | | | | | | | |
| | 40 | = | | | | | | | | |
| | 41 | = | | | | | | | | |
| | 42 | = | | | | | | | | |

| Index of Claims | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | **Examiner** | **Art Unit** |
| | I JUNG LIU | 3697 |

| CLAIM | | DATE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Final | Original | 10/19/2022 | | | | | | | | |
| | 43 | = | | | | | | | | |
| | 44 | = | | | | | | | | |

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | Examiner | Art Unit |
| | I JUNG LIU | 3697 |

| CPC | | | | | | | |
|---|---|---|---|---|---|---|---|
| Symbol | | | | | | Type | Version |
| G06V | / | 30 | / | 40 | | F | 2022-01-01 |
| H04N | / | 1 | / | 387 | | I | 2013-01-01 |
| H04N | / | 1 | / | 00816 | | I | 2013-01-01 |
| H04N | / | 1 | / | 00307 | | I | 2013-01-01 |
| H04N | / | 1 | / | 00204 | | I | 2013-01-01 |
| G06Q | / | 20 | / | 108 | | I | 2013-01-01 |
| H04N | / | 1 | / | 00244 | | I | 2013-01-01 |
| G06Q | / | 20 | / | 04 | | I | 2013-01-01 |
| G06Q | / | 20 | / | 042 | | I | 2013-01-01 |
| G06Q | / | 40 | / | 00 | | I | 2013-01-01 |
| H04N | / | 1 | / | 403 | | I | 2013-01-01 |
| G06V | / | 10 | / | 20 | | I | 2022-01-01 |
| G06Q | / | 40 | / | 02 | | I | 2013-01-01 |
| G06K | / | 7 | / | 10861 | | A | 2013-01-01 |
| H04N | / | 2101 | / | 00 | | A | 2013-01-01 |
| H04N | / | 2201 | / | 001 | | A | 2013-01-01 |

| CPC Combination Sets | | | | | | | |
|---|---|---|---|---|---|---|---|
| Symbol | | | | | Type | Set | Ranking | Version |
| | / | | / | | | | | |

| NONE | | Total Claims Allowed: | |
|---|---|---|---|
| (Assistant Examiner) | (Date) | 20 | |
| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | 19 October 2022 | O.G. Print Claim(s) | O.G. Print Figure |
| (Primary Examiner) | (Date) | 25 | 1 |

U.S. Patent and Trademark Office — Part of Paper No.: 20221005

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | **Examiner** | **Art Unit** |
| | I JUNG LIU | 3697 |

| INTERNATIONAL CLASSIFICATION | | | | |
|---|---|---|---|---|
| **CLAIMED** | | | | |
| G06Q | / | 40 | / | 02 |

| NON-CLAIMED | | | | |
|---|---|---|---|---|
| | / | | / | |

| US ORIGINAL CLASSIFICATION | |
|---|---|
| **CLASS** | **SUBCLASS** |
| 705 | 39 |

| CROSS REFERENCES(S) | | | | | | |
|---|---|---|---|---|---|---|
| **CLASS** | **SUBCLASS (ONE SUBCLASS PER BLOCK)** | | | | | |
| | | | | | | |

| NONE<br>(Assistant Examiner) | (Date) | **Total Claims Allowed:**<br>20 | |
|---|---|---|---|
| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697<br>(Primary Examiner) | 19 October 2022<br>(Date) | O.G. Print Claim(s)<br>25 | O.G. Print Figure<br>1 |

U.S. Patent and Trademark Office — Part of Paper No.: 20221005

| Issue Classification | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | Examiner | Art Unit |
| | I JUNG LIU | 3697 |

☑ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

| Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

| NONE | | Total Claims Allowed: | |
|---|---|---|---|
| (Assistant Examiner) | (Date) | 20 | |
| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | 19 October 2022 | O.G. Print Claim(s) | O.G. Print Figure |
| (Primary Examiner) | (Date) | 25 | 1 |

U.S. Patent and Trademark Office Part of Paper No.: 20221005

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

# NOTICE OF ALLOWANCE AND FEE(S) DUE

16530 7590 10/24/2022

Crowell
P.O. Box 10395
Chicago, IL 60610

| EXAMINER |
|---|
| LIU, I JUNG |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3697 | |

DATE MAILED: 10/24/2022

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 16/507,595 | 07/10/2019 | Charles Lee Oakes III | US-0152.11(14538-668) | 4037 |

TITLE OF INVENTION: DIGITAL CAMERA PROCESSING SYSTEM

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | UNDISCOUNTED | $1200 | $0.00 | $0.00 | $1200 | 01/24/2023 |

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

**HOW TO REPLY TO THIS NOTICE:**

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.**

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

16530 7590 10/24/2022

Crowell
P.O. Box 10395
Chicago, IL 60610

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

**Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

| (Typed or printed name) |
|---|
| (Signature) |
| (Date) |

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 16/507,595 | 07/10/2019 | Charles Lee Oakes III | US-0152.11(14538-668) | 4037 |

TITLE OF INVENTION: DIGITAL CAMERA PROCESSING SYSTEM

| APPLN. TYPE | ENTITY STATUS | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
|---|---|---|---|---|---|---|
| nonprovisional | UNDISCOUNTED | $1200 | $0.00 | $0.00 | $1200 | 01/24/2023 |

| EXAMINER | ART UNIT | CLASS-SUBCLASS |
|---|---|---|
| LIU, I JUNG | 3697 | 705-039000 |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 16/507,595 | 07/10/2019 | Charles Lee Oakes III | US-0152.11(14538-668) | 4037 |

16530 7590 10/24/2022

Crowell
P.O. Box 10395
Chicago, IL 60610

| EXAMINER | |
|---|---|
| LIU, I JUNG | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3697 | |

DATE MAILED: 10/24/2022

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

## OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

## Privacy Act Statement

**The Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

| Notice of Allowability | Application No. 16/507,595 | Applicant(s) Oakes et al. | |
|---|---|---|---|
| | Examiner I JUNG LIU | Art Unit 3697 | AIA (FITF) Status Yes |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 8/8/2022.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 25-44 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   **Certified copies:**

   a) ☐ All  b) ☐ Some*  c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☑ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 3/22/2022 and 7/6/2022.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/I JUNG LIU/
Primary Examiner, Art Unit 3697

***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

The closest prior arts of record are Singfield (US Publication Number: 2005/0097046) and Hicks et al. (US Publication Number 2006/0248009 A1). Singfield teaches wireless electronic check deposit scanning and cashing machine with web-based online account cash management computer application system.

Hicks et al. teaches a payment gateway operable to receive a payments file from an originating entity. The payments gateway then invokes a policy associated with the originating entity, with the policy comprising references to at least a subset of a plurality of receiving entities.

Regarding claim 25, the closest prior arts of record when taken individually or in combination with other prior arts do not teach or disclose the subject matter of receive input entered by the customer indicating an amount of the check; use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check; assist the customer as to an orientation for taking the photo; and using a wireless network, transmit a copy of the photo over the Internet from the customer's handheld mobile device to the bank; a bank computer programmed to: check for errors in the check in the photo by: performing optical character recognition on the check in the photo to determine an amount shown on the check, and comparing the amount shown-to the amount entered by the customer; and the system being configured to update a balance of an account after determining that no errors were found in the check in the photo.

Regarding claim 38, the closest prior arts of record when taken individually or in combination with other prior arts do not teach or disclose the subject matter of a customer's handheld mobile device including: camera software that controls the digital camera; and a downloaded app associated with a bank to control the camera software and to control submitting a check for deposit by causing the customer's handheld mobile device to perform the following steps: instructing the customer to have the

digital camera take photos of front and back sides of the check; using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check; assisting the customer as to an orientation for taking the photos; receiving input from the customer indicating an amount of the check; and using a wireless cellular network, transmitting a copy of the photos over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank after the photos of the check are presented to the customer; a computer associated with the bank programmed to update a balance of an account to reflect the check submitted for mobile check deposit by the customer's handheld mobile device; and the system configured to perform additional steps including: confirming that the mobile check deposit can go forward after optical character recognition is performed on the check, the optical character recognition determining an amount of the check, performing duplicate detection, and comparing the determined amount to the amount indicated by the customer; and generating a log file for the mobile check deposit, the log file including an image of the check submitted for mobile check deposit.

Regarding claim 41, the closest prior arts of record when taken individually or in combination with other prior arts do not teach or disclose the subject matter of a bank computer programmed to update a balance of an account to reflect an amount of a check submitted for mobile check deposit by the customer's handheld mobile device, the customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to perform: receiving input entered by the customer indicating an amount of the check; using a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check, assisting the customer as to an orientation for taking the photo, and after taking the photo, using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the

bank; and the system being configured to update the balance of the account after optical character recognition reads a Magnetic Ink Character Recognition (MICR) line of the check in the photo.

The instant invention is both a combination of technical elements directed to computer and electronic technology. While at some level abstract the ordered combination makes it significantly more than the idea itself. Further applicant specification makes it clear that this is an invention of technology.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I JUNG LIU whose telephone number is (571)270-1370. The examiner can normally be reached Monday-Friday.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christine Behncke can be reached on 571/272-8103. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional

questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

I JUNG LIU
Examiner
Art Unit 3697

/I JUNG LIU/
Primary Examiner, Art Unit 3697

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | Examiner | Art Unit |
| | I JUNG LIU | 3697 |

| CPC - Searched* | | |
|---|---|---|
| **Symbol** | **Date** | **Examiner** |
| G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001 | 03/07/2022 | IL |
| G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001 | 10/19/2022 | IL |

| CPC Combination Sets - Searched* | | |
|---|---|---|
| **Symbol** | **Date** | **Examiner** |
| | | |

| US Classification - Searched* | | | |
|---|---|---|---|
| **Class** | **Subclass** | **Date** | **Examiner** |
| 705 | all | 03/07/2022 | IL |
| 705 | all | 10/19/2022 | IL |

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

| | |
|---|---|
| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | |

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | Examiner | Art Unit |
| | I JUNG LIU | 3697 |

| Search Notes | | |
|---|---|---|
| **Search Notes** | **Date** | **Examiner** |
| STIC EIC 3600 Search Report | 11/13/2019 | IL |
| IPR2020-01742 Reviewed Petition for Inter Partes Review of US Patent No. 10,013,605 | 02/28/2022 | IL |
| IPR2020-01516 Reviewed Petition for Inter Partes Review of US Patent 10402638 | 03/01/2022 | IL |
| consulted restriction and post grant outcomes case notifications with SPE Christine | 03/01/2022 | IL |
| IPR2021-01399 Reviewed Petition for Inter Partes Review of US Patent No.10,013,605, US Patent No. 8708227, US Patent No. 7873200 | 03/02/2022 | IL |
| IPR2022-00049 Reviewed Petition for Inter Partes Review of US Patent No. 10,402,638 | 03/03/2022 | IL |
| IPR2022-00050 Reviewed Petition for Inter Partes Review of US Patent No. 9,129,340, U.S. Patent No. 7,873,200, U.S. Patent No. 8,708,227, and U.S. Patent No. 10,402,638 | 03/07/2022 | IL |
| NPL search using IP.com, see attached | 03/07/2022 | IL |
| PE2E search | 03/07/2022 | IL |
| G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001 further limited by text search in PE2E, see attached | 03/07/2022 | IL |
| G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001 further limited by text search in PE2E, see attached | 10/19/2022 | IL |
| updated PE2E search and palm for inventor search | 10/19/2022 | IL |
| NPL search using IP.com, see attached | 10/19/2022 | IL |

| | |
|---|---|
| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | |

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | Examiner | Art Unit |
| | I JUNG LIU | 3697 |

| Interference Search | | | |
|---|---|---|---|
| **US Class/CPC Symbol** | **US Subclass/CPC Group** | **Date** | **Examiner** |
| 705 | all | 03/07/2022 | IL |
| G06Q | 20/04, 20/042, 20/108, 40/02 | 03/07/2022 | IL |
| G06K | 7/10861 | 03/07/2022 | IL |
| G06Q | 20/04, 20/042, 20/108, 40/02 | 10/19/2022 | IL |
| G06K | 7/10861 | 10/19/2022 | IL |
| H04N | 1/00204 1/00244 1/00307 1/00816 1/387 1/403 2101/00 2201/001 | 10/19/2022 | IL |

| | |
|---|---|
| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | |

Main Concept Text
==========
DIGITAL CAMERA PROCESSING SYSTEM


(No Concept Modifiers)
==========


(No Filters)
==========


Options
=======
De-dup: None
Cut-off: None
Sort: Relevance


Content: Non-Patent Literature (23)
==========
IEEE Xplore Publications: IEEE Periodicals
IEEE Xplore Publications: IEEE Conferences
IEEE Xplore Publications: IEEE Standards
IEEE Xplore Publications: IEEE Early Access
IEEE Xplore Publications: SMPTE Periodicals
IEEE Xplore Publications: SMPTE Conferences
IEEE Xplore Publications: SMPTE Standards
IEEE Xplore Publications: MIT Press eBooks
IEEE Xplore Publications: Wiley-IEEE eBooks
IEEE Xplore Publications: IBM Periodicals
IEEE Xplore Publications: URSI Periodicals
IEEE Xplore Publications: VDE Conferences
IEEE Xplore Publications: Periodicals from China
IP.com Prior Art Database: The IP.com Journal
IP.com Prior Art Database: Internet Society RFC
IP.com Prior Art Database: IBM TDB Archive
IP.com Prior Art Database: Legacy Journals
IP.com Prior Art Database: Software Patent Institute
OnePetro.org: Periodicals at OnePetro.org
OnePetro.org: Conferences at OnePetro.org
Other Literature: IBM Redbooks
Other Literature: PubMed Central
Other Literature: arXiv.org

## PE2E SEARCH - Search History (Prior Art)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | British Equivalents | Time Stamp |
|---|---|---|---|---|---|---|---|
| L1 | 307791 | (G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001).cpc. | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 01:44 PM |
| L3 | 3 | JP-3708807-B2 | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 01:45 PM |
| L4 | 161811 | 705/$.icls. | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 01:56 PM |
| L5 | 9062203 | customer$1 OR party OR parties OR payor$1 OR patron$2 OR client$4 OR purchaser$ | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, | OR | ON | ON | 2022/10/19 05:43 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | | | | |
| L6 | 48628024 | portable OR wireless OR handheld OR communication OR cell OR cellular | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 05:43 PM |
| L7 | 148834318 | device$1 OR apparatus$3 OR computer$1 OR communicat$3 OR phone$1 OR terminal | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 05:44 PM |
| L8 | 30816823 | photo$1 OR photograph$5 OR image | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, | OR | ON | ON | 2022/10/19 05:45 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | | | | |
| L9 | 72426197 | user$1 OR participant$1 OR member$1 OR consumer$1 OR subscriber$1 OR enrollee$1 OR person$1 OR people OR visitor$1 OR shopper$1 OR participator$1 | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 05:45 PM |
| L10 | 125653318 | updat$4 OR modif* OR adjust$5 OR conver* OR alter* OR chang$4 OR adapt* | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 05:45 PM |
| L11 | 111381168 | account$4 OR balance$1 OR amount$1 OR number$1 OR quanti* OR total$5 OR (how p/0 much) OR sum OR sums OR summat$5 OR valu$5 | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 05:45 PM |
| L12 | 194496 | L1 AND L10 | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, | OR | ON | ON | 2022/10/19 05:47 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | | | | |
| L13 | 149256 | ((G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001).cpc.) AND (photo$1 OR photograph$5 OR image) | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/10/19 05:48 PM |

## PE2E SEARCH - Search History (Interference)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | British Equivalents | Time Stamp |
|---|---|---|---|---|---|---|---|
| N1 | 78694 | (G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001).cpc. | (US-PGPUB; USPAT) | OR | ON | ON | 2022/10/19 01:44 PM |
| N5 | 161811 | 705/$.icls. | (US-PGPUB; USPAT) | OR | ON | ON | 2022/10/19 01:56 PM |
| N6 | 13966797 | account$4 OR balance$1 OR amount$1 OR number$1 OR quanti* OR total$5 OR (how p/0 much) OR sum OR sums OR summat$5 OR valu$5 | (US-PGPUB; USPAT) | OR | ON | ON | 2022/10/19 05:47 PM |
| N7 | 14702801 | updat$4 OR modif* OR adjust$5 OR conver* | (US-PGPUB; USPAT) | OR | ON | ON | 2022/10/19 05:47 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | OR alter* OR chang$4 OR adapt* | | | | | |
| N8 | 13473308 | device$1 OR apparatus$3 OR computer$1 OR communicat$3 OR phone$1 OR terminal | (US-PGPUB; USPAT) | OR | ON | ON | 2022/10/19 05:47 PM |
| N9 | 8282480 | portable OR wireless OR handheld OR communication OR cell OR cellular | (US-PGPUB; USPAT) | OR | ON | ON | 2022/10/19 05:47 PM |
| N10 | 78037 | L1 AND L10 | (US-PGPUB; USPAT) | OR | ON | ON | 2022/10/19 05:47 PM |

STIC Scientific & Technical Information Center

# EIC 3600 Search Report

| | |
|---|---|
| **Examiner:** | Marissa Liu |
| **Location:** | KNX-5D49 |
| **Art Unit:** | 3697 |
| **Case Serial Number:** | 16507595 |
| **Access Search Log Number:** | 605839 |

| | |
|---|---|
| **Searcher:** | BENJAMIN SCHULZE |
| **Location:** | EIC-3600 KNOX 4A70 |
| **Phone:** | 571-272-1103 |
| **Email:** | Benjamin.Schulze@uspto.gov |
| **Date Completed:** | 11/13/2019 |

**This search report contains the following content:**

- **Search Histories**
  Keyword/synonym strings and search strategies used by the EIC Searcher in completing the prior art search are included. The search history for each database or resource utilized appears at the top of each database/resource section, indicated by the database/resource section headings.

- **Search Results**
  Only on-topic results are included in the search report. On-topic results include all references found that are related to the art area being searched. These references may not necessarily be useful for a rejection or other office action, but are included for the Examiner's review. Off-topic, unrelated, or irrelevant search results ("false drops" or "false hits") were removed by the Searcher. Off-topic results include all references that are unrelated to the art area being searched.

If you have any questions about this search, or about how to interpret this search report, please do not hesitate to contact the Searcher using the contact information listed above.

If you need assistance retrieving the full text of any of the references contained in this report, please contact the Searcher listed above, or the EIC 3600 Reference Desk at 571-272-3488 (x23488) or STIC-EIC3600@uspto.gov.

Thank you for using the EIC, and we look forward to your next search!

# Potential References of Interest

**Electronic check image storage and retrieval system**
PUBLICATION NUMBER: GB 2305753 A PUBLICATION DATE: 16-Apr-1997
APPLICATION NUMBER: GB 19960026385 A FILING DATE: 20-Nov-1995
SIMPLE FAMILY: 26308146 (size 8) EARLIEST PRIORITY DATE: 18-Nov-1994
Inventors:
THOMAS * CAHILL • LOUISE A * MCNULTY • JOHN J * MCMONAGLE • RICHARD H * SFERRA • GLENN * LEVINE • SAUL * GOLDFISHER • PHILIP * WILSON • VLADIMIR * KOROTEYEV
Applicants:
THE * CHASE MANHATTAN BANK
Abstract (English):
*In a system for storing and retrieving electronic images of documents, e.g. checks, segments of information from a check are used, in dependence on a maximum directory size input, to name different hierarchical directory levels in file storage, in such a way as to optimise file access times.*

Spec:
**Normal**: This function returns the image to normal, i.e., size, **orientation**, and video. This operates the same as toolbar button K. Preferably function key F11 also returns the image to normal.

Once downloaded to local storage of the workstation, the system software resident at the workstation will read the data stored within each **check image** file to- obtain the account number, check number and **amount of the check**. When check images -13 are received at the local workstation, the system software will **correlate** the check request **entry** with the **check images**. The filename of the check in the local database as well as a status field will be updated so as to indicate that the item has been downloaded, processed and received from the host archive system.

-86 As b and f files are received from the host 8, they are placed in the default directory 702A. As previously described, the b and f files are in TIFF format and contain tag fields containing data about the check. This data includes the account and check number and the check amount. Thus, after receiving a download from the host 8, the workstation software scans each of the newly received image (.b and f) files, retreives the data about the check from the tag fields, and associates the files with a "Pending" request by matching account and check number, and if present, amount. When a match is found, the main data file 710 fields are updated as follows:
AMT If not entered by the user, this field is **updated** with the **amount** of the **check**.

In the preferred embodiment of the invention, the imager 204 generates digital images of the front and back of each check using a pair of **cameras** (not shown), as known in the art, which convert the analog image data of the front and back of the checks into digital image data.

With reference to Figure 3, checks 1 are fed into input hopper 203 of the sorter 200. The checks 1 are then conveyed along the track 220 sequentially to digital imager 204 and MICR line reader 205. The check images made by the imager are passed to the **Optical Character Recognition** device (**OCR**) 206.

**Financial document processing system**

**Publication info:** Jones, John E.; Jones, William J.; Csultis, Frank M. (Inventors). JONES JOHN E.; JONES WILLIAM J.; CSULTIS FRANK M. (Assignees). US 20040153408 A1 . (Published 05 Aug 2004).

**Application number:** US 2003669787 A (24 September 2003)

**Abstract (English):** A system for processing deposits and/or withdrawals in a financial institution accepts a plurality of documents, including currency bills, at an input receptacle of a document-processing device, converts the image of at least some of the documents to electronic data representing the image. The currency bills are denominated by the document processing device, and the total value of the bills included in each deposit is accumulated. Whenever the total value of the bills in a deposit exceeds a prescribed value, a report may be generated containing at least an identification of the specified account, the total value of the bills in the deposit, and the serial numbers of the bills. The serial numbers may be extracted from images of the bills.

**Spec:**

[0029] The term "non-currency documents" includes any type of document, except currency documents, that may be evaluated according to a predetermined criterion. For example, such as color, size, shape, **orientation**, or that can simply be **imaged**. Examples of such documents include **checks**, deposit slips, withdrawal slips, coupon and loan payment documents, food stamps, cash tickets, and all other documents utilized for transactions at financial institutions, including not only deposits and withdrawals but also loan applications, credit card applications, student loan applications, accounting invoices, debit forms, account transfer forms, and all other types of forms with predetermined fields.

The core of the automated equipment is illustrated by the block diagram in FIG. 1, and one embodiment of a **customer interface** containing a major portion of the automated equipment is illustrated in FIG. 2. A user makes a deposit by using a communications panel **10** to **input** the identification of the account to which the deposit is to be credited, the **amount of the deposit**, and any other required information, such as a password or PIN.

[0050] By "central accounting system," it is meant to include the hardware and software associated with accessing, maintaining, tracking, and updating savings accounts, checking accounts, credit card accounts, business and commercial loans, consumer payments, or other similar accounts at locations remote from the full image scanners. The term includes any of three broad types of systems: systems where deposits are made; systems where withdrawals are made; and systems where both deposits and withdrawals are made. Although the central accounting system described herein is described as being employed at a financial institution such as a bank, it will be understood that any business, public or private institution, or individual can employ a central accounting system to process transactions. By "financial institution" it is meant to include banks, savings and loans, investment houses, and all other types of financial institutions whether private, public, or government. The following description is in terms of banks but it will be understood that it is applicable to other financial institutions as well.

The scanheads **80** and **82** are arranged for simultaneously scanning both the front and back surfaces of the documents and are connected respectively to analog-to-digital converters **84** and **86** which **convert** the **analog** values into discrete **binary** gray scale values of, for example, **256** gray scale levels. The scanheads **80** and **82** are capable of obtaining images of varying resolutions. The particular resolution chosen, which may be varied by the user, is selected based upon the type of document being scanned, as is known in the art.

Programs for **converting** bitmap images of handwritten numeric amounts (such as, written on checks or other documents) into **computer-usable character data** are available from Orbograph Corporation in Billerica, Mass.

# IP.com / InnovationQ- Patent

US Patents, US Designs, US Applications, Canadian Patents, Canadian Applications, Mexican Patents, Mexican Applications, European Patents, European Applications, French Patents, French Applications, German Patents, German Applications, Great Britain Patents, Great Britain Applications, Netherlands Patents, Netherlands Applications, Luxembourg Patents, Denmark Patents, Denmark Applications, Finnish Patents, Finnish Applications, Sweden Patents, Sweden Applications, Switzerland Patents, Switzerland Applications, Austrian Patents, Austrian Applications, Italian Patents, Italian Applications, Spanish Patents, Spanish Applications, Poland Patents, Poland Applications, Chinese Patents, Chinese Applications, Indian Patents, Indian Applications, Japanese Patents, Japanese Applications, Korean Patents, Korean Applications, Taiwanese Patents, Taiwanese Applications, Israel Applications, Australian Patent Documents, Brazil Patents, Brazil Applications, New Zealand Patents, Russian Patents, Russian Applications, WIPO Applications, and South Africa Patents.

| | **Concept Searched for:** |
|---|---|
| L1 | Complete Main Concept Text<br>==========<br>take a picture of a check involving assistance with the orientation of the picture. Use OCR to verify the amount entered on the check by the user. Then update the account of the user.<br>(No Concept Modifiers)<br>==========<br>Filters (2)<br>==========<br>Application Date: To 2006-10-31<br>Classic Syntax limited to: bank or financial adj institution or hsbc or wachovia or wells adj fargo or credit adj union or clearing adj house or jpmorgan or citi or pnc or remote near1 banking<br>Options<br>=======<br>De-dup: Simple Family Numbers<br>Cut-off: None<br>Sort: Relevance |

**Electronic check image storage and retrieval system**
PUBLICATION NUMBER: GB 2305753 A PUBLICATION DATE: 16-Apr-1997
APPLICATION NUMBER: GB 19960026385 A FILING DATE: 20-Nov-1995
SIMPLE FAMILY: 26308146 (size 8) EARLIEST PRIORITY DATE: 18-Nov-1994
Inventors:
THOMAS * CAHILL • LOUISE A * MCNULTY • JOHN J * MCMONAGLE • RICHARD H * SFERRA • GLENN * LEVINE • SAUL * GOLDFISHER • PHILIP * WILSON • VLADIMIR * KOROTEYEV
Applicants:
THE * CHASE MANHATTAN BANK
Abstract (English):
*In a system for storing and retrieving electronic images of documents, e.g. checks, segments of information from a check are used, in dependence on a maximum directory size input, to name different hierarchical directory levels in file storage, in such a way as to optimise file access times.*

Spec:
**Normal**: This function returns the image to normal, i.e., size, **orientation**, and video. This operates the same as toolbar button K. Preferably function key F11 also returns the image to normal.

Once downloaded to local storage of the workstation, the system software resident at the workstation will read the data stored within each **check image** file to- obtain the account number, check number and **amount of the check**. When check images -13 are received at the local workstation, the system software will **correlate** the check request **entry** with the **check images**. The filename of the check in the local database as well as a status field will be updated so as to indicate that the item has been downloaded, processed and received from the host archive system.

-86 As b and f files are received from the host 8, they are placed in the default directory 702A. As previously described, the b and f files are in TIFF format and contain tag fields containing data about the check. This data includes the account and check number and the check amount. Thus, after receiving a download from the host 8, the workstation software scans each of the newly received image (.b and f) files, retreives the data about the check from the tag fields, and associates the files with a "Pending" request by matching account and check number, and if present, amount. When a match is found, the main data file 710 fields are updated as follows:
AMT If not entered by the user, this field is **updated** with the **amount** of the **check**.

In the preferred embodiment of the invention, the imager 204 generates digital images of the front and back of each check using a pair of **cameras** (not shown), as known in the art, which convert the analog image data of the front and back of the checks into digital image data.

With reference to Figure 3, checks 1 are fed into input hopper 203 of the sorter 200. The checks 1 are then conveyed along the track 220 sequentially to digital imager 204 and MICR line reader 205. The check images made by the imager are passed to the **Optical Character Recognition** device (**OCR**) 206.

**Automatic check cashing using biometric identification verification**
PUBLICATION NUMBER: US 6149056 A PUBLICATION DATE: 21-Nov-2000
APPLICATION NUMBER: US 8/854,326 FILING DATE: 12-May-1997
SIMPLE FAMILY: 26713626 (size 2) EARLIEST PRIORITY DATE: 06-Feb-1997
Inventors:
Stinson; Michael C. (Fort Worth, TX, US) • Templer, Jr.; John W. (Fort Worth, TX, US) • Clower; Dyron (Fort Worth, TX, US)
Assignees:
Mr. Payroll Corporation (Fort Worth, TX, US)
Abstract (English):
An automated check-cashing unit includes an input device configured to generate input signals in response to inputs from a customer, a storage device including a database of customer information, a check reader configured to receive and read a check to be processed, a cash dispenser, and an electronic processor. The processor is configured to receive the input signals from the input device, receive information about the check to be processed from the check reader, access the database of customer information to obtain data about the customer, and determine automatically whether to accept or reject the check based on the input signals, the received information about the check, and the data about the customer. Upon accepting the check, the processor signals the cash dispenser to dispense cash to the customer. The processor may be further configured to confirm the identity of the customer based on biometric information about the customer. Examples of suitable biometric information include the customer's fingerprint or an image of the customer's face.

Spec:
Next, the ATM 350 sends information to the processor 300 (step 650). The information sent includes the customer's social security number or other identification number, the **images** of the front and back of the **check**, MICR information, information as to whether the contents of the check passed the **validation** step, the check amount read by **OCR**, the check amount **entered** by the **customer**, and the **difference**, if any, **between the two amounts**. The ATM then prompts the customer to remove any hat, sunglasses, or other items that would obscure the customer's face (step 652) and waits for a response from the processor 300. The message may be accompanied by an animated character that removes its hat and sunglasses.

---

**Method and system for computer control from physical / electronic objects, ie linking to Internet resources**
PUBLICATION NUMBER: JP 4808850 B2 PUBLICATION DATE: 02-Nov-2011
APPLICATION NUMBER: JP 2000-618954 A FILING DATE: 15-May-2000
SIMPLE FAMILY: 40762893 (size 6) EARLIEST PRIORITY DATE: 19-May-1999
Inventors: *RHOADS GEOFFREY B (US) • RODRIGUEZ TONY F (US) • DAVIS BRUCE L (US) • CARR J SCOTT (US) • GROSSI BRIAN J (US) • MCKINLEY TYLER J (US) • SEDER PHILLIP A (US) • PERRY BURT W (US) • HEIN WILLIAM C (US) • MACINTOSH BRIAN T (US)*
Abstract (English):
*Physical or electronic objects are encoded with identifiers and served to trigger appropriate responses to the object from computer systems that encounter these objects. Since the encoding is steganographic (eg by digital watermarks), the presence of these identifiers is not apparent to the person meeting the objects. An example application is a computer system that looks at a printed magazine advertisement 20 and initiates a link to the corresponding internet page. In one such embodiment, the computer system detects an identifier encoded in the advertisement, passes the identifier to a remote database, receives a corresponding Internet address 18a, 18b,*

*18c from the database 17, and also a browser. Is connected to its addresses 18a, 18b, and 18c. The same arrangement can be used for on-line orders from printed product catalogs. Another application is a computer system that looks at a printed spreadsheet 20 and retrieves an electronic version of the same document from disk storage for editing.*

*Physical or electronic objects are encoded with identifiers, which serve to trigger object-appropriate responses from computer systems that encounter such objects. The encoding may be steganographic (e.g., by digital watermarks), so the presence of such identifiers is not evident to persons encountering the objects. An exemplary application is a computer system that looks at a printed magazine advertisement (20) and initiates a link to a corresponding internet page. In one such implementation, the computer system senses an identifer encoded in the advertisement, forwards the identifier to a remote database, receives from the database (17) a corresponding internet address (18a, 18b, 18c), and directs a browser to that address (18a, 18b, 18c). The same arrangement can be used for on-line ordering from printed merchandise catalogs. Another application is a computer system that looks at a printed spreadsheet (20), and retrieves from disk storage an electonic version of the same document for editing.*

Spec:

[0069]

Once the **orientation** of the object is identified, the image data is effectively re-registered and effectively mapped to another perspective (eg, on a straight image plane). In this mapping, a well-known image processing technique can be used to correct, for example, the rotation state, size state, state different from that, and XY offset of the original bedoop image data. The resulting frame of data is processed more quickly to extract steganographically encoded bedoop data.

---

# IP.com / InnovationQ- NPL

IEEE Xplore Publications: IEEE Periodicals, IEEE Xplore Publications: IEEE Conferences, IEEE Xplore Publications: IEEE Standards, IEEE Xplore Publications: IEEE Early Access, Prior Art Database: The IP.com Journal, Prior Art Database: Internet Society RFC, Prior Art Database: IBM TDB Archive, Prior Art Database: Legacy Journals, Prior Art Database: Software Patent Institute, Other Literature: IBM Redbooks, and Other Literature: PubMed Central.

| | Concept Searched for: |
|---|---|
| L1 | Complete Main Concept Text<br>==========<br>take a picture of a check involving assistance with the orientation of the picture. Use OCR to verify the amount entered on the check by the user. Then update the account of the user.<br>(No Concept Modifiers)<br>==========<br>Filters (1)<br>==========<br>Publication Date: To 2006-10-31<br>Options<br>=======<br>De-dup: None<br>Cut-off: None<br>Sort: Relevance |

**Optical character recognition for self-service banking**
ISSN (PAPER): 8756-2324
DIGITAL OBJECT IDENTIFIER: 10.1002/j.1538-7305.1995.tb00189.x
PERIODICAL ACRONYM: ATTTJ
PUBLICATION DATE: 01-Jul-1995
ELECTRONIC PUBLICATION DATE: 15-Mar-2014
Published in: AT&T Technical Journal (Volume: 74, Issue: 4, Page(s): 16-24)
Authors:
Lawrence D. Jackel • David Sharman • Charles E. Stenard • B. Ivan Strom • Derek Zuckert
Abstract:
Self-service automatic teller machines (ATMs) have dramatically altered the ways in which customers interact with banks. ATMs provide the convenience of completing some **banking transactions remotely** and at any time. AT&T Global Information Solutions (GIS) is the world's leading provider of ATMs. These machines support such familiar services as cash withdrawals and balance inquiries. Further technological development has extended the utility and convenience of ATMs produced by GIS by facilitating **check cashing** and **depositing**, as well as direct bill payment, using an on-line system. These enhanced services, discussed in this paper, are made possible primarily through sophisticated **optical character recognition (OCR) technology**. Developed by an AT&T team that included GIS, AT&T Bell Laboratories Quality, Engineering, Software, and Technologies (QUEST), and AT&T Bell Laboratories Research, OCR technology was crucial to the development of these advanced ATMs.

Courtesy Amount Verification (CAV) If the best OCR systems are used to read the courtesy amount on personal checks, high-confidence recognition (an error probability of less than one percent) will be achieved only on about 50 percent of checks. While this is an acceptable read rate for applications in which a reduction of keypunching by human operators is desired, it is far too low to satisfy user demands for check cashing. To increase the number of checks that can be read with high confidence, a method known as **courtesy amount verification** (CAV) is used. In CAV, the user assists in the recognition process simply by **keying in the amount written on the check**. Instead of having to read the check from scratch, now the **ATM** must **determine** only that the **amount keyed** in by the user is a high-probability **match** to the **characters written in ink**.

# Dialog - Patents

**Databases:** Argentina Patents Fulltext, Australia Patents Fulltext, Austria Patents Fulltext, Belgium Patents Fulltext, Brazil Patents Fulltext, Canada Patents Fulltext, China Patents Fulltext, Denmark Patents Fulltext, Derwent Patents Citation Index®, Derwent World Patents Index®, Eurasia Patents Fulltext, European Patents Fulltext, Finland Patents Fulltext, France Patents Fulltext, Germany Patents Fulltext, Global Patents Bibliographic, Great Britain Patents Fulltext, India Patents Fulltext™, Ireland Patents Fulltext, Italy Patents Fulltext, Japan Patents Fulltext, JAPIO - Patent Abstracts of Japan, Korea Patents Fulltext, Luxembourg Patents Fulltext, Mexico Patents Fulltext, Monaco Patents Fulltext, Netherlands Patents Fulltext, Norway Patents Fulltext, Portugal Patents Fulltext, Russia Patents Fulltext, Spain Patents Fulltext, Sweden Patents Fulltext, Switzerland Patents Fulltext, United States Patents Fulltext, WIPO PCT Patents Fulltext

| Set# | Searched for | Results |
|---|---|---|
| S1 | (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 68947115 |
| S2 | (((mobile or portable or wireless or handheld or communication or cell or cellular or smart or i) p/0 (device$1 or apparatus$3 Or computer$1 or communicat$3 or phone$1 or terminal$1)) or smartphone$1 or iphone$1 or phone$1 or cellphone$1 or blackberr$3 or android$1 or pda or tablet$1 or (personal p/0 digital p/0 assist$4)) | 17573481 |
| S3 | (camera$1 or imager$1 or ((picture$1 or photo$1 or photograph$5 or image$1) n/1 (take$1 or taking or record$4 or captur$4))) | 11538235 |
| S4 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 96535966 |
| S5 | (check$1 or payment$1 or IOU or "I owe you") | 37137917 |
| S6 | (orient* or angl$3 or align* or tilt* or slant* or angular$4) | 134213531 |
| S7 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 1203397 |
| S8 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 28192183 |
| S9 | (enter$4 or entry or entries or input$4 or indicat$4 or ((put or putting or type$1 or typing) p/0 in)) n/5 (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 8974096 |
| S10 | (updat$4 or modif* or adjust$5 or conver* or alter* or chang$4 or adapt* or (up p/0 (date$1 or dating$1)) or tweak$4 or amend$5 or revis$4 or rewrit$4 or edit$4 or reformulat$4) n/5 (account$4 or balance$1 or amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 22510449 |
| S11 | CPC,IPC(G06K 9/* or H04N1/* or G06Q 20/042* or G06Q 20/108) | 2199995 |
| S12 | USCL(705/*) | 310855 |

| | | |
|---|---|---|
| S13 | s7 n/15 s8 | 15772 |
| S14 | s13 n/15 s4 | 3633 |
| S15 | s14 n/15 s9 | 69 |
| S16 | s15 and APD(<=20061031) | 6 |
| S17 | s4 n/10 s5 | 435912 |
| S18 | s17 n/10 s6 | 9083 |
| S19 | s18 and s1 | 7002 |
| S20 | s19 and s2 | 3025 |
| S21 | s20 and s3 | 2667 |
| S22 | s21 and s10 | 1578 |
| S23 | s22 and s12 | 60 |
| S24 | s23 and APD(<=20061031) | 5 |
| S25 | s22 and s11 | 607 |
| S26 | s25 and s7 | 296 |
| S27 | s26 and ti,ab(s5) | 122 |
| S28 | s27 and APD(<=20061031) | 31 |

**Financial document processing system**

**Publication info:** Jones, John E.; Jones, William J.; Csultis, Frank M. (Inventors). JONES JOHN E.; JONES WILLIAM J.; CSULTIS FRANK M. (Assignees). US 20040153408 A1 . (Published 05 Aug 2004).

**Application number:** US 2003669787 A (24 September 2003)

**Abstract (English):** A system for processing deposits and/or withdrawals in a financial institution accepts a plurality of documents, including currency bills, at an input receptacle of a document-processing device, converts the image of at least some of the documents to electronic data representing the image. The currency bills are denominated by the document processing device, and the total value of the bills included in each deposit is accumulated. Whenever the total value of the bills in a deposit exceeds a prescribed value, a report may be generated containing at least an identification of the specified account, the total value of the bills in the deposit, and the serial numbers of the bills. The serial numbers may be extracted from images of the bills.

**Spec:**

[0029] The term "non-currency documents" includes any type of document, except currency documents, that may be evaluated according to a predetermined criterion. For example, such as color, size, shape, **orientation**, or that can simply be **imaged**. Examples of such documents include **checks**, deposit slips, withdrawal slips, coupon and loan payment documents, food stamps, cash tickets, and all other documents utilized for transactions at financial institutions, including not only deposits and withdrawals but also loan applications, credit card applications, student loan applications, accounting invoices, debit forms, account transfer forms, and all other types of forms with predetermined fields.

The core of the automated equipment is illustrated by the block diagram in FIG. 1, and one embodiment of a **customer interface** containing a major portion of the automated equipment is illustrated in FIG. 2. A user makes a deposit by using a communications panel **10** to **input** the identification of the account to which the deposit is to be credited, the **amount of the deposit**, and any other required information, such as a password or PIN.

[0050] By "central accounting system," it is meant to include the hardware and software associated with accessing, maintaining, tracking, and updating savings accounts, checking accounts, credit card accounts, business and commercial loans, consumer payments, or other similar accounts at locations remote from the full image scanners. The term includes any of three broad types of systems: systems where deposits are made; systems where withdrawals are made; and systems where both deposits and withdrawals are made. Although the central accounting system described herein is described as being employed at a financial institution such as a bank, it will be understood that any business, public or private institution, or individual can employ a central accounting system to process transactions. By "financial institution" it is meant to include banks, savings and loans, investment houses, and all other types of financial institutions whether private, public, or government. The following description is in terms of banks but it will be understood that it is applicable to other financial institutions as well.

The scanheads **80** and **82** are arranged for simultaneously scanning both the front and back surfaces of the documents and are connected respectively to analog-to-digital converters **84** and **86** which **convert** the **analog** values into discrete **binary** gray scale values of, for example, **256** gray scale levels. The scanheads **80** and **82** are capable of obtaining images of varying resolutions. The particular resolution chosen, which may be varied by the user, is selected based upon the type of document being scanned, as is known in the art.

Programs for **converting** bitmap images of handwritten numeric amounts (such as, written on checks or other documents) into **computer-usable character data** are available from Orbograph Corporation in Billerica, Mass.

**Method and apparatus for correcting erroneously decoded magnetic ink characters**
**Publication info:** Cahill, Thomas; Sferra, Richard H; Levine, Glenn; GOLDFISHER SAUL; Wilson, Philip; KOROTEYEV VLADIMIR (Inventors). CHASE MANHATTAN BANK NAT ASS (Assignee). US 5963659 A . (Published 05 Oct 1999).
**Application number:** US 1995435830 (05 May 1995)
**Abstract (English):** A method and apparatus for storing and retrieving images of documents, e.g. checks. The method comprises placing a plurality of documents in a document imaging machine and forming an electronic image of each document, storing each electronic image in an electronic storage device, providing at least one user interface device in communication on a communication link with the electronic storage device, placing a request for at least one document image on the user interface device, transmitting the request by the communication link to the electronic storage device, searching the electronic storage device for the requested electronic image of the document, retrieving the at least one electronic image or providing an indication that the image was not found, storing the electronic image, if found, in an electronic file, for transmission to the user interface device at user option, providing the electronic image to the user interface device at command of a user at the user interface device for storage at the user interface device and displaying the requested electronic image on a display of the user interface device. Preferably, the electronic, images are stored with embedded identifying information in a TIFF TM (trademark of Aldus Corp.) file format and the check images can be displayed on a display device which permits the user to view both sides of the checks simultaneously and perform functions such as zooming and rotation of the images.
**Spec:**
With reference to FIG. 3, checks 1 are fed into input hopper 203 of the sorter 200. The checks 1 are then conveyed along the track 220 sequentially to digital imager 204 and MICR line reader 205. The check images made by the imager are passed to the Optical Character Recognition device (OCR) 206. After the MICR line is decoded by station 205, the checks 1 are passed to one of the eight output pockets, i.e. the repair pocket 208, the repass pocket 209 or one of the six normal sort pockets 210. Checks 1 that are routed to the repass pocket 209 are again placed in the input hopper during the repass run of the sorter 200. During the repass run, checks 1 are manually placed in the input hopper 203 as shown by dashed lines 207, processed to the repair pocket 208 (described in greater detail below), one of the six normal pockets 210 or killed (removed from processing). According to the preferred embodiment, the sorter 200 may be an NCR 7780 check reader/sorter, which processes approximately 370 checks/minute.

Normal Reset, or returns the image to normal, i.e., size, **orientation**, and video. Preferably function key F11 also returns the image to normal.

2. One of the valid account numbers will appear in the entry field. The account number may be changed by selecting the Account field 352 and changing the account number. To change the account number, as is customary in Windows.TM., the user clicks on the .dwnarw.! button 402 to the right of the account number entry field. A drop down box or window listing the valid account numbers will be displayed. The user then chooses the appropriate account number. The user can select an account number from the drop down box as is customary in Windows.TM., e.g. click on the one desired or use the arrow keys to select the desired entry and press <Enter />. The selected account number will appear in the entry field 352 and the cursor will move to the Check Number field 354.

In an **image capture** environment, this situation will result in the front image of the first check being associated with the back image of the second check.

# Dialog – NPL

**Databases:** ABI/INFORM® Professional Advanced, Abstracts in New Technology & Engineering, Abstracts in New Technology & Engineering, AdisInsight: Drugs, Adis Pharmacoeconomics & Outcomes News, AGRICOLA, AGRIS, Allied & Complementary Medicine™, Analytical Abstracts, Aqualine, Aqualine, Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Australian Education Index, Bacteriology Abstracts (Microbiology B), Bacteriology Abstracts (Microbiology B), British Library Inside Conferences, Business & Industry, CAB ABSTRACTS, Chemical Business Newsbase, Chemical Engineering & Biotechnology Abstracts, Chemical Safety Newsbase, Civil Engineering Abstracts, Civil Engineering Abstracts, Current Contents® Search, DH-DATA: Health Administration, Medical Toxicology & Environmental Health, Earthquake Engineering Abstracts, Earthquake Engineering Abstracts, Ecology Abstracts, Ecology Abstracts, EconLit, Ei Compendex®, Ei EnCompassLIT, Embase®, EMCare®, Environment Abstracts, Environmental Engineering Abstracts, Environmental Impact Statements: Digests, ERIC, ESPICOM Pharmaceutical & Medical Device News, FDAnews, FLUIDEX (Fluid Engineering Abstracts), Foodline®: MARKET, Foodline®: PRODUCT, Foodline®: SCIENCE, FSTA®, Gale Group Computer Database™, Gale Group Health Periodicals Database, Gale Group New Product Announcements / Plus®, Gale Group Newsletter Database™, Gale Group PharmaBiomed Business Journals, Gale Group PROMT®, Gale Group Trade & Industry Database™, GEOBASE, GeoRef, Global Health, Health & Safety Science Abstracts, Health & Safety Science Abstracts, ICONDA - International Construction Database, IMS R&D Focus, IMS R&D Focus Drug News, Incidence & Prevalence Database, Industrial and Applied Microbiology Abstracts (Microbiology A), Industrial and Applied Microbiology Abstracts (Microbiology A), Inspec®, Jane's Defense & Aerospace News, King's Fund, KOSMET: Cosmetic Science, Lancet Titles, Material Safety Datasheets -OHS™, Mechanical & Transportation Engineering Abstracts, Mechanical & Transportation Engineering Abstracts, MEDLINE®, Meteorological & Geoastrophysical Abstracts, Meteorological & Geoastrophysical Abstracts, New England Journal of Medicine, Northern Light Life Sciences Conference Abstracts, NTIS: National Technical Information Service, PAIS International, Pollution Abstracts, ProQuest Advanced Tech & Aerospace Professional, ProQuest Advanced Tech & Aerospace Professional, ProQuest Dissertations and Theses Professional, ProQuest Newsstand Professional, PsycINFO, Registry of Toxic Effects of Chemical Substances (RTECS®), Risk Abstracts, SciSearch®: a Cited Reference Science Database, Social SciSearch®, Sustainability Science Abstracts, Toxicology Abstracts, Toxicology Abstracts, TOXLINE, TOXLINE, Transport Research International Documentation, UBM Computer Full Text, Water Resources Abstracts, Weldasearch®, Zoological Record Plus

| Set# | Searched for | Results |
|---|---|---|
| S1 | (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 322510289* |
| S2 | (((mobile or portable or wireless or handheld or communication or cell or cellular or smart or i) p/0 (device$1 or apparatus$3 Or computer$1 or communicat$3 or phone$1 or terminal$1)) or smartphone$1 or iphone$1 or phone$1 or cellphone$1 or blackberr$3 or android$1 or pda or tablet$1 or (personal p/0 digital p/0 assist$4)) | 36339347* |
| S3 | (camera$1 or imager$1 or ((picture$1 or photo$1 or photograph$5 or image$1) n/1 (take$1 or taking or record$4 or captur$4))) | 14694919* |
| S4 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 100002242* |
| S5 | (check$1 or payment$1 or IOU or "I owe you") | 36852869* |

| | | |
|---|---|---|
| S6 | (assist$4 or help$4 or aid or aids or aiding or aided or guid$4) | 185688588* |
| S7 | (orient* or angl$3 or align* or tilt* or slant* or angular$4) | 37536101* |
| S8 | (bank$3 or ((financ$4) p/0 (institut$4)) or hsbc or Wachovia$1 or (wells p/0 fargo$1) or (credit p/0 union$1) or (clearing p/0 house$1) or clearinghouse$1 or JPmorgan$1 or citi or pnc) | 65770905* |
| S9 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 367545* |
| S10 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 27174931* |
| S11 | (enter$4 or entry or entries or input$4 or indicat$4 or ((put or putting or type$1 or typing) p/0 in)) n/5 (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 5902862* |
| S12 | (updat$4 or modif* or adjust$5 or conver* or alter* or chang$4 or adapt* or (up p/0 (date$1 or dating$1)) or tweak$4 or amend$5 or revis$4 or rewrit$4 or edit$4 or reformulat$4) n/5 (account$4 or balance$1 or amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 17876480* |
| S13 | s9 n/10 s10 | 1516° |
| S14 | s13 n/7 s4 | 131° |
| S15 | s14 and s11 | 20° |
| S16 | s15 and PD(<=20061031) | 2° |
| S17 | s1 n/10 s2 | 6463085* |
| S18 | s17 n/20 s3 | 166332* |
| S19 | s18 n/20 s4 | 69058* |
| S20 | s19 n/20 s5 | 1961° |
| S21 | s20 n/20 s7 | 35° |
| S22 | s21 and PD(<=20061031) | 2° |
| S23 | s13 and s8 | 277° |
| S24 | s23 and s12 | 171° |
| S25 | s24 and s6 | 165° |
| S26 | s25 and ti,ab(s8) | 8° |
| S27 | s26 and PD(<=20061031) | 3° |

**The banking industry: following the fathers of imaging**
**Publication info:** Document Imaging Report 4.n10: p1(4). Access Intelligence, LLC. (May 18, 1994)
**Publisher:** Access Intelligence, LLC
**Abstract (English):** When imaging systems first appeared, the banking community was a pioneer in utilizing the technology. Paper-burdened executives were quick to see the cost savings and benefits of imaging, and quickly appropriated the technology for applications in the financial services industry.
Banks are once again turning to imaging, this time to provide the increased customer service ability needed to remain on top of an unforgiving economy. Imaging systems are experiencing a revival because banks are coming under fire from mutual fund and insurance companies eager to snap up consumers who are demanding more from their financial institutions.
"The banking industry is becoming very competitive, and imaging is becoming increasingly necessary to hold onto their business," says Lynn Leahy, principal at EIM Consulting Associates (San Carlos, Calif.).
Commercial customers frequently want remote access to image archives to facilitate cash management and disbursement, and some banks have started distributing images to commercial accounts on CD-ROM, Thompson says. Another growing interest for many corporations and banks is fraud detection through signature verification and Courtesy Amount Read (CAR) with OCR technology.

# Inventor Search - Patents

**Databases:** Argentina Patents Fulltext, Australia Patents Fulltext, Austria Patents Fulltext, Belgium Patents Fulltext, Brazil Patents Fulltext, Canada Patents Fulltext, China Patents Fulltext, Denmark Patents Fulltext, Derwent Patents Citation Index®, Derwent World Patents Index®, Eurasia Patents Fulltext, European Patents Fulltext, Finland Patents Fulltext, France Patents Fulltext, Germany Patents Fulltext, Global Patents Bibliographic, Great Britain Patents Fulltext, India Patents Fulltext™, Ireland Patents Fulltext, Italy Patents Fulltext, Japan Patents Fulltext, JAPIO - Patent Abstracts of Japan, Korea Patents Fulltext, Luxembourg Patents Fulltext, Mexico Patents Fulltext, Monaco Patents Fulltext, Netherlands Patents Fulltext, Norway Patents Fulltext, Portugal Patents Fulltext, Russia Patents Fulltext, Spain Patents Fulltext, Sweden Patents Fulltext, Switzerland Patents Fulltext, United States Patents Fulltext, WIPO PCT Patents Fulltext

| Set# | Searched for | Results |
|---|---|---|
| S1 | INV(Oakes n/3 (c or Charles) or Morlen n/3 (r or Randy) or Morris n/3 (m or Michael) or Medina n/3 (r or Reynaldo) or Harpel n/3 (g or Greg) or Gavia n/3 (g or Gabriel) or Prasad n/3 (b or Bharat) or Major n/3 (f or Frank) or Pollack (j or Jeffrey)) | 9923* |
| S2 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 28192265* |
| S3 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 1203412* |
| S4 | (check$1 or payment$1 or IOU or "I owe you") | 37139532* |
| S5 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 96536897* |
| S6 | s2 n/20 s3 | 19786* |
| S7 | s6 n/20 s4 | 568° |
| S8 | s7 n/20 s5 | 229° |
| S9 | s8 and s1 | 28° |

**Incontinence device for receiving urine comprises a bag to fit the groin region of the user containing a housing comprising a motorized system**

**Publication info:** CAMPBELL J A A; Campbell, J V; Campbell, R O, C; Huth, T B; MORLEN, R R; NUGGEHALLI R B P; Oakes, C L; Prasad, B (Inventors). Campbell, J; CAMPBELL J A A; Campbell, J V; Campbell, R; Campbell, R O, C; UNITED SERVICES AUTOMOBILE ASSOC USAA (Assignees). US 9224136 B1 . (Published 29 Dec 2015). 200564 (First update). 201603 (Last update).

**Alerting**

**Novelty**

An incontinence device comprises a bag tailored to fit the groin region of the user where the bag accepts urine above the point of exit via a tube and has an additional flexible detachable self-closing outlet. The bag has two compartments to hold a container housing a motor, battery and electronic circuit. The housing comprises a motorized system consisting of an automatic liquid detector, a non-return valve and a motorized pump.

**Use**

For receiving urine from a user (claimed).

**Advantage**

The tapered shape of motorized housing allows the contents to be removed, cleaned and reassembled in one direction only. The liquid detector and non-return valve is made as one unit to aid easy dismantling and reassembling after cleaning. The valve's gland can be extracted during menstruation thereby preventing sticking and the liquid detector can be electronically varied in sensitivity by user to cater for personal need. The motorized housing accommodates a flexible, detachable, expandable and vented appendage into which penis can be inserted. The appendage has an internally rolled upper edge to facilitate an expandable ring thereby catering for variation in size and additional low-tension elasticated band to permit minor expansion and contraction. The detachable appendage permits safety overflow in the event of an electrical or mechanical malfunction. The bag is made of flexible, impervious and reusable material. The device permits the user to select, program, customize and control the volume of all audible signals and vary the speed of the motor to comply with individual demand.

**Application number:** GB 20044603 A (01 March 2004)

**Publication number:** GB 2411591 A (07 September 2005)

**Keywords in context:**

**Inventor:** CAMPBELL J A A
Campbell, J V
Campbell, R O, C
Huth, T B
MORLEN, R R
NUGGEHALLI R B P
Oakes, C L
Prasad, B

**StandardCitations:** CAMPBELL J A A; Campbell, J V; Campbell, R O, C; Huth, T B; MORLEN, R R; NUGGEHALLI R B P; Oakes, C L; Prasad, B (Inventors). Campbell, J; CAMPBELL J A A; Campbell, J V; Campbell, R; Campbell, R O, C; UNITED SERVICES AUTOMOBILE ASSOC USAA (Assignees). **US 9224136 B1 ...**

**Claims:** ... system comprising: a processor; and a memory storing processor-executable instructions that, when executed by the processor, cause the processor to: receive an account identification number, check amount indication, and check image, where the check image is an image of a check captured by a camera; perform optical character recognition on the check image to determine a routing number for the check image; validate the routing number for the check image; and initiate a check deposit for the check image.

# Author Search - NPL

**Databases:** ABI/INFORM® Professional Advanced, Abstracts in New Technology & Engineering, Abstracts in New Technology & Engineering, AdisInsight: Drugs, Adis Pharmacoeconomics & Outcomes News, AGRICOLA, AGRIS, Allied & Complementary Medicine™, Analytical Abstracts, Aqualine, Aqualine, Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Australian Education Index, Bacteriology Abstracts (Microbiology B), Bacteriology Abstracts (Microbiology B), British Library Inside Conferences, Business & Industry, CAB ABSTRACTS, Chemical Business Newsbase, Chemical Engineering & Biotechnology Abstracts, Chemical Safety Newsbase, Civil Engineering Abstracts, Civil Engineering Abstracts, Current Contents® Search, DH-DATA: Health Administration, Medical Toxicology & Environmental Health, Earthquake Engineering Abstracts, Earthquake Engineering Abstracts, Ecology Abstracts, Ecology Abstracts, EconLit, Ei Compendex®, Ei EnCompassLIT, Embase®, EMCare®, Environment Abstracts, Environmental Engineering Abstracts, Environmental Impact Statements: Digests, ERIC, ESPICOM Pharmaceutical & Medical Device News, FDAnews, FLUIDEX (Fluid Engineering Abstracts), Foodline®: MARKET, Foodline®: PRODUCT, Foodline®: SCIENCE, FSTA®, Gale Group Computer Database™, Gale Group Health Periodicals Database, Gale Group New Product Announcements / Plus®, Gale Group Newsletter Database™, Gale Group PharmaBiomed Business Journals, Gale Group PROMT®, Gale Group Trade & Industry Database™, GEOBASE, GeoRef, Global Health, Health & Safety Science Abstracts, Health & Safety Science Abstracts, ICONDA - International Construction Database, IMS R&D Focus, IMS R&D Focus Drug News, Incidence & Prevalence Database, Industrial and Applied Microbiology Abstracts (Microbiology A), Industrial and Applied Microbiology Abstracts (Microbiology A), Inspec®, Jane's Defense & Aerospace News, King's Fund, KOSMET: Cosmetic Science, Lancet Titles, Material Safety Datasheets -OHS™, Mechanical & Transportation Engineering Abstracts, Mechanical & Transportation Engineering Abstracts, MEDLINE®, Meteorological & Geoastrophysical Abstracts, Meteorological & Geoastrophysical Abstracts, New England Journal of Medicine, Northern Light Life Sciences Conference Abstracts, NTIS: National Technical Information Service, PAIS International, Pollution Abstracts, ProQuest Advanced Tech & Aerospace Professional, ProQuest Advanced Tech & Aerospace Professional, ProQuest Dissertations and Theses Professional, ProQuest Newsstand Professional, PsycINFO, Registry of Toxic Effects of Chemical Substances (RTECS®), Risk Abstracts, SciSearch®: a Cited Reference Science Database, Social SciSearch®, Sustainability Science Abstracts, Toxicology Abstracts, Toxicology Abstracts, TOXLINE, TOXLINE, Transport Research International Documentation, UBM Computer Full Text, Water Resources Abstracts, Weldasearch®, Zoological Record Plus

| Set# | Searched for | Results |
|---|---|---|
| S1 | AU(Oakes n/3 (c or Charles) or Morlen n/3 (r or Randy) or Morris n/3 (m or Michael) or Medina n/3 (r or Reynaldo) or Harpel n/3 (g or Greg) or Gavia n/3 (g or Gabriel) or Prasad n/3 (b or Bharat) or Major n/3 (f or Frank) or Pollack (j or Jeffrey)) | 95346* |
| S2 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 27176529* |
| S3 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 367571* |
| S4 | (check$1 or payment$1 or IOU or "I owe you") | 36854041* |
| S5 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 100004173* |
| S6 | s2 n/20 s3 | 2450° |

| | | |
|---|---|---|
| S7 | s6 n/20 s4 | 67° |
| S8 | s7 n/20 s5 | 26° |
| S9 | s8 and s1 | 0° |

| Notice of References Cited | Application/Control No. 16/507,595 | Applicant(s)/Patent Under Reexamination Oakes et al. | |
|---|---|---|---|
| | Examiner I JUNG LIU | Art Unit 3697 | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | CPC Classification | US Classification |
|---|---|---|---|---|---|---|
| * | A | US-20060248009-A1 | 11-2006 | Hicks; Sydney Smith | G06Q20/40 | 705/40 |
| * | B | US-6023705-A | 02-2000 | Bellinger; David T. | G06Q30/06 | 1/1 |
| * | C | US-20030217005-A1 | 11-2003 | Drummond, Jay Paul | G07F19/20 | 707/E17.107 |
| * | D | US-20050097046-A1 | 05-2005 | Singfield, Joy Shantia | G06V40/172 | 705/42 |
| | E | | | | | |
| | F | | | | | |
| | G | | | | | |
| | H | | | | | |
| | I | | | | | |
| | J | | | | | |
| | K | | | | | |
| | L | | | | | |
| | M | | | | | |

**FOREIGN PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Country | Name | CPC Classification |
|---|---|---|---|---|---|---|
| | N | JP-3708807-B2 | 10-2005 | JP | *CALVO *PESQUERA A L | G06Q20/04 |
| | O | | | | | |
| | P | | | | | |
| | Q | | | | | |
| | R | | | | | |
| | S | | | | | |
| | T | | | | | |

**NON-PATENT DOCUMENTS**

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
| | U | Craig Varеam, Image Deposit Solutions, November 2005, JP Morgan Chase, web, 1-13 (Year: 2005) |
| | V | |
| | W | |
| | X | |

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 6, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| | |
|---|---|
| Application Number | 16/507,595 |
| Filing Date | July 10, 2019 |
| First Named Inventor | Charles Lee Oakes |
| Art Unit | 3697 |
| Confirmation Number | 4037 |
| Examiner Name | Jung I. Liu |
| Attorney Docket No. | US-0152.11 \| 514538.5000668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

## US PATENT REFERENCES

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | US 8,396,623 B2 | 03/12/2013 | Munenori Maeda et al. |
| | 2 | US 9,387,813 B1 | 07/12/2016 | Mark M. Moeller et al. |
| | 3 | US 9,524,269 B1 | 12/20/2016 | Margaret A. Brinkmann et al. |
| | 4 | US 10,402,944 B1 | 09/03/2019 | Jason Pribble et al. |
| | 5 | US 11,250,398 B1 | 02/15/2022 | Bharat Prasad et al. |
| | 6 | US 2003/0081121 A1 | 05/01/2003 | Joseph G. Swan |
| | 7 | US 2007/0136078 A1 | 06/14/2007 | James Plante |
| | 8 | US 2013/0332004 A1 | 12/12/2013 | Jeff M. Gompert et al. |
| | 9 | US 2014/0313335 A1 | 10/23/2014 | Krishna Koravadi |
| | 10 | US 2015/0235484 A1 | 08/20/2015 | Mark Bradshaw Kraeling et al. |
| | 11 | US 2016/0189500 A1 | 06/30/2016 | Jun-Hyung Kim et al. |
| | 12 | US 2017/0263120 A1 | 09/14/2017 | William E. Durie, Jr. et al. |
| | 13 | US 2018/0108252 A1 | 04/19/2018 | Marcelo Pividori |

## FOREIGN PATENT REFERENCES

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | | | | | |

## OTHER ART – NON PATENT LITERATURE DOCUMENTS

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 14 | Bieniecki, Wojciech et al. "Image Preprocessing for Improving OCR Accuracy", Computer Engineering Department, Technical University of Lodz, al. Politechniki 11, Lodz Poland, May 23, 2007. |
| | 15 | Shaikh, Aijaz Ahmed et al., "Auto Teller Machine (ATM) Fraud – Case Study of Commercial Bank in Pakistan", Department of Business Administration, Sukkur Institute of Business Administration, Sukkur, Pakistan, August 5, 2012. |

**1. PRIORITY INFORMATION:**

☐ This application claims priority under 35 USC §120 to the following United States patent application(s): _____. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are

| Examiner Signature | /I JUNG LIU/ | Date Considered | 10/17/2022 |
|---|---|---|---|





ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

**2. CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of _____ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account No. 50-4184.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

July 6, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

| Examiner Signature | /I JUNG LIU/ | Date Considered | 10/17/2022 |
|---|---|---|---|





ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:
Date: March 22, 2022 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| | |
|---|---|
| Application Number | 16/507,595 |
| Filing Date | July 10, 2019 |
| First Named Inventor | Charles Lee Oakes |
| Art Unit | 3697 |
| Confirmation Number | 4037 |
| Examiner Name | LIU, I JUNG |
| Attorney Docket No. | US-0152.11 \| 514538-5000668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

## US PATENT REFERENCES

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | US 8,768,836 | 07/01/2014 | Ravi V. Acharya |
| | 2 | US 9,235,860 | 01/12/2016 | Lisa M. Boucher et al. |
| | 3 | US 2007/0058874 A1 | 03/15/2007 | Tabata Sunao et al. |
| | 4 | US 11,232,517 B1 | 01/25/2022 | Reynaldo Medina et al. |
| | 5 | US 11,222,315 B1 | 01/11/2022 | Bharat Prasad et al. |
| | 6 | US 8,824,772 B2 | 09/02/2014 | Edward Viera |

## FOREIGN PATENT REFERENCES

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | 7 | JP 2004-23158 | 01/22/2004 | Japan | Yes |
| | 8 | JP 3708807 | 10/20/2005 | Japan | Yes |

## OTHER ART – NON PATENT LITERATURE DOCUMENTS

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 9 | Bruno-Britz, Maria "Mitek Launches Mobile Phone Check Capture Solution," Bank Systems and Technologies Information Week (Jan. 24, 2008) |
| | 10 | V User Guide, https://www.lg.com/us/support/manualsdocuments?customerModelCode=%20LGVX9800&csSalesCode=LGVX9800, select"VERISON(USA) en"; The V_UG_051125.pdf |
| | 11 | MING Phone User Manual, 2006 |
| | 12 | Patel, Kunur, "How Mobile Technology is Changing Banking's Future" AdAge, September 21, 2009, 4 pages |
| | 13 | Spencer, Harvey, "Controlling Image Quality at the Point of Capture" Check 21, Digital Check Corporation & HSA 2004 |
| | 14 | Moseik, Celeste K., "Customer Adoption of Online Restaurant Services: A Multi-Channel Approach", Order No. 1444649 University of Delaware, 2007, Ann Arbor: ProQuest., Web. January 10, 2022 (Year: 2007) |

| Examiner Signature | | Date Considered | |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

1. **PRIORITY INFORMATION:**

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): 16/165,622, 16/025,679, 15/663,284, 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

2. **CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. **FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☒ Applicant has calculated a processing fee in the amount of $260.00 to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to our Stored Payment Method as selected in Financial Manager.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

March 22, 2022
Date

/Scott W. Brim/
Scott W. Brim (Reg. No. 51,500)

| Examiner Signature | /I JUNG LIU/ | Date Considered | 10/17/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: August 8, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | |
|---|---|---|---|
| In re Appln. of: Charles Lee Oakes III, et al. | | | |
| Appln. No.: | 16/507,595 | Examiner: | Liu, I Jung |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: US-0152.11 \| 514538.5000668 | | | |

# RESPONSE TO NON-FINAL OFFICE ACTION

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

Dear Sir:

Further to the non-final office action mailed March 8, 2022, please enter the following amendment and consider the following remarks:

**AMENDMENTS TO THE CLAIMS**

The following listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims**

1. – 24. (Canceled)

25. (Previously Presented) A system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including:

a customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to:

receive input entered by the customer indicating an amount of the check;

use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check;

assist the customer as to an orientation for taking the photo; and

using a wireless network, transmit a copy of the photo over the Internet from the customer's handheld mobile device to the bank;

a bank computer programmed to:

check for errors in the check in the photo by:

performing optical character recognition on the check in the photo to determine an amount shown on the check, and

comparing the amount shown to the amount entered by the customer; and

the system being configured to update a balance of an account after determining that no errors were found in the check in the photo.

26. (Previously Presented) The system of claim 25, wherein the bank computer is configured to confirm that mobile deposit of the check can proceed after duplicate detection is performed on the check in the photo.

27. (Previously Presented) The system of claim 26, wherein the system is configured to initiate the mobile deposit of the check after bank computer confirms that the mobile deposit can proceed.

28. (Previously Presented) The system of claim 25, wherein the system is configured to perform the update the balance after it is determined that a mark or signature is present in an endorsement location in the photo of a back side of the check.

29. (Previously Presented) The system of claim 25, wherein use of the display of the customer's handheld mobile device to assist the customer includes instructing the customer to have the digital camera take a photo of a front side of the check and a photo of a back side of the check.

30. (Previously Presented) The system of claim 25, wherein the system is configured to convert the photo into a bi-tonal Tag Image File Format (TIFF).

31. (Previously Presented) The system of claim 25, wherein the customer's handheld mobile device further includes camera software that controls a customer's digital camera, the camera software being separate from the downloaded app, the downloaded app at least partially controlling the camera software.

32. (Previously Presented) The system of claim 25, wherein the downloaded app manages taking the photo.

33. (Previously Presented) The system of claim 25, wherein the downloaded app instructs the customer to place the check in front of the digital camera before taking the photo.

34. (Previously Presented) The system of claim 25, wherein the system is configured to generate a log file for the mobile deposit of the check, wherein the log file includes an image of the check submitted for mobile deposit of the check.

35. (Previously Presented) The system of claim 25, wherein the copy of the photo is a modified version of the photo taken with the digital camera.

36. (Previously Presented) The system of claim 35, wherein the copy of the photo has a different format than the photo taken with the digital camera.

37. (Previously Presented) The system of claim 25, further comprising a third-party vendor computer.

38. (Previously Presented) A system for allowing a customer to deposit a check using a customer's own handheld mobile device with a digital camera, the system configured to authenticate the customer using data representing a customer fingerprint, the system including:

a customer's handheld mobile device including:

camera software that controls the digital camera; and

a downloaded app associated with a bank to control the camera software and to control submitting a check for deposit by causing the customer's handheld mobile device to perform the following steps:

instructing the customer to have the digital camera take photos of front and back sides of the check;

using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check;

assisting the customer as to an orientation for taking the photos;

receiving input from the customer indicating an amount of the check; and

using a wireless cellular network, transmitting a copy of the photos over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank after the photos of the check are presented to the customer;

a computer associated with the bank programmed to update a balance of an account to reflect the check submitted for mobile check deposit by the customer's handheld mobile device; and

the system configured to perform additional steps including:

confirming that the mobile check deposit can go forward after optical character recognition is performed on the check, the optical character recognition determining an amount of the check, performing duplicate detection, and comparing the determined amount to the amount indicated by the customer;

and

generating a log file for the mobile check deposit, the log file including an image of the check submitted for mobile check deposit.

39. (Previously Presented) The system of claim 38, wherein the digital camera is separate from the customer's handheld mobile device.

40. (Previously Presented) The system of claim 38, wherein the customer's handheld mobile device is a Personal Digital Assistant (PDA).

41. (Previously Presented) A system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including:

a bank computer programmed to update a balance of an account to reflect an amount of a check submitted for mobile check deposit by the customer's handheld mobile device, the customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to perform:

receiving input entered by the customer indicating an amount of the check;

using a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check,

assisting the customer as to an orientation for taking the photo, and

after taking the photo, using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank;

and

the system being configured to update the balance of the account after optical character recognition reads a Magnetic Ink Character Recognition (MICR) line of the check in the photo.

42. (Previously Presented) The system of claim 41, wherein the digital camera is separate from the customer's handheld mobile device.

43. (Previously Presented) The system of claim 41, wherein the downloaded app manages taking the photo.

44. (Previously Presented) The system of claim 41, wherein the system is configured to generate a log file for the mobile check deposit, wherein the log file includes an image of the check submitted for mobile check deposit.

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 46364640 |
| **Application Number:** | 16507595 |
| **International Application Number:** | |
| **Confirmation Number:** | 4037 |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes |
| **Customer Number:** | 16530 |
| **Filer:** | Kent E. Genin/Jesus Rodriguez |
| **Filer Authorized By:** | Kent E. Genin |
| **Attorney Docket Number:** | US-0152.11(14538-668) |
| **Receipt Date:** | 08-AUG-2022 |
| **Filing Date:** | 10-JUL-2019 |
| **Time Stamp:** | 18:02:38 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | | 514538-5000668-Response-08082022.pdf | 626383<br>d2819c6b4fba9c8d875aa887f00c82da25c27e74 | yes | 36 |

| | Multipart Description/PDF files in .zip description | | |
|---|---|---|---|
| | **Document Description** | **Start** | **End** |
| | Amendment/Request for Reconsideration-After Non-Final Rejection | 1 | 1 |
| | Claims | 2 | 7 |
| | Applicant Arguments/Remarks Made in an Amendment | 8 | 36 |

| | | | | | |
|---|---|---|---|---|---|
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Transmittal Letter | 514538-5000668--Response-Transmittal-08082022.pdf | 109916<br>6bb995c6a49df222958872f907be7d7b3911d69d | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 736299 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**
**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**
**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 46364045 |
| **Application Number:** | 16507595 |
| **International Application Number:** | |
| **Confirmation Number:** | 4037 |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes |
| **Customer Number:** | 16530 |
| **Filer:** | Kent E. Genin/Jesus Rodriguez |
| **Filer Authorized By:** | Kent E. Genin |
| **Attorney Docket Number:** | US-0152.11(14538-668) |
| **Receipt Date:** | 08-AUG-2022 |
| **Filing Date:** | 10-JUL-2019 |
| **Time Stamp:** | 16:16:55 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | CARD |
| Payment was successfully received in RAM | $640 |
| RAM confirmation Number | E202288G17191148 |
| Deposit Account | |
| Authorized User | |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: | |

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal Letter | 514538-5000668--EOT-Transmittal-08082022.pdf | 109577<br>167e0927fa1c211e1e2d0f1d15069c5790ae4266 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Extension of Time | 514538-5000668-EOT-08082022.pdf | 115625<br>139355089b19d38369e16bd5c158719fafe670d3 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Fee Worksheet (SB06) | fee-info.pdf | 38736<br>16ddb3df83b9c9c9eea32f61a2b08b297ee2939d | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 263938 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**
**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**
**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

## REMARKS

### I. Office Action Summary

Claims 25-44 are pending. Claims 25, 38 and 41 are the independent claims. In the non-final office action mailed March 8, 2022, claims 25-44 were rejected for alleged obviousness-type double-patenting over claims 25, 27-28, 31-39 and 42-59 of application serial no. 16/165,622 (US 10,402,638). Claims 25-44 were also rejected as allegedly directed to an abstract idea under 35 U.S.C. 101. The office action also rejects claims 25-44 as allegedly obvious under 35 U.S.C. 103 over the combination of Singfield (US Pub. No. 2005/0097046), Hicks et al. (US Pub. No. 2006/0097046) and Bellinger et al. (US 6,023,705)

### II. Rejections For Obviousness-Type Double Patenting

Applicant respectfully disagrees with the obviousness-type double patenting rejection of claim 25-44 over claims 25, 27-28, 31-39 and 42-59 of application serial no. 16/165,622 (US 10,402,638). However, in order to expedite prosecution, Applicant will file a suitable terminal disclaimer upon indication that the claims are otherwise in condition for allowance.

### III. Rejections Under 35 U.S.C. 101

Applicant respectfully traverses the rejection under section 101 that alleges claims 25-44 are directed to abstract subject matter.

With respect to the rejection of independent claims 25, 38 and 41 under § 101, Applicant respectfully traverses the rejection as provided below.

**Mayo/Alice First Step**

**Mayo/Alice First Step (revised Step 2A, Prong One): Claims Do Not Recite Matter that Falls Within the Enumerated Groupings of Subject Matter**

The claims are eligible at Prong One of revised Step 2A because the claims do not recite matter that falls within the enumerated groupings of abstract ideas in Section I of the *2019 Revised Guidance*.

The office action, at page 4, asserts that the claims are directed to "fundamental economic practice and thus grouped as a certain method of organizing human interactions and/or mental processes." Applicant disagrees. Even if the claims relate to monetary transactions, they are not *directed* to such a broad concept and do not preempt all economic practices in which monetary transactions between people are managed.

The office action, at pages 5-6, identifies some limitations of Claim 25 as setting forth the asserted abstract idea, specifically suggesting that all of the elements of the claim include "performance of the limitation in the mind" or somehow not precluded from "being performed in the mind." Applicant disagrees and notes the only way to make such generalizations is to ignore the clear language of the claims.

The independent claims are directed *inter alia* to systems for allowing a customer to deposit a check using a customer's handheld mobile device including a downloaded app associated with a bank and configured to cause the customer's handheld mobile device to receive input entered by the customer indicating an amount of the check, use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check, and to assist the customer as to an orientation for taking the photo(s). The downloaded app further causes the handheld mobile device, using a wireless network, to transmit a copy of the photo over the Internet from the handheld device to the bank. The system further includes a bank computer the systems also being configured to check for errors in the check in the photo by performing optical character recognition on the check in the photo to determine an amount shown on the check, and comparing the amount shown to the amount entered by the customer so that a balance update may be performed when no errors are found. Clearly, this is not a fundamental economic practice as contemplated by Section I of the *2019 Revised Guidance*.

Further, the PTAB has specifically held, and the court has agreed, that "processing paper checks" is not an abstract idea at all. *U.S. Bancorp v. Solutran, Inc.*, Case CBM2014-00076, slip op. at 13 (P.T.A.B. August 7, 2014) (Paper 16) ("[T]he basic, core concept of independent claim 1 is a method of processing paper checks, which is more akin to a physical process than an abstract idea. Indeed, there is nothing immediately apparent about this basic, core concept that would indicate that it is directed to an abstract idea at all."), *quoted with approval, Solutran, Inc. v. US Bancorp & Elavon, Inc.*, 291 F. Supp. 3d 877, 887 (D. Minn. Nov. 27, 2017).

**Mayo/Alice First Step (revised Step 2A, Prong Two): Claims Recite Additional Elements that Integrate the Asserted Abstract Idea into a Practical Application thereof**

Assuming, *arguendo*, that the asserted abstract idea could somehow be seen to fall within the *2019 Revised Guidance*'s enumerated groupings of abstract ideas, the claims recite additional elements that integrate such an abstract idea into a practical application thereof.

The *2019 Revised Guidance* explains: "A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." *2019 Revised Guidance* at 54. Even if a claim recites a judicial exception, it is patent eligible if the claim provides a practical application of the judicial exception. *LeRoy v. Tatham*, 55 U.S. 156, 175 (1852) ("A new property discovered in matter, when practically applied in the construction of a useful article of commerce or manufacture, is patentable").

The office action, at page 6, makes a broad generalization of what the "additional elements" are and stating that the claims are somehow only directed to a general purpose computer, and does so by paraphrasing the language of the claims generally to abbreviate/omit the actual elements of the claims and focus on items out of context of the actual claim elements.

For example, claim 25 does not simply recite a mobile device, camera, network and system to processing data" as alleged. Instead, claim 25 recites a customer's *handheld mobile device* including *a downloaded app that causes the customer's handheld mobile device to*

- receive input entered by the customer indicating an amount of the check
- use a display of the customer's handheld mobile device to assist the customer in having a digital camera take the photo of the check
- assist the customer as to an orientation for taking the photo

as well as a bank computer programmed to check for errors . . . by:

- performing optical character recognition on the check in the photo to determine an amount shown on the check

None of the above are performed in the mind or merely relate to generic components without more. Instead, the above limitations, among others, provide meaningful limitations on practicing the alleged abstract idea and improve technology related to digital cameras and/or photo capture with a display. Each claimed arrangement also improves the technology of imaging paper checks.

The other independent claims, not specifically addressed in the Office Action, also include similar and additional "additional elements".

Each combination of "additional elements" integrates the asserted abstract idea into a practical application when combined as recited at least because each claimed arrangement of the "additional elements" "reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field." *2019 Revised Guidance* § III(A)(2).

The claimed arrangements recited in claims 25, 38 and 41, wherein the customer's handheld mobile device includes a downloaded app that causes the customer's handheld mobile device to receive input from the customer indicating an amount of the check and to perform other recited steps with the particularly claimed arrangement of a display of the customer's handheld mobile device, a digital camera, and a wireless network, wherein the system is configured to confirm that the mobile check deposit can go forward after optical character recognition is performed on the check in the photo, including determining an

amount of the check, and the amount determined by optical character recognition is compared to the amount indicated by the customer, and wherein optical character recognition is utilized, provides a technical approach to a technical concern.

Again, each claimed arrangement improves technology related to digital cameras and/or photo capture with a display. Each claimed arrangement also improves the technology of imaging paper checks.

Various patent publications confirm that the claimed invention involves a technical improvement to a technical problem.

First, U.S. Patent Publication 2007/0194102 (Cohen) suggested existing technologies did not sufficiently enable a business merchant to locally capture compliant check data for transmission to a bank:

> Existing Check 21 solutions take advantage of the combination of prior scanning, imaging, processing and centralized electronic transmission **technologies**, in conjunction with Check 21 laws, to deliver Check 21 compliant data from remote merchant sites to the merchant's bank, or the Bank of First Deposit (BOFD), where the checks are processed as if physically delivered to the bank. However, applicants are unaware of any such system or method which enables the business merchants to locally capture and process Check 21 compliant data, for subsequent transmission to the Federal Reserve Bank, from a remote merchant site, bypassing the BOFD's operations, yet still providing archival and compliance information to the BOFD.

*Cohen* at [0009] (emphasis added).

Second, U.S. Patent No. 7,419,093 (Blackson) identified orientation ("skew") as a technical problem in imaging checks: "As represented in FIG. 27 document 158 may be **skewed relative to the transport section** through which it passes." *Id.* at col.28, ll. 50-52. Blackson's "solution" included "deskew the data corresponding to the image." *Blackson* at col. 29, ll. 27-39 (emphasis added).

Third, U.S. Patent No. 6,023,705 (Bellinger) stated "[h]ighly specialized equipment is needed for capturing in clearing items and POD items." *Bellinger* at col. 2, ll. 8-9.

Thus, at least the above-identified "additional elements" provide a technical approach to a technical problem and result in a practical application.

**Mayo/Alice Second Step (Step 2B)**

Assuming, *arguendo*, that the claims could somehow be seen to be directed an abstract idea such as the asserted abstract idea, the Office action fails to comply with the PTO's *Berkheimer Memo*[1] with respect to the second step of the Mayo/Alice analysis (Step 2B), and the claims recite elements, such as the "additional elements" discussed above, that amount to significantly more.

**Mayo/Alice Second Step: *Berkheimer Memo***

As explained in section (III)(A) of the PTO's recently issued *Berkheimer Memo*, any finding that additional element(s) were well-understood, routine, and conventional must be "expressly support[ed] ... in writing with" one or more of the following four items: "1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution..."; "2. A citation to a court decision discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s)"; "3. A citation to a publication"; and "4. A statement that the examiner is taking official notice ...". *Berkheimer Memo* at 3-4.

The Office apparently believes the claims recite "additional elements" that are well-understood, routine, and conventional. *Office action* at 4-8. However, for at least some of the "additional elements" listed above, other than repeating the text of the claims and making a general assertion, the Office action does not expressly support such belief in writing as required by the *Berkheimer Memo*. The rejection should be withdrawn.

**Mayo/Alice Second Step: Additional Elements Not Well-Understood, Routine, and Conventional as of the *Priority Date: October 31, 2006***

[1] Memorandum - Revising 101 Eligibility Procedure in view of Berkheimer v. HP, Inc. (issued April 19, 2018).

Evidence concerning what was not well-understood, routine, and conventional by the time of the newly established priority date in 2006 includes the articles attached hereto as Exhibits A, B, C, and D. They are all from 2009, almost three years after the present priority date.

First, Exhibit A is an article published by the New York Times on August 9, 2009, entitled "Bank Will Allow Customers to Deposit Checks by iPhone." The article describes how applicant (USAA), in 2009, was innovating in the mobile banking industry by making available a downloadable app for a mobile device to permit mobile deposit of paper checks. For example, it opined "[t]he deposit feature, which USAA previewed in an online video, puts the bank in the vanguard of the effort to turn cellphones into portable branches."

Second, Exhibit B is piece from AdAge published September 21, 2009. It observed at the time of USAA's first-generation system that "USAA represents the bleeding edge of mobile banking technology" and described its first-generation system as a "technological development … that allow[s] for deposits by iPhone and mobile payments."

Third, Exhibit C is a Celent publication dated June 26, 2009, stating "we think most banks will pass on the idea. Why? Because mobile RDC is disruptive. It may delight millions of consumers but it also would challenge the status quo. . . forcing rapid change. . . ."

Fourth, Exhibit D is an article published by Celent on October 22, 2009. It said "[o]nly a small minority of US financial institutions currently plan to offer mobile RDC (remote deposit capture)…." The article included a graph showing 72% of institutions had no such plans, and less than 2% had mobile RDC in production.

In other words, even entering the second half of 2009, using a downloaded app to cause a customer's handheld mobile device to use a display of the customer's handheld mobile device to assist the customer as to an orientation for taking a photo of a check for mobile check deposit with the other "additional elements" was not well-understood, routine, and conventional. All the more so in 2006, the priority date of the present invention.

As such, the "additional elements" result in each claim as a whole amounting to significantly more than the asserted abstract idea. Withdrawal of the rejection under § 101 is respectfully requested for this additional reason.

In addition, even assuming, *arguendo*, that the "additional elements" do not amount to significantly more than the Office action's asserted abstract idea when considered individually, those elements still amount to significantly more when combined because the combination provides an inventive concept in the non-conventional and non-generic arrangement of those elements. See *BASCOM Global Internet Services v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016).

In *Bascom*, the Court found an inventive concept in the distribution of functionality within a network. *See BASCOM* at 1350 (finding sufficient inventive concept in "the installation of a filtering tool at a specific location, remote from the end users, with customizable filtering features specific to each end user."). The "additional elements" of Claims 25, 38 and 41 provide an inventive concept when combined as claimed at least because the arrangement of "a customer's handheld mobile device" having at least "a display" and "a downloaded app", "a digital camera", and a "wireless network"[2], wherein such arrangement includes the "downloaded app … causing the customer's handheld mobile device to … us[e] [the] display [and] us[e] [the] wireless" "network [to] transmit[] a copy of" a photo of a check taken by the digital camera "from the customer's handheld mobile device and submit[] the check for mobile check deposit in the bank" was not a conventional, generic arrangement as of 2006, the priority date of the present application. Much less was it a conventional, generic arrangement as of 2006 for such an arrangement to further confirm that the mobile check deposit can go forward after optical character recognition is performed on the check in the photo(s), including determining an amount of the check, and the amount determined by optical character recognition is compared to the amount indicated

[2] Applicant notes that claim 38 recites a "wireless cellular network".

by the customer, and to perform optical character recognition, as also recited in the claims.

Further, the recited downloaded app, with its role in causing a customer's handheld mobile device to use a display of the customer's handheld mobile device to assist the customer in having a digital camera take the photo of the check and to assist the customer as to an orientation for taking the photo, provides a technical approach to a technical concern. It improves technology related to digital cameras and the technology of imaging paper checks, as also discussed above.

Various patent publications such as those discussed above confirm that this involves a technical improvement to a technical problem.

The "additional elements" of the claims provide an inventive concept when combined as claimed at least because such a combination was not a conventional, generic arrangement as of 2006, the priority date of the present application.

## IV. Rejections Under 35 U.S.C. 103

Applicant respectfully traverses the rejections of independent Claims 25 38 and 41, and their respective dependents, under § 103.

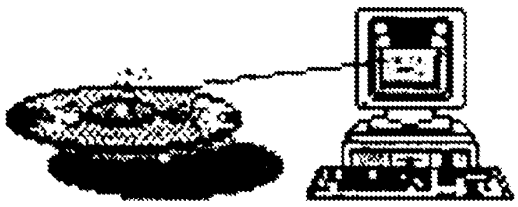
Independent Claim 25 recites a system having a customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to, *inter alia*:

> **use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check; and**
>
> **assist the customer as to an orientation for taking the photo**.

Although Applicant notes that additional features are missing in the cited art, the Office Action acknowledges that its asserted combination of Singfield modified by Hicks fails to teach or suggest the highlighted features of claim 25 above. The Office Action relies on Figures 21 and 22 of Bellinger to meet these features. *Office Action* at 8-9 (citing Bellinger at FIGS. 21-22; col. 10, ll. 7-15; and

col. 11, ll. 29-36). However, even assuming, *arguendo*, that Singfield could be properly combined with Hicks as asserted by the Office Action, Bellinger fails to remedy the acknowledged deficiencies of such combination for at least the following reasons.

The portions of Bellinger relied upon by the Office do not meet the aforementioned features of Claim 25 at least because the relied upon portions of Bellinger are not related to the taking/capturing of check images, but rather are directed to viewing previously-captured check images that have already been previously captured and stored on a compact disc ("CD"). FIGS. 21-22 of Bellinger show the "Image Display" screen of the "Wachovia Connection Image Workstation", where users can view images of checks in different orientations. *See, e.g., Bellinger* at col. 27, ll. 23-25. Bellinger explains that "[t]he Image Display window FIG. 21 … shows the actual image of the first of one or more items" and that "the application can cache images and manages how many images are held in active memory verses re-pulling the image directly from the CD each time." *Id.* at col. 28, ll. 56-65 (emphasis added). In addition to Bellinger's description of pulling previously-captured images from a CD, both of FIGS. 21 and 22 include a picture of a CD, containing the previously-captured check images, pointing to the workstation display showing a previously-captured check image:



Zoomed View of part of Bellinger's FIG. 21

Moreover, other portions of Bellinger further illustrate that Bellinger's FIGS. 21 and 22, relied on by the Office action, are directed to systems and methods for viewing previously-captured check images from storage media such as CD.

For example, in the "Field of the Invention", Bellinger explains that its disclosed invention "relates to a system and method for detecting and loading volume index information from a multiple CD set to a computer memory." *Bellinger* at col. 1, ll. 18-20 (emphasis added).

As another example, FIG. 4 of Bellinger discloses "Capture" 100 takes place well before "Customer Interface" 700 gets involved, and Bellinger describes "Customer Interface" 700 of FIG. 4 using the same name, "Wachovia Connection Image Workstation", as that used in FIGS. 21 and 22. *Id.* at FIG. 4; col. 25, ll. 1-2. Accordingly, these portions of Bellinger further illustrate that image capture (i.e., "Capture" 100) takes place well before previously-captured check images are viewed from CD as shown in FIGS. 21 and 22.

Additionally, FIG. 11 of Bellinger shows that previously-captured images on a CD 666 are mailed to viewing workstation 710. Also, FIG. 15 of Bellinger shows an "Image" CD of previously-captured images is loaded for viewing by customer workstation 1501 which has the same name, "Wachovia Connection Image Workstation", as FIGS. 21 and 22 cited by Office action. These additional disclosures of Bellinger therefore further illustrate that Bellinger is directed to systems and methods for viewing previously-captured check images from storage media such as CD.

Accordingly, for at least the reasons discussed above, Bellinger cannot be seen to meet the aforementioned features of Claim 25 at least because the relied upon portions of Bellinger are not related to the taking/capturing of check images, but rather are directed to viewing previously-captured check images that were previously captured and stored on CD.

Claim 25 therefore distinguishes patentably from the applied references for at least these reasons.

Independent claim 38 recites a system having a customer's handheld mobile device with a downloaded app that causes the customer's handheld mobile device to perform steps of, *inter alia*:

instructing the customer to have the digital camera take photos of front and back sides of the check;

**using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check;**

**assisting the customer as to an orientation for taking the photos;**

Similarly, independent claim 41 recites a system including a customer's handheld mobile device having a downloaded app that causes the mobile device to perform, *inter alia*:

**using a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check,**

**assisting the customer as to an orientation for taking the photo**

Accordingly, claims 38 and 41 are also patentable over the applied references for at least reasons similar to those discussed above with respect to claim 25.

The dependent claims are also believed to be patentable over the applied references based on their respective dependence from claims 25, 38, and 41 as well as for the additional subject matter recited therein.

## IV. CONCLUSION

In view of the above remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Should the Examiner believe that any further action is necessary to place this application in better form for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

The absence of arguments addressing specific allegations in the present Office Action is not intended to be an admission of the accuracy or appropriateness of such allegations.

Reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

/Kent E. Genin/

Crowell & Moring LLP
P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200

Kent E. Genin
Registration No. 37,834
Attorney for Applicant

EXHIBIT A

The New York Times

TECHNOLOGY

# Bank Will Allow Customers to Deposit Checks by iPhone

By SUSAN STELLIN AUG. 9, 2009

The Internet has taken a lot of the paperwork out of banking, but there is no avoiding paper when someone gives you a check. Now one bank wants to let customers deposit checks immediately — through their phones.

USAA, a privately held bank and insurance company, plans to update its iPhone application this week to introduce the check deposit feature, which requires a customer to photograph both sides of the check with the phone's camera.

"We're essentially taking an image of the check, and once you hit the send button, that image is going into our deposit-taking system as any other check would," said Wayne Peacock, a USAA executive vice president.

Customers will not have to mail the check to the bank later; the deposit will be handled entirely electronically, and the bank suggests voiding the check and filing or discarding it. But to reduce the potential for fraud, only customers who are eligible for credit and have some type of insurance through USAA will be permitted to use the deposit feature. Mr. Peacock said that about 60 percent of the bank's customers qualify.

USAA may seem like an unlikely innovator in mobile banking. It ranks in size just below the top 20 banks in the United States, and serves mostly military personnel, though many of its products are available to anyone.

4
ARTICLES REMAINING
SEE MY OPTIONS Subscriber login

But with just one branch, in San Antonio, and customers deployed all over the world, the company has been aggressively developing an anytime, anywhere banking strategy. Three years ago, it introduced the option of depositing a check from home using a scanner. That laid the groundwork for the phone deposit feature, which USAA plans to offer on other phones this year.

"Mobile is going to be a bigger part of how people do commerce and how they interact with their financial institutions," Mr. Peacock said. "The great value that we see is the time savings."

About a million of USAA's 7.2 million customers use their cellphones to access their accounts — either via text message, a mobile browser or an iPhone application introduced in May. The deposit feature, which USAA previewed in an online video, puts the bank in the vanguard of the effort to turn cellphones into portable branches.

"USAA has been pretty progressive with this," said Nick Holland, a senior analyst with Aite Group, a financial services research company.

The most popular banking tasks done on cellphones are reviewing account balances, transferring money, making payments and finding A.T.M.'s, analysts say. But in general, mobile banking has been slow to catch on. Mr. Holland said tighter budgets have forced banks to focus on using technology in ways that cut costs or generate revenue, rather than simply creating buzz.

"If banks can get people to stop calling call centers for mundane inquiries and instead send a text message," he said, "that saves a bank about $14 for every one of those inquiries."

Mr. Holland predicted that other banks would follow USAA and offer some type of mobile deposit capability, especially deposit options aimed at small-business customers who may be willing to pay for the convenience.

A study released recently by comScore, a digital audience measurement company, found that more than 15 million people in the United States used mobile banking each month, a number that is expected to grow as networks become faster and more people migrate to smartphones.

4
ARTICLES REMAINING
SEE MY OPTIONS
Subscriber login

"It's the iPhone that really propelled things to the forefront," said Marc Trudeau, a senior director at comScore.

While comScore found that just 3 percent of mobile banking customers use Apple devices, Mr. Trudeau said the iPhone had paved the way for applications that let customers accomplish tasks more efficiently than with a phone's Web browser.

For instance, Bank of America, which has an iPhone app, has more than three million mobile banking customers, and 43 percent of them bank with an iPhone or iPod touch, said Tara A. Burke, a company spokeswoman.

A cellphone is also always at hand, so it is potentially a more convenient than a computer. In fact, comScore found that people most often use mobile banking services at home.

"We've all seen the ads showing people banking from a beach in the Caribbean," Mr. Trudeau said. "The reality is much more mundane than that."

A version of this article appears in print on , on Page B4 of the New York edition with the headline: Bank Will Allow Customers To Deposit Checks by iPhone.

---

© 2018 The New York Times Company

4
ARTICLES REMAINING

SEE MY OPTIONS Subscriber login

EXHIBIT B

AdAge

# How Mobile Technology Is Changing Banking's Future

## Industry Looks to Grow in Emerging Markets With New Forms of Payment

By Kunur Patel
*Published:* September 21, 2009

NEW YORK (AdAge.com) -- Recent technological developments that allow for deposits by iPhone and mobile payments could one day make ATMs as quaint as brick-and-mortar bank branches. But the biggest impact may be on the ability of banks -- and even nontraditional players such as Nokia -- to find new revenue streams as they branch into emerging markets where cash is still king.



USAA: Deposit via iPhone

On the home front, the technology moves apace and isn't very hard to understand. The military bank and insurance provider USAA recently launched mobile check-deposit technology, which lets users deposit checks from anywhere using an iPhone. USAA customers take photos of both sides of a check with the phone and transmit the images to the bank, which then verifies and makes the deposit. The bank has only one branch in San Antonio and, because of its military legacy, has customers in Afghanistan and Iraq.

### 'Woven into our growth strategy'

"Mobile is definitely woven into our growth strategy as we continue to expand," said Jeff Dennes, executive director of USAA mobile. "We don't have branches and rely on our self-service channels, such as phones and the internet."

Bob Meara, industry analyst for information technology in financial-services research and consulting firm Celent, said USAA has deposit growth nearly triple the industry average over the past three years. Further, 17% of all its customers across investing, insurance and banking use USAA's mobile app, which also facilitates on-phone trading, filing claims for auto accidents, loan calculations and the usual access to account information.

Right now, USAA represents the bleeding edge of mobile banking technology, but has no plans to trumpet such technology in a marketing push, or to fight for more share.

Bank of America, which launched mobile apps in 2007, has more than 3.2 million mobile-banking customers that can access informational services such as account balances and history, make transactions and bill payments, transfer funds within the bank and locate ATMs. Chase also has an iPhone app, as well as text message-based services. Both banks have featured mobile services in ad campaigns.

Bank of America's Doug Brown, senior VP-emerging technology and business development, said that his bank's next-generation mobile functionality is headed toward touch-phone-to-pay, dubbed "contactless payments," and new ways to make deposits. "We want the phone to be a more functional tool, like a wallet at point-of-sale, where it becomes your payment credential, like a credit card," said Mr. Brown.

But for USAA, contactless payments are more of a long-term goal. In its sights are person-to-person mobile payments. "Person-to-person payments are next on our road map," said Jeff Dennes executive director of USAA mobile.

**Nokia bets on electronic payments**

And that's where Nokia comes in. The mobile heavyweight could use person-to-person payments as an entry-point to emerging markets -- and a new revenue stream. It's partnered with Redwood City, Calif.-based Obopay to launch Nokia Money, a service that lets users make financial transactions on their phones. With Nokia Money, which will start to roll out in 2010 in undisclosed markets, mobile users can send money to other mobile users, pay merchants and utility bills, or top up prepaid cellphone minutes. Nokia Money will charge users a percentage or flat fee per transaction based on the market.

While there are a few mobile-payment players in the U.S., such as PayPal, Boku and Zong, Nokia's global retail infrastructure means 4-year-old Obopay can expand these services to emerging markets, including to consumers without e-bank accounts. Shops that are currently used to top up prepaid minutes will act like Nokia Money ATMs that turn mobile payments into cash.

That means new territory for the world's largest handset maker, which has faced tough competition from the iPhone and Blackberry. For those global consumers who currently use mobile phones but don't have a bank account -- according to Nokia, there are more than 4 billion mobile phone users and only 1.6 billion bank accounts globally -- Nokia has the potential to be the first point of contact for consumers new to electronic payment services.

Mobile payment technology would take on a different role in North America and Western Europe, where there's such an established payment infrastructure with ATMs, branches, credit cards and e-payments, like paying babysitters, peer-to-peer payments and e-retail purchases. But for economies in South Asia and Africa where cash is central to financial transactions and people live outside the reach of banking infrastructure, phone-to-phone payments could be the developing world's answer to cashless payments. Person-to-person mobile payments are already gaining popularity in Africa and South Asia. For example, M-Pesa in Kenya has more than 6 million users.

"In the Western European and North American markets, there isn't a threat [to financial institutions] because we have a well-established payment infrastructure," said Red Gillen, senior analyst at Celent. "Nokia Money probably won't supplant anything in industrialized nations. But in Africa and South Asia, the mobile carrier would be the consumer-facing entity for financial services."

## Why it stands a good chance

Betting on mobile rather than traditional banking isn't exactly a risky move.

Nokia claims there are 4 billion mobile phone users in the world and only 1.6 billion bank accounts. The World Bank's Consultative Group to Assist the Poor estimates there are 1 billion people in developing countries who have mobile phones but no access to formal financial services. What's more, mobile-industry trade organization Global System for Mobile Communications Association's dedicated mobile-money unit projects the unbanked-with-phones population will nearly double by 2012, representing $5 billion in direct revenue potential.

Kenya's M-Pesa mobile-payment service, which launched in March 2007, serves as a successful case study. According to the Central Bank of Kenya's FinAccess 2006 report, 38% of people in Kenya, a country of about 37 million, didn't use any form of financial service. GMSA tells us that in 2009, M-Pesa has nearly 7 million registered customers and this year's Finaccess report shows that M-Pesa has become the most popular method of money transfer in Kenya with 40% of all adults using the service.

Now scale that for India, the second-largest wireless market in the world, next to China, where 36% of people have mobile phones, according to Celent. The Boston-based financial-research and -consulting firm also reports that 84% of Indian households were unbanked in 2005 and that mobile banking in India has grown 94% since 2002. That adds up to projection of India's mobile banking active user base reaching 25 million by 2012.

Copyright © 1992-2018 Crain Communications | Privacy Statement | Contact Us



USAA Ex 2028-p.4
Wells Fargo v. USAA
CBM2019-00004

EXHIBIT C

CELENT

日本語

CONNECT WITH US SIGN IN REGISTER

INSIGHTS OUR PEOPLE EVENTS NEWS DIGITAL SERVICES AWARDS ABOUT

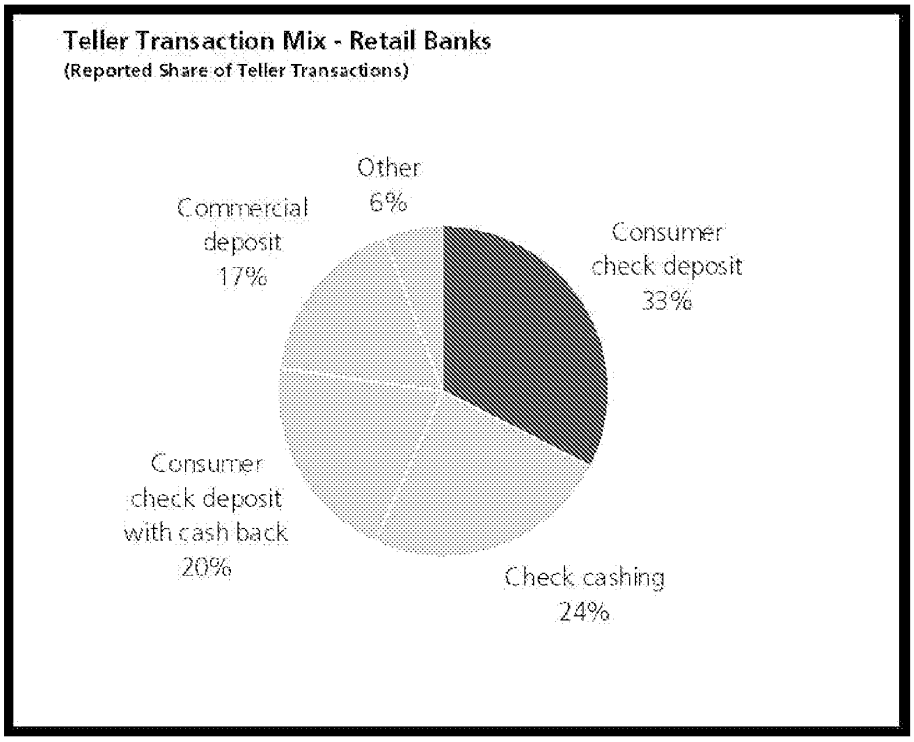
# USAA's Mobile Remote Deposit Capture Initiative

CONTACT US

26 June 2009
Bob Meara

"*A Different Kind of Bank: Why you'll Never Need a Branch Again*" was the title of last evening's USAA Webinar merchandizing its mobile banking initiative. USAA was the first bank that we're aware of to deploy remote deposit capture to consumers in any meaningful scale. With three years under its belt, USAA now supports well over 150 thousand active users on its Deposit@Home product. For perspective, this is more than ten times the number of RDC clients of any other US bank. Now, it's at it again – this time, enabling mobile banking users to deposit checks using suitably equipped mobile phones. Scoffers are quick to point out that USAA is an anomaly. Indeed it is. USAA Federal Savings Bank serves 5+ million members – all from a single branch in San Antonio. Well, not exactly. The bank happens to have a single branch in San Antonio. Obviously then, USAA cannot rely on its branch network as many banks do to serve its customer base. With assets of $35b (March 2009) and nearly triple the industry average deposit growth over the past three years, USAA appears to be doing just fine without an expensive branch infrastructure. Its transaction mix is rather unlike most banks. Already, USAA has over 1 million mobile banking users, and the service is barely eighteen months old. USAA's ambition with its mobile banking and mobile deposit service is simple- to make it convenient for its members to bank with USAA whenever and however they wish. Hmmm, that sentiment sounds remarkably similar to that offered by a large number of what we might call traditional retail banks also investing in self-service delivery channels. Observing USAA's initiative begs the question; will mobile remote deposit capture become broadly adopted by retail banks just as

internet and mobile banking has? Mobile RDC is both a great concept and an operationally sound approach – at least the Mitek powered solution is. It represents a powerful way to migrate significant transaction volume from branches to a low-cost self-service channel. In our research, Celent found that nearly 90% of teller transactions involve checks, and a full third are simple check deposits. Why not empower consumers to deposit checks themselves at a fraction of the cost of teller transactions?




We think most banks will pass on the idea. Why? Because mobile RDC is disruptive. It may delight millions of consumers, but it also would challenge the status quo among retail operations organizations, forcing rapid change in ways few banks may be prepared to embrace. USAA doesn't have this problem. Over a short period of time, USAA has transformed what was once a significant competitive disadvantage (no branches) into a compelling competitive advantage. Its membership and deposit growth proves it. Retail banks need to pay attention.

sign in or register

INSIGHT DETAILS

Sector
Banking

Content Type
Blogs

Location
Asia-Pacific, EMEA, LATAM, North America

EXHIBIT D

CELENT

日本語

CONNECT WITH US SIGN IN REGISTER

INSIGHTS OUR PEOPLE EVENTS NEWS DIGITAL SERVICES AWARDS ABOUT

# Mobile RDC: Self-Service for the Masses?

CONTACT US

22 October 2009
Bob Meara

## ABSTRACT

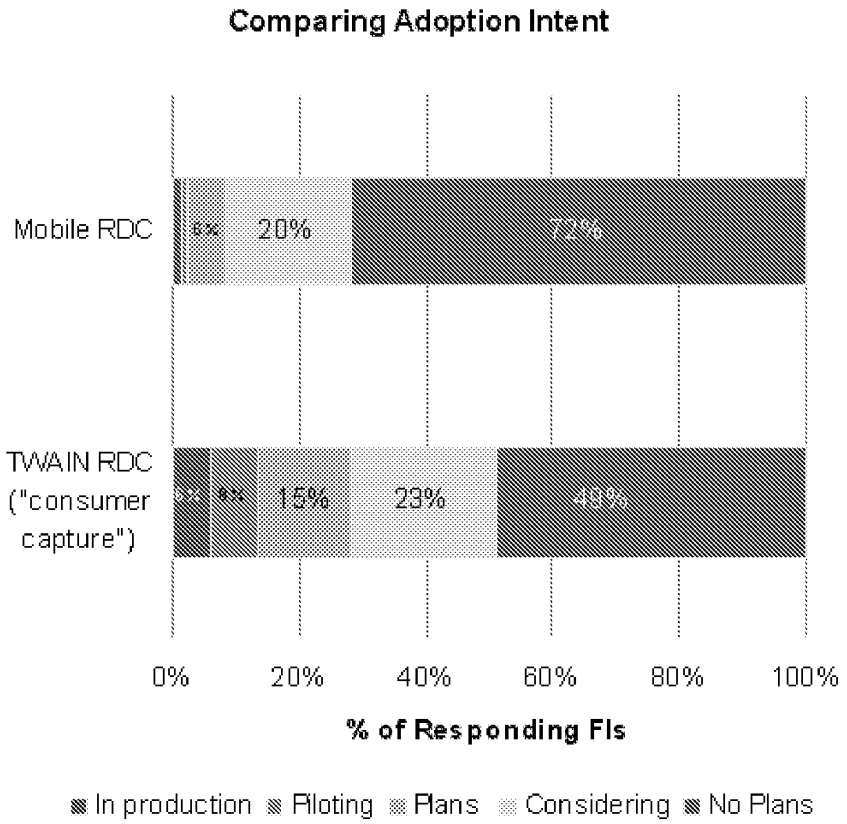
**Remote deposit capture (RDC) has thus far been a treasury management product offered by financial institutions in exchange for fee revenue. But have mounting cost pressures and improvements in RDC technology opened the door for the use of RDC as a self-service deposit channel?**

Until recently, remote deposit capture has been limited to business clients. The past year has seen over 100 financial institutions offer RDC to consumers using devices they already have (also known as consumer capture), thus eliminating the cost of providing and supporting scanners. Without the cost of providing scanners, RDC becomes a viable self-service deposit channel -- for those with a home scanner. However, most US households do not have a home scanner. What then? Mobile RDC invites the use of camera-equipped cell phones for check image capture as a stand-alone application or as part of a broader mobile banking solution. Sales of camera-equipped smartphones are booming with no end in sight.

Respondents to a Celent survey of financial institutions this past August are planning to offer mobile RDC to both consumers and business customers, according to a new report, **Mobile**

**RDC: Self-Service Deposits for the Masses?** Only a small minority of US financial institutions currently plan to offer mobile RDC, but that could change as banks face a challenging revenue outlook and mounting cost pressures in the retail channel.

Mobile RDC Being Eyed by a Small Minority




Source: Celent survey of US financial institutions, August 2009, n=174

"The real challenge with self-service deposits may not be in the product delivery itself as much as the resulting branch transformation that will be required as transactional activities move out of the branch," says Bob Meara, senior analyst with Celent's Banking Group and author of the report.

"Self-service deposits stand at odds with the pervasive cross-sell culture most banks perpetuate. Reduced branch traffic at the hands of mobile RDC presents a sales challenge to many retail banks, but deposit-related foot traffic comes at a significant cost -- one that US banks may no longer be able to afford. Mobile RDC may be the best idea yet to hasten the branch transformation we all know to be inevitable," he adds.

Leveraging self-service channels to lower the cost to serve is not a new idea, but doing so in the realm of check deposits is. With consumer capture and mobile RDC, financial institutions have a

viable means to dramatically reduce expensive transactional activity in their branch networks. In addition to an analysis of financial institution adoption motives and barriers, this report provides an overview of mobile RDC technology, the current solution provider landscape and a detailed case study of the industry's first broad based mobile RDC deployment at USAA Federal Savings Bank.

sign in or register

INSIGHT DETAILS

Sector
Banking, Corporate Banking, Retail & Business Banking

Content Type
Reports

Focus
Industry Trends

Location
North America

CONTACT US ABOUT T&CS

Crowell

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: August 8, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|---|---|---|---|
| In re Appln. of: | Charles Lee Oakes III, et al. | | |
| Appln. No.: | 16/507,595 | Examiner: | Liu, I Jung |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: | US-0152.11 \| 514538.5000668 | | |

# TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

**Attached is/are**:

☒ Response to Non-Final Office Action.

**Fee calculation**:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

| | | | | | Fee | | Small Entity Fee | | Micro Entity Fee | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Claims Remaining After Amendment | | Highest No. Previously Paid | Present Extra | Rate | Add'l Fee | Rate | Add'l Fee | Rate | Add'l Fee |
| Total | | Minus | | | x $100 = | $ | x $ 50 = | $ | x $25 = | $ |
| Independent | | Minus | | | x $480 = | $ | x $240 = | $ | x $120 = | $ |
| First Presentation of Multiple Dep. Claim | | | | | + $860 = | $ | + $430 = | $ | + $215 = | $ |
| | | | | | Total | $ | Total | $ | Total | $ |

**Fee payment:**

☐ Please charge our Stored Payment Method as selected in Financial Manager in the amount of $_____ for _____.

☐ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. DA051323.

Respectfully submitted,

August 8, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

Crowell

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: August 8, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|---|---|---|---|
| In re Appln. of: | Charles Lee Oakes III, et al. | | |
| Appln. No.: | 16/507,595 | Examiner: | Liu, I Jung |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: | US-0152.11 \| 514538.5000668 | | |

# TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

**Attached is/are**:

☒ Petition and Fee for Extension of Time (2 months).

**Fee calculation**:

☐ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☒ An extension fee in an amount of $640 for a 2-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

| | | | | | Fee | | Small Entity Fee | | Micro Entity Fee | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Claims Remaining After Amendment | | Highest No. Previously Paid | Present Extra | Rate | Add'l Fee | Rate | Add'l Fee | Rate | Add'l Fee |
| Total | | Minus | | | x $100 = | $ | x $ 50 = | $ | x $25 = | $ |
| Independent | | Minus | | | x $480 = | $ | x $240 = | $ | x $120 = | $ |
| First Presentation of Multiple Dep. Claim | | | | | + $860 = | $ | + $430 = | $ | + $215 = | $ |
| | | | | | Total | $ | Total | $ | Total | $ |

**Fee payment:**

☒ Please charge our Stored Payment Method as selected in Financial Manager in the amount of $640 for Extension of Time.

☐ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. DA051323.

Respectfully submitted,

August 8, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

| Electronic Patent Application Fee Transmittal | | | | | |
|---|---|---|---|---|---|
| **Application Number:** | 16507595 | | | | |
| **Filing Date:** | 10-Jul-2019 | | | | |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM | | | | |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes | | | | |
| **Filer:** | Kent E. Genin/Tricia Chiovari | | | | |
| **Attorney Docket Number:** | US-0152.11(14538-668) | | | | |
| Filed as Large Entity | | | | | |
| **Filing Fees for Utility under 35 USC 111(a)** | | | | | |
| **Description** | | **Fee Code** | **Quantity** | **Amount** | **Sub-Total in USD($)** |
| **Basic Filing:** | | | | | |
| **Pages:** | | | | | |
| **Claims:** | | | | | |
| **Miscellaneous-Filing:** | | | | | |
| **Petition:** | | | | | |
| **Patent-Appeals-and-Interference:** | | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | | |
| **Extension-of-Time:** | | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| Extension - 2 months with $0 paid | 1252 | 1 | 640 | 640 |
| **Miscellaneous:** | | | | |
| | | **Total in USD ($)** | | **640** |

| CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8 |
|---|
| I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date: |
| Date: August 8, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/ |

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | |
|---|---|---|---|
| In re Appln. of: | Charles Lee Oakes III, et al. | | |
| Appln. No.: | 16/507,595 | Examiner: | Liu, I Jung |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: | US-0152.11 \| 514538.5000668 | | |

**PETITION AND FEE FOR EXTENSION OF TIME (37 CFR § 1.136(a))**

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir/Madam:

This is a petition for an extension of the time to respond to Non-Final Office Action dated March 8, 2022 for a period of 2 month(s).

Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

| | Extension Months | Fee | Small Entity Fee | Micro Entity Fee |
|---|---|---|---|---|
| ☐ | One Month | $ 220 | $ 110 | $ 55 |
| ☒ | Two Months | $ 640 | $ 320 | $160 |
| ☐ | Three Months | $1,480 | $ 740 | $370 |
| ☐ | Four Months | $2,320 | $1,160 | $580 |
| ☐ | Five Months | $3,160 | $1,580 | $790 |

**Payment Method:**

☒ Please charge our Stored Payment Method as selected in Financial Manager in the amount of $640 for Extension of Time.

☐ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. DA051323.

Respectfully submitted,

August 8, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)
Attorney for Applicant(s)

CROWELL & MORING LLP
PO BOX 10395
CHICAGO, IL 60610
(312) 321-4200

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

| PATENT APPLICATION FEE DETERMINATION RECORD<br>Substitute for Form PTO-875 | Application or Docket Number<br>16/507,595 | Filing Date<br>07/10/2019 | ☐ To be Mailed |
|---|---|---|---|

**ENTITY:** ☑ LARGE ☐ SMALL ☐ MICRO

## APPLICATION AS FILED - PART I

| FOR | (Column 1)<br>NUMBER FILED | (Column 2)<br>NUMBER EXTRA | | RATE ($) | FEE ($) |
|---|---|---|---|---|---|
| ☐ BASIC FEE<br>(37 CFR 1.16(a), (b), or (c)) | N/A | N/A | | N/A | |
| ☐ SEARCH FEE<br>(37 CFR 1.16(k), (i), or (m)) | N/A | N/A | | N/A | |
| ☐ EXAMINATION FEE<br>(37 CFR 1.16(o), (p), or (q)) | N/A | N/A | | N/A | |
| TOTAL CLAIMS<br>(37 CFR 1.16(i)) | minus 20 = | * | | x $100 = | |
| INDEPENDENT CLAIMS<br>(37 CFR 1.16(h)) | minus 3 = | * | | x $460 = | |
| ☐ APPLICATION SIZE FEE (37 CFR 1.16(s)) | If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s). | | | | |
| ☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j)) | | | | | |
| * If the difference in column 1 is less than zero, enter "0" in column 2. | | | | TOTAL | |

## APPLICATION AS AMENDED - PART II

| | | (Column 1) | | (Column 2) | (Column 3) | | | |
|---|---|---|---|---|---|---|---|---|
| AMENDMENT | 08/08/2022 | CLAIMS REMAINING AFTER AMENDMENT | | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | | RATE ($) | ADDITIONAL FEE ($) |
| | Total<br>(37 CFR 1.16(i)) | * 20 | Minus | ** 24 | = 0 | | x $100 = | 0 |
| | Independent<br>(37 CFR 1.16(h)) | * 3 | Minus | *** 3 | = 0 | | x $480 = | 0 |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | |
| | | | | | | | TOTAL ADD'L FEE | 0 |

| | | (Column 1) | | (Column 2) | (Column 3) | | | |
|---|---|---|---|---|---|---|---|---|
| AMENDMENT | | CLAIMS REMAINING AFTER AMENDMENT | | HIGHEST NUMBER PREVIOUSLY PAID FOR | PRESENT EXTRA | | RATE ($) | ADDITIONAL FEE ($) |
| | Total<br>(37 CFR 1.16(i)) | * | Minus | ** | = | | x $0 = | |
| | Independent<br>(37 CFR 1.16(h)) | * | Minus | *** | = | | x $0 = | |
| | ☐ Application Size Fee (37 CFR 1.16(s)) | | | | | | | |
| | ☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j)) | | | | | | | |
| | | | | | | | TOTAL ADD'L FEE | |

| | |
|---|---|
| * If the entry in column 1 is less than the entry in column 2, write "0" in column 3. | LIE |
| ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". | /MARGARET R BYARS/ |
| *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". | |
| The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1. | |

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 6, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

| | | |
|---|---|---|
| **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** (Not for submission under 37 CFR 1.99) | Application Number | 16/507,595 |
| | Filing Date | July 10, 2019 |
| | First Named Inventor | Charles Lee Oakes |
| | Art Unit | 3697 |
| | Confirmation Number | 4037 |
| | Examiner Name | Jung I. Liu |
| | Attorney Docket No. | US-0152.11 \| 514538.5000668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**US PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | US 8,396,623 B2 | 03/12/2013 | Munenori Maeda et al. |
| | 2 | US 9,387,813 B1 | 07/12/2016 | Mark M. Moeller et al. |
| | 3 | US 9,524,269 B1 | 12/20/2016 | Margaret A. Brinkmann et al. |
| | 4 | US 10,402,944 B1 | 09/03/2019 | Jason Pribble et al. |
| | 5 | US 11,250,398 B1 | 02/15/2022 | Bharat Prasad et al. |
| | 6 | US 2003/0081121 A1 | 05/01/2003 | Joseph G. Swan |
| | 7 | US 2007/0136078 A1 | 06/14/2007 | James Plante |
| | 8 | US 2013/0332004 A1 | 12/12/2013 | Jeff M. Gompert et al. |
| | 9 | US 2014/0313335 A1 | 10/23/2014 | Krishna Koravadi |
| | 10 | US 2015/0235484 A1 | 08/20/2015 | Mark Bradshaw Kraeling et al. |
| | 11 | US 2016/0189500 A1 | 06/30/2016 | Jun-Hyung Kim et al. |
| | 12 | US 2017/0263120 A1 | 09/14/2017 | William E. Durie, Jr. et al. |
| | 13 | US 2018/0108252 A1 | 04/19/2018 | Marcelo Pividori |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | | | | | |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 14 | Bieniecki, Wojciech et al. "Image Preprocessing for Improving OCR Accuracy", Computer Engineering Department, Technical University of Lodz, al. Politechniki 11, Lodz Poland, May 23, 2007. |
| | 15 | Shaikh, Aijaz Ahmed et al., "Auto Teller Machine (ATM) Fraud – Case Study of Commercial Bank in Pakistan", Department of Business Administration, Sukkur Institute of Business Administration, Sukkur, Pakistan, August 5, 2012. |

**1. PRIORITY INFORMATION:**

☐ This application claims priority under 35 USC §120 to the following United States patent application(s): _____. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are

| Examiner Signature | | Date Considered | |
|---|---|---|---|

not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

**2. CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of _____ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account No. 50-4184.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

July 6, 2022
Date

/Kent E. Genin/
Kent E. Genin (Reg. No. 37,834)

| Examiner Signature | | Date Considered | |
|---|---|---|---|

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 46125654 |
| **Application Number:** | 16507595 |
| **International Application Number:** | |
| **Confirmation Number:** | 4037 |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes |
| **Customer Number:** | 16530 |
| **Filer:** | Kent E. Genin/Juan Garibay |
| **Filer Authorized By:** | Kent E. Genin |
| **Attorney Docket Number:** | US-0152.11(14538-668) |
| **Receipt Date:** | 06-JUL-2022 |
| **Filing Date:** | 10-JUL-2019 |
| **Time Stamp:** | 15:27:59 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment | no |
|---|---|

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal Letter | 514538-5000668-Transmittal-07062022.pdf | 109366<br>6f0cc8216659defc8b770d12ef096fcdfdf76d8d | no | 1 |

**Warnings:**

| | | | | | |
|---|---|---|---|---|---|
| **Information:** | | | | | |
| 2 | Information Disclosure Statement (IDS) Form (SB08) | 514538-5000668-Supp-IDS-07062022.pdf | 124470<br>2eeec4e3d08a2cd1fd9a002bc3682d0e2c6d12d8 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| This is not an USPTO supplied IDS fillable form | | | | | |
| 3 | Non Patent Literature | Bieniecki-Image-Preprocessing-for-Imprivong-OCR-Accuracy.pdf | 752091<br>d813653a84ad6776c75e2347c92b9774bdf125ae | no | 6 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Non Patent Literature | SHAIKH-Auto-Teller-Machine-ATM-Fraud.pdf | 686289<br>8a6f8fc06722eca56ecc939f691c720ed21a5a0f | no | 9 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 1672216 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**

**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**

**National Stage of an International Application under 35 U.S.C. 371**

**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**

**New International Application Filed with the USPTO as a Receiving Office**

**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

Crowell

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 6, 2022 Name: Patricia Chiovari Signature: /Patricia Chiovari/

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|---|---|---|---|
| In re Appln. of: | Charles Lee Oakes et al. | | |
| Appln. No.: | 16/507,595 | Examiner: | Jung I. Liu |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: | US-0152.11 \| 514538.5000668 | | |

# TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

**Attached is/are**:

☒ Supplemental Information Disclosure Statement; and References 14-15.

**Fee calculation**:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.17(p).

☐ An additional filing fee has been calculated as shown below:

| | | | | | Fee | | Small Entity Fee | | Micro Entity Fee | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Claims Remaining After Amendment | | Highest No. Previously Paid | Present Extra | Rate | Add'l Fee | Rate | Add'l Fee | Rate | Add'l Fee |
| Total | | Minus | | | x $100 = | $ | x $ 50 = | $ | x $25 = | $ |
| Independent | | Minus | | | x $480 = | $ | x $240 = | $ | x $120 = | $ |
| First Presentation of Multiple Dep. Claim | | | | | + $860 = | $ | + $430 = | $ | + $215 = | $ |
| | | | | | Total | $ | Total | $ | Total | $ |

**Fee payment:**

☐ Please charge our Deposit Account No. 50-4184 in the amount of $_____ for _____.

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

July 6, 2022
Date

/Kent E. Genin/
Kent Genin (Reg. No. 37,834)

(19) Japanese Patent Office (JP)

(11) Publication number

**(12) Laid-open Disclosure Public Patent Bulletin (A)** **2004-23158**

(P2004-23158A)

(43) Publication Date: January 22, Heisei 16 (2004.1.22)

| (51) Int. Cl. [7] | FI | | Theme Code (Reference) |
|---|---|---|---|
| H04N 5/92 | H04N 5/92 | H | 5B064 |
| G06K 9/00 | G06K 9/00 | S | 5C022 |
| G06T 7/00 | G06T 7/00 | 300F | 5C053 |
| H04N 5/225 | H04N 5/225 | A | 5L096 |
| H04N 5/765 | H04N 5/225 | F | |

Request for Examination: Not Requested

Number of Claims: 10 OL (19 pages total)

Continued to the last page . . .

(21) Application Filing Number:
*Tokugan* 2002-171616 (P2002-171616)

(22) Application Filing Date:
June 12, Heisei 14 (2002.6.12)

(71) Applicant: 000005049
Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka-shi, Osaka

(74) Agent: 100062144
Tamotsu Aoyama, Patent Attorney

(74) Agent: 100086405
Osamu Kawamiya, Patent Attorney

(74) Agent: 100084146
Hiroshi Yamazaki, Patent Attorney

(72) Inventor: Kazuhiro Takehara
c/o: Sharp Corporation,
22-22 Nagaike-cho, Abeno-ku, Osaka-shi, Osaka

F-term (reference): 5B064 AA07
5C022 AA13 AC11 AC42 AC69

Continued to the last page . . .

**(54) TITLE OF THE INVENTION**

# Imaging Device

**(57) ABSTRACT**

**OBJECTIVE:** To provide an imaging device, which allows the user to readily adjust the shooting conditions to be able to capture an image that is suitable for image recognition and thereby readily obtain images in a good state that can be processed through image recognition.

**MEANS FOR RESOLUTION:** A storage-requirement assessment part 102 determines whether or not the state of an image captured by an image input part 101 is suitable for image recognition, doing so based on information consisting of storage requirements that are required of an image to be saved as an image suitable for image recognition. Each time the image input part 101 captures an image of a photographic subject, a notification part 103 reports the state of the captured image based on the assessment result of the storage-requirement assessment part 102. And, when the storage-requirement assessment part 102 determines that the state of an image captured by the image input part 101 is suitable for image recognition, said image captured by the image input part 101 is saved in the image storage part 104.

**SELECTED DRAWING:** *Figure 1*

PNC 1025

**WHAT IS CLAIMED IS:**

**CLAIM 1**

An imaging device, comprising:

An image input means, which captures an image of a photographic subject;

A storage-requirement assessment means, which determines whether or not the state of the image captured by the above-mentioned image input means is suitable for image recognition, doing so based on information consisting of storage requirements that are required of an image to be saved as an image suitable for image recognition;

A notification means, which reports the state of the captured image based on the assessment result of the aforementioned storage-requirement assessment means, doing so each time the above-mentioned image input means captures an image of a photographic subject; and

An image storage means, which saves the image captured by the above-mentioned image input means, doing so when the aforementioned storage-requirement assessment means determines that the state of the image captured by the above-mentioned image input means is suitable for image recognition.

**CLAIM 2**

The imaging device according to Claim 1, comprising:

An image-input command means, which commands that the above-mentioned image input means input an image; and

A control means, which controls the above-mentioned image input means, storage-requirement assessment means, notification means, and image storage means so that the following actions are performed sequentially as long as an image-input command means is commanding that an image be input:

Capturing of an image of a photographic subject by the above-mentioned image input means;

Assessment conducted, by the aforementioned storage-requirement assessment means, to determine whether or not the state of the captured image is suitable for image recognition;

Notification by the aforementioned notification means; and

Storing of the image by the aforementioned image storage means.

**CLAIM 3**

The imaging device according to Claim 1, wherein the aforementioned image storage means saves more than one image, insofar as the images have been determined to have satisfied the aforementioned storage requirements by the aforementioned storage-requirement assessment means as described above.

**CLAIM 4**

The imaging device according to Claim 1, comprising:

An image designation means for specifying at least one of the images saved in the aforementioned image storage means; and

A designated-image storage means for saving the image specified by the aforementioned image designation means.

**CLAIM 5**

The imaging device according to Claim 1, comprising:

An image designation means for specifying at least one of the images saved in the aforementioned image storage means; and

A character recognition means for recognizing characters in the image specified by the aforementioned image designation means.

**CLAIM 6**

The imaging device according to Claim 5, comprising a character-recognition-result storage means for saving the result of recognition by the aforementioned character recognition means.

**CLAIM 7**

The imaging device according to Claim 6, wherein the aforementioned notification means reports that the recognition result has been saved in the aforementioned character-recognition-result storage means.

**CLAIM 8**

The imaging device according to Claim 1, wherein the aforementioned notification means reports that the image has been saved in the aforementioned image storage means.

**CLAIM 9**

An imaging device, comprising:

An image input means, which captures an image of a photographic subject;

A recognition-requirement assessment means, which determines whether or not the state of the image that has been input by the above-mentioned image input means is suitable for image recognition, doing so based on information consisting of recognition requirements that are required of an image to be regarded as suitable for image recognition;

A notification means, which reports the state of the captured image based on the assessment result of the aforementioned recognition-requirement assessment means, doing so each time the above-mentioned image input means captures an image of a photographic subject; and

An image recognition means, which performs an image recognition process for the image captured by the above-mentioned image input means when the aforementioned recognition-requirement assessment means determines that the state of the image captured by the above-mentioned image input means is suitable for image recognition.

**CLAIM 10**

The imaging device according to Claim 9, comprising:

An image-input command means, which commands that the above-mentioned image input means input an image; and

A control means, which controls the above-mentioned image input means, recognition-requirement assessment part, notification means, and image recognition means so that the following actions are performed sequentially as long as the image-input command means is commanding that an image be input:

Capturing of an image of a photographic subject by the above-mentioned image input means;

Assessment conducted, by the aforementioned recognition-requirement assessment means, to determine whether or not the state of the captured image is suitable for image recognition;

Notification by the aforementioned notification means; and

Image recognition by the aforementioned image recognition means.

## DETAILED DESCRIPTION OF THE INVENTION

[0001]

### TECHNOLOGICAL FIELD OF THE INVENTION

This invention pertains to an imaging device. Particularly, it pertains to an imaging device with image recognition features, such as a personal digital assistant, a mobile phone, etc., which is provided with camera features.

[0002]

### CONVENTIONAL TECHNOLOGY

Conventionally, OCR (Optical Character Recognition) technologies for image recognition have been employed as technologies that enable the extraction of character information from document images in various devices, such as document readers, business card readers, and ledger sheet readers, etc. Such OCR technologies typically have employed scanners as the means for inputting images. However, along with the advancement of CCD's (Charge Coupled Devices) and CMOS (Complementary Metal Oxide Semiconductor) sensors in recent years, digital cameras that use such devices have gained widespread use as the OCR-based image input means.

[0003] One such imaging device having image recognition features is disclosed in JP,7-72546,A. This imaging device comprises an information processor that is provided with camera features and a character recognition means, and thereby recognizes characters from an image captured with a camera

[0004] Another conventional imaging device equipped with image recognition features is disclosed in JP,2000-207487,A. This imaging device is configured to photograph characters with a CCD video camera, automatically extracts the character region from the captured image, and then obtains a character recognition result through the use of a character recognition means. Furthermore, the aforementioned imaging device can also deliver features such as displaying the character recognition result, processing the data so as to be linked to an application program according to the recognition result.

[0005]

### OBJECTIVE TO BE ACHIEVED BY THE INVENTION

Incidentally, the aforementioned imaging device described in JP,7-72546,A is provided with a shutter drive part, and is configured to capture an image of a photographic subject by means of a release operation of the shutter drive part. There is a problem with this imaging device because the user must determine under what kind of shooting conditions an image should be captured; and consequently, the user, when taking a photo, could use only due diligence to capture a good image to the best of one's ability based on his or her judgment that is based on his or her personal experience.

[0006] Also, the aforementioned user-based adjustment of shooting conditions is extremely unreliable because it relies on the user's empirical judgment or rough estimate. Consequently, for example, even when the user deems a shooting condition to be appropriate to take a photo, there is a good chance that the actual image thus captured may not be suitable for character

recognition due to insufficient brightness or the like. Additionally, because an image is captured by means of a release operation of a shutter, there is a likelihood that the image captured may be defective, e.g., tilted, due to the user's careless error or the like while capturing the images. Particularly, if the imaging device is a compact size, the user would take a photo while holding the device with a single hand, or both hands. Consequently, there is a strong likelihood of camera shake due to unsteady hands. Such camera shake, as a result, causes a problem because the captured image will be blurry and unfocused, and therefore will be unusable for character recognition, etc. Therefore, the user must perform the release operation carefully as he or she assesses the shooting conditions. And, this is a great burden to the users.

[0007] Also, the aforementioned imaging device disclosed in JP,2000-207487,A displays the character recognition result every time the CCD video camera captures an image of an object subjected to character recognition.

[0008] However, this imaging device also poses a problem because the user has no way of knowing how he or she can capture an image that is suitable for image recognition, and, as a result, the user has to gradually correct the shooting conditions as he or she monitors the display screen or recognition results. One of shortcomings of the aforementioned imaging device would be the fact that it is configured to recognize characters in only a portion of a captured image, but it does not have a capability to capture an image in such a way that the entire image is suitable for character recognition. Therefore, the aforementioned imaging device is not suitable for applications in which all characters in an image need to be recognized after an image is captured and saved in such a way that the entire image is suitable for character recognition. Another shortcoming of the aforementioned imaging device would be the fact that it is not suitable for applications in which the image of a photographic subject is captured and saved repeatedly, so that multiple images are saved and thus subjected to character recognition, etc.

[0009] Given these factors, a purpose of the present invention is to provide an imaging device that allows the user to adjust shooting conditions to be suitable for image recognition with ease, and thus to readily obtain images in a good state that can be processed through image recognition.

[0010] Another purpose of the present invention is to provide an imaging device that can also recognize all pieces of information contained in multiple images.

[0011]

**MEANS FOR ACHIEVING THE OBJECTIVE**

In order to achieve the above-mentioned purpose, the imaging device according to the present invention is configured as follows:

An image input means captures an image of a photographic subject;

A storage-requirement assessment means determines whether or not the state of the image captured by the above-mentioned image input means is suitable for image recognition, doing so based on information consisting of storage requirements that are required of an image to be saved as an image suitable for image recognition; and

Each time the above-mentioned image input means captures an image of a photographic subject, a notification means reports the state of the captured image (brightness, tilt, etc.) based on the assessment result of the aforementioned storage-requirement assessment means; and meanwhile

If the aforementioned storage-requirement assessment means determines that the state of the image captured by the image input means is suitable for image recognition,

the image captured by the above-mentioned image input means will be saved in an image storage means.

Here, said image recognition may be a recognition of any image, such as a bar code, fingerprint, facial image, drawing, etc., or a recognition of the combination of two or more types of such images.

[0012] According to the imaging device having the aforementioned configuration, the aforementioned notification means reports the state of a captured image based on the assessment result of the storage-requirement assessment means every time the above-mentioned image input means captures an image of a photographic subject. Therefore, the user can adjust the shooting conditions with ease based on the reported information. Furthermore, only the images that satisfy the storage-requirement information are saved in the aforementioned image storage means; and this makes it possible to save images in a good state, i.e., images suitable for image recognition.

[0013] Also, in the imaging device according to an embodiment, a control means controls the above-mentioned image input means, storage-requirement assessment means, notification means, and image storage means so that the following actions are performed sequentially as long as an image-input command means is commanding that an image be input:

Capturing of an image of a photographic subject by the above-mentioned image input means;

Assessment conducted, by the aforementioned storage-requirement assessment means, to determine whether or not the state of the captured image is suitable for image recognition;

Notification by the aforementioned notification means; and

Storing of the image by the aforementioned image storage means.

[0014] According to the imaging device of the aforementioned embodiment, an image is input and saved as long as the image-input command means is commanding that an image be input; and this makes it possible to implement an imaging device that is easy to use and convenient for the user.

[0015] Also, in the imaging device according to one embodiment, the aforementioned image storage means saves more than one image, insofar as the images have been deemed (by the aforementioned storage-requirement assessment means) to have satisfied the aforementioned storage requirements as described above.

[0016] The imaging device of the aforementioned embodiment makes it possible to implement an imaging device that performs image recognition for all pieces of information that are contained in the multiple images that have been saved in the aforementioned image storage means.

[0017] Also, in the imaging device according to one embodiment, at least one of the images saved in the aforementioned image storage means can be specified by an image designation means; and the specified image(s) can be saved in a designated-image storage means.

[0018] According to the imaging device of the aforementioned embodiment, the user can specify a desired image out of multiple images through the use of the aforementioned image designation means. This makes it possible for the user to save images, which he or she likes, in the aforementioned designated-image storage means.

[0019] Also, in the imaging device according to one embodiment, at least one of the images saved in the aforementioned image storage means can be specified by the image designation means so as to allow the characters in the specified image(s) to be recognized by a character

recognition means.

[0020] According to the imaging device of the aforementioned embodiment, the character recognition means performs its character-recognition process for the image(s) specified by the aforementioned image designation means. This makes it possible for the user obtain character information in a desired image(s).

[0021] Also, the imaging device according to one embodiment is configured to save the aforementioned character recognition means' recognition result in a character-recognition-result storage means.

[0022] Thus, with the imaging device of the aforementioned embodiment, the user can save character information.

[0023] Also, in the imaging device according to one embodiment, the aforementioned notification means provides a notification when a recognition result is saved in the aforementioned character-recognition-result storage means.

[0024] According to the imaging device of the aforementioned embodiment, the user can be made aware of the fact that characters have been recognized from an image that is suitable for image recognition because the aforementioned notification means provides a notification of the completion of character recognition.

[0025] Also, in the imaging device according to one embodiment, the aforementioned notification means provides a notification when an image is saved in the aforementioned image storage means.

[0026] According to the imaging device of the aforementioned embodiment, the user can be made aware of the fact that an image suitable for image recognition has been saved because the aforementioned notification means provides a notification when an image is saved.

[0027] Additionally, the imaging device according to the present invention is configured as follows:

An image input means captures an image of a photographic subject;

A recognition-requirement assessment means determines whether or not the state of the image that has been input by the above-mentioned image input means is suitable for image recognition, doing so based on information consisting of recognition requirements that are required of images to be regarded as suitable for image recognition; and

Each time the above-mentioned image input means captures an image of a photographic subject, a notification means reports the state of the captured image based on the assessment result of the aforementioned recognition-requirement assessment means; and meanwhile

If the aforementioned recognition-requirement assessment means determines that the state of the image captured by the above-mentioned image input means is suitable for image recognition, the image captured by the above-mentioned image input means will be processed through image recognition by the image recognition means.

Here, said image recognition may be a recognition of any image, such as a bar code, fingerprint, facial image, drawing, etc., or a recognition of the combination of two or more types of such images.

[0028] According to the imaging device having the aforementioned configuration, the aforementioned notification means reports the state of the captured image based on the assessment result of the recognition-requirement assessment means every time the above-mentioned image input

means captures an image of a photographic subject; therefore, the user can adjust the shooting conditions with ease based on the information thus reported. Furthermore, only the images that satisfy the recognition-requirement information are subjected to image recognition by the aforementioned image recognition means; and this makes it possible to process only images in a good state (i.e., images suitable for image recognition) through image recognition.

[0029] Also, in the imaging device according to an embodiment, a control means controls the above-mentioned image input means, recognition-requirement assessment means, notification means, and image recognition means so that the following actions are performed sequentially as long as the image-input command means is commanding that an image be input:

Capturing of an image of a photographic subject by the above-mentioned image input means;

Assessment conducted, by the aforementioned recognition-requirement assessment means, to determine whether or not the state of the captured image is suitable for image recognition;

Notification by the aforementioned notification means; and

Image recognition by the aforementioned image recognition means.

[0030] According to the imaging device of the aforementioned embodiment, images are input and recognized as long as the aforementioned image-input command means is commanding that an image be input; and, this makes it possible to implement an imaging device that is easy to use and convenient for the user.

[0031]

**EMBODIMENTS OF THE INVENTION**

The following is a detailed explanation of the imaging device according to the present invention with reference to the embodiments illustrated in the drawings:

[0032] **(First Embodiment)**

Figure 1 shows a schematic diagram that illustrates the main features of the imaging device according to the first embodiment of the present invention. As shown in Figure 1, said imaging device according to the first embodiment is provided with:

An image input part 101 acting as an image input means;

A storage-requirement assessment part 102 acting as a storage-requirement assessment means;

A notification part 103 acting as a notification means;

An image storage part 104 acting as an image storage means;

An image-input command part 105 acting as an image-input command means; and

A control part 106 acting as a control means.

[0033] And, Figure 5 shows an image-capturing device 501 and a display device 505 as main examples of the constituent elements of the aforementioned image input part 101. This image capturing device 501 is provided with a CCD 502, an A/D (Analog/Digital) converter 503, and an image memory 504 as illustrated in Figure 5. The aforementioned CCD 502 transforms a photographic subject's image into an analog signal; the A/D converter 503 transforms the analog signal sent from the CCD 502 into digital image data; and the digital image data thus

transformed is saved in the image memory 504. And, the digital image data saved in the aforementioned image memory 504 is displayed on the display device 505. This display device 505 is provided with an LCD (Liquid-Crystal Display) 506 and a backlight 507.

[0034] The storage-requirement assessment part 102 illustrated in Figure 1 retains storage-requirement information that is referred to when determining whether image data in the image input part 101 (more specifically, within the image memory 504 illustrated in Figure 5) is suitable for image recognition, and thus acts as a means for determining whether or not the aforementioned image data satisfies the aforementioned storage requirements. Here, the term "storage requirements" refers to information consisting of requirements such as the brightness of an image must be appropriate, the image must not be tilted, and so forth. Detailed examples of such requirements are mentioned in a later section.

[0035] Also, the aforementioned notification part 103 acts as a means for providing the user with information such as the state of an image, and instructions to help the user to capture an image that is eligible to be saved — doing so when the storage requirements are not satisfied according to the result of assessment by the storage-requirement assessment part 102.

[0036] And, the aforementioned image storage part 104 acts as a means for saving image data, which is present in the image input part 101 at the moment when the storage-requirement assessment part 102 deems an image to be suitable for storage. To be more specific, RAM (Random Access Memory) or the like falls within this category. It should be noted that a flash memory, a magnetic disk, etc., may be used as the aforementioned image storage part 104 so that data can be retained without supply of power.

[0037] Furthermore, the aforementioned image storage part 104 is configured with an ability to save multiple images, for example, as shown in Figure 6. The image storage area 601 in Figure 6 comprises a counter region 602 and a prescribed number (M-number) of image storage regions 603 so that each set of image data is saved in an image storage region that is assigned with a numerical value specified by a counter provided within the counter region 602.

[0038] And, the image-input command part 105 illustrated in Figure 1 acts as a means for commanding that the operations of the image input part 101, the storage-requirement assessment part 102, the notification part 103, and the image storage part 104 be enabled. The specific examples include a switch and the like.

[0039] Also, the aforementioned control part 106 controls the image input part 101, the storage-requirement assessment part 102, the notification part 103, and the image storage part 104 so that the following actions are performed sequentially as long as the image-input command part 105 is commanding that an image be input:

Input of an image by the image input part 101;

Assessment conducted, by the storage-requirement assessment part 102, to determine whether or not the state of an image is suitable for image recognition;

Notification by the notification part 103; and

Storing of the image in the image storage part 104.

[0040] Figure 3 (a) and (b) illustrates an imaging device of a portable terminal type provided with a camera, such an imaging device being presented herein as a specific example of the configuration of the present first embodiment. Figure 3 (a) shows an elevational view while Figure 3 (b) shows a back-side view. This imaging device is provided with a main body 301, a display 302, a camera 303, and an activation button 304.

[0041] The camera 303 shown in Figure 3 (b) corresponds to the image input part 101 (illustrated in

Figure 1). The activation button 304 illustrated in Figure 3 (a) corresponds to the image-input command part 105 (illustrated in Figure 1).

[0042] Next is an explanation of the operation of said imaging device according to the first embodiment with reference to the flowchart shown in Figure 2. Here, the explanation is presented on the assumption that the user is trying to capture and save the image of a document to be recognized, i.e., a business card 401 shown Figure 4, in order to use the information in an address book, etc., once the characters are recognized.

[0043] First, in Step S201 of Figure 2, the user uses the image-input command part 105 to command and thus initiate an input of the image (by means of pressing and then holding the activation button 304 shown in Figure 3 (a)).

[0044] Next, in Step S202, the counter within the image storage part 104 (the numerical value within the counter region 602 shown in Figure 6) is reset so that the value of the counter returns to 1.

[0045] Next, in Step S203, the image input part 101 (i.e., camera 303 illustrated in Figure 3(b)) initiates the process of capturing an image of a photographic subject (business card 401).

[0046] Next, in Step S204, the storage-requirement assessment part 102 determines whether or not the image data within the image input part 101 satisfies the storage requirements. A detailed description of the storage requirements concerned and the determination by the storage-requirement assessment part 102 will be provided in a later section.

[0047] Next, in Step S205, if the storage-requirement assessment part 102 determines that the image data does not satisfy the storage requirements based on the result obtained in Step S204, the control will proceed to Step S206; whereas, if the storage-requirement assessment part 102 determines that the image data satisfies the storage requirements, the control will proceed to Step S207.

[0048] In Step S206, the notification part 103 reports the state of the image since the image data does not satisfy the storage requirements; and then, the control proceeds to Step S209. For example, in the case in which the storage-requirement assessment part 102 determines that the brightness is insufficient, the notification part 103, in Step S206, reports information that states, "The brightness is insufficient" as indicated by the reference code 701 in Figure 7. Or, if the storage-requirement assessment part 102 determines that the image is tilted, the notification part 103 reports information that states, "The document is tilted to the left" as indicated by the reference code 801 in Figure 8.

[0049] However, when the control successfully proceeds from Step 205 to Step 207, the image data within the image input part 101 is saved in the image storage part 104 in Step S207. In the present embodiment, when the counter value (i.e., the value in the counter region 602 of Figure 6) is "m," the image data is saved in the m-th image storage region 603.

[0050] Next, in Step S208, the counter value is incremented by one. The quantity of the regions is "M" in Figure 6; however, when the counter value "m" becomes greater than "M" ($m > M$), the "m" will be reset to 1 ($m = 1$).

[0051] Next, in Step S209, the course of the next processing is determined in accordance with whether or not the user continues to command an input through the use of the image-input command part 105 (i.e., whether or not the user continues to press the activation button 304 shown in Figure 3 (a)). If the user continues to command an input, the control returns to Step S203; whereas, if there is no more input command, the control ends the processing.

[0052] Hence, in the present embodiment, the processes in the steps S203, S204, S205, S206, and S209 will be repeated as long as the storage-requirement assessment part 102 deems that

the state of the captured image does not satisfy the storage requirements while the image-input command part 105 is making the command (i.e., while the activation button 304 is being pressed in the case of the example shown in Figure 3 (a)).

[0053] In this way, the user is allowed to adjust the state of capturing an image (such as brightness, tilt, etc.) based on the information on the state of the image that has been reported by the notification part 103 each time.

[0054] Then, after the user adjusts the state of capturing an image, if the storage-requirement assessment part 102 determines that the state of the captured image satisfies the storage requirements, the control proceeds from Step S205 to Step S207 and the subsequent steps so as to save the image.

[0055] The following is a detailed explanation of the assessment of the state of an image performed in the aforementioned step S204, with reference to the flowchart shown in Figure 13 and the chart shown in Figure 14. Figure 13 shows a flowchart that illustrates the processing performed when determining the state of an image. Figure 14 shows a chart that illustrates how the inclination of a character string is detected.

[0056] First, the brightness (luminosity) of an image in the image input part 101 is calculated in the first step of Figure 13 (i.e., Step S1301); and then, in Step S1302, it is assessed whether the numerical value thus calculated is an appropriate value.

[0057] When the image in the image input part 101 is a black-and-white multivalued image, the luminosity is calculated by the following equation 1:

**[Equation 1]**

$$\text{Luminosity } L = \frac{\sum_{i=1,j=1}^{i=w,j=h} P(i,j)}{\text{Quantity of horizontal pixels in image} \times \text{Quantity of vertical pixels in image}}$$

(Wherein, P (i, j) represents the pixel value at the coordinates (i, j) within the image; and "w" represents the quantity of widthwise pixels in the image while "h" represents the quantity of vertical pixels in the image).

Even with a color image — e.g., even when the image is output in R (red), G (green), and B (blue) — the luminosity can be calculated by the aforementioned equation once the image is transformed on a pixel-by-pixel basis into a black-and-white multivalued image based on the following equation: Post-transformation pixel value = (R+G+B) / 3.

[0058] Typically, the accuracy of recognition diminishes in cases where the luminosity of an image is either too low or too high to an extreme level. Accordingly, the storage-requirement information includes the following requirements in regard to the above-mentioned luminosity L thus calculated:

A conditional expression indicating that the value of luminosity is appropriate if L0 ≦ L and L ≦ L1; and

Values of the lower limit L0 and the upper limit L1.

[0059] In Step S1302, the storage-requirement assessment part 102 assesses whether the luminosity L satisfies the storage-requirement information, i.e., whether the luminosity L satisfies L0 ≦ L and L ≦ L1. If the luminosity L does not satisfy these requirements, the storage-requirement assessment part 102 concludes that the storage requirements are not satisfied; and, thus, the

process is terminated. In this state, the reasons why the image failed to satisfy the requirements are already identified; and, furthermore, it is easy to calculate how the user should change the shooting condition in order to capture an image that will be suitable for the storage requirements.

[0060] For example, if L < L0, it means that the brightness is insufficient; therefore, the user needs to change the shooting condition to a brighter setting. Figure 7 shows an example of a notification that reports such a state.

[0061] Based on the reported information on the display, the user can become aware that the current shooting environment is too dark to capture an image with a quality that is good enough to capture and save a character image, so that the user can improve the shooting environment accordingly, for example, by lightening the room. Then, if the brightness requirements are satisfied when the control proceeds to Step S1302 for the second time, the control proceeds to Step S1303 next.

[0062] In the processes from Step S1303 to Step S1306, any tilt in the business card 401 is measured; and it is assessed whether or not the tilt is within an acceptable range. It should be noted that there are various techniques that can be employed to complete the processing that is run to measure inclination of an image. For example, in the case in which a document image is a multivalued image, the measurement concerned can be easily obtained through a technique that is described in a later section, said method involving the following steps:

First, a document image is binarized;

Next, character strings in the image are extracted;

Subsequently, the average inclination of all the individual character strings is calculated; and

The mean value thus obtained is used as the inclination value of the image.

[0063] First, in Step S1303, the image in the image input part 101 is subjected to a binarization process. If the image is a black-and-white multivalued image, the threshold value of binarization will be obtained in the as-is condition. If the image is a color image (e.g., when the image is expressed in RGB, etc.), the threshold value will be obtained after the color image is transformed into a black-and-white multivalued image through the aforementioned conversion process. Once the threshold value is determined, the black-and-white multivalued image can now be transformed into a binary image by means of converting each pixel into 1 (character component) if below the threshold value, but into 0 (background component) if at or above the threshold value. While there are various techniques that can be used to obtain a binarization threshold value, a discriminant analysis technique referred to as "Otsu's algorithm," for example, may be used to make it easier to obtain the threshold value.

[0064] Next, a character-string (-row) extraction process is performed in Step S1304. While there are various techniques that can be used to extract character strings, JP,3058489,B, for example, discloses a "character-string extraction method," which involves extraction of character strings from a document image. And, this method may be used to make the extraction of character strings easier in the present embodiment, also.

[0065] Next, inclination of each character string is measured in Step S1305. While there are various types of methods that can be used to measure inclinations of character strings, the inclination can be obtained, for example, through the following method. (In the following, the method is described with reference to Figure 8.) The quantity of the rows and the coordinates of the circumscribed frame of each row are extracted through the row-extraction process in Step S1304. On the assumption that an N-quantity of rows has been extracted (N = 6 in the present embodiment), the upper left coordinates of each row "i" (i = 1 to N) are defined as (STX (i),

STY(i)}; and the lower right coordinates are defined as {ENX(i), ENY(i)}. Each of said rows is divided into two (into the right and left regions) at the position of X-coordinate value = (STX(i) + ENX(i)) / 2. Here, a left region shall be defined as A0, and a right region shall be defined as A1. Barycenters Y0 and Y1 in the direction of Y are obtained for each of the regions A0 and A1, respectively, as follows:

[0066] **[Equation 2]**

$$Y0 = \sum_{y=ENY(i)}^{STY(i)} \frac{y \times M0(y)}{\text{Total quantity of character pixels within A0}}$$

(Wherein, M0 (y) represents the quantity of character pixels that are present on a straight line along the Y-coordinate "y" within a region A0.)

Also, the barycenter Y1 can be obtained by the same equation.

[0067] The inclination θ(i) [degrees] of each row i (i = 1 to N) can be expressed through the use of the above-mentioned barycenters Y0 and Y1 as follows:

$$\tan\theta(i) = (Y1-Y0)/\{(ENX(i)-STX(i))/2\}$$
$$= 2\times(Y1-Y0)/\{(ENX(i)-STX(i))$$

Therefore, the inclination θ(i) is obtained by the following equation:

**θ(i) = arctan {2 x (Y1 - Y0) / {(ENX(i) - STX(i))}.**

Lastly, the mean value θ of inclination values θ(i) is calculated and used as the inclination.

[0068] A method that can be used to measure inclination of an image is described in the foregoing; however, the present invention is not limited to the foregoing method but may employ other various measurement methods.

[0069] Next, in Step S1306 of Figure 13, it is determined whether or not the inclination thus obtained in Step S1305 is satisfactory as an object to be processed through the recognition. Generally, the accuracy of OCR recognition diminishes when a document image to be recognized has a significant tilt.

[0070] Herein, the acceptable range of inclination is defined as within α [degrees] based on the results of a recognition experiment, etc. Hence, the following condition is included in the constituent elements of the storage-requirement information: If $-\alpha \leqq \theta$ and $\theta \leqq \alpha$, then the inclination is in the acceptable range.

[0071] If it is determined in Step S1306 that the inclination thus obtained in Step S1305 is not satisfactory (i.e., when $\theta < -\alpha$ or $\alpha < \theta$), it is concluded that the image concerned does not satisfy the storage requirements; and thus, the process is terminated. An example of a notification provided at this time in order to report the state of an image concerning inclination is illustrated in Figure 8 — as indicated by the reference code 801 with a phrase that reads, "The document is tilted to the left."

[0072] As such, the aforementioned imaging device according to the first embodiment is configured to save images according to the results of assessments conducted by the storage-requirement assessment part 102 based on the storage-requirement information — i.e., it is configured to save images on the basis of accurate storage-requirement information, instead of unreliable standards (such as the user's empirical judgment, etc.) — and therefore can preserve images

in a good state that is suitable for image recognition. Additionally, each image is saved only when it satisfies the storage requirements, meaning that only the images that satisfy the storage requirements are saved. This makes it possible to eliminate the risk that the user may capture an image that is unsuitable for image recognition due to careless errors during the release operation, such as camera shake. Furthermore, because the notification part 103 reports the state of the captured image after each shoot, the user can adjust the shooting conditions appropriately based on the reported state of the captured image.

[0073] Moreover, the present embodiment is easy to use and convenient for the user because images are input as long as the aforementioned image-input command part 105 is commanding that an image be input.

[0074] In the above-mentioned first embodiment, multiple storage regions are provided within an image storage part 104, said storage regions being configured to be updated sequentially. However, only a single storage region may be provided and configured so as to update and save an image that is suitable to be saved. It is also possible to configure the single storage region or multiple storage regions so as to prevent a new image from being saved therein once an image is saved in the single storage region or every one of multiple storage regions.

[0075] Additionally, as shown in Figure 9, the present embodiment can be readily configured to use a display, an audio feature, such as an alarm, etc., in order report that an image has been saved in the image storage part 104. In Figure 9, the report is provided by indicating a text image that reads, "The image has been saved," on the display screen — as indicated by the reference code 901; however, the present embodiment can be readily configured to report such content through the use of an audio feature, such as an alarm, etc.

[0076] Furthermore, because the notification part 103 reports that the image has been saved, the user can be made aware that the image has been saved.

[0077] **(Second Embodiment)**

Figure 10 (A) shows a schematic diagram that illustrates the main features of a portable terminal, which is presented herein as an example of the imaging device according to the second embodiment of the present invention. As illustrated in Figure 10 (A), said imaging device according to the second embodiment is provided with:

An image input part 101 acting as an image input means;

A storage-requirement assessment part 102 acting as a storage-requirement assessment means;

A notification part 103 acting as a notification means;

An image storage part 104 acting as an image storage means;

An image-input command part 105 acting as an image-input command means;

A control part 106 acting as a control means;

An image designation part 107 acting as an image designation means;

A designated-image storage part 108 acting as a designated-image storage means;

A character recognition part 111 acting as a character recognition means; and

A recognition-result storage part 112 acting as a character-recognition-result storage means.

[0078] Being provided with an image designation part 107, and a designated-image storage part 108

that is capable of retaining memory data without supply of power — e.g., a flash memory, a magnetic disk, etc. — the present portable terminal according to the second embodiment allows the user to specify an image saved in the image storage part 104 through the use of the image designation part 107 so as to save the specified image in the designated-image storage part 108.

[0079] Also, being provided with a character recognition part 111 and an image designation part 107, and (in place of the aforementioned designated-image storage part) a recognition-result storage part 112 that can save character recognition results, the portable terminal according to the second embodiment uses the character recognition part 111 to recognize characters in an image specified by the image designation part 107, and then save the result of the character recognition in the recognition-result storage part 112.

[0080] Figure 10 (B) shows an elevational view of the aforementioned portable terminal. In Figure 10 (B), the user specifies a single image from images 1001 in the image storage part 104 (shown in Figure 10 (A)) as they are displayed on the display part 302, doing so through the use of an operating pen 305 acting as an image designation means.

[0081] Once the user selects the Save Image button 1002, the specified image is saved in the designated-image storage part 108 that is embedded. Also, when the user selects the Start Recognition button 1003, the character recognition part 111 recognizes characters in the specified image. The recognition result is displayed on the screen upon completion of the recognition and saved in the recognition-result storage part 112.

[0082] In this way, the aforementioned portable terminal according to the second embodiment saves multiple images in the aforementioned image storage part 104 and allows the user to specify an image through the use of the image designation part 107, thereby making it possible for the user to save a desired image. Also, because the image specified by the aforementioned image designation part 107 is subjected to character recognition by the character recognition part 111, the user can obtain the character information from a desired image.

[0084] Furthermore, in the aforementioned portable terminal according to the second embodiment, the character information is also saved when the result of recognition by the aforementioned character recognition part 111 is saved in the recognition-result storage part 112.

[0085] Furthermore, because the notification part 103 reports that the result of recognition by the character recognition part 111 has been saved, the user can be made aware that the character recognition has been completed

[0086] **(Third Embodiment)**

Figure 11 (A) shows a schematic diagram that illustrates the main features of the imaging device according to the third embodiment of the present invention. As illustrated in Figure 11 (A), the present imaging device according to the second embodiment is provided with:

An image input part 101 acting as an image input means;

A notification part 103 acting as a notification means;

An image-input command part 105 acting as an image-input command means;

A control part 106 acting as a control means;

A recognition-requirement assessment part 110 acting as a recognition-requirement assessment means;

A character recognition part 111 acting as an image recognition means; and

A recognition-result storage part 112 acting as a character-recognition-result storage means.

[0087] In the aforementioned portable terminal according to the third embodiment, the recognition-requirement assessment part 110 retains information consisting of recognition requirements that are used to determine whether image cata in the image input part 101 is suitable for image recognition, and thereby determines whether or not the aforementioned image data satisfies the aforementioned recognition requirements. And, when it is determined based on the result of an assessment by recognition-requirement assessment part 110 that the recognition requirements are not satisfied, the aforementioned notification part 103 provides the user with information such as the state of the image and instructions to help the user capture an image that is eligible to be saved. Also, the aforementioned character recognition part 111 recognizes characters in the image data, which is in the image input part 101 at the moment when the recognition-requirement assessment part 110 deems an image to be suitable for character recognition. Then, the recognition result of the character recognition part 111 thus obtained is saved in the recognition-result storage part 112.

[0088] Also, the aforementioned control part 106 controls the image input part 101, the notification part 103, the recognition-requirement assessment part 110, the character recognition part 111, and the recognition-result storage part 112 so that the following actions are performed sequentially as long as the image-input command part 105 is commanding that an image be input:

Input of an image by the image input part 101;

Assessment conducted, by the recognition-requirement assessment part 110, to determine whether or not the state of a captured image is suitable for character recognition;

Notification by the notification part 103;

Character recognition by the character recognition part 111; and

Storing in the recognition-result storage part 112.

[0089] Also, Figure 11 (B) shows an elevational view of the aforementioned portable terminal, which illustrates an example notification of the state of an image (in regard to the brightness). Figure 12 illustrates an example notification of the recognition result of the image.

[0090] In Figure 11 (B), an object-of-recognition area 1101 is displayed on the screen upon input of an image. And, as long as the user is pressing the activation button 304 (image-input command part 105) for the object-of-recognition area 1101 concerned, the recognition-requirement assessment part 110 assesses whether or not the recognition-requirement information has been satisfied.

[0091] Here, the recognition-requirement assessment part 110 may determine whether or not the recognition-requirement information is satisfied in the same way as in the case of determining whether or not an image satisfies storage requirements as described in reference to the first embodiment.

[0092] Every time the recognition-requirement information is not satisfied, the state of the captured image is reported, for example, with a phrase, "Image status: The brightness is insufficient" — as indicated by the reference code 1102 in Figure 11 (B). Figure 11 (B) illustrates the example (an example displayed when the brightness is insufficient).

[0093] On the other hand, when the recognition-requirement information is satisfied, the recognition result for the object-of-recognition area 1101 is displayed on the screen as shown in Figure 12. The notification reads, "Recognition result: 22-22 Nagaike-cho, Abeno-ku, Osaka-shi," as

indicated by the reference code 1201 in Figure 12.

[0094] In this way, the aforementioned portable terminal according to the third embodiment recognizes an image according to the result of an assessment conducted by the recognition-requirement assessment part 110 based on the recognition-requirement information. Thus, it can recognize an image accurately on the basis of the recognition-requirement information, instead of on unreliable standards (such as the user's empirical judgment, etc.), thereby making it possible to ensure that recognition is rendered orto an image that has been captured in shooting conditions that are suitable for image recognition. Moreover, an image is subjected to image recognition only when it satisfies the recognition requirements, meaning that only the images that satisfy the recognition requirements are recognized. This makes it possible to eliminate the risk that the user may capture an image that is unsuitable for recognition due to careless errors during the release operation, such as camera shake. Similarly, an image is subjected to character recognition only when it satisfies the recognition requirements, meaning that character recognition is rendered only to images that are suitable for the recognition, thereby making it possible to deliver an improved recognition accuracy. Furthermore, because the notification part 103 reports the state of the captured image after each shoot, the user can adjust the shooting conditions appropriately based on the reported state of the captured image.

[0095] Although an imaging device having a character recognition functionality for the image recognition feature is described herein as the aforementioned first through third embodiments, the application of the present invention is not limited to character recognition, but the present invention may be applied to an imaging device having general image recognition functionalities, such as recognition of bar codes, fingerprints, facial images, drawings, etc.

[0096] The imaging device according to the presert invention is not limited to the aforementioned first through third embodiments, but may be applied to, for example, an imaging device composed of the combination of the second and third embodiments, thus being provided with a storage-requirement assessment part and a recognition-requirement half-step part that are used to save images and perform image recognition.

[0097]

**EFFECT OF THE INVENTION**

As is evident from the description above, the imaging device according to the present invention can preserve images in a good state that is suitable for image recognition because it is configured to save images according to the results of assessments conducted by the storage-requirement assessment means based on the storage-requirement information, thereby allowing that the image storage means to save images on the basis of the accurate storage-requirement information obtained through experimental testing and the like, instead of on unreliable standards (such as the user's empirical judgment, etc.). Furthermore, an image is saved only when it satisfies the storage requirements, meaning that only the images that satisfy the storage requirements are saved. This makes it possible to eliminate the risk that the user may capture an image that is unsuitable for recognition due to careless errors during the release operation, such as camera shake. Furthermore, because the notification means reports the state of the captured image after each shoot, the user can adjust the shooting conditions appropriately based on the reported state of the captured image.

[0098] Also, the imaging device according to the present invention can ensure that recognition is rendered onto an image captured in shooting conditions that are suitable for image recognition because it is configured to render image recognition (recognition of characters, a bar code, a fingerprint, a face, a drawing, etc.) according to the result of an assessment conducted by the recognition-requirement assessment part based on the recognition-requirement information, thereby allowing the image recognition means to recognize an image on the basis of accurate storage-requirement information obtained through experimental testing and the like, instead of

unreliable standards (such as the user's empirical judgment, etc.). Furthermore, an image is subjected to image recognition only when it satisfies the recognition requirements, meaning that only the images that satisfy the recognition requirements are recognized. This makes it possible to eliminate the risk that the user may capture an image that is unsuitable for recognition due to careless errors during the release operation, such as camera shake. Similarly, each image is subjected to character recognition only when it satisfies the recognition requirements, meaning that character recognition is rendered only to images that are suitable for the recognition, thereby making it possible to deliver an improved recognition accuracy. Furthermore, because the notification means reports the state of the captured image after each shoot, the user can adjust the shooting conditions appropriately based on the reported state of the captured image.

## BRIEF EXPLANATION OF THE DRAWINGS

**[Figure 1]**

Figure 1 shows a block diagram of the imaging device according to the first embodiment of the present invention.

**[Figure 2]**

Figure 2 shows a flowchart of the aforementioned imaging device.

**[Figure 3]**

Figure 3 (a) shows an elevational view that illustrates an imaging device of a portable terminal type provided with a camera; and Figure 3 (b) shows a back-side view of the aforementioned imaging device.

**[Figure 4]**

Figure 4 shows a diagram that illustrates a document (business card) to be recognized.

**[Figure 5]**

Figure 5 shows a block diagram that illustrates constituent elements of the image input part in the aforementioned imaging device.

**[Figure 6]**

Figure 6 shows a diagram that illustrates constituent elements of the image storage part in the aforementioned imaging device.

**[Figure 7]**

Figure 7 shows a diagram that illustrates an example of a notification concerning the state of an image (in regard to the brightness).

**[Figure 8]**

Figure 8 shows a diagram that illustrates an example of a notification concerning the state of an image (in regard to the tilt).

**[Figure 9]**

Figure 9 shows a diagram that illustrates an example of a notification concerning the state of an image (in regard to the tilt).

**[Figure 10]**

Figure 10 (A) shows a block diagram of a portable terminal presented herein as an example of the imaging device according to the second embodiment of the present invention.

Figure 10 (B) shows an elevational view of the aforementioned portable terminal.

**[Figure 11]**

Figure 11 (A) shows a block diagram of a portable terminal presented herein as an example of the imaging device according to the third embodiment of the present invention.

**[Figure 12]**

Figure 12 shows a diagram that illustrates an example of a notification of the result of the recognition of an image by the aforementioned portable terminal.

**[Figure 13]**

Figure 13 shows a flowchart that illustrates the processing performed to assess the state of an image in the aforementioned image recognition device according to the first embodiment.

**[Figure 14]**

Figure 14 shows a diagram that illustrates an example of the detection of an inclination of a character string in the aforementioned image recognition device according to the first embodiment.

**DESCRIPTION OF REFERENCE CODING**

101 — Image input part

102 — Storage-requirement assessment part

103 — Notification part

104 — Image storage part

105 — Image-input command part

106 .... Control part

107 — Image designation part

108 — Designated-image storage part

110 — Recognition-requirement discrimination part

111 — Character recognition part

112 — Recognition-result storage part

301 — Main body

302 — Display

303 — Camera

304 — Activation button

305 — Operating pen

401 — Business card

501 — Image capturing device

502 — CCD

503 — A/D converter

504 — Image memory

505 — Display device

506 — LCD

507 — Backlight

601 — Image storage area

602 — Counter region

603 — Image storage region

701 — Example notification of the state of an image upon its capture (in regard to the brightness)

801 — Example notification of the state of an image upon its capture (in regard to the tilt)

901 — Example notification provided when an image is saved

1001 — An image out of multiple saved images

1002 — Save-Image button

1003 — Start-Recognition button

1101 — Object-of-recognition area

1102 — Example notification of the state of an image

1201 — Example notification of the result of a recognition

Figure 1

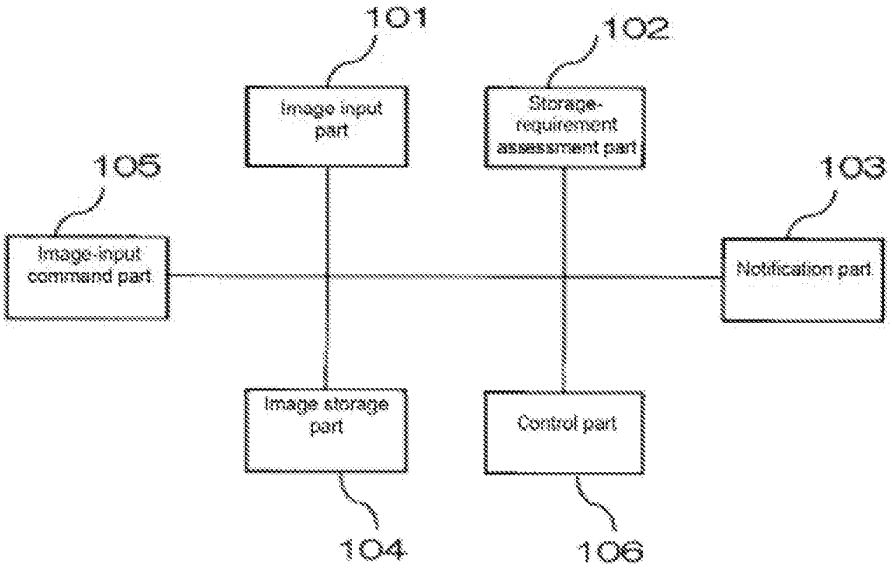

101
102
Image input part
Storage-requirement assessment part
105
103
Image-input command part
Notification part
Image storage part
Control part
104
106

Figure 2

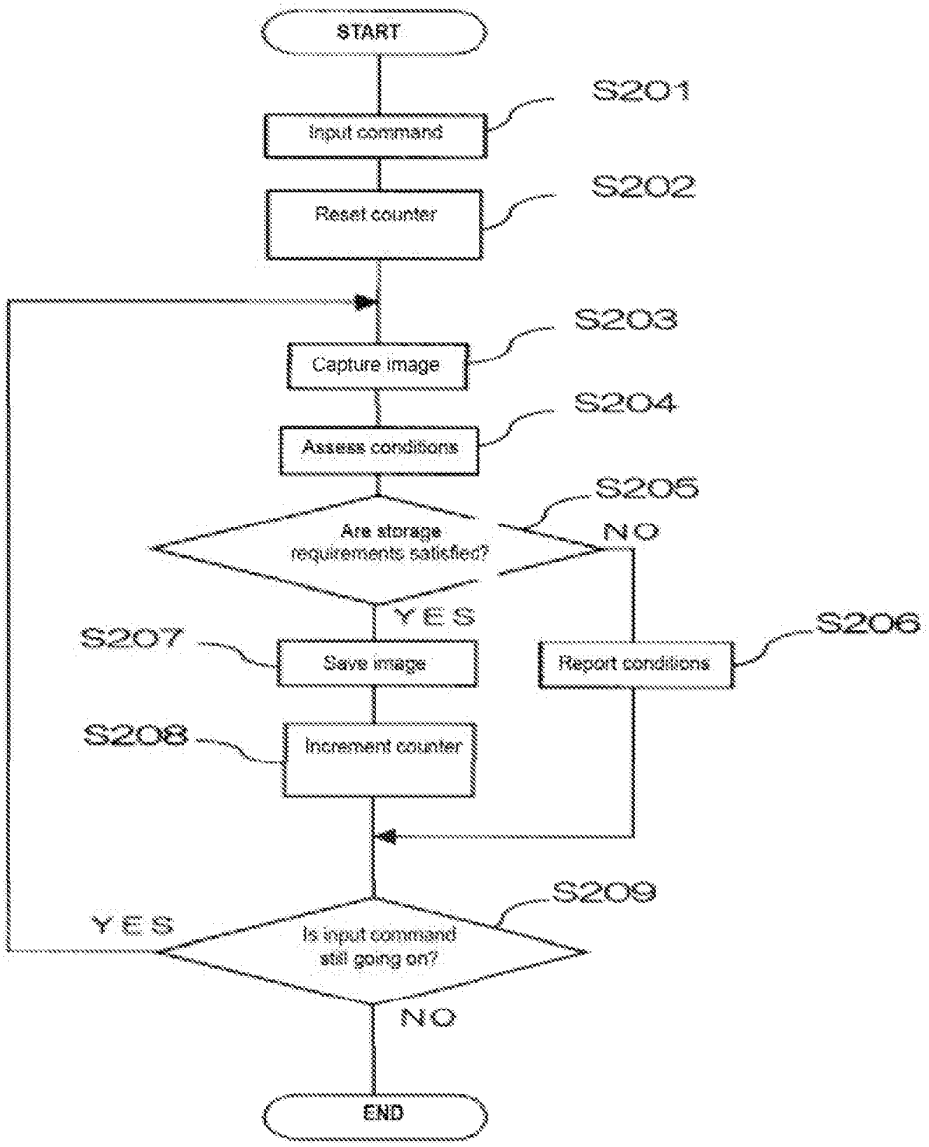
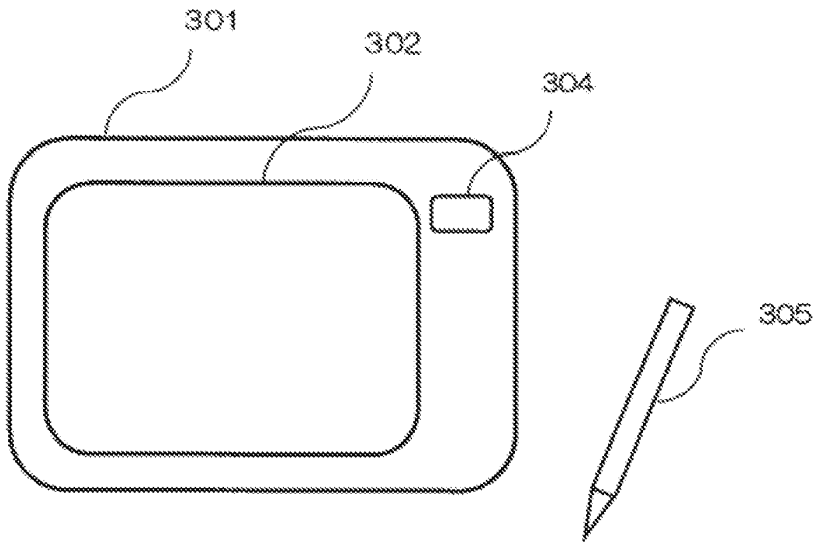

START
S201
Input command
S202
Reset counter
S203
Capture image
S204
Assess conditions
S205
Are storage requirements satisfied?
NO
YES
S206
Report conditions
S207
Save image
S208
Increment counter
S209
Is input command still going on?
YES
NO
END

Figure 3

(a)




(b)

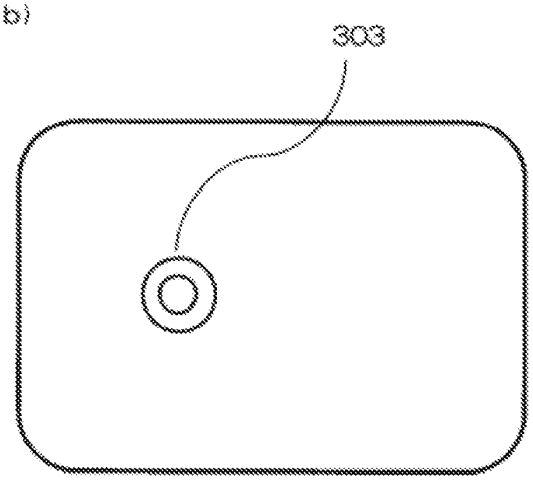


Figure 4

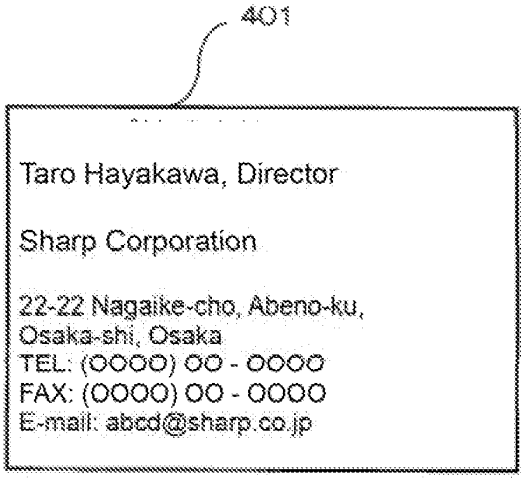



Figure 5

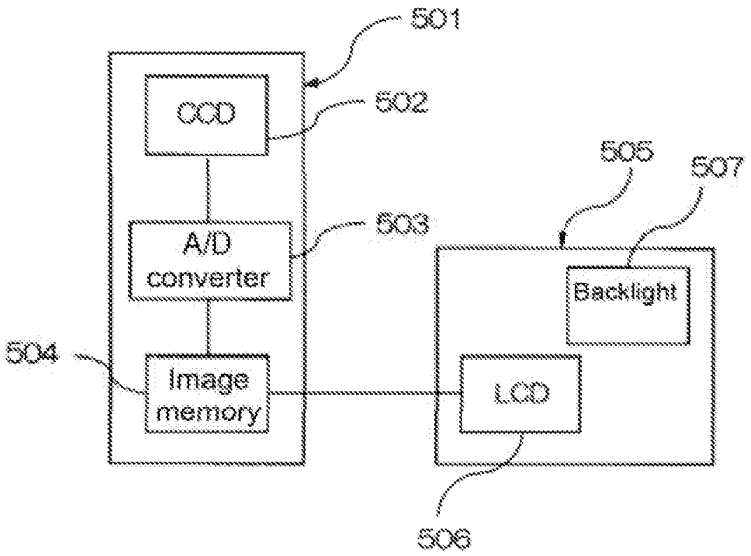


Figure 6

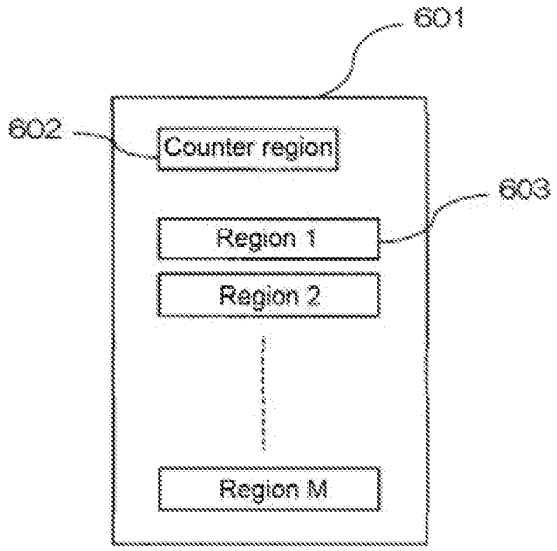



Figure 7

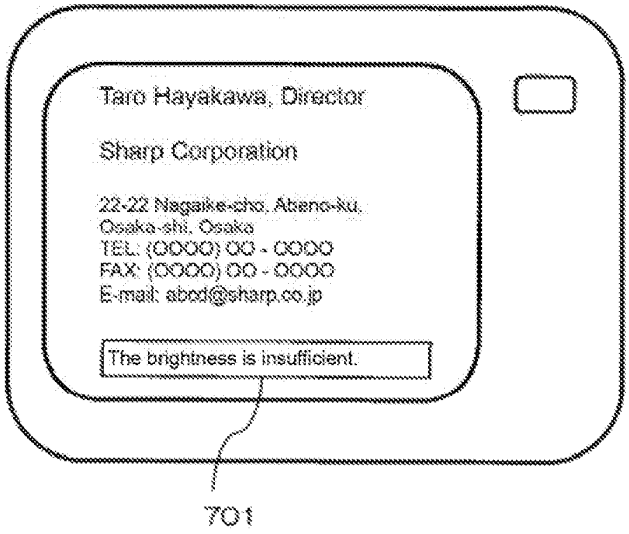


Figure 8

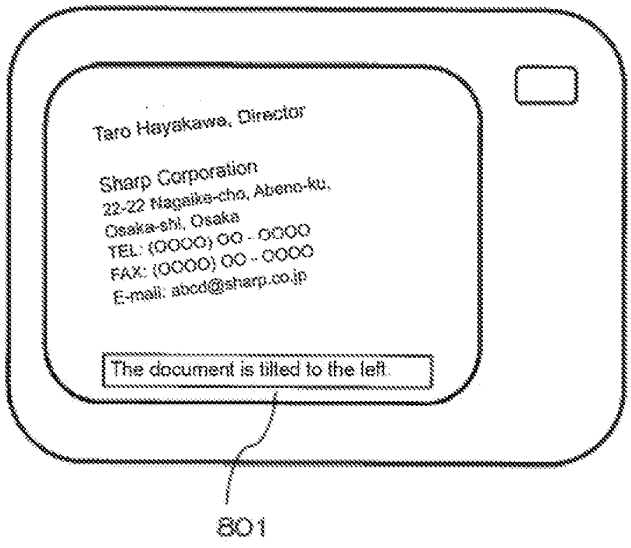



Figure 9

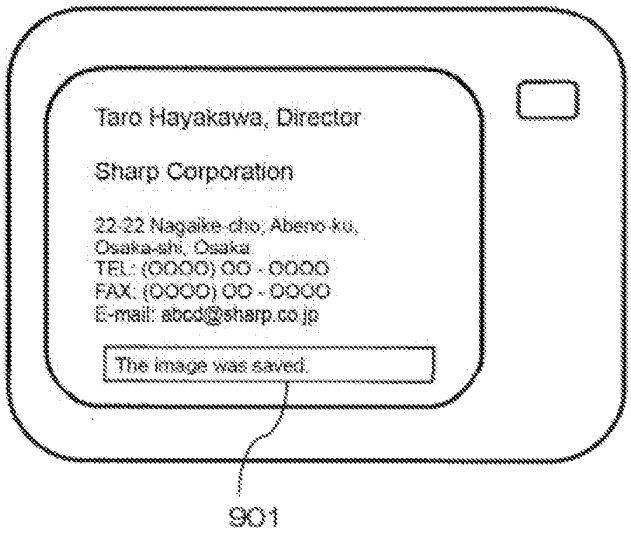
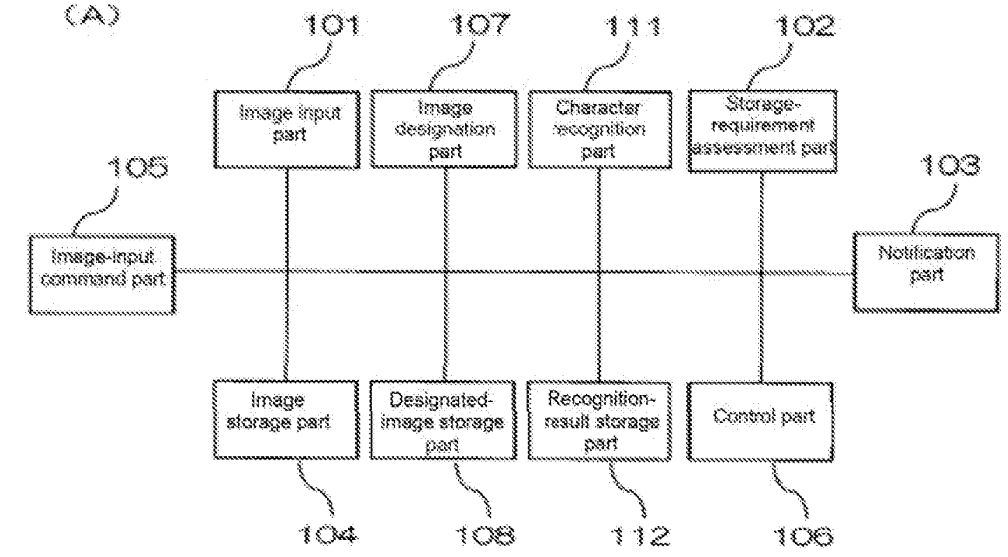


Figure 10


(A)
101
107
111
102
Image input part
Image designation part
Character recognition part
Storage-requirement assessment part
105
103
Image-input command part
Notification part
Image storage part
Designated-image storage part
Recognition-result storage part
Control part
104
108
112
106

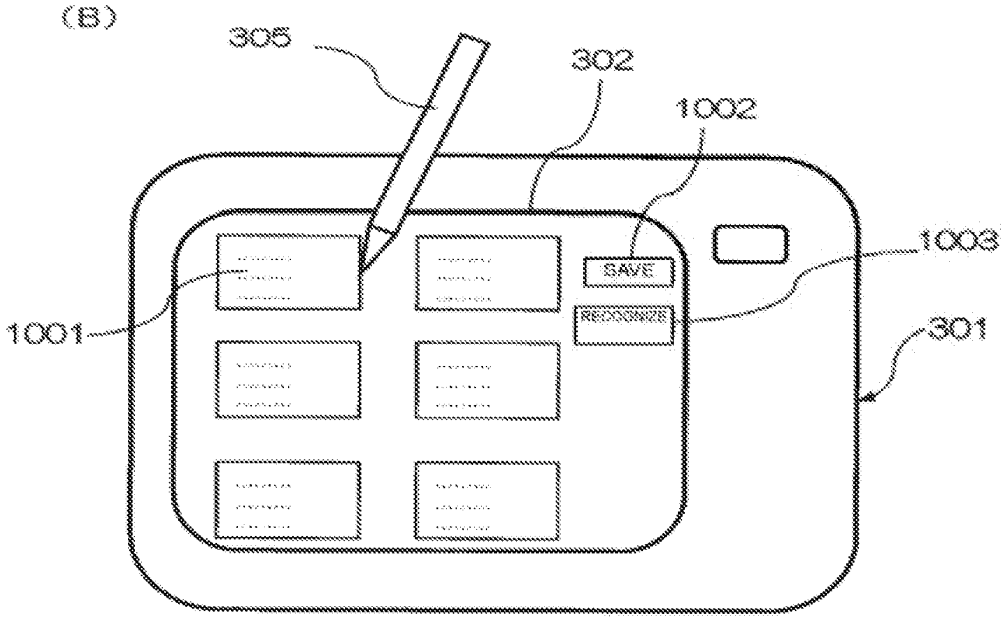
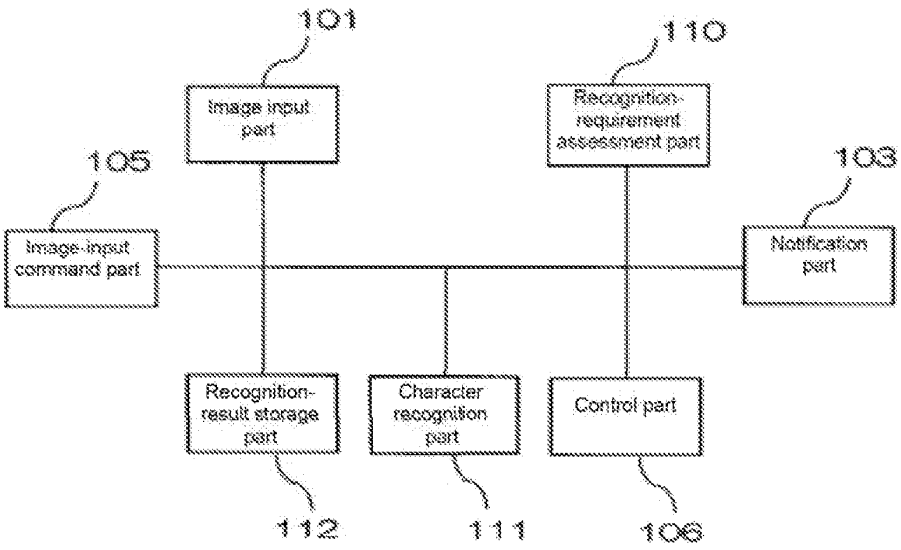

(B)
305
302
1002
1003
SAVE
RECOGNIZE
1001
301

Figure 11

(A)


101
Image input part
110
Recognition-requirement assessment part
105
Image-input command part
103
Notification part
Recognition-result storage part
Character recognition part
Control part
112
111
106

(B)

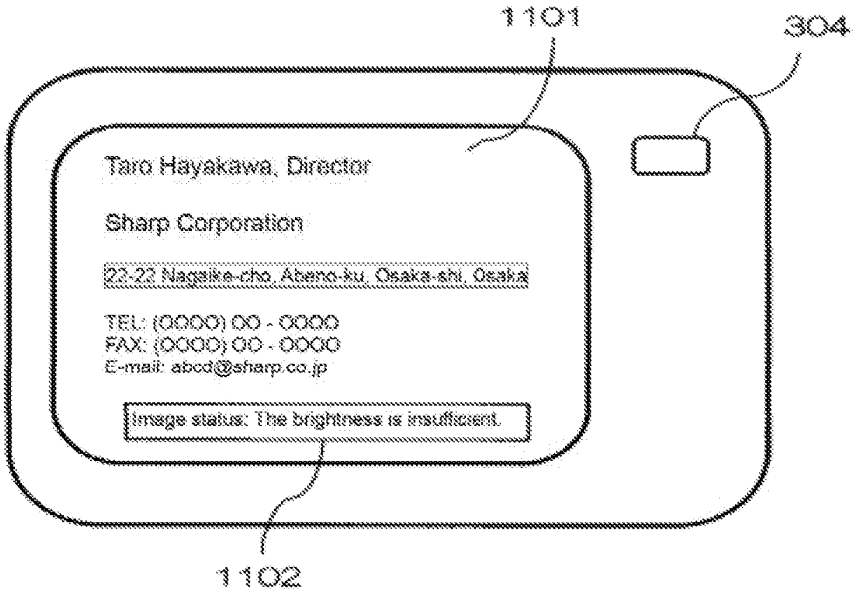

1101
304
Taro Hayakawa, Director
Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka-shi, Osaka
TEL: (OOOO) OO - OOOO
FAX: (OOOO) OO - OOOO
E-mail: abcd@sharp.co.jp
Image status: The brightness is insufficient.
1102

Figure 12

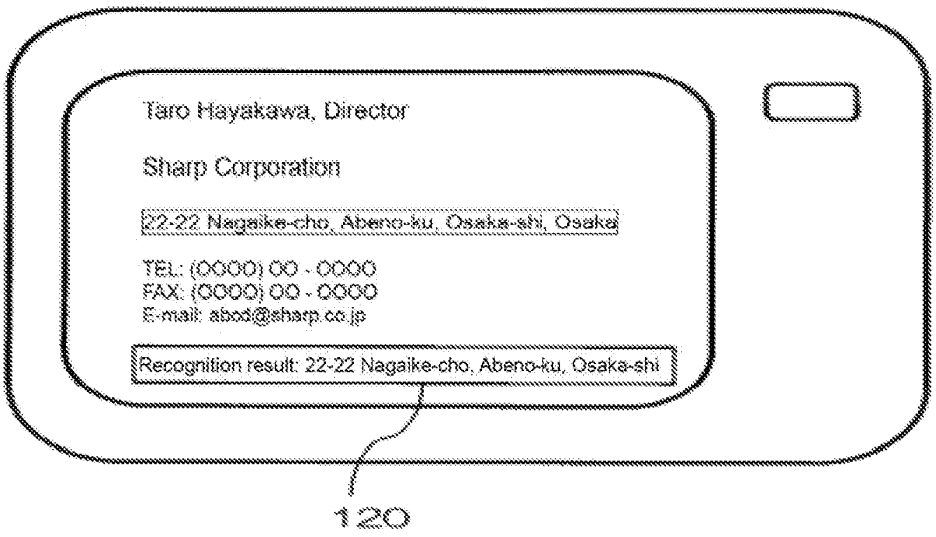

Taro Hayakawa, Director
Sharp Corporation
22-22 Nagaike-cho, Abeno-ku, Osaka-shi, Osaka
TEL: (OOOO) OO - OOOO
FAX: (OOOO) OO - OOOO
E-mail: abod@sharp.co.jp
Recognition result: 22-22 Nagaike-cho, Abeno-ku, Osaka-shi
120

Figure 13

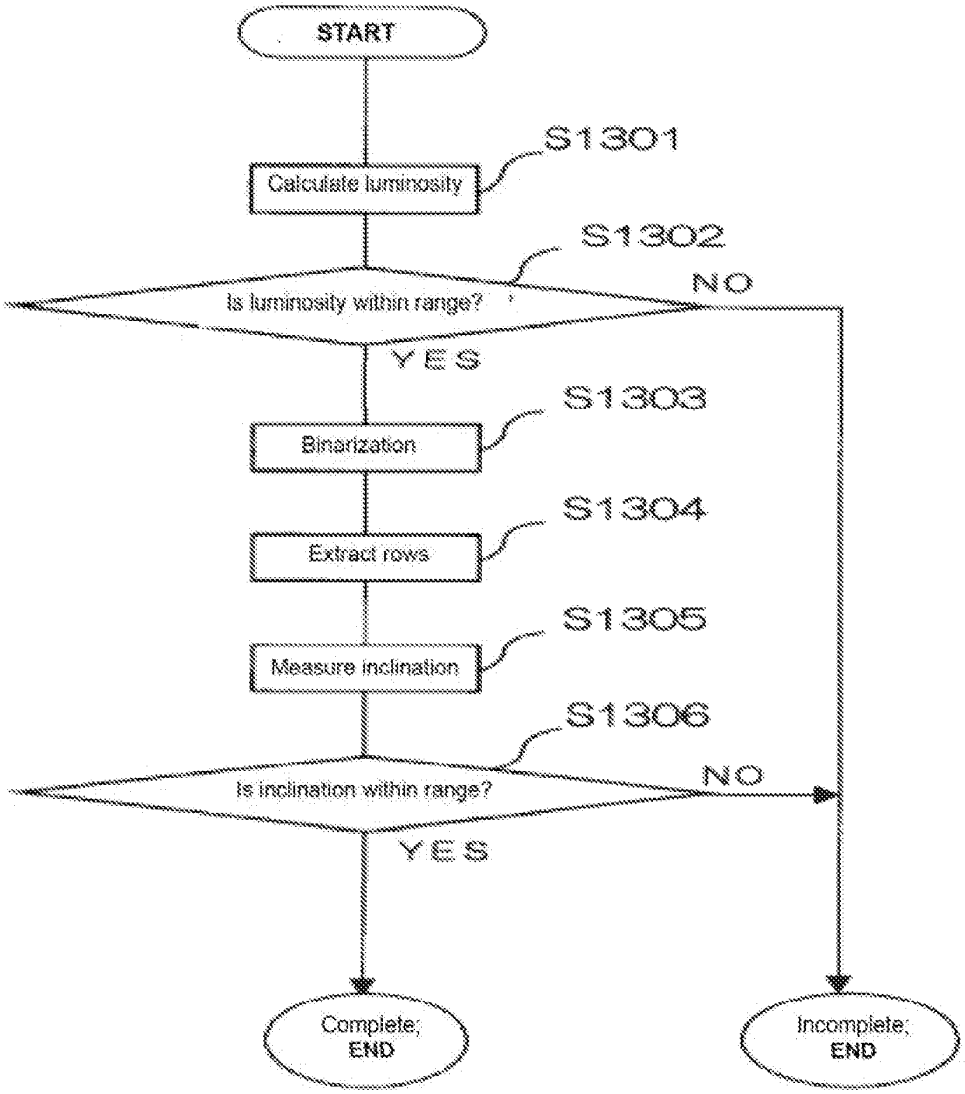
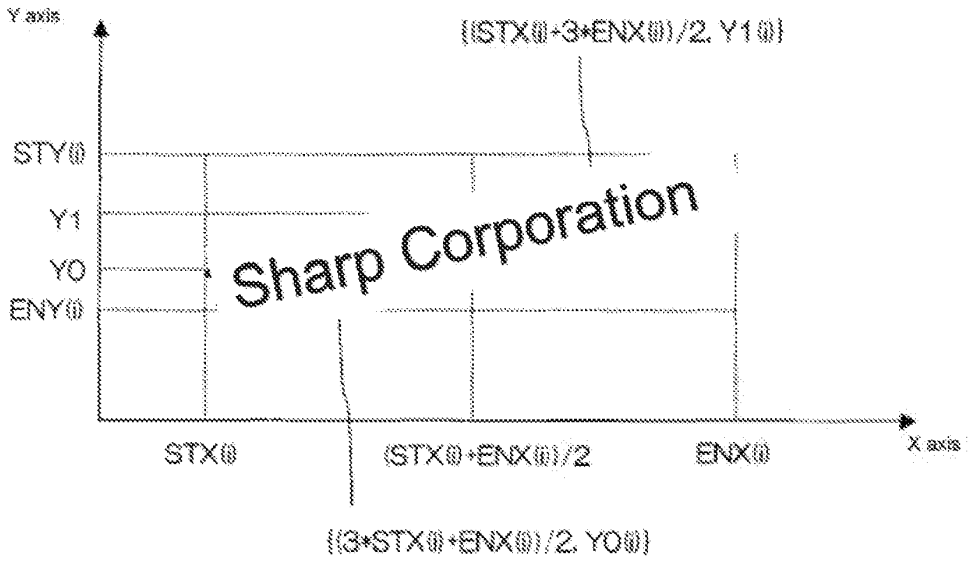

START
S1301
Calculate luminosity
S1302
Is luminosity within range?
NO
YES
S1303
Binarization
S1304
Extract rows
S1305
Measure inclination
S1306
Is inclination within range?
NO
YES
Complete; END
Incomplete; END

Figure 14


Y axis
{(STX@+3*ENX@)/2, Y1@}
STY@
Y1
YO
ENY@
Sharp Corporation
STX@
(STX@+ENX@)/2
ENX@
X axis
{(3*STX@+ENX@)/2, YO@}

Continuation from the front page . . .

| (51) Int. Cl. [7] | FI | | Theme Code (Reference) |
|---|---|---|---|
| H04N 5/93 | H04N 5/91 | L | |
| // H04N 101:00 | H04N 5/93 | Z | |
| | H04N 101:00 | | |

F-term (reference): 5C053 FA08 FA27 GB21 JA16 KA24 LA01 LA06
5L096 BA17 CA02 DA03 FA14 FA67 JA11

Nelles Translations

Certification of Accuracy of Translation

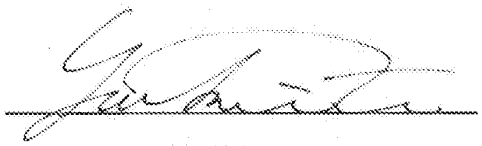
Japanese to English translation of JP2004023158A.pdf

I, Yukie Hirose, hereby certify that the attached English translation is, to the best of my knowledge, a true and accurate translation of JP2004023158A.pdf. The translated text reflects the content, meaning and style of the original text and constitutes a true and accurate translation of the original document.

I acknowledge that willful false statements and the like are punishable by fine or imprisonment, or both under 18 U.S.C. 1001.

All statements made of my own knowledge are true and all statements made on information and belief are believed to be true.

June 17, 2021



Ms. Yukie Hirose

3 Grant Square, #336
Hinsdale, IL 60521
Phone:(312) 977-9772
Email: donh@nellestranslations.com

JP2004023158A.pdf

(19)日本国特許庁(JP)　(12)公開特許公報(A)　(11)特許出願公開番号
特開2004-23158
(P2004-23158A)
(43)公開日　平成16年1月22日(2004.1.22)

| (51)Int.Cl.[7] | | F I | | | テーマコード（参考） |
|---|---|---|---|---|---|
| H04N | 5/92 | H04N | 5/92 | H | 5B064 |
| G06K | 9/00 | G06K | 9/00 | S | 5C022 |
| G06T | 7/00 | G06T | 7/00 | 300F | 5C053 |
| H04N | 5/225 | H04N | 5/225 | A | 5L096 |
| H04N | 5/765 | H04N | 5/225 | F | |

審査請求 未請求　請求項の数 10　ＯＬ　（全 19 頁）　最終頁に続く

(21)出願番号　特願2002-171616(P2002-171616)
(22)出願日　平成14年6月12日(2002.6.12)

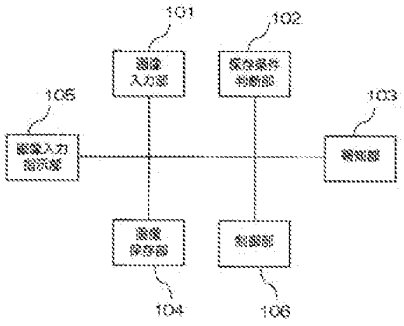
(71)出願人　000005049
シャープ株式会社
大阪府大阪市阿倍野区長池町２２番２２号
(74)代理人　100062144
弁理士　青山　葆
(74)代理人　100086405
弁理士　河宮　治
(74)代理人　100084146
弁理士　山崎　宏
(72)発明者　竹原　和宏
大阪府大阪市阿倍野区長池町２２番２２号
シャープ株式会社内

Ｆターム(参考)　5B064 AA07
5C022 AA13 AC11 AC42 AC69

最終頁に続く

(54)【発明の名称】画像撮像装置

(57)【要約】
【課題】利用者が画像認識に適した撮影状態を容易に調整することができ、画像認識が可能な状態のよい画像を容易に得ることができる画像撮像装置を提供する。
【解決手段】画像認識に適した画像を保存するための保存条件情報に基づいて、画像入力部１０１により撮像された画像の状態が画像認識に適した画像であるか否かを保存条件判断部１０２により判断する。画像入力部１０１により被写体を撮像する毎に、保存条件判断部１０２の判断結果に基づく撮像状態を報知部１０３によりその都度報知する。そして、保存条件判断部１０２が画像入力部１０１により撮像された画像の状態が画像認識に適した画像であると判断すると、画像入力部１０１により撮像された画像を画像保存部１０４に保存する。
【選択図】　図１



【特許請求の範囲】
【請求項１】
被写体を撮像する画像入力手段と、
画像認識に適した画像を保存するための保存条件情報に基づいて、上記画像入力手段により撮像された画像の状態が画像認識に適した画像であるか否かを判断する保存条件判断手段と、
上記画像入力手段により被写体を撮像する毎に、上記保存条件判断手段の判断結果に基づく撮像状態をその都度報知する報知手段と、
上記保存条件判断手段が上記画像入力手段により撮像された画像の状態が画像認識に適した画像であると判断すると、上記画像入力手段により撮像された画像を保存する画像保存手段とを備えたことを特徴とする画像撮像装置。
【請求項２】
請求項１に記載の画像撮像装置において、
上記画像入力手段による画像入力を指示する画像入力指示手段と、
上記画像入力指示手段により画像入力が指示されている間、上記画像入力手段による被写体の撮像と、上記保存条件判断手段により撮像された画像の状態が画像認識に適した画像であるか否かの判断と、上記報知手段による報知と、上記画像保存手段による画像の保存が逐次行われるように、上記画像入力手段，保存条件判断手段，報知手段および画像保存手段を制御する制御手段とを備えたことを特徴とする画像撮像装置。
【請求項３】
請求項１に記載の画像撮像装置において、
上記画像保存手段は、上記保存条件判断手段により上記保存条件を満たしていると判断された上記画像を複数保存することを特徴とする画像撮像装置。
【請求項４】
請求項１に記載の画像撮像装置において、
上記画像保存手段に保存された画像のうちの少なくとも１つを指定する画像指定手段と、
上記画像指定手段により指定された画像を保存する指定画像保存手段とを備えたことを特徴とする画像撮像装置。
【請求項５】
請求項１に記載の画像撮像装置において、
上記画像保存手段に保存された画像のうちの少なくとも１つを指定する画像指定手段と、
上記画像指定手段により指定された画像の文字を認識する文字認識手段とを備えたことを特徴とする画像撮像装置。
【請求項６】
請求項５に記載の画像撮像装置において、
上記文字認識手段による認識結果を保存する文字認識結果保存手段を備えたことを特徴とする画像撮像装置。
【請求項７】
請求項６に記載の画像撮像装置において、
上記報知手段は、上記文字認識結果保存手段に認識結果を保存したことを報知することを特徴とする画像撮像装置。
【請求項８】
請求項１に記載の画像撮像装置において、
上記報知手段は、上記画像保存手段に画像を保存したことを報知することを特徴とする画像撮像装置。
【請求項９】
被写体を撮像する画像入力手段と、
画像認識に適した画像であるか判断するための認識条件情報に基づいて、上記画像入力手段により入力された画像の状態が画像認識に適した画像であるか否かを判断する認識条件判断手段と、

上記画像入力手段により被写体を撮像する毎に、上記認識条件判断手段の判断結果に基づく撮像状態をその都度報知する報知手段と、
上記認識条件判断手段が上記画像入力手段により撮像された画像の状態が画像認識に適した画像であると判断すると、上記画像入力手段により撮像された画像について画像認識を行う画像認識手段とを備えたことを特徴とする画像撮像装置。
【請求項１０】
請求項９に記載の画像撮像装置において、
上記画像入力手段による画像入力を指示する画像入力指示手段と、
上記画像入力指示手段により画像入力が指示されている間、上記画像入力手段による被写体の撮像と、上記認識条件判断手段により撮像された画像の状態が画像認識に適した画像であるか否かの判断と、上記報知手段による報知と、上記画像認識手段による画像認識が逐次行われるように、上記画像入力手段、認識条件判断手段、報知手段および画像認識手段を制御する制御手段とを備えたことを特徴とする画像撮像装置。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】
この発明は、画像撮像装置に関し、特にカメラ機能付きの携帯情報端末や携帯電話等の画像認識機能を有する画像撮像装置に関する。
【０００２】
【従来の技術】
従来より、画像認識としてのＯＣＲ（光学式文字認識）の技術は、文書画像から文字情報を抽出する技術として、文書読取装置、名刺読取装置、報告読取装置などの種々の装置に利用されている。このようなＯＣＲの画像入力手段として、スキャナーが用いられることが一般的であったが、近年、ＣＣＤ（チャージ・カップルド・デバイス）やＣＭＯＳ（コンプリメンタリ・メタル・オキサイド・セミコンダクタ）センサーの進歩により、これらのデバイスを使用したデジタルカメラをＯＣＲの画像入力手段として利用するようになっている。
【０００３】
このような画像認識機能を有する画像撮像装置としては、特開平７－７２５４６号公報に記載されたものがある。この画像撮像装置は、情報処理装置にカメラ機能を備え、さらに文字認識手段を備えることにより、カメラ画像の文字認識を実現している。
【０００４】
また、従来の画像認識機能を有する他の画像撮像装置としては、特開２０００－２０７４８７号公報に記載されたものがある。この画像撮像装置は、ＣＣＤビデオカメラにより文字を撮像して、その撮像された画像から自動的に文字領域を抽出した後、文字認識手段により文字認識結果を取得する。さらに、上記画像撮像装置では、文字認識結果を表示したり、認識結果に応じてアプリケーションプログラムへの連動処理なども実現している。
【０００５】
【発明が解決しようとする課題】
ところで、上記特開平７－７２５４６号公報に記載の画像撮像装置は、シャッター駆動部を備え、レリーズ操作により対象物を撮影するものである。この画像撮像装置では、どのような撮影状態で画像を撮影するかといった判断は利用者が決めるものであり、利用者は個人の経験的な判断等に基づいて状態のよい画像を撮影できるよう配慮して撮影を行うしかないという問題がある。
【０００６】
また、上記利用者による撮影状態の調整は、経験的な判断やおおよその見当といった極めてあいまいなものであるため、例えば利用者は適切と判断して撮影した場合でも、実際は明度不足などにより文字認識に適していない画像を撮影してしまうといった可能性が十分あり得る。また、レリーズ操作による撮影では、撮影時の手振れ等により、例えばぼやけた画像を撮影してしまうといった不具合が起こることもあり得る。特に、片手あるいは両手

Page 214 of 1067

で持って撮影を行う小型の装置の場合、手ぶれが起こる可能性が十分あり得る。その結果、撮影された画像にぶれが生じてしまい、文字認識等に利用できなくなってしまうという不具合が発生する。このため、利用者は、撮影状態を判断しながら慎重にレリーズ操作を行う必要があるが、これが利用者の大きな負担となっている。

【０００７】

また、上記特開２０００－２０７４８７号公報に記載の画像撮像装置では、文字認識対象物をＣＣＤビデオカメラによって撮像する毎に、文字認識結果をその都度表示している。

【０００８】

しかしながら、この画像撮像装置でも、やはり、利用者はどのようにすれば認識に適した画像を撮影できるかが不明であり、利用者は表示画面や認識結果を監視しながら、撮影状態を修正していかなければならないという問題がある。また、上記画像撮像装置は、撮像された画像の一部分について文字認識を行うものであり、文字認識に適した画像全体を撮影するといった機能は持っていないという欠点がある。そのため、文字認識に適した画像を撮影保存し、画像中の文字全てについて文字認識を行うといった用途には適していない。また、撮影保存を繰り返し、複数枚の画像を保存し、その後で、保存した複数枚の画像について文字認識等を行うといった用途にも適していないといった欠点もある。

【０００９】

そこで、この発明の目的は、利用者が画像認識に適した撮影状態を容易に調整することができ、画像認識が可能な状態のよい画像を容易に得ることができる画像撮像装置を提供することにある。

【００１０】

また、この発明のもう１つの目的は、複数の画像に含まれる情報全てについても画像認識が可能な画像撮像装置を提供することにある。

【００１１】

【課題を解決するための手段】

上記目的を達成するため、この発明の画像撮像装置は、画像入力手段により被写体を撮像し、画像認識に適した画像を保存するための保存条件情報に基づいて、上記画像入力手段により撮像された画像の状態が画像認識に適した画像であるか否かを保存条件判断手段により判断して、上記画像入力手段により被写体を撮像する毎に、上記保存条件判断手段の判断結果に基づく撮像状態（明るさや傾きなど）を報知手段によりその都度報知すると共に、上記保存条件判断手段が画像入力手段により撮像された画像の状態が画像認識に適した画像であると判断すると、上記画像入力手段により撮像された画像を画像保存手段に保存する。ここで、画像認識としては、文字認識、バーコード認識、指紋認識、顔画像認識、図面認識などのいずれでもよく、２つ以上の画像認識を組み合わせてもよい。

【００１２】

上記構成の画像撮像装置によれば、上記画像入力手段により被写体を撮像する毎に、上記報知手段により、保存条件判断手段の判断結果に基づいた撮像状態がその都度報知されるため、利用者は報知情報に基づいて容易に撮影の状態を調整することができる。さらに、保存条件情報を満たす画像を上記画像保存手段に保存することにより、状態のよい画像すなわち画像認識に適した画像が保存できる。

【００１３】

また、一実施形態の画像撮像装置は、画像入力指示手段により画像入力が指示されている間、上記画像入力手段による被写体の撮像と、上記保存条件判断手段により撮像された画像の状態が画像認識に適した画像であるか否かの判断と、上記報知手段による報知と、上記画像保存手段による画像の保存が逐次行われるように、上記画像入力手段，保存条件判断手段，報知手段および画像保存手段を制御手段により制御する。

【００１４】

上記実施形態の画像撮像装置によれば、上記画像入力指示手段により指示が行われている間、画像入力および画像の保存が行われるため、利用者にとって使い勝手がよい画像撮像装置を実現できる。

【００１５】
また、一実施形態の画像撮像装置は、上記画像保存手段は、上記保存条件判断手段により上記保存条件を満たしていると判断された上記画像を複数保存する。
【００１６】
上記実施形態の画像撮像装置によれば、上記画像保存手段に保存された複数の画像に含まれる情報全てについて画像認識が可能な画像撮像装置を実現できる。
【００１７】
また、一実施形態の画像撮像装置は、上記画像保存手段に保存された画像の少なくとも１つを画像指定手段により指定し、その指定された画像を指定画像保存手段に保存する。
【００１８】
上記実施形態の画像撮像装置によれば、利用者が上記画像指定手段により例えば複数の画像の中から所望の画像を指定することにより、利用者が希望する画像を上記指定画像保存手段に保存することが可能である。
【００１９】
また、一実施形態の画像撮像装置は、上記画像保存手段に保存された画像の少なくとも１つを画像指定手段により指定し、その指定された画像の文字を文字認識手段により認識する。
【００２０】
上記実施形態の画像撮像装置によれば、上記画像指定手段により指定された画像に関し、文字認識手段により文字認識を行うことにより、利用者は希望する画像中の文字情報を得ることができる。
【００２１】
また、一実施形態の画像撮像装置は、上記文字認識手段による認識結果を文字認識結果保存手段により保存する。
【００２２】
上記実施形態の画像撮像装置によれば、文字情報を保存することができる。
【００２３】
また、一実施形態の画像撮像装置は、上記報知手段は、上記文字認識結果保存手段に認識結果を保存したことを報知する。
【００２４】
上記実施形態の画像撮像装置によれば、上記報知手段により文字認識されたことが報知されるため、利用者は画像認識に適した画像から文字が認識されたことを知ることができる。
【００２５】
また、一実施形態の画像撮像装置は、上記報知手段は、上記画像保存手段に画像を保存したことを報知する。
【００２６】
上記実施形態の画像撮像装置によれば、上記報知手段により画像が保存されたことが報知されるため、利用者は画像認識に適した画像が保存されたことを知ることができる。
【００２７】
また、この発明の画像撮像装置は、画像入力手段により被写体を撮像し、画像認識に適した画像であるか判断するための認識条件情報に基づいて、上記画像入力手段により入力された画像の状態が画像認識に適した画像であるか否かを認識条件判断手段により判断して、上記画像入力手段により被写体を撮像する毎に、上記認識条件判断手段の判断結果に基づく撮像状態を報知手段によりその都度報知すると共に、上記認識条件判断手段が上記画像入力手段により撮像された画像の状態が画像認識に適した画像であると判断すると、上記画像入力手段により撮像された画像について画像認識手段により画像認識を行う。ここで、画像認識としては、文字認識、バーコード認識、指紋認識、顔画像認識、図面認識などのいずれでもよく、２つ以上の画像認識を組み合わせてもよい。
【００２８】

上記構成の画像撮像装置によれば、上記画像入力手段により被写体を撮像する際に、上記報知手段により、認識条件判断手段の判断結果に基づいた撮像状態がその都度報知されるため、利用者は報知情報に基づいて容易に撮影の状態を調整することができる。さらに、認識条件情報を満たす画像について上記画像認識手段により画像認識を行うことにより、状態のよい画像すなわち画像認識に適した画像について画像認識ができる。

【００２９】

また、一実施形態の画像撮像装置は、画像入力指示手段により画像入力が指示されている間、上記画像入力手段による被写体の撮像と、上記認識条件判断手段により撮像された画像の状態が画像認識に適した画像であるか否かの判断と、上記報知手段による報知と、上記画像認識手段による画像認識が逐次行われるように、上記画像入力手段、認識条件判断手段、報知手段および画像認識手段を制御手段により制御する。

【００３０】

上記実施形態の画像撮像装置によれば、上記画像入力指示手段により指示が行われている間、画像入力および画像認識が行われるため、利用者にとって使い勝手がよい画像撮像装置を実現できる。

【００３１】

【発明の実施の形態】

以下、この発明の画像撮像装置を図示の実施の形態により詳細に説明する。

【００３２】

（第１実施形態）

図１はこの発明の第１実施形態の画像撮像装置の主要な機能を示す構成図である。図１に示すように、この第１実施形態の画像撮像装置は、画像入力手段としての画像入力部１０１、保存条件判断手段としての保存条件判断部１０２、報知手段としての報知部１０３、画像保存手段としての画像保存部１０４、画像入力指示手段としての画像入力指示部１０５と、制御手段としての制御部１０６とを備えている。

【００３３】

また、図５は上記画像入力部１０１の主要な構成例としての撮像装置５０１と、表示装置５０５を示している。この撮像装置５０１は、図５に示すように、ＣＣＤ５０２と、Ａ／Ｄ（アナログ／デジタル）コンバータ５０３と、画像メモリ５０４とを備えている。上記ＣＣＤ５０２は、被写体像をアナログ信号に変換し、Ａ／Ｄコンバータ５０３は、ＣＣＤ５０２からのアナログ信号をデジタル画像データに変換して、変換されたデジタル画像データを画像メモリ５０４に格納する。そして、上記画像メモリ５０４に格納されたデジタル画像データを、表示装置５０５により表示する。この表示装置５０５は、ＬＣＤ（液晶ディスプレイ）５０６とバックライト５０７とを備えている。

【００３４】

図１に示す保存条件判断部１０２は、画像入力部１０１内（より詳しくは図５に示す画像メモリ５０４内）の画像データが画像認識に適しているか判断するための保存条件情報を保持し、上記画像データが上記保存条件を満たしているか否かを判断する手段である。ここで「保存条件」とは、画像の明るさが適切である、画像が傾いていない、等といった条件情報のことであり、詳細な例については後述する。

【００３５】

また、上記報知部１０３は、保存条件判断部１０２の判断結果を元に、保存条件が満たされない場合、画像の状態や、画像が保存されるための利用者への指示などを報知する手段である。

【００３６】

また、上記画像保存部１０４は、保存条件判断部１０２が保存に適していると判断した時点における画像入力部１０１内の画像データを保存する手段であり、具体的には、ＲＡＭ（ランダム・アクセス・メモリー）などがこれに該当する。なお、上記画像保存部１０４を、フラッシュメモリ、磁気ディスクなどといった、電源の供給なしでデータを保持できる構成にしてもかまわない。

【００３７】
さらに、上記画像保存部１０４は、複数の画像を保存することが可能な例えば図６に示すような構成からなる。図６の画像保存領域６０１は、カウンタ領域６０２と、定められた数（Ｍ個）の画像保存領域６０３とから構成されており、画像データは、カウンタ領域６０２内のカウンタが指す値の番号の画像保存領域に保存されるものとする。
【００３８】
また、図１に示す画像入力指示部１０５は、画像入力部１０１，保存条件判断部１０２，報知部１０３および画像保存部１０４の動作が有効であることを指示するための手段であり、具体的にはスイッチ等である。
【００３９】
また、上記制御部１０６は、画像入力指示部１０５により画像入力が指示されている間、画像入力部１０１による画像の入力と、保存条件判断部１０２による画像の状態が画像認識に適した画像であるかどうかの判断と、報知部１０３による報知と、画像保存部１０４による画像の保存が逐次行われるように、画像入力部１０１，保存条件判断部１０２，報知部１０３および画像保存部１０４を制御する。
【００４０】
図３（ａ），（ｂ）は、この第１実施形態の具体的な構成例であるカメラ付き携帯端末型の画像撮像装置を示しており，図３（ａ）は正面図であり、図３（ｂ）は裏面図である。この画像撮像装置は、本体３０１と、ディスプレイ３０２と、カメラ３０３と、起動ボタン３０４とを備えている。
【００４１】
図３（ｂ）に示すカメラ３０３は画像入力部１０１（図１に示す）に該当し、図３（ａ）に示す起動ボタン３０４は画像入力指示部１０５（図１に示す）に該当する。
【００４２】
次に、図２のフローチャートを参照しながら、この第１実施形態の画像撮像装置の動作を説明する。ここでは、利用者が，図４に示す認識対象文書である名刺４０１を、文字認識後に住所録などに利用する目的で，文字認識に適した状態で撮影保存することを試みるものとする。
【００４３】
最初に、図２のステップＳ２０１において、利用者が画像入力指示部１０５にて指示（図３（ａ）の起動ボタン３０４を押し続ける操作）を行うことにより，画像入力を開始する。
【００４４】
次に，ステップＳ２０２において，画像保存部１０４内のカウンタ（図６のカウンタ領域６０２内の数値）が初期化され，カウンタの値は１となる。
【００４５】
次に、ステップＳ２０３において、画像入力部１０１（図３（ｂ）に示すカメラ３０３）により、被写体（名刺４０１）の撮像が開始される。
【００４６】
次に、ステップＳ２０４において、画像入力部１０１内の画像データに対して，保存条件判断部１０２が保存条件を満たすか否かを判断する。この保存条件および保存条件判断部１０２の判断の詳細な説明に関しては、後述する。
【００４７】
次に、ステップＳ２０５で，ステップＳ２０４の結果により保存条件判断部１０２により画像データが保存条件を満たさないと判断した場合は，ステップＳ２０６に進む一方，画像データが保存条件を満たすと判断した場合は、ステップＳ２０７に進む。
【００４８】
ステップＳ２０６では，画像データが保存条件を満たさないため、報知部１０３により画像の状態を報知し、ステップＳ２０８に進む。例えば、ステップＳ２０６で保存条件判断部１０２により明度が不足していると判断された場合、図７の７０１のように「明るさが

不足しています」との情報を報知する。また、保存条件判断部１０２により画像が傾いていると判断された場合、図８の８０１のように、「文書が左に傾いています」との情報を報知する。

【００４９】

一方、ステップＳ２０５からステップＳ２０７に進んだ場合、ステップＳ２０７において、画像入力部１０１内の画像データが、画像保存部１０４に保存される。この実施形態では、カウンタ値（図６のカウンタ領域６０２内の値）をｍとすると、画像データは、ｍ番目の画像保存領域６０３に保存される。

【００５０】

次に、ステップＳ２０８において、カウンタ値を１つ増加する。図６では領域数がＭであるが、カウンタ値ｍが　ｍ　＞　Ｍとなった場合は、ｍ　＝　１とするものとする。

【００５１】

次に、ステップＳ２０９において、利用者が画像入力指示部１０５により入力指示を継続中であるか否か（図３（ａ）の起動ボタン３０４を押し続けているか否か）により、処理が分岐し、入力指示が継続中であれば、ステップＳ２０３に戻り、入力指示が行われていなければ、処理を終了する。

【００５２】

すなわち、この実施形態では、画像入力指示部１０５により指示が継続中である（図３（ａ）の例では起動ボタン３０４を押し続けている）場合、保存条件判断部１０２により撮像状態が保存条件を満たさないと判断される間は、ステップＳ２０３、Ｓ２０４、Ｓ２０５、Ｓ２０６、Ｓ２０９の処理を繰り返す。

【００５３】

このようにして、利用者は、報知部１０３により都度報知される画像の状態に関する情報をもとに、明度、傾きなどといった撮像状態を調整していく。

【００５４】

そうして、利用者が撮像状態を調整することによって、保存条件判断部１０２により撮像状態が保存条件を満たすと判断された場合、ステップＳ２０５からステップＳ２０７以下に進み、画像の保存が行われる。

【００５５】

以下、上記ステップＳ２０４における画像状態の判断に関する詳細を、図１３のフローチャートと図１４を用いて説明する。図１３は画像の状態を判断する処理を示すフローチャートであり、図１４は文字列の傾き検出を説明する図である。

【００５６】

まず、図１３の最初のステップＳ１３０１において、画像入力部１０１内の画像の明るさ（明度）が算出され、ステップＳ１３０２で算出された数値が適切な数値であるかが判定される。

【００５７】

明度は、画像入力部１０１内の画像が白黒多値画像の場合、

【数１】

$$\text{明度}L = \frac{\sum_{i=1,j=1}^{w,h} P(i,j)}{\text{画像の横ピクセル数} \times \text{画像の縦ピクセル数}}$$

の式で求められる（ただし、Ｐ（ｉ，ｊ）は、画像中の（ｉ，ｊ）座標における画素値、ｗは画像の横幅ピクセル数、ｈは画像の縦幅ピクセル数）。カラー画像で、例えば、Ｒ（赤）、Ｇ（緑）、Ｂ（青）で出力される場合でも、各画素ごとに、

変換後の画素値　＝　（Ｒ＋Ｇ＋Ｂ）／３

の式で変換し、白黒多値画像に変換後、前述の明度を求める式で算出できる。

【００５８】

通常、画像の明度が低すぎる場合、あるいは極端に高すぎる場合でも、認識精度は低下する。したがって、上記算出した明度Ｌについて、

Ｌ０ ≦ Ｌ かつ Ｌ ≦ Ｌ１

ならば、明度の値は適切であるという条件式、および、下限値Ｌ０，上限値Ｌ１の値が保存条件情報の１つとなっている。

【００５９】

ステップＳ１３０２において、保存条件判断部１０２は、明度Ｌが保存条件情報を満たす、すなわち、

Ｌ０ ≦ Ｌ かつ Ｌ ≦ Ｌ１

を満たすか否かを判定する。この条件に適していなければ、保存条件は満たさないとして終了する。このとき、満たさない原因がわかっており、さらに、撮影条件をどのように変更すれば保存条件に適するかも簡単に求められる。

【００６０】

例えば、Ｌ ＜ Ｌ０ である場合、明るさが不足しているため、より明るい撮影状態にする必要がある。この状態を報知している例が図７である。

【００６１】

利用者は、表示された報知情報により、現在の撮影環境が文字画像を撮影保存するためには暗い環境であるということを知り、室内を明るくするなどの改善を行う。再度、ステップＳ１３０２に進んだときに明るさに関する条件は満たされたならば、次はステップＳ１３０３に進むことになる。

【００６２】

ステップＳ１３０３からステップＳ１３０６までの処理では、名刺４０１の傾きを計測し、傾きが許容範囲内かどうかを測定する。なお、画像の傾きを測定する処理はさまざまな手法が考えられるが、例えば、後述のように最初に文書画像が多値画像であった場合は文書画像の２値化を行い、次に画像中の文字列を抽出し、その後、各文字列の傾きの平均を求めて、求めた平均値を画像の傾きの値とするといった手法で容易に実現できる。

【００６３】

最初にステップＳ１３０３において、画像入力部１０１内の画像の２値化処理を行う。画像が白黒多値画像の場合は、そのまま２値化の閾値を求める。カラー画像である場合、例えばＲＧＢで表される場合などは前述の変換処理により、白黒多値画像に変換後、閾値を求める。閾値が定まると、各画素について、閾値未満ならば１（文字成分）、閾値以上ならば０（背景成分）と変換することにより、２値画像に変換することができる。２値化の閾値の求め方に関しては、さまざまな手法が存在するが、例えば、「大津のアルゴリズム」と呼ばれる判別分析法を用いることにより容易に実現できる。

【００６４】

次に、ステップＳ１３０４において、文字列（行）抽出処理を行う。文字列の抽出に関してはさまざまな方法が存在するが、例えば、特許第３０５８４８９号「文字列抽出方法」に文書画像から文字列を抽出する方法が記載されており、この実施形態でも、この方法を用いることにより、文字列を抽出することが容易に実現できる。

【００６５】

次に、ステップＳ１３０５において、各文字列の傾きの計測を行う。文字列の傾き計測に関しても様々の方法が存在するが、例えば次のような方法で求められる。以下、図８を参照して説明する。ステップＳ１３０４の行抽出処理にて、行数と各行の外接枠の座標が抽出できる。Ｎ行抽出された（この実施形態では、Ｎ＝６）として，各ｉ行（ｉ＝１～Ｎ）の左上座標を｛ＳＴＸ（ｉ），　ＳＴＹ（ｉ）｝とし，右下座標を｛ＥＮＸ（ｉ），　ＥＮＹ（ｉ）｝とする。この各行を、Ｘ座標値が、（ＳＴＸ（ｉ）＋ＥＮＸ（ｉ））／２の箇所で，左右に分割する。ここで左の領域をＡ０，　右の領域をＡ１とする。Ａ０，Ａ１　のそれぞれの領域について，それぞれについてＹ方向の重心　Ｙ０，Ｙ１　を次のように求める。

【００６６】

【数２】

$$Y0 = \sum_{y=sty(0)}^{} \frac{y \times M0(y)}{A0\text{内の総文字画素数}}$$

ただし、Ｍ０（ｙ）　は、Ａ０　領域内でＹ座標が　ｙ　である直線上に存在する文字画素数である。また、重心Ｙ１　に関しても同様の式により求められる。

【００６７】

以上の重心Ｙ０、Ｙ１　を用いて、各１行（ｉ＝１～Ｎ）の行の傾きθ（ｉ）［度］を、

$$\tan\theta(i) = (Y1-Y0)/\{(ENX(i)-STX(i))/2\}$$
$$= 2\times(Y1-Y0)/\{(ENX(i)-STX(i))$$

で表せるので、傾きθ（ｉ）は、

θ（ｉ）　＝ａｒｃｔａｎ｛２×（Ｙ１－Ｙ０）／｛（ＥＮＸ（ｉ）－ＳＴＸ（ｉ））｝

により求められる。最後に、傾きθ（ｉ）の平均値θを求め、その値を傾きとする。

【００６８】

以上、画像の傾きの計測方法に関して述べたが、その他さまざまな計測方法があり、上記の方法に制限されるものではない。

【００６９】

次に、図１３のステップＳ１３０６において、ステップＳ１３０５で求めた傾きが認識対象として問題ないか否かが判定される。一般にＯＣＲは、認識対象の文書画像の傾きが大きい場合、認識精度は低下する。

【００７０】

ここでは傾き許容範囲は、認識実験等からα［度］以内と定められたとする。

すなわち、

$-\alpha \leqq \theta$　かつ　$0 \leqq \alpha$

ならば、傾きは許容範囲であるという条件が保存条件情報の一構成要素となっている。

【００７１】

ステップＳ１３０６において、ステップＳ１３０５で求めた傾きθが上記条件を満たさないとき、すなわち、

$\theta < -\alpha$　または　$\alpha < \theta$

のとき、保存条件は満たさないとして終了する。このときの傾きに関する画像の状態の報知例を図８の８０１に示しており、「文書が左に傾いています」が表示される。

【００７２】

このように、上記第１実施形態の画像撮像装置によれば、保存条件情報による保存条件判断部１０２の判断結果に基づいて画像の保存が行われ、利用者の経験的な判断などといったあいまいな基準でなく、正確な保存条件情報をもとに保存が行われることにより、画像認識に適した状態のよい画像を保存することができる。また、保存条件を満たしている場合、保存条件を満たしている画像が保存されるため、手ぶれ等のレリーズ操作時の不注意により、画像認識に適さない画像を撮影してしまう危険性をなくすことができる。さらに、撮像状態が報知部１０３により都度報知されることにより、利用者は報知された撮影状態をもとにして適切に撮影状態を調整することができる。

【００７３】

また、画像入力指示部１０５により、指示が行われている間、画像の入力が行われるため、利用者にとって使い勝手がよい。

【００７４】

この第１実施形態では、画像保存部１０４内に複数の保存領域を有し、保存領域を順次更新していったが、保存領域は単数で保存に適した画像が更新されて保存される構成としてもよい。また、単数あるいは複数の保存領域すべて保存した場合、新たに保存しないように構成することも容易である。

【００７５】

また、図９に示すように、画像保存部１０４に画像が保存されたことを表示やアラームなどの音声機能を用いて報知することも容易にできる。図９では、画像表示により９０１のように、「画像を保存しました」との情報を報知する。報知を行っているが、アラームなどの音声機能を用いて報知することも容易に実現できる。

【００７６】

さらに、画像が保存されたことを報知部１０３により報知することによって、利用者は画像が保存されたことを知ることができる。

【００７７】

（第２実施形態）

図１０（Ａ）はこの発明の第２実施形態の画像撮像装置の一例としての携帯端末の主要な機能を示す構成図である。図１０（Ａ）に示すように、この第２実施形態の画像撮像装置は、画像入力手段としての画像入力部１０１、保存条件判断手段としての保存条件判断部１０２、報知手段としての報知部１０３、画像保存手段としての画像保存部１０４、画像入力指示手段としての画像入力指示部１０５と、制御手段としての制御部１０６と、画像指定手段としての画像指定部１０７と、指定画像保存手段としての指定画像保存部１０８と、文字認識手段としての文字認識部１１１と、文字認識結果保存手段としての認識結果保存部１１２とを備えている。

【００７８】

この第２実施形態の携帯端末では、フラッシュメモリ、磁気ディスクなどの電源の供給なしで記憶データを保持可能な指定画像保存部１０８、画像指定部１０７を備えることによって、画像保存部１０４に保存された画像を、利用者が画像指定部１０７により指定し、指定された画像を指定画像保存部１０８に保存する。

【００７９】

また、文字認識部１１１と画像指定部１０７を備え、上記指定画像保存部の代わりに文字認識結果の保存が可能な認識結果保存部１１２を備えることにより、画像指定部１０７により指定した画像を文字認識部１１１により文字認識し、その文字認識結果を認識結果保存部１１２に保存する。

【００８０】

図１０（Ｂ）に上記携帯端末の正面図を示している。図１０（Ｂ）では、利用者は、ディスプレイ３０２に表示された画像保存部１０４（図１０（Ａ）に示す）内の画像１００１の中から、１つの画像を画像指定手段としての操作用ペン３０５により指定する。

【００８１】

利用者が、画像保存ボタン１００２を選択することにより、指定された画像は内蔵された指定画像保存部１０８に保存される。また、認識開始ボタン１００３を選択することにより、文字認識部１１１は、指定された画像中の文字を認識する。認識結果は、認識終了後に表示され、認識結果保存部１１２に保存される。

【００８２】

このように、上記第２実施形態の携帯端末によれば、上記画像保存部１０４に複数の画像を保存し、利用者が画像指定部１０７により指定できるため、希望する画像を保存することが可能である。

【００８３】

また、上記画像指定部１０７により指定された画像に関し、文字認識部１１１により文字認識を行うことにより、利用者は希望する画像の文字情報を得ることができる。

【００８４】

さらに、上記文字認識部１１１による認識結果を認識結果保存部１１２により保存することによって、文字情報を保存することができる。

【００８５】

さらに、文字認識部１１１による認識結果が保存されたことが報知部１３により報知されるため、利用者は文字認識されたことを知ることができる。

【００８６】

（第３実施形態）
図１１（Ａ）はこの発明の第３実施形態の画像撮像装置の主要な機能を示す構成図である。図１１（Ａ）に示すように、この第２実施形態の画像撮像装置は、画像入力手段としての画像入力部１０１、報知手段としての報知部１０３、画像入力指示手段としての画像入力指示部１０５と、制御手段としての制御部１０６と、認識条件判断手段としての認識条件判断部１１０と、画像認識手段としての文字認識部１１１と、文字認識結果保存手段としての認識結果保存部１１２とを備えている。
【００８７】
上記第３実施形態の携帯端末では、認識条件判断部１１０は、画像入力部１０１内の画像データが画像認識に適した画像であるか判断するための認識条件情報を保持し、上記画像データが上記認識条件を満たしているか否かを判断する。そして、上記報知部１０３は、認識条件判断部１１０の判断結果を元に、認識条件が満たされない場合、画像の状態や、画像が保存されるための利用者への指示などを報知する。また、上記文字認識部１１１は、認識条件判断部１１０が文字認識に適していると判断した時点における画像入力部１０１内の画像データについて文字認識を行う。そうして得られた文字認識部１１１の認識結果を認識結果保存部１１２に保存する。
【００８８】
また、上記制御部１０６は、画像入力指示部１０５により画像入力が指示されている間、画像入力部１０１による画像の入力と、認識条件判断部１１０により撮像された画像の状態が文字認識に適した画像であるか否かの判断と、報知部１０３による報知と、文字認識部１１１の文字認識と、認識結果保存部１１２の保存が逐次行われるように、画像入力部１０１，報知部１０３，認識条件判断部１１０，文字認識部１１１および認識結果保存部１１２を制御する。
【００８９】
また、図１１（Ｂ）は上記携帯端末の正面図であり、画像の状態（明るさに関する）の報知例を示しており、図１２は画像の認識結果の報知例を示している。
【００９０】
図１１（Ｂ）では、画像入力時に認識対象領域１１０１が表示され、その認識対象領域１１０１について、起動ボタン３０４（画像入力指示部１０５）を押している間、認識条件判断部１１０により、認識条件情報を満たすか否かの判断が行われるものとする。
【００９１】
ここで、認識条件判断部１１０による認識条件情報を満たすか否かの判断は、第１実施形態で述べた画像保存条件を満たすか否かの判断と同様に行えばよい。
【００９２】
認識条件情報を満たさない場合、図１１（Ｂ）の１１０２のように、「画像の状態：明るさが不足しています」との撮像状態を都度報知する。図１１（Ｂ）にて、その例（明度が不足している場合の例）を示している。
【００９３】
一方、認識条件情報を満たす場合、図１２に示すように、認識対象領域１１０１についての認識結果を表示する。図１２の１２０１のように、「認識結果：大阪市阿倍野区長池町２２番２２号」と報知する。
【００９４】
このように、上記第３実施形態の携帯端末によれば、認識条件情報による認識条件判断部１１０の判断結果に基づいて画像の認識が行われ、利用者の経験的な判断などといったあいまいな基準でなく、認識条件情報をもとに画像認識が正確な行われることにより、画像認識に適した撮影状態での認識が可能である。また、認識条件を満たしている場合、認識条件を満たしている画像について画像認識されるため、手ぶれ等のレリーズ操作時の不注意により、認識に適さない画像を撮影してしまう危険性をなくすことができる。同様に、認識条件を満たしている場合、認識が行われるため、認識に適した画像について文字認識を行うため、認識精度の向上が実現できる。さらに、撮像状態が報知部１０３により都度

報知されることにより、利用者は報知された撮影状態をもとにして適切に撮影状態を調整することができる。

【００９５】

上記第１～第３実施形態では、画像認識として文字認識機能を有する画像撮像装置について説明したが、文字認識に限らず、バーコード認識、指紋認識、顔画像認識、図面認識などの一般の画像認識機能を有する画像撮像装置にこの発明を適用してもよい。

【００９６】

この発明の画像撮像装置は、上記第１～第３実施形態に限定されるものではなく、例えば、第２、第３実施形態を組み合わせて、保存条件判断部と認識条件手段部とを備え、画像の保存と画像認識とを行う画像撮像装置に適用してもよい。

【００９７】

【発明の効果】

以上より明らかなように、この発明の画像撮像装置によれば、保存条件情報による保存条件判断手段の判断結果に基づいて画像の保存を行うことによって、利用者の経験的な判断などといったあいまいな基準でなく、実験等で求められた正確な保存条件情報をもとに画像保存手段により保存が行われることにより、画像認識に適した状態のよい画像の保存が可能である。さらに、保存条件を満たしている場合、保存条件を満たしている画像が保存されるため、手ぶれ等のレリーズ操作時の不注意により、認識に適さない画像を撮影してしまう危険性をなくすことができる。さらに、撮像状態が報知手段により都度報知されることにより、利用者は報知された撮影状態をもとにして適切に撮影状態を調整することができる。

【００９８】

また、この発明の画像撮像装置によれば、認識条件情報による認識条件判断手段の判断結果に基づいて画像認識（文字、バーコード、指紋、顔、図面などの認識）を行うことによって、利用者の経験的な判断などといったあいまいな基準でなく、実験等で求められた正確な認識条件情報をもとに画像認識手段により画像認識が行われることにより、画像認識に適した撮影状態での認識が可能である。さらに、認識条件を満たしている場合、認識条件を満たしている画像について画像認識されるため、手ぶれ等のレリーズ操作時の不注意により、認識に適さない画像を撮影してしまう危険性をなくすことができる。同様に、認識条件を満たしている場合、認識が行われるため、認識に適した画像について文字認識を行うため、認識精度の向上が実現できる。さらに、撮像状態が報知手段により都度報知されることにより、利用者は報知された撮影状態をもとにして適切に撮影状態を調整することができる。

【図面の簡単な説明】

【図１】図１はこの発明の第１実施形態の画像撮像装置のブロック図である。

【図２】図２は上記画像撮像装置のフローチャートである。

【図３】図３（ａ）はカメラ付き携帯端末型の画像撮像装置を示す正面図であり、図３（ｂ）は上記画像撮像装置の裏面図である。

【図４】図４は認識対象とする文書（名刺）を示す図である。

【図５】図５は上記画像撮像装置の画像入力部の構成を示すブロック図である。

【図６】図６は上記画像撮像装置の画像保存部の構成を示す図である。

【図７】図７は画像の状態（明るさに関する）を報知する例を示す図である。

【図８】図８は画像の状態（傾きに関する）を報知する例を示す図である。

【図９】図９は画像を保存したことを報知する例を示す図である。

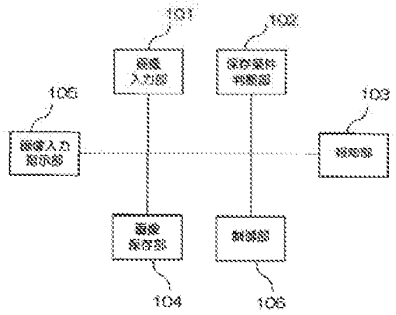
【図１０】図１０（Ａ）はこの発明の第２実施形態の画像撮像装置の一例としての携帯端末のブロック図であり、図１０（Ｂ）は上記携帯端末の正面図である。

【図１１】図１１（Ａ）はこの発明の第３実施形態の画像撮像装置の一例としての携帯端末のブロック図であり、図１１（Ｂ）は上記携帯端末の正面図であり、画像の状態（明るさに関する）の報知例を示す図である。

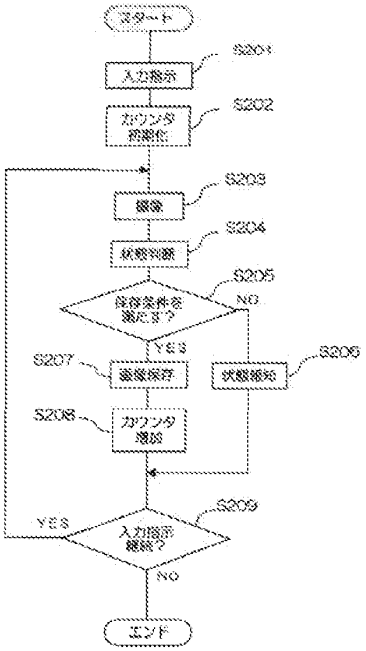
【図１２】図１２は上記携帯端末の画像の認識結果の報知例を示す図である。

【図１３】図１３は上記第１実施形態の画像認識装置の画像の状態を判断する処理を示すフローチャートである。
【図１４】図１４は上記第１実施形態の画像認識装置の文字列の傾き検出例を示す図である。
【符号の説明】
１０１…画像入力部、
１０２…保存条件判断部、
１０３…報知部、
１０４…画像保存部、
１０５…画像入力指示部、
１０６…制御部、
１０７…画像指定部、
１０８…指定画像保存部、
１１０…認識条件判別部、
１１１…文字認識部、
１１２…認識結果保存部、
３０１…本体、
３０２…ディスプレイ、
３０３…カメラ、
３０４…起動ボタン、
３０５…操作用ペン、
４０１…名刺、
５０１…撮像装置、
５０２…ＣＣＤ、
５０３…Ａ／Ｄコンバータ、
５０４…画像メモリ、
５０５…表示装置、
５０６…ＬＣＤ、
５０７…バックライト、
６０１…画像保存領域、
６０２…カウンタ領域、
６０３…画像保存領域、
７０１…撮像時の状態（明るさに関する）の報知例、
８０１…撮像時の状態（傾きに関する）の報知例、
９０１…画像保存時の報知例、
１００１…保存された複数の画像のうちの一画像、
１００２…画像保存ボタン、
１００３…認識開始ボタン、
１１０１…認識対象領域、
１１０２…画像の状態の報知例、
１２０１…認識結果の報知例。

【図１】

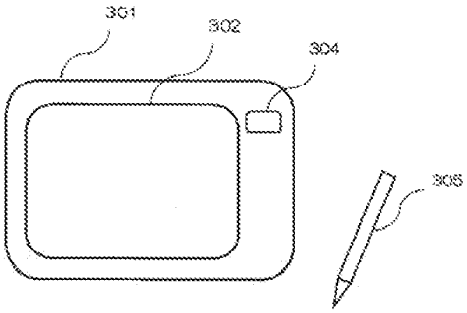

101
102
103
105
104
106

【図２】

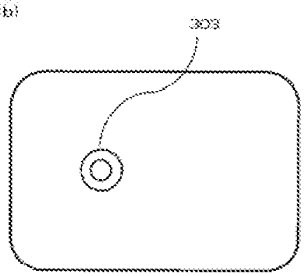

スタート
S201
S202
S203
S204
S205
NO
YES
S207
S206
S208
S209
YES
NO
エンド

【図３】

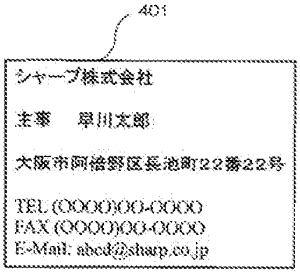
(a)


301
302
304
305

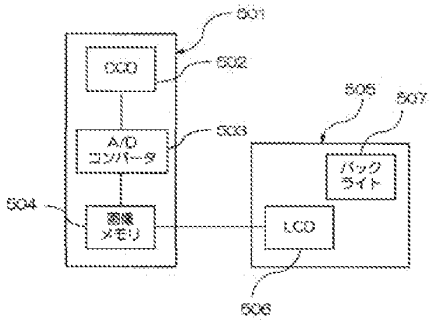
(b)


303

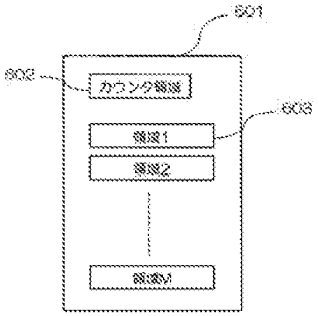
【図４】


401
シャープ株式会社
主事　早川太郎
大阪市阿倍野区長池町22番22号
TEL (OOOO)OO-OOOO
FAX (OOOO)OO-OOOO
E-Mail: abcd@sharp.co.jp

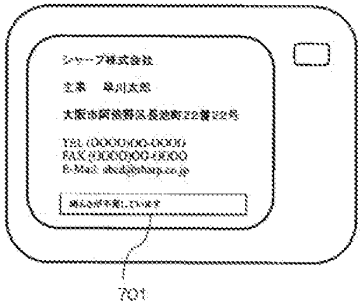
【図５】


501
CCD
502
A/D
コンバータ
503
504
画像
メモリ
505
507
バック
ライト
LCD
506

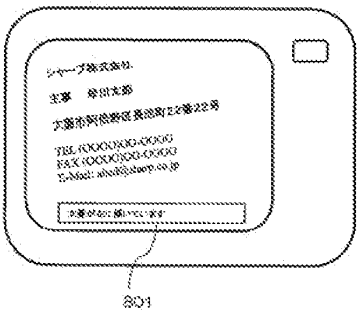
【図６】


601
602
カウンタ制御
603
領域1
領域2
領域N

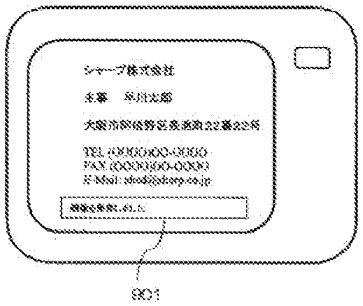
【図７】


701

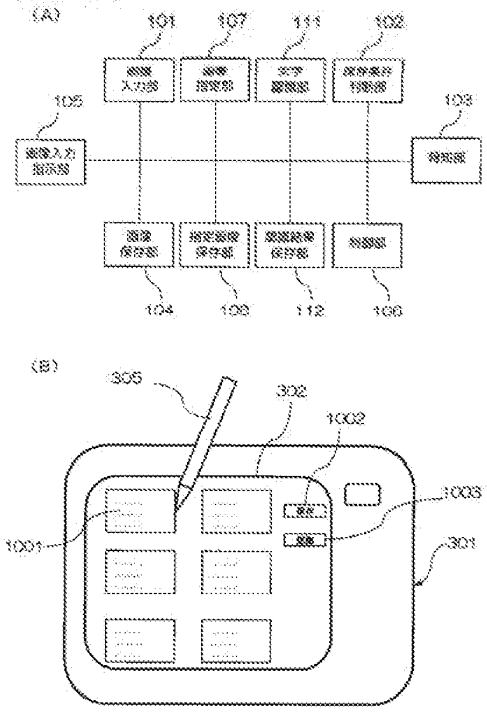
【図８】


801

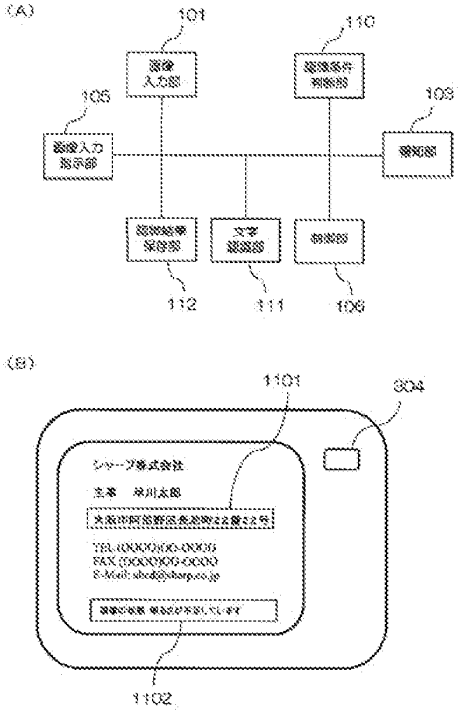
【図９】



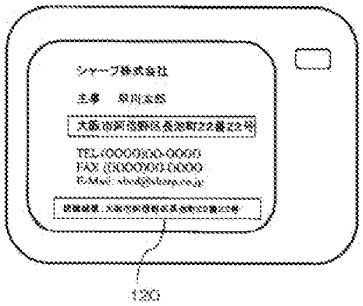

【図１０】



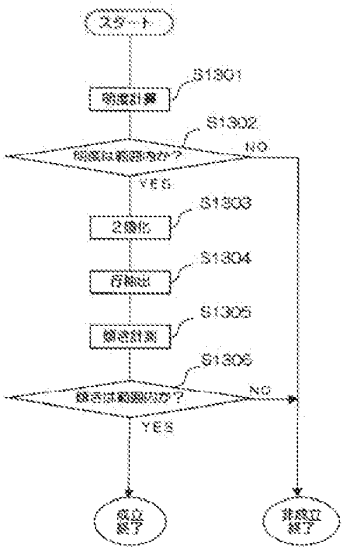

【図１１】



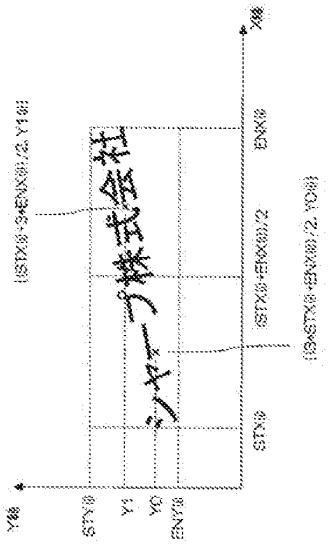

【図１２】



【図１３】


S1301
S1302
NO
YES
S1303
S1304
S1305
S1306
NO
YES

【図１４】


株式会社ニュース
X軸
Y軸
(STX/8-1)*ENX/8+1/2, Y1
(STX/8-1)*ENX/8+1/2
(STX/8)*ENX/8+1/2, Y0
ENX/8
STX/8

フロントページの続き

| (51)Int.Cl.[7] | FI | | テーマコード（参考） |
|---|---|---|---|
| H04N 5/93 | H04N 5/91 | L | |
| // H04N 101:00 | H04N 5/93 | Z | |
| | H04N 101:00 | | |

Fターム(参考) 5C053 FA08 FA27 GB21 JA16 KA24 LA01 LA06
5L096 BA17 CA02 DA03 FA14 FA67 JA11

**G06Q20/04 (EP,US); G06Q20/10 (EP,US); G06Q20/20 (EP,US); G06Q20/223 (EP,US); G06Q20/32 (EP,US); G06Q20/3223 (EP,US); G06Q20/40 (EP,US); G06Q20/425 (EP,US); G07F9/001 (EP,US); G07F9/002 (EP,US);**

Priorities

ES200000724A·2000-03-24; ES200001573A·2000-06-23; ES200001574A·2000-06-23

Application

JP2000236795A·2000-08-04

Publication

JP3708807B2·2005-10-19

Published

JP3708807B2;

Abstract

PROBLEM TO BE SOLVED: To provide a simultaneous remote payment transaction system and process to be used for an arbitrary purchase format independently of the format of the portable telephone of a user. SOLUTION: In this system and process for processing payment transaction between a payer (13) and paynees (27, 29, 14, 14a, 13a, 46) related with the system by using a first server (20) mutually connected to remote communicating means (18, 19, 28, 47), the remote communicating means is provided with a first data storing means (22) including the allowable identification code of the payee and the information on the payer (13) such as an allowable telephone number, a second data storing means (21) including second information related with the types of digital portable telephones (16, 41) belonging to each telephone number, and a selecting means (20h) for selecting one of the remote communication equipment (18, 19) communicating with the portable telephones (16, 41) identified with the allowable telephone numbers by a remote communication service matches with the types of the identified digital portable telephones (16, 41).

(19)日本国特許庁(JP)　(12)特　許　公　報(B2)　(11)特許番号
特許第3708807号
(P3708807)
(45)発行日　平成17年10月19日(2005.10.19)　(24)登録日　平成17年8月12日(2005.8.12)

(51)Int.Cl.[7]　F I
G06F 17/60　G06F 17/60　414
G06F 17/60　240
G06F 17/60　404
G06F 17/60　506

請求項の数 42　外国語出願　(全 45 頁)

(21)出願番号　特願2000-236795(P2000-236795)
(22)出願日　平成12年8月4日(2000.8.4)
(65)公開番号　特開2001-283124(P2001-283124A)
(43)公開日　平成13年10月12日(2001.10.12)
審査請求日　平成13年11月12日(2001.11.12)
(31)優先権主張番号　200000724
(32)優先日　平成12年3月24日(2000.3.24)
(33)優先権主張国　スペイン(ES)
(31)優先権主張番号　200001573
(32)優先日　平成12年6月23日(2000.6.23)
(33)優先権主張国　スペイン(ES)
(31)優先権主張番号　200001574
(32)優先日　平成12年6月23日(2000.6.23)
(33)優先権主張国　スペイン(ES)

(73)特許権者　501446468
モビパイ・インターナショナル・ソシエダッド・アノニマ
MOBIPAY INTERNATIONAL, S.A.
スペイン２８００１マドリッド、パセオ・デ・レコレトス・ヌメロ１０ア番
(74)代理人　100062144
弁理士　青山　葆
(74)代理人　100086405
弁理士　河宮　治
(72)発明者　マリオ・カンテロ・ブランデス
スペイン２８２３０マドリッド、ラス・ロサス・デ・マドリッド、カリェ／プラヤ・クサンクセンクソ・ヌメロ５６番

最終頁に続く

(54)【発明の名称】携帯電話によるリアルタイム遠隔支払い取引のシステムおよび処理

(57)【特許請求の範囲】
【請求項１】
デジタル携帯電話方式を利用した少なくとも１つの通信機関を使って、システムに関連した支払人（１３）と受取人（２７、２９、１４、１４ａ、１３ａ、４６）との間の支払い取引を処理するシステムであって、
そのシステムが、第１のサーバ（２０）を含み、
その第１のサーバ（２０）は、各々の支払人（１３）の第１の口座データと各々の受取人（２７、２９、１４、１４ａ、４０、４６）の第２の口座データとを処理する口座管理手段（２０ｅ）を含み、第１のデータ記憶手段（２２）を有し、かつ、遠隔通信手段（１８、１９、２８、４７）に相互接続されており、
複数の遠隔通信装置（１８、１９）を含んだ前記の遠隔通信手段（１８、１９、２８、４７）は、第１のサーバ（２０）を、支払人（１３）の許容電話番号によって識別されるデジタル携帯電話ユニット（１６）、および、受取人（２７、２９、１４、１４ａ、４０、４６）の許容識別コードによって識別される遠隔通信ターミナル（１５、１５ａ、２７、２９、４１、４６）と選択的に通信させ、
前記の第１のデータ記憶手段（２２）は、少なくとも許容識別コードを含む各々の受取人（２７、２９、１４、１４ａ、４０、４６）についての第２の情報とともに、各々の支払人（１３）についての第１の情報を含み、
前記の第１の情報は、少なくとも前記の許容電話番号と、支払人（１３）の口座からの支払いを要する少なくとも１つの取引を許可する少なくとも前もって規定された許可基準

と、少なくとも前記の支払人（１３）の電話番号に対して一義的に関連付けられる安全基準とを含み、

前記許可基準は、各々の支払人（１３）の各々の口座に対して規定される有効残高、最大クレジット制限、および、その組み合わせから選択され、

前記安全基準は、第１のデータ記憶手段（２２）に記憶され、かつ支払人（１３）によって知られた秘密の識別コードから成り、

前記の第１のサーバ（２０）が、

遠隔通信手段（１８、１９、２８、４７）を通して受け取られた第１のメッセージが、支払人（１３）の許容電話番号と受取人（２７、２９、１４、１４ａ、４０、４６）の許容識別コードとを含んでいるかどうかを、第１のデータ記憶手段（２２）において検査し、許容識別コードと許容電話番号とを検知したとき、第１の受け取りメッセージを生成する第１の検査手段（２０ａ）と、

その第１の検査手段によって検知された許容電話番号に加えて、遠隔通信手段（１８、１９、２８、４７）を通して受け取られた取引許可要請が、各々の支払人（１３）の各々の口座に対して規定される有効残高、最大クレジット制限、および、その組み合わせから選択される前記の前もって規定された許可規準を満足するかどうかを、第１のデータ記憶手段（２２）において検査し、その取引許可要請が前記の許可基準を満足するとき、第２の受け取りメッセージを生成する第２の検査手段（２０ｂ）と、

遠隔通信手段（１８、１９）を通して受け取られた安全パラメータが、第１の検査手段によって検知された許容電話番号に関連した前記秘密の識別コードに相当するかどうかを、第１のデータ記憶手段（２２）において検査し、その安全パラメータが許容電話番号に関連した安全基準を満足すると検知したとき、第３の受け取りメッセージを生成する第３の検査手段（２０ｃ）と、

取引許可要請に基づいて、口座管理手段（２０ｅ）に対して、第１、第２および第３の受け取りメッセージが生成される限り、支払人（１３）の口座における借方を処理し、受取人（２７、２９、１４、１４ａ、４０、４６）の口座における相当の貸方を処理する権限を与える許可手段（２０ｄ）と、

受け取りメッセージの少なくとも１つが生成されなかったとき、不許可メッセージを生成し、その不許可メッセージを遠隔通信手段（１８、１９、２８、４７）に送信する不許可メッセージ生成手段（２０ｆ）と、

受け取りメッセージの少なくとも１つが生成されたとき、少なくとも１つの確認メッセージを生成し、前記の確認メッセージを遠隔通信手段（１８、１９、２８、４７）に送信する手段であって、前記の第１のメッセージにおける許容電話番号によって識別されたデジタル携帯電話ユニット（１６、４１）と、許容識別コードによって識別される遠隔通信ターミナル（１５、１５ａ、２７、２９、４１、４６）とに、選択的に確認メッセージを送信する確認メッセージ生成手段（２０ｇ）と、

各々の支払人（１３）の許容電話番号に関する少なくとも第１の情報と、各々の電話番号に属するデジタル携帯電話ユニット（１６、４１）の型に関する少なくとも第２の情報とを含む第２のデータ記憶手段（２１）と、

前記の許容電話番号によって識別されるデジタル携帯電話ユニット（１６、４１）に相当する第２の情報を、前記の第２のデータ記憶手段（２１）において検査し、かつ、遠隔通信装置（１８、１９）の１つを選択する手段であって、その遠隔通信装置（１８、１９）は、前記の第２の情報において識別されるデジタル携帯電話ユニット（１６、４１）の型に適合する遠隔通信サービスを利用して、許容電話番号によって識別されたデジタル携帯電話ユニット（１６、４１）と通信する選択手段（２０ｈ）と

を含むシステム。

【請求項２】

各々の受取人（２７、２９、１４、１４ａ、４０、４６）の許容識別コードが、電話番号、電話番号に関連した番号、インターネットコード、インターネットコードを表わすコード、ｅメールアドレス、および、ｅメールアドレスに基づくコードの中から選択される

請求項１に記載のシステム。

【請求項３】

第１の検査手段が、遠隔通信手段（１８、１９、２８、４７）を通して受け取られ、第１のデータ記憶手段（２２）に含まれ、かつ、前記の許容電話番号を表すコードから、支払人（１３）の許容電話番号を検査する請求項１に記載のシステム。

【請求項４】

前記確認メッセージ生成手段（２０ｇ）は、第２の受け取りメッセージが生成された後、第３の検査手段（２０ｃ）によって安全基準と比較して検査される安全パラメータの送信要請を含む第１の確認メッセージを生成し、かつ遠隔通信手段（１８、１９）に対して、許容電話番号によって識別される支払人（１３）のデジタル携帯電話ユニット（１６）にその第１の確認メッセージを送信せよという命令を送信する　その第１の確認メッセージは、第３の検査手段（２０ｃ）によって安全基準と比較して検査される安全パラメータの送信要請を含む請求項１に記載のシステム。

【請求項５】

前記確認メッセージ生成手段（２０ｇ）は、第２の受け取りメッセージが生成された後、さらに、第２の受け取りメッセージの生成を確認する第２の確認メッセージを生成し、かつ遠隔通信手段（１８、１９、２８、４７）に対して命令を送信し、

その命令は、第１の検査手段（２０ａ）によって検知された許容識別コードによって識別される遠隔通信ターミナル（１５、１５ａ、２７、２９、４６）と通信し、かつ、前記の遠隔通信ターミナル（１５、１５ａ、２７、２９、４６）に対してその第２の確認メッセージを送信せよという命令である請求項４に記載のシステム。

【請求項６】

前記確認メッセージ生成手段（２０ｇ）は、第３の検査手段（２０ｃ）によって第３の受け取りメッセージが生成された後、第３の受け取りメッセージの生成を確認する第２の確認メッセージを生成し、かつ遠隔通信手段（１８、１９、２８、４７）に対して命令を送信し、

その命令は、第１の検査手段（２０ａ）によって検知された許容識別コードによって識別される遠隔通信ターミナル（１５、１５ａ、２７、２９、４６）と通信し、かつ、前記の遠隔通信ターミナル（１５、１５ａ、２７、２９、４６）に対してその第３の確認メッセージを送信せよという命令である請求項１に記載のシステム。

【請求項７】

前記確認メッセージ生成手段（２０ｇ）は、第３の検査手段（２０ｃ）によって第３の受け取りメッセージが生成された後、その第３の受け取りメッセージの生成を確認する第４の確認メッセージを生成し、かつ遠隔通信手段（１８、１９）に対して命令を送信し、

その命令は、第１の検査手段（２０ａ）によって検知された許容電話番号によって識別されるデジタル携帯電話ユニット（１６）と通信し、かつ、そのデジタル携帯電話ユニット（１６）に対してその第４の確認メッセージを送信せよという命令である請求項１または６に記載のシステム。

【請求項８】

前記許可手段（２０ｄ）が、第３の検査手段（２０ｃ）によって生成された第３の受け取りメッセージを検知すると、口座管理手段（２０ｅ）に対して、支払人（１３）の口座における借方を処理し、受取人（２７、２９、１４、１４ａ、４０、４６）の口座における相当の貸方を処理する権限を与える命令を生成する請求項１、６または７に記載のシステム。

【請求項９】

口座管理手段（２０ｅ）が、第１のデータ記憶手段（２２）に含まれて各々の貸方がなされる、各々の受取人（２７、２９、１４、１４ａ、４０、４６）の少なくとも第１の中間口座を制御する請求項１または８に記載のシステム。

【請求項１０】

口座管理手段（２０ｅ）が、経営管理サーバ（２３）に前記の貸方を送信する第１の送

信手段を備え、
その経営管理サーバ（２３）は、各々の受取人（２７、２９、１４、１４ａ、４６）のためになされる全ての貸方が記憶された受取人のデータバンク（２５）を含み、そのデータバンク（２５）に含まれる貸方を、各々の受取人の財務口座を管理するファイナンシャルエンティティに送信する請求項９に記載のシステム。
【請求項１１】
口座管理手段（２０ｅ）が、支払人（１３）の前払い口座、即時デビット口座および後払い口座から選ばれる第２の中間口座を制御する請求項１または８に記載のシステム。
【請求項１２】
口座管理手段（２０ｅ）によって制御される前払い口座が、各々の買い手（１３）のために第１のデータ記憶手段（２２）に先に作られた電子財布を含む請求項１１に記載のシステム。
【請求項１３】
口座管理手段（２０ｅ）が、経営管理サーバ（２３）に前記の借方を送信する第２の送信手段を備え、
その経営管理サーバ（２３）は、各々の支払人（１３）に対してなされる全ての借方が記憶される支払人のデータバンク（２４）を含み、その支払人のデータバンク（２４）に含まれる借方を、各々の支払人の財務口座を管理するファイナンシャルエンティティに送信する請求項８に記載のシステム。
【請求項１４】
第３の検査手段（２０ｃ）が、安全パラメータがその秘密の識別コードを含むかどうかを直接検査する請求項１に記載のシステム。
【請求項１５】
第３の検査手段（２０ｃ）が、安全パラメータが自己検査（３３）の暗号化された結果を含むかどうかを、第１のデータ記憶手段（２２）に記憶された秘密の識別コードに基づいてその暗号化された結果を復号する復号手段を用いて検査し、
その自己検査（３３）は、支払人（１３）によってデジタル携帯電話ユニットに秘密の識別コードが直接入力（６）された後に、デジタル携帯電話ユニット（１６）において局所的に実行される請求項１に記載のシステム。
【請求項１６】
第２の受け取りメッセージは、遠隔通信ターミナル（１５、１５ａ、２７、４１、４６）から受け取られ、かつ第１の検査手段（２０ａ）によって検査された第１のメッセージに由来するものであるとき、
前記確認メッセージ生成手段（２０ｇ）は、さらに、前記第１の確認メッセージに、許容電話番号によって識別された支払人（１３）に安全パラメータを送信するよう要請する要請を含める請求項４に記載のシステム。
【請求項１７】
第２の受け取りメッセージは、支払人（１３）のデジタル携帯電話ユニット（１６）から受け取られ、かつ第１の検査手段（２０ａ）によって検査された第１のメッセージに由来するものであるとき、
前記確認メッセージ生成手段（２０ｇ）は、さらに、前記第１の確認メッセージに、許容電話番号によって識別された支払人（１３）に安全パラメータを送信するよう要請する要請を含める請求項４に記載のシステム。
【請求項１８】
前記確認メッセージ生成手段（２０ｇ）は、第２の受け取りメッセージが生成された後、さらに、前記第１の確認メッセージに、安全基準を要請するメッセージと共に、少なくとも取引額と受取人の身分証明とを含める請求項４、１６または１７に記載のシステム。
【請求項１９】
第１のサーバ（２０）が、さらに、ｅメールアドレスの身分証明を含む第１のメッセージを処理し、受取人（２７）がソフトウェアファイルの供給者であり、

確認メッセージ生成手段（２０ｇ）が、さらに、第１のサーバ（２０）において受取人（２７）から受け取られたソフトウェアファイルの復号コードを含むさらなる確認メッセージを生成し、

この確認メッセージが、支払人（１３）のデジタル携帯電話ユニット（１６）に送信される請求項１に記載のシステム。

【請求項２０】

第１のサーバ（２０）が、さらに、前払い購入をせよという第１の命令を検知する第１の検知手段（２０ｉ）と、コレクションコード生成手段（２０ｊ）とを含み、

また、確認メッセージ生成手段（２０ｇ）は、コレクションコードを含む補助的な確認メッセージを生成し、

前記の補助的な確認メッセージが、支払人（１３）のデジタル携帯電話ユニット（１６）、および、受取人（１４、１４ａ、２７、２９、４６）の遠隔通信ターミナル（１５、１５ａ、２７、２９、４６）に送信される請求項１に記載のシステム。

【請求項２１】

第１のデータ記憶手段（２２）が、さらに、各々の受取人（１４ａ、４６）に関して、各々の許可された取引に相当する製品またはサービスに関するデータを含む、前記の第２の情報に関連した第３の情報を含み、

第１のサーバ（２０）は、さらに、

受取人（１４ａ）のデジタル携帯電話ユニットである遠隔通信ターミナル（１５ａ）から受け取られた、許可された取引に相当する直接配達を管理せよという第２の命令を検知する第２の検知手段（２０ｋ）と、

少なくとも配達される製品またはサービスを識別する配達コードを生成する配達コード生成手段（２０ｌ）と、

前記の製品またはサービスを識別する識別メッセージ生成手段（２０ｍ）と、

第３の検査手段（２０ｃ）が、安全パラメータが支払人（１３）のデジタル携帯電話ユニットに関連した安全基準を満足することを確かめたとき、受領書データベース（３７）に入力を生成する配達管理処理手段（２０ｎ）と

を含み、

確認メッセージ生成手段（２０ｇ）は、さらに、配達コードを含む追加メッセージを生成し、

前記の追加メッセージは、支払人（１３）のデジタル携帯電話ユニット（１６）と受取人（１４ａ）のデジタル携帯電話ユニット（１５ａ）に送信され、

その識別メッセージは、安全パラメータを送信する要請と共に、少なくとも支払人（１３）のデジタル携帯電話ユニット（１６）に送信される請求項１に記載のシステム。

【請求項２２】

また、第１のデータ記憶手段（２２）が、各々の製品またはサービスに関連した価格と同様に、少なくとも１人の受取人（１４ａ、４６）の製品またはサービスを識別する参照コードを含む、前記の第２の情報に関連した第４の情報を含む請求項１に記載のシステム。

【請求項２３】

また、前記第４の情報が、前記の参照コードの１つと、相当する受取人（１４、４６）の識別コードとからなり、かつ許容識別コードを構成する第１の選択できる電話番号を含む情報である請求項２２に記載のシステム。

【請求項２４】

また、前記第４の情報が、参照コード、前記の参照コードの各々によってそれぞれ識別される製品またはサービス、および、前記の製品またはサービスの価格からなる少なくとも第１のメニューに関連した、受取人（１６、４６）へアクセスする電話番号形式の許容識別コードを含む請求項２２または２３に記載のシステム。

【請求項２５】

許容識別コードが、複数の受取人（１４ａ、４６）の各々の許容識別コードの第２のメ

ニューにアクセスする許容アクセス電話番号であり、
第１のデータ記憶手段（２２）が、さらに、各々の製品またはサービスに関連した価格と同様に、各々１人の受取人（１４ａ、４６）の製品またはサービスを識別する参照コードを含む、前記の第２の情報に関連した第５の情報を含む請求項１に記載のシステム。
【請求項２６】
前記第５の情報が、さらに、前記の参照コードの１つと、相当する受取人（１４、４６）の識別コードとからなり、かつ許容識別コードを構成する第１の選択できる電話番号を含む情報である請求項２５に記載のシステム。
【請求項２７】
前記第５の情報が、さらに、参照コード、前記の参照コードの各々によってそれぞれ識別される製品またはサービス、および、前記の製品またはサービスの各々の価格からなる、少なくとも第１のメニューに関連した受取人（１６、４６）のアクセス電話番号としての許容識別コードを含む請求項２５または２６に記載のシステム。
【請求項２８】
第１のデータ記憶手段（２２）における第２の情報が、
各々が、許容識別コードとしての携帯電話番号によって識別される遠隔通信ターミナルとしてデジタル携帯電話ユニット（２９ａ）を含む複数の自動販売機（２９）の識別コードと、
各々の自動販売機の許容識別コードに関連する許可コードと、
許容電話番号によって識別される支払人（１３）から要請を受けとるために自動販売機を稼動させる各々の許可コードに関連する、自動販売機（２９）を稼動させるための稼動コードとを含み、
確認メッセージ生成手段（２０ｇ）は、第１、第２および第３の検査手段（２０ａ、２０ｂ、２０ｃ）が、それぞれ、第１、第２および第３の受け取りメッセージを生成したとき、少なくとも、自動販売機を稼動させるコードと、支払人（１３）のデジタル携帯電話ユニット（１６）の許容電話番号とを含む確認メッセージを生成して送信する請求項１に記載のシステム。
【請求項２９】
確認メッセージ生成手段（２０ｇ）が、支払人（１３）が第１のサーバ（２０）を通して自動販売機（２９）に選択メッセージを送信できる前もって規定された期間に、支払人（１３）のデジタル携帯電話ユニットと自動販売機（２９）との間の通信を確立し、そのサーバ（２０）は、さらに、自動販売機（２９）の非稼動を検知する非稼動検知手段（２０ｏ）を含む請求項２８に記載のシステム。
【請求項３０】
各々の自動販売機の許容電話番号に関する許可基準が、経済的価値と販売需要の数とから選択された最大制限を設定する、同じデジタル携帯電話ユニットからなされた要請に関して特定の期間に認められた直接的な許可コードであり、
ここに、確認メッセージ生成手段（２０ｇ）は、その直接的許可コードが検知されたとき、確認メッセージを生成する請求項２９に記載のシステム。
【請求項３１】
第１のサーバ（２０）における確認メッセージ生成手段（２０ｇ）が、確認メッセージを送信した後、自動販売機（２９）との通信を切り、それ故、支払人（１３）が、自動販売機の選択ディスプレイによって直接に選択できる請求項２８に記載のシステム。
【請求項３２】
第１のサーバ（２０）が、さらに、各々の自動販売機に記録された取引を記録する、許可手段（２０ｄ）に関連した記録手段（２０ｐ）を含む請求項２８、２９、３０または３１に記載のシステム。
【請求項３３】
第１のサーバ（２０）の第１の検査手段（２０ａ）が、さらに、選択手段（２０ｈ）に関連した補助的な検査手段（２０ｑ）を含み、

その検査手段（２０ｑ）は、第１の許容電話番号によって識別される支払人（１３）から受け取られ、第２の検査手段（２０ｂ）によって識別される取引要請を含む第１の検査手段（２０ａ）によって検査される前記の第１のメッセージにおける許容識別コードが、第１のデータ記憶手段（２２）に含まれる第１の情報内のデジタル携帯電話ユニット（４１）の許容電話番号のうちの第２の許容電話番号に相当するかどうか、および、その第１のメッセージが、受取人（４０）の身分証明としての第２の許容電話番号に一致するかどうかを検査し、その補助的検査手段（２０ｑ）が、前記の第２の許容電話番号が受取人（４０）と同一であると検知したとき、確認メッセージ生成手段（２０ｇ）によって処理できる第４の受け取りメッセージを生成し、

不許可メッセージ生成手段（２０ｆ）は、第４のメッセージが生成されなかったとき、不許可メッセージを生成する請求項１に記載のシステム。

【請求項３４】

確認メッセージ生成手段（２０ｇ）は、第１、第２、第３および第４の受け取りメッセージを検知すると、支払人（１３）の身元証明、取引の証明、および、第１のメッセージで識別された受取人（４０）に対する、安全パラメータの送信要請を含む従うことの請求を含む第１の確認メッセージを生成し、前記の確認メッセージを、選択手段によって選択された遠隔通信手段（１８、１９）を通して、第２の許容電話番号によって識別される受取人（４０）のデジタル携帯電話ユニット（４１）に送り、

第３の検査手段（２０ｃ）は、さらに、従うことの請求の返答にデジタル携帯電話ユニット（４１）から送信される安全パラメータが第２の許容電話番号に関連する安全基準を満足するかどうか検査し、前記のパラメータが前記の安全基準を満足するとき、第５の受け取りメッセージを生成し、

許可手段（２０ｅ）は、前記の第５の受け取りメッセージが生成されたとき、その口座管理手段（２０ｄ）を許可し、

確認メッセージ生成手段（２０ｇ）は、第２の確認メッセージを生成して、支払人のデジタル携帯電話ユニット（１６）と受取人（４１）のデジタル携帯電話ユニット（４１）に送信する請求項３３に記載のシステム。

【請求項３５】

第１のサーバ（２０）において、各々の支払人（１３）の各々の許容電話番号と、各々の受取人（４０）の各々の許容識別コードとに相当するデジタル携帯電話ユニットの型に関連した、第２のデータ記憶手段（２１）に含まれる各々の第２の情報は、その許容識別コードがデジタル携帯電話ユニットの番号であるとき、国際モバイル装置識別器（ＩＭＥＩ）を表わす第１の識別コードである請求項１、３３および３４のいずれかに記載のシステム。

【請求項３６】

第１のサーバ（２０）が、

電話番号をＩＭＥＩコードと関連させる第１のレジスタを含む少なくとも１つのビジターロケーションレジスタ（ＶＬＲ）において、許容電話番号の各々に相当するＩＭＥＩコードを調査する第１の調査手段（２０ｒ）と、

第１の調査手段（２０ｒ）によって調査された各々のＩＭＥＩコードを、第２のデータ記憶手段（２１）に含まれる各々の許容電話番号に関連したＩＭＥＩコードを表わす各々のコードと比較することによって、第２のデータ記憶手段（２１）における前記の第２の情報を更新する更新手段（２０ｓ）と

を含む請求項３５に記載のシステム。

【請求項３７】

第１の調査手段（２０ｒ）が、各々の許容電話番号に関連するＩＭＥＩコードを、各々の許容電話番号と各々の許容電話番号に相当するＩＭＥＩコードとの間の関連付けを含み、かつ、前記の関連付けを、前記のビジターロケーションレジスタによって更新されるとき、各々のビジターロケーションレジスタから受け取る装置識別レジスタ（ＥＩＲ）から引き出す請求項３６に記載のシステム。

【請求項３８】
第１の調査手段（２０ｒ）が、各々の許容電話番号に関連するＩＭＥＩコードを、非構成補足サービスデータ（ＵＳＳＤ）フレームから引き出し、
そのフレームを発した各々のモバイル交換局（ＭＳＣ）に関連する各々のビジターロケーションレジスタが、そのＵＳＳＤフレームに、そのフレームを生成するユーザーに相当する許容電話番号に関連したＩＭＥＩコードを挿入する請求項３６または３７に記載のシステム。
【請求項３９】
第１の調査手段（２０ｒ）が、各々の許容電話番号に関連するＩＭＥＩコードを、ビジターロケーションレジスタとその調査手段（２０ｒ）との間のインターフェースを通して引き出す請求項３６に記載のシステム。
【請求項４０】
第１のサーバ（２０）が、通話のために１つのコールデータレジスタを生成した各々の電話番号と、その通話が発生したターミナルのＩＭＥＩコードとの関係付けを含む、携帯電話方式ネットワークオペレータのデータバンクの複数のコールデータレジスタ（ＣＤＲ）において、各々の許容電話番号に相当するＩＭＥＩコードを調査する第２の調査手段（２０ｔ）と、
第２の調査手段（２０ｔ）によって調査された各々のＩＭＥＩコードと、第２のデータ記憶手段（２１）に含まれる各々の許容電話番号に関連したＩＭＥＩコードを表わす各々のコードとの比較に基づいて、第２の記憶手段（２１）における第２の情報を更新する第２の更新手段（２０ｕ）と
を含む請求項３５に記載のシステム。
【請求項４１】
第２の情報が、さらに、ＩＭＥＩコードによって識別された許容電話番号に関連する各々のデジタル携帯電話ユニットの、ワイヤレスアプリケーションプロトコル（ＷＡＰ）によるセッションを管理するキャパシティ、非構成補足サービスデータ（ＵＳＳＤ）のセッションを管理するキャパシティ、および、その組合せから選ばれた通信キャパシティを示す少なくとも１つのデータを含む請求項３５に記載のシステム。
【請求項４２】
第１のサーバ（２０）が、携帯電話方式ネットワークオペレータのデータバンクにおいて、ＵＳＳＤフレームまたはボイスコールがアドレス指定されるたびに、即座に各々のモバイル交換局（ＭＳＣ）が特定の電話番号に転送するレジスタを調査する調査手段であって、そのレジスタが、各々の許容電話番号に相当するＩＭＥＩコードに関して、電話される、または、ＵＳＳＤフレームが生成される電話番号の各々と、その通話、または、フレームが生成される端末のＩＭＥＩコードとの関連付けを含む第３の調査手段（２０ｖ）と、
前記の第２のデータ記憶手段（２１）において前記の第２の情報を更新する更新手段であって、その更新が、第３の調査手段（２０ｖ）によって調査された各々の調査ＩＭＥＩコードと、第２のデータ記憶手段に含まれる各々の許容電話番号に関連したＩＭＥＩコードを表わす各々のコードとの比較を基にして行われる第３の更新手段（２０ｗ）と
を含む請求項３５に記載のシステム。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】
本発明は、ビジネスと支払い手段に関する電子商取引の産業分野、および、携帯電話の分野に適用できる。
【０００２】
【従来の技術】
従来技術において、売買端末地点の使用に基づき、取引を実行するために携帯電話が付加された、携帯電話利用支払い処理および携帯電話利用支払いシステムの利用が知られてい

る。
【０００３】
この意味で、欧州特許公報第０９４０７８３号、または、米国特許第５７５４６５５号が引用できる。
【０００４】
さらに、携帯電話が売買端末地点の役割を果たすだけではなく、その支払いが携帯電話によってなされるシステムが知られている。このために、携帯電話は、安全な取引が実行できるように改良されなければならない。この意味で、我々は、欧州特許公報第０７８５５３４号を引用できる。
【０００５】
その他のシステムは、国際特許公報ＷＯ－Ａ－９６／１２８１４号、または、国際特許公報ＷＯ－Ａ－９７／４５８１４号の場合のように、収集人の携帯電話から銀行への接続を利用して、支払者の銀行口座の番号を収集者に送信することを基にしている。
【０００６】
これらのシステムは、使用者が、知られたくない人物に自分の銀行の口座番号を知らせなければならない不都合があり、それは、非常に危険が多いことを意味する。
【０００７】
また、仏国特許公報第２７７９８９６号は、買い手の識別により支払いが実行される処理について述べている。その処理では、買い手は通信ネットワークの加入者のリストに正規に載せられている加入者であることを保証することから成立していると指摘されるべきである。
【０００８】
この発明の目的は、直接購入、すなわち、使用者が店に直接行く場合や、商品や知的財産、例えば、情報、音楽、または、ビデオをインターネットで購入する場合や、自動販売機から購入する場合や、前金で購入、予約する場合や、カタログによって購入する場合や、例えば、テレビコマーシャルまたは書面広告のような任意のコマーシャルまたは広告に応えて購入する場合や、ペイパービューの場合の支払いの手段として、任意の携帯電話の利用を可能にし、使用者間の取引を可能にし、この全てが、使用者が有する携帯電話の型に依存しないシステムや処理を用いて、従来技術の不都合を解決することである。システムの設計により、他の任意の購入形式に利用できる。取引はリアルタイムに実行される。
【０００９】
もう１つの文書は、欧州特許公報第９８６２７５号であり、売り手と携帯電話を持つ買い手の間の取引を実行する方法に関係している。両者は、確認プラットフォームに加入している。取引を実行するために、買い手と売り手の間で接触がもたれ、購入の同意に達し、その後、買い手は買い手の識別を含む確認メッセージを送る。その購入確認のコピーが、買い手または売り手から、確認プラットフォームに自動的に送られる。
【００１０】
また、携帯電話を利用した給油ポンプを稼動させるシステムに関する記載が、ＰＣＴ公開公報ＷＯ－Ａ－９８／５４６７８によりなされている。タンクを満たすために、その買い手は、自分の携帯電話からあるユニットに電話をかけ、第１の秘密コードを与える。そのユニットは、買い手の電話番号と、その第１の秘密コードを検査し、そのコードが電話番号と一致することと、検査された買い手が、「ブラックリスト」に載っているかどうかを確かめる。もし検査された買い手が、「ブラックリスト」に載っていないなら、そのユニットはシステムへのアクセスを許可し、買い手は、問題の給油ポンプを確認するコードを入力し、タンクを満たすことができる。
【００１１】
欧州特許公報第９５０９６８号は、広範囲な操作（支払いカード、テレフォンカード、催し物の電子チケット等）を実行する手段が提供できる移動端末を含む電子商取引システムについて述べている。
【００１２】

携帯電話を利用する支払いシステムに関するＰＣＴ公開公報ＷＯ－Ａ－９８／４７１１６号も引用できる。この場合、支払者は、支払者を識別する情報や、その取引総額と確認者である売り手に関する情報とを、取引センターに送信する。

【００１３】

携帯電話の利用による自動販売機の操作方法について述べている日本特許公報第０８／２４９５３０号の公開の要約も引用できる。

【００１４】

仏国特許公報第２７８０８００号は、支払者の携帯電話から売り手を確認するデータを送信することを含んだ携帯電話支払いシステムに関する。

【００１５】

独国特許公報第１９８０６５５７号は、費用を知らせるシステムについて述べている。

【００１６】

ＰＣＴ公開公報第９８／０６２１４号は、クレジットカード、支払いカード、携帯電話またはそれに類似したものの携帯者に、その不正使用について警告するシステムに関係している。売買地点の端末でクレジットカードを利用する取引が実行されようとすると、そのシステムは、クレジットカードを使用する試みがなされようとしていることと、その携帯者が、その取引を容認または拒否できる、または、単にその携帯者が、実行される取引について知らされるように、例えば携帯電話のような、そのカード保持者の遠距離通信装置に警告が送られることとを検知する。

【００１７】

引用された文書は全て、支払いが、その構造または部品を変えずに、複数の型の携帯電話によってなされるような、使用者の携帯電話の型に依存した適当な通信チャンネルを選択することによる特に適当な通信装置の選択を許可するものではない。

【００１８】

他方、引用された文書の全ては、知的所有権の購入の証明、電子受領書の包含、自動販売機からの購入を実行する可能性を考えていない。

【００１９】

【発明の目的】

この発明の目的は、直接購入、すなわち、使用者が店に直接行く場合や、商品や知的財産、例えば、情報、音楽、または、ビデオをインターネットで購入する場合や、自動販売機から購入する場合や、前金で購入、予約する場合や、カタログによって購入する場合や、例えば、テレビコマーシャルまたは書面広告のような任意のコマーシャルまたは広告に応えて購入する場合や、ペイパービューの場合の支払いの手段として、任意の携帯電話の利用を可能にし、使用者間の取引を可能にし、この全てが、使用者が有する携帯電話の型に依存しないシステムや処理を用いて、従来技術の不都合を解決することである。システムの設計により、他の任意の購入形式に利用できる。取引はリアルタイムに実行される。

【００２０】

前述の目的を達成するために、本発明は、デジタル携帯電話方式を利用した少なくとも１つの通信機関を使って、システムに関連した支払人と受取人の間の支払い取引を処理するシステムであって、

そのシステムが、第１のサーバを含み、

その第１のサーバは、各々の支払人の第１の口座データと各々の受取人の第２の口座データとを処理する口座管理手段を含み、第１のデータ記憶手段を有し、遠隔通信手段に相互接続されており、

ここに、複数の遠隔通信装置を含んだ第１の遠隔通信手段は、第１のサーバを、支払人の許容電話番号によって識別されるデジタル携帯電話ユニットや、受取人の許容識別コードによって識別される遠隔通信ターミナルと選択的に通信させ、

ここに、第１のデータ記憶手段は、少なくとも許容識別コードを含む各々の受取人についてのいくらかの第２の情報だけではなく、各々の支払人についての第１の情報を含み、前記の第１の情報は、少なくとも許容電話番号と、支払人の口座からの支払いを要する少な

くとも１つの取引を許可する、少なくとも前もって制定された許可基準と、少なくとも支払人の電話番号に対して一義的な関係の安全基準とを含み、
その第１のサーバが、
データ記憶手段において、遠隔通信手段を通して受け取られた第１のメッセージが、支払人の許容電話番号と、受取人の許容識別コードとを含んでいるかどうかを検査する検査手段であって、許容識別コードと許容電話番号とを検知したとき、第１の受け取りメッセージを生成する第１の検査手段と、
データ記憶手段において、遠隔通信手段を通して受け取られた取引許可要請が、第１の検査手段によって検知された許容電話番号に加えて、前記の前もって制定された許可規準を満足するかどうかを検査する検査手段であって、その許可要請が前記の許可基準を満足するとき、第２の受け取りメッセージを生成する第２の検査手段と、
第１のデータ記憶手段において、遠隔通信手段を通して受け取られた安全パラメータが、第１の検査手段によって検知された許容電話番号に関連した安全基準を満足するかどうかを検査する検査手段であって、それらが、その安全パラメータが許容電話番号に関連した安全基準を満足すると検知したとき、第３の受け取りメッセージを生成する第３の検査手段と、
許可要請に基づいて、口座管理手段に対して、第１、第２および第３の受け取りメッセージが生成される限り、支払人の口座における借方を処理し、受取人の口座における相当の貸方を処理する権限を与える許可手段と、
受け取りメッセージの少なくとも１つが生成されなかったとき、不許可メッセージを生成し、その不許可メッセージを遠隔通信手段に送信する不許可メッセージ生成手段と、
受け取りメッセージの少なくとも１つが生成されたとき、少なくとも１つの確認メッセージを生成し、前記の確認メッセージを遠隔通信手段に送信する確認メッセージ生成手段であって、前記の第１のメッセージにおける許容電話番号によって識別された携帯電話と、許容識別コードによって識別される遠隔通信ターミナルに、選択的に確認メッセージを送信する確認メッセージ生成手段と、
各々の支払人の許容電話番号に関する少なくとも第１の情報と、各々の電話番号に属するデジタル携帯電話の型に関する少なくとも第２の情報とを含む第２のデータ記憶手段と
前記の第２のデータ記憶手段において、許容電話番号によって識別されるデジタル携帯電話ユニットに相当する第２の情報を検査し、前記の第２の情報で識別されるデジタル携帯電話の型と両立できる遠隔通信サービスの手段を利用して、許容電話番号によって識別されるデジタル携帯電話と通信する遠隔通信装置のうち１つを選択する選択手段と
を含むシステムを提供する。

【００２１】

発明の実施の形態において、各々の支払人の各々の許容電話番号と、各々の受取人の各々の許容識別コードとに相当するデジタル携帯電話の型に関連した、第２のデータ記憶手段に含まれる第２の情報の各々は、後者がデジタル携帯電話の番号であるとき、国際モバイル装置識別器（Ｉｎｔｅｒｎａｔｉｏｎａｌ Ｍｏｂｉｌｅ Ｅｑｕｉｐｍｅｎｔ Ｉｄｅｎｔｉｆｉｅｒ：ＩＭＥＩ）を表わす第１の識別コードである。

【００２２】

この実施の形態によると、許容電話番号の各々に相当する携帯電話の型が識別される基となるＩＭＥＩコードの取り込みは、システムとは異質のソースからデータをロードすることによって、あるいは、その代わりに、または、補助的に、システムにある調査更新手段によってなされてもよい。第１のサーバは、第１の調査手段と第２の更新手段を含んでもよい。その第１の調査手段は、電話番号をＩＭＥＩコードと関連させる第１のレジスタを含む少なくとも１つのビジターロケーションレジスタ（ＶＬＲ）において、許容電話番号の各々に相当するＩＭＥＩコードを調査する。その更新手段は、その第１の調査手段によって調査された各々のＩＭＥＩコードと、第２のデータ記憶手段に含まれた許容電話番号の各々に関連したＩＭＥＩコードを表わす各々のコードとを比較することによって、第２のデータ記憶手段内の第２の情報を更新する。

【００２３】
代わりに、または、補助的に、その第１の調査手段が、許容電話番号の各々に関連したＩＭＥＩコードを、以下のように引き出してもよい。
－許容電話番号の各々と許容電話番号の各々に相当するＩＭＥＩコードとの間の関連付けを含み、ビジターロケーションレジスタによって更新されるとき、各々のビジターロケーションレジスタからその関連付けを受け取る装置識別レジスタ（Ｅｑｕｉｐｍｅｎｔ Ｉｄｅｎｔｉｆｉｅｒ Ｒｅｓｉｓｔｅｒ：ＥＩＲ）から。
－非構成補足サービスデータ（Ｕｎｓｔｒｕｃｔｕｒｅｄ Ｓｕｐｐｌｅｍｅｎｔａｒｙ Ｓｅｒｖｉｃｅ Ｄａｔａ：ＵＳＳＤ）フレームであって、そのフレームを発したモバイル交換局（Ｍｏｂｉｌｅ Ｓｗｉｔｃｈｉｎｇ Ｃｅｎｔｅｒ：ＭＳＣ）の各々に関連するビジターロケーションレジスタの各々が、そのフレームを発したユーザに相当する許容電話番号に関連したＩＭＥＩコードを挿入するその対象となるフレームから。
－ビジターロケーションレジスタとその調査手段の間のインターフェースを通して、および／または、
移動電話方式ネットワークオペレータのデータバンクにおいて、ＵＳＳＤフレームまたは音声通話が特定の電話番号にアドレス指定されるたびに、即座に各々のモバイル交換局（ＭＳＣ）が転送するレジスタを調査する調査手段であって、そのレジスタは、各々の許容電話番号に相当するＩＭＥＩコードに関して、電話される、または、ＵＳＳＤフレームが生成される電話番号の各々と、その通話、または、フレームが生成されるターミナルのＩＭＥＩコードとの関連付けを含む第３の調査手段と、
第２のデータ記憶手段において第２の情報を更新する第３の更新手段であって、その更新が、第３の調査手段によって調査された各々の調査ＩＭＥＩコードと、第２のデータ記憶手段に含まれる各々の許容電話番号に関連したＩＭＥＩコードを表わす各々のコードとの比較を基にして行われる更新手段と
によって。
【００２４】
かわりに、または、補助的に、第１のサーバが、モバイル電話方式ネットワークオペレータのデータバンクの複数の通話データレジスタ（Ｃａｌｌ Ｄａｔａ Ｒｅｇｉｓｔｅｒｓ：ＣＤＲ）において、許容電話番号の各々に相当するＩＭＥＩコードを調査する第２の調査手段を含んでもよい。その複数のＣＤＲは、通話に基づいて、１つの通話データレジスタを生成した電話番号の各々と、その通話が発生した端末のＩＭＥＩコードとの関連付けを含む。第２の調査手段によって調査された各々のＩＭＥＩコードと、各々の許容電話番号に関連するＩＭＥＩコードを表わす各々のコードとの比較に基づいて、第２のデータ記憶手段内の第２の情報を更新する、第２の更新手段によって、第２のデータ記憶手段に含まれる。
【００２５】
他方、第２のデータ記憶手段に記憶される許容電話番号の各々に相当するモバイル電話の型についての情報が、他のデータで補足されてもよい。そのデータは、例えば、ＩＭＥＩコードによって識別された許容電話番号に関連する各々のデジタル携帯電話の、ワイヤレスアプリケーションプロトコル（ＷｉｒｅｌｅｓｓＡｐｐｌｉｃａｔｉｏｎ Ｐｒｏｔｏｃｏｌｓ：ＷＡＰ）によるセッションを管理するキャパシティ、非構成補足サービスデータのセッションを管理するキャパシティ、および、その組合せから選ばれた通信キャパシティを示す少なくとも１つのデータである。
【００２６】
その第２のデータ記憶手段の存在は、そのシステムが、支払人、ある場合には受取人の携帯電話の型についての情報を含むことに基づいて、支払人と通信するのに最も効果的で速い通信チャンネルを選択することができるという利点を有する。これは、第１のメッセージ、すなわち、取引に関する第１の通信が、支払人の電話番号から確立されなかったとき、特に重要である。なぜなら、速くて効果的な通信が、ユーザーの携帯電話が変更される必要なしに確立できるからである。

【００２７】
各々の受取人の許容識別コードは、電話番号、電話番号に関連する番号、インターネットコード、インターネットコードを表わすコード、ｅ－ｍａｉｌアドレス、および、ｅ－ｍａｉｌアドレスに基づくコードの中から選択できる。その受取人の許容識別コードはまた、第２のデータ記憶手段内に含まれる許容電話番号と電話の型、デジタル携帯電話のそれであってもよい。この後者の場合に、第１のサーバはさらに、選択手段に関連した補助的な検査手段を含む。その検査手段は、第１の検査手段によって検査された、第１のメッセージにおける許容識別コードが、第２の許容電話番号に相当するかどうかを検査する。第１のメッセージは、第１の許容電話番号によって識別された支払人から受け取られ、第２の検査手段によって検査された取引要請を含む。第２の許容番号は、第１のデータ記憶手段に含まれた第１の情報内に含まれるデジタル携帯電話の許容電話番号の中から得られる。従って、その検査手段が、第１のメッセージは、受取人の身元証明としての第２の許容電話番号と同一であると検知するとき、その補助的な検査手段は、確認メッセージ発生手段によって処理できる第４の受け取りメッセージを生成する。他方、第４のメッセージが発生されなかったときは、不許可メッセージ生成手段は不許可メッセージを生成する。
【００２８】
また、各々の、または、少なくとも支払人側の許容電話番号が、第１および／または第２のデータ記憶手段に、それ自体で、および／もしくは、その番号を表わす、例えば、許容電話番号に関連したＭＳＩＳＤＮのような、コードの形式で含まれてもよい。第１の検査手段は、支払人の許容電話番号を、遠隔通信手段を通して受け取られたときに、第１のデータ記憶手段に含まれてその許容電話番号を表わすコードから検査する。発明によると、第２の受け取りメッセージは、その放出が遠隔通信手段に対してある命令を生成するように設計されてもよい。その命令は、許容電話番号によって識別される支払人の携帯電話に、第１の確認メッセージを送信せよという命令である。その第１の確認メッセージは、安全基準に対して第３の検査手段によって検査されるべき安全パラメータの送信要請を含む。この実施の形態は、第１のメッセージが安全パラメータを含まないときに適用できる。それは、常に、取引に関係した第１の通信が受取人によって確立されて、支払人が、支払人の第１の通信において、まだ安全パラメータを送信していなかった場合である。従って、第１の検査手段によって検査された第１のメッセージが、受取人の遠隔通信ターミナルから受け取られたメッセージであるとき、第２の受け取りメッセージは、遠隔通信手段に、許容電話番号によって識別された支払人に安全パラメータを送信するよう要請する、携帯電話との通信を確立せよという命令を生成する。他方、第１の検査手段によって検査された第１のメッセージが、支払人の携帯電話から安全パラメータなしに受け取られたメッセージであるとき、第２の受け取りメッセージは、遠隔通信手段に、その携帯電話にメッセージを送信して、許容電話番号によって識別された支払人に安全パラメータを送信するよう要請せよという命令を生成する。その第２のメッセージは、また、さらに、遠隔通信手段に、第１の検査手段によって検知された許容識別コードによって識別された遠隔通信ターミナルと通信せよという命令を生成する。
【００２９】
第３の検査手段によって生成される第３の受け取りメッセージは、さらに、遠隔通信手段に、第１の検査手段によって検知される許容電話番号によって識別される携帯電話と通信することと、例えば、支払人が、取引が許可されたという確認を受け取るといった、第３の受け取りメッセージの生成を確認する第４の確認メッセージを送信せよという命令を生成する。
【００３０】
発明の好ましい実施の形態において、第３の検査手段によって生成される第３の受け取りメッセージは、口座管理手段に対して、支払人の口座における借方を処理せよという命令と、受取人の口座における相当する貸方を処理せよという命令を生成する。
【００３１】
最後に、その口座管理手段は、第１のデータ記憶手段に含まれて各々の貸方がなされる、

各々の受取人の少なくとも第１の中間口座を制御する。発明の好ましい実施の形態において、その口座管理手段は、その貸方を経営管理サーバに送信する第１の送信手段を含む。その経営管理サーバは、各々の受取人のためになされる貸方の全てが記憶される受取人のデータバンクから成り、そのデータバンクに含まれる貸方を、各々の受取人の財務口座を管理するファイナンシャルエンティティに送信する。他方、その口座管理手段はまた、好ましくは、前払い口座、リアルタイムデビット口座および後払い口座の中から選択された第２の中間口座を制御するように設計できる。例えば、前払い口座は、支払のために電子財布を前もってロードした各々の支払人に対して、第１のデータ記憶手段において先に生成された電子財布に基づく口座であって、その支払人は、その電子財布を、例えば、支払いカードまたはテレフォンカードに電子財布が通常ロードされる方法と類似の方法でロードする。リアルタイムデビット口座は、デビットカードでなされる支払のために銀行によって支払い請求される借方の動作に類似した動作を有する。後払い口座は、クレジットカードでなされる支払でチャージされる銀行口座に類似している。各々の支払人の各々の中間口座は、第２の許可手段によって検査される、前もって決められた許可基準に関連している。その許可基準は、例えば、中間口座における有効残高や、最大クレジット制限や、その組み合わせでありうる。

【００３２】

他方、発明の好ましい実施の形態において、口座管理手段は、経営管理サーバにその借方を送信する第２の送信手段を含む。その経営管理サーバは、各々の支払人に対してなされる借方の全てが記憶される支払人のデータバンクを含む。その経営管理サーバは、各々の支払人の口座から各々の受取人の口座へ、全ての必要とされる財政処理をするために、各々の支払人の財政口座を管理するファイナンシャルエンティティに、支払人のデータバンクに含まれる貸方を送信する。

【００３３】

許容電話番号によって識別される支払人に知られている各々の許容電話番号に関連する安全基準は、第１のデータ記憶手段に記憶される、例えばＰＩＮコードのような英数字コードのような秘密の識別コードであってよい。この場合に、第３の検査手段は、ある取引に関係した支払人のデジタル携帯電話から受け取られた安全パラメータがそのコードに相当するかどうかを、それ自体が知られている方法で、以下の検査手段の１つを用いて検査するように設計される。その検査手段は、その許容電話番号に関連した安全基準の種類に従って適用される。すなわち、

その安全パラメータが、秘密の識別コードを含むかどうかの直接的な検査と

その安全パラメータが、支払人によって携帯電話に秘密の識別コードが直接入力された後に携帯電話で局所的に実行された自己検査の、暗号化された結果を含むかどうかの検査であって、第１のデータ記憶手段に記憶された秘密の識別コードに基づいて、その暗号化された結果を復号する復号手段を用いる検査と

である。

【００３４】

既に前述された。基準広告情報に加えて、第１の記憶データ手段は、さらに、少なくともある受取人に関して、補助的情報、すなわち、第２の情報に関連した第４の情報を含む。その第４の情報は、各々の製品またはサービスに関連した価格だけではなく、受取人の製品またはサービスを識別する参照コードを含む。この第４の情報は、以後述べられる発明のシステムの適用に役立つ。

【００３５】

一方では、その第４の情報は、要請される取引額を計算し、支払人に、許可が処理されている、または、処理される、または、処理されるべき、従って、支払人の従うことを要請する取引の情報と、製品、および／または、サービス、および／または、全価格、および／または、部分価格とを送信するのに使用できる。従って、発明の実施の形態において、第２の受け取りメッセージは、さらに、遠隔通信手段に対して、受取人の身元証明と共に、少なくとも取引額、または、取引に相当する製品および／またはサービスの総価格と仕

様を、取引に関係した許容電話番号によって識別される支払人の携帯電話に送信せよという命令を生成する。受取人の身元証明、および、取引額、または取引に相当する製品および／またはサービスの総価格と仕様は、安全基準を要請するメッセージと共に送信される。

【００３６】

他方では、第４の情報は、さらに、前述の参照コードの１つと、相当する受取人の識別コードとから成る、第１の選択できる電話番号を含んでもよい。その選択できる電話番号は、製品またはサービスの購入が、例えば、各々が受取人の製品またはサービス、もしくは、製品またはサービスのグループの各々を一義的に同定する電話番号等の許容識別コードを利用することによって可能になるように、許容身元証明を構成する。

【００３７】

他方、第４の情報は、さらに、受取人へのアクセス電話番号形式の許容識別コードを含む。そのアクセス電話番号は、少なくとも、参照コード、その参照コードの各々によってそれぞれ識別される製品またはサービス、その製品またはサービスの価格から構成される第１のメニューに関連している。

【００３８】

発明のもう１つの実施の形態において、第１のデータ記憶手段は、例えば、似たような製品またはサービスを提供する受取人を、１つの同じ許容識別コード、特に、許容アクセス電話番号に分類できる。その許容アクセス電話番号は、ダイアルされると、オプションのメニューへのアクセスを提供する。ここに、その許容アクセス電話番号に分類された受取人が明記され、支払人は、そのメニューから、許容電話によって順番に識別される少なくとも１人の受取人を選ぶことができる。メニューの設計により、同じものから出発して、支払人は、選ばれた受取人に直接アクセスし、その受取人の製品、および／もしくは、サービスを知り、そのメニューで支払人の選択をすることができる、または、ある受取人の選択が、支払人に、その第２の情報に関連し、第４の情報に類似した第５の情報へのアクセスを提供できる。この第５の情報は、好ましくは、各々の製品またはサービスに関連した価格はもちろん、受取人の各々１人の製品またはサービスを識別する参照コードも含む。

【００３９】

本発明のシステムは、例えば、受取人が店にいるように、支払人が家屋にいたままの直接購入、インターネットによるソフトウェアファイルの購入、製品またはサービスの前払い購入、配達レシートを伴う製品またはサービスの配達、および、ある人物から他の人物への支払いのような複数の異なる取引において使用され、適用されるのにふさわしい。

【００４０】

従って、支払人が、コンピュータプログラム、コンピュータゲーム、音楽、ビデオ等のようなソフトウェアファイルを得たい場合に適用できる実施の形態において、そのシステムは、支払人の許容電話番号と、この場合には、ソフトウェア提供者である受取人の受取人許容識別コードとに加えて、支払人が、受取人によってソフトウェアファイルが送信されることを望む受け取りｅ－ｍａｉｌアドレスを含む、第１のメッセージを処理できるように設計される。この場合、システムは、既に前述されたステップの実行に加えて、第１サーバーにおいて受取人から受け取られた、ソフトウェアファイルの解読コードを含むさらなる確認メッセージを追加として生成する確認メッセージ生成手段で作動する。そのさらなる確認メッセージは、支払人の携帯電話に送信され、故に、その支払人は、その受け取りｅ－ｍａｉｌアドレスで受け取られたソフトウェアファイルを解読できる。

【００４１】

他方、システムが前払い購入をするために使用されるとき、そのシステムは、第１のサーバが、加えて、前払い購入をせよという第１の命令を検知する第１の検知手段とコレクションコード発生手段とを含むといった方法で設計できる。この実施の形態において、その確認メッセージ生成手段は、さらに、コレクションコードを含む補助的な確認メッセージを生成する。その補助的な確認メッセージは、支払人の携帯電話と受取人の遠隔通信タ－

ミナルに送信される。それ故、その支払人にコレクションコードを知らせることによって、支払人または支払人が代理に立てた人物は、得られた製品またはサービスを受取人から受け取れる。

【００４２】

配達レシートの発行が必要とされる取引に適用できるシステムの実施の形態において、第１のデータ記憶手段は、さらに、各々の受取人に関して、第２の情報に関連して各々の許可された取引に相当する製品またはサービスに関するデータを含む第３の情報を含む。第１のサーバは、さらに、第２の検知手段と、少なくとも配達される製品またはサービスを識別する配達コードを生成する配達コード生成手段と、その製品またはサービスを識別する識別メッセージ生成手段とを含む。その第２の検知手段は、受取人の携帯電話である遠隔通信ターミナルから受け取られた、許可された取引に相当する直接配達物を管理せよという第２の命令を検知する。この実施の形態において、確認メッセージ生成手段は、さらに、配達コードを含む追加メッセージを生成する。その追加メッセージは、支払人の携帯電話と受取人の携帯電話に送信され、その識別メッセージは、安全パラメータの送信要請と共に、少なくとも支払人の携帯電話に送信される。配達を管理するために、そのシステムは配達管理処理手段を含む。その配達管理処理手段は、第３の検査手段が、安全パラメータが支払人の携帯電話に関連した安全基準を満足することを確かめたとき、受領書データに入力を生成する。その受領書は、好ましくは、そのような受領書が生成される受取人によって要請される。

支払人の自動販売機での購入に関する取引に適用できる本発明の実施の形態において、第１データ記憶手段における第２の情報は、各々が、許容識別コードの携帯電話番号によって識別される遠隔通信ターミナルとして、デジタル携帯電話を含む、複数の自動販売機の識別コードと、各々の自動販売機の許容識別コードに関連した許可コードと、許容電話番号によって識別された支払人から要請を受け取るために自動販売機を稼動させる各々の許可コードに関連した、自動販売機を稼動させる稼動コードとを含む。この実施の形態において、確認メッセージ生成手段は、第１、第２、および、第３検査手段が、それぞれ、第１、第２、第３受け取りメッセージを生成したとき、少なくとも、自動販売機を稼動させるコードと、支払人の携帯電話の許容電話番号とを含む、確認メッセージを生成して送信する。故に、その支払人は、彼／彼女が自動販売機で得たい製品を選んで手に入れることができる。この実施の形態は、第１のデータ記憶手段で記憶される前もって決められた条件によって、以下の条件の１つまたは両方を採用できる。

【００４３】

これらの構成の中の第１の構成によると、確認メッセージ生成手段は、支払人が第１のサーバを通して自動販売機に選択メッセージを送信できる前もって決められた期間に、支払人の携帯電話と自動販売機の間の通信を確立する。この構成において、サーバは、さらに、自動販売機の非稼動を検知する非稼動検知手段を含む。

【００４４】

第２の構成によると、第１サーバにおける確認メッセージ生成手段は、確認メッセージを送信した後に自動販売機との通信を終える。故に、その支払人は、自動販売機の選択ディスプレイまたはキーボードを利用して、自分の選択を直接行える。

【００４５】

ほとんどの場合において、自動販売機によって与えられる製品がほんの低価格であることを考えると、この実施の形態において、各々の自動販売機の許容電話番号に関する許可基準は、経済的価値と販売需要の数とから選択された最大制限を設定する直接的な許可コードであり、それは、確認メッセージ生成手段が、その直接的許可コードが検知されたときに、確認メッセージを生成するように、同じ携帯電話からなされた要請に関して特定の期間に認められる。よって、支払人に特に割り当てられた許可基準を検査するための、第１のデータ記憶手段にアクセスしなければならない第２の検査手段の必要性が避けられ、従って、取引のスピード向上と低コスト化が実現される。

【００４６】

この実施の形態において、第１のサーバは、好ましくは、さらに、各々の自動販売機に記録された取引を記録するための、許可手段に関連した記録手段を含む。また、本発明のシステムは、１人の関連ユーザーから他の関連ユーザへの支払取引を可能にするために採用できる。そのために、システムは、確認メッセージ生成手段が、第１、第２、第３、第４の受け取りメッセージを検知すると、支払人の身元証明、取引の証明、および、第１のメッセージで識別された受取人に対する従うことの請求を含む第１の確認メッセージを生成するように設計できる。その従うことの請求は、さらに、確認メッセージが、選択手段によって選択された遠隔通信手段を通して、第２の許容電話番号によって識別される受取人の携帯電話に送る安全パラメータの送信要請を含む。また、第３の検査手段は、従うことの請求の返答として、携帯電話から送信される安全パラメータが、第２の許容電話番号に関連する安全基準を満足するかどうか検査し、パラメータがその安全基準を満足するとき、第５の受け取りメッセージを生成する。一方、許可手段は、その第５の受け取りメッセージが生成されると、その口座管理手段を許可する。その後、その確認メッセージ生成手段は、第２の確認メッセージを生成し、支払人の携帯電話と受取人の携帯電話に送信する。

【００４７】

好ましくは、前述の手段を有する少なくとも第１のサーバは、取引支払いセンターと統合される。

【００４８】

他方、本発明は、少なくとも１つのモバイル電話方式通信を利用することによって、上述されたシステムに関連する支払人と受取人の間の支払い取引を処理する処理にも関する。特に、その処理は、

支払い取引センターにおいて、遠隔通信手段を通して、支払人の携帯電話番号または受取人の識別コードを含む第１のメッセージを選択的に受け取るステップと、さらに

支払い取引センターにおいて、購入物の総額、または、製品またはサービスを識別するコードを受け取るステップと、

第１のメッセージが、許容電話番号または受取人の許容識別コードによって識別される支払人から生成されたかどうかを検査するステップと、

第１のメッセージにおいて必要とされる取引の条件が、第１のデータ記憶手段に記憶された取引基準を満足するかどうかを検査するステップと、

第２のデータ記憶手段における、許容電話番号に関連したデジタル携帯電話の型を検査し、許容電話番号によって識別されたデジタル携帯電話の型と矛盾しない遠隔通信手段を通して、その許容電話番号によって識別されたデジタル携帯電話と通信する１つの遠隔通信装置を選択するステップと、

第１のデータ記憶手段において、支払人が、取引支払センターに先に作られた電子財布に、自由に使える残高を有しているかどうかを「オンラインで」チェックするステップと、

取引条件が満足され、取引を許可するための十分な自由に使える残高があるとき、第１のメッセージで識別された支払人に、第１のメッセージで識別された携帯電話に安全パラメータを取り込み、それを送信するよう要請するステップと、

第１のデータ記憶手段において、支払人の携帯電話に取り込まれ、その携帯電話によって送信された安全パラメータが、携帯電話に一義的に割り当てられた安全基準を満足するかどうかを検査するステップと、

その安全パラメータが安全基準を満足するとき、要請される取引を許可して実行するステップと、

支払人の携帯電話と受取人に、取引が実行されたという確認を送るステップとから成る。

【００４９】

これらのステップは全て、発明の異なる実施の形態に共通であり、万一、買い手が直接購入する、すなわち、売り手の店でじかに購入する場合には、その売り手が取引を始め、買い手の識別は、売り手が、買い手の携帯電話番号を取引支払センターに送信することによってなされる。

【００５０】
この場合に、売り手の識別は、購入物の総額、または、購入されようとしている製品の識別コードと共に買い手の携帯電話番号を送信するために、取引支払いセンターに設置される通信手段によって、暗黙のうちになされる。この通信は、売り手の携帯電話と取引支払いセンターとの間の接続を利用して実行される。
【００５１】
それ故、本発明の処理は、買い手が、売り手に、自分の電話番号を提供するステップを含む。このステップは、買い手が自分の電話番号を、売り手に口頭で知らせることによって、または、買い手の電話番号を含むサポートを読むことによって、直接的に実行される。明らかに、その買い手は、任意の処理、および、同等の機能をもつ通常の装置によって、自分の携帯電話番号を伝えることができる。
【００５２】
買い手と売り手の身元を確認し、両者が取引支払いセンターに加入した後、本発明の処理は、取引支払いセンターからの接続を利用して、買い手の携帯電話に確認要請を送信するステップを含む。その確認要請は、買い手が、購入物の総額、または、購入されようとしている製品の識別コードの、先の送信を利用することによって実行される、コレクションオーダー、または、要請された取引に同意するというものである。その取引のデータは、この要請に含まれる。
【００５３】
その後、買い手は、自分の秘密識別コードを自分の携帯電話を利用して、取引支払いセンターに入力し送信することによってコレクションオーダーを認め、それが検査される。
【００５４】
取引支払いセンターと買い手の携帯電話との間の通信を実行するために、その処理は、取引支払センター側で、ここに提供されたデータベース、各々の買い手の携帯電話の特性を含むデータベースの諮問手段を含み、この諮問から、携帯電話通信装置が、以下の、取引支払いセンター自体に含まれる装置の中から選ばれることが規定されている。
ＥＴＳＩ規格の０３．９８、０３．４０、０４．１１、０９．０２で定義されたショートメッセージサービス（ＳＭＳ）が許可／実行されるショートメッセージセンター（ＳＭＣ）。このシステムを利用することにより、携帯電話間、または、携帯電話とアプリケーション間で、１６０字までのメッセージを交換できる。携帯電話と取引支払いセンター間の同期通信を可能にするために、特別に設計されたメッセージセンターはもちろん、普通のショートメッセージセンターも、この取引支払いシステムに利用される。そのセンターは、携帯電話が末端となる全てのショートメッセージ通信で使用される。
ＥＴＳＩ規格ＧＳＭの０２．９０、０３．９０、０４．８０、０４．９０、で定義される非構成補足サービスデータ（ＵＳＳＤ）は、それを用いて携帯電話とアプリケーションの間で継続的で相互式の文字対話が確立でき、いわゆるＵＳＳＤ操作の利用によって、アプリケーション（電話ＭＡＰステップ２）と同様、携帯電話のユーザー（ＭＡＰステップ１と２）によって始められる。
【００５５】
ショートメッセージサービスと同様、上述のＵＳＳＤ操作は、携帯電話と基地局の間のインタフェースにおける独立型専用制御チャンネル（Ｓｔａｎｄ－ａｌｏｎｅ Ｄｅｄｉｃａｔｅｄ Ｃｏｎｔｒｏｌ Ｃｈａｎｎｅｌ）（ＳＤＣＣＨ）、基地局からモバイルネットワーク交換センター（Ｍｏｂｉｌｅ Ｎｅｔｗｏｒｋ Ｓｗｉｔｈｉｎｇ Ｃｅｎｔｅｒ）（ＭＳＣ）までのダイレクトトランスファアプリケーションパート（Ｄｉｒｅｃｔ Ｔｒａｎｓｆｅｒ Ａｐｐｌｉｃａｔｉｏｎ Ｐａｒｔ）（ＤＴＡＰ）操作、ＭＳＣとＵＳＳＤセンターとショートメッセージセンターとの各々の間のモバイルユーザーアプリケーションパート（Ｍｏｂｉｌｅ Ｕｓｅｒ Ａｐｐｌｉｃａｔｉｏｎ Ｐａｒｔ）（ＭＡＰ）操作を、ＷＡＰフォーラム（ｈｔｔｐ：／／ｗｗｗ．ｗａｐ－ｆｐｒｕｍ．ｏｒｇ）の規格による、ＧＳＭネットワークの場合に輸送機関としてショートメッセージまたはデータサービスを用いて、適当なソフトウェアが提供される携帯電話と、インターネット端子におけ

る常駐のアプリケーションとの間の通信を可能にする、ワイヤレスアプリケーションプロトコル（Ｗｉｒｅｓｓ Ａｐｐｌｉｃａｔｉｏｎ Ｐｒｏｔｏｃｏｌ）（ＷＡＰ）によって、利用する。

【００５６】

それ故、本発明は、携帯電話が改良される必要なしに、支払いが携帯電話の任意の型によってなされるといった方法で、取引支払いセンターと、異なる型の携帯電話との間の情報の交換を可能にする。

【００５７】

各々の買い手の携帯電話の特徴を含むデータベースの更新は、取引支払いセンターが携帯電話ネットワークの端子を諮問するために自動的になされる。

【００５８】

秘密の識別コード検査処理において、以下の機構のいくつかが介在する。

各々のユーザーのＫｉ秘密認証コードが属するＧＳＭネットワークの認証センターに基づく認証とＧＳＭ暗号化。これと同じコードが、ユーザーの加入者識別モジュール（ＳＩＭ）にアクセスできない状態で属する。ＧＳＭネットワークにアクセスするために、認証センターは、Ｋｉコードと共に、１２８ビットのＲＡＮＤ乱数を生成する。それは、それぞれ、ＳＲＥＳパラメータとＫｃセッションコードとを生成する、非標準的なアルゴリズムＡ３とＡ８に入力された数である。これらのパラメータは、ＲＡＮＤ乱数を、同じ処理が実行されるＳＩＭに送信する、認証センターのビジターロケーションレジスタ（ＶＬＲ）に記憶される。そのＳＲＥＳパラメータは、ユーザーを識別するネットワークに戻され、Ｋｃセッションコードは、モバイル端末に記憶される。この時から、携帯電話と基地制御装置（ＢＳＣ）の通信が、Ｋｃコードとアルゴリズムａ５を用いて暗号化される。

ＳＩＭカードのプログラミングモデルである、ＳＩＭツールキットカードに含まれるソフトウェアによる識別と暗号化が、ＥＲＳＩ規格ＧＳＭ１１．１１と１１．１４で述べられる。全てのＳＩＭカードが実行するＧＳＭ暗号化のアプリケーションに関係なく、パーソナルコンピュータアプリケーションで現在実行される同じデジタル証明の同じ管理を実行するＳＩＭアプリケーションが開発できる。

携帯電話のソフトウェアを用いた識別と暗号化であって、万一、携帯電話が必要な処理キャパシティを有する場合には、上記のデジタル証明の管理は、携帯電話自体で実行できる。

【００５９】

すでに指摘されているように、局所検査の結果は、これら後の２つの場合には、取引支払いセンターに送られる。

【００６０】

さらに、直接購入のためには、秘密コードが正しいという取引支払いセンターにおける検査の後、その処理は、買い手の財布から取引額を減ずるステップを含む。一旦、取引の確認が買い手と売り手になされると、一定時間の後、取引のデータを更新するステップが実行される。それは、選ばれる支払い形式によって、店に貸方が、買い手に借方がもたらされる。支払いの２つの形式は、そのサービスのユーザが、自分の購入物の総額を支払える手段によって決められる。

前払い：買い手は、前もって取引支払いセンターに開いている自分の財布に、総計金額を前もって貸し付ける。一旦、購入がなされると、その総額は、この口座からリアルタイムに減ぜられる。

後払い：１ヶ月にされた購入物の総額がユーザーの財布に入力され、その総額が、ユーザーによって示された通用する口座に毎月請求される。

【００６１】

両方の場合で、各々が自分自身の携帯電話を所有し、各々が二次的財布に関連している複数のユーザーが、１人の持主が現れるサービスを利用できるといった方法で、二次的口座を主用口座に関連してもよい。

【００６２】

また、本発明の処理によって、前もって購入をする可能性がある。この場合に、その処理は、直接購入で述べられた処理と一致する。しかし、買い手は、売り手のサービスセンターまたは自動販売システムと接続することよって、売り手に自分の電話番号を提供し、それから、売り手は、取引支払いセンターに、購入物の総額、または、購入されようとしている製品の識別コードを送信するという違いがある。

【００６３】

その後、取引支払いセンターは、売り手に、購入物の総額、または、購入されようとしている製品の識別コードと共に、コレクションコードを送信する。

【００６４】

さらに、買い手の財布から購入の総額を減じた後、命令コレクションコードが買い手に送信されるように、買い手に確認が送信され、なされている購入の、規定された配達時間も送信される。

【００６５】

この方法で、買い手が購入される製品を収集しようとするとき、そのコレクションコードは、支払いがなされたことを保証する受け取りコードを構成し、さらに、それは買い手に配達される製品を表わす。

【００６６】

また、本発明は、インターネットによって購入がなされることを可能にする。この場合に、店は、インターネット、または、任意の型のネットワークによって取引支払センターと通信される通常のバーチャルストアである。

【００６７】

この場合に、その処理は、直接購入で述べられたものと全く同じであるが、買い手が、自分の電話番号を、インターネットによってバーチャルストアに送信するという違いがある。

【００６８】

万一、インターネットによる購入が、ＷＡＰキャパシティをもつ携帯電話からなされる場合には、買い手の電話番号は、両者の間の通信を確立するときに、売り手に暗黙のうちに伝えられる。そのコレクションオーダーは、直接購入で述べられた処理か、取引支払センターと買い手の携帯電話との間で確立されるＷＡＰ通信のどちからによって、買い手に伝えられる。

【００６９】

また、本発明は、購入が自動販売機からなされることを可能にする。この場合に、その処理は、直接購入で述べられたものと全く同じであるが、ここで、携帯電話と取引支払いセンターとの間の接続を利用して、取引を始めるのは、買い手であるという違いがある。その識別は、なされる接続によって暗黙のうちに実行される。自動販売機（売り手）の識別は、なされる接続を利用して、買い手側で、それに関する販売機の識別コードを送信することによってなされる。このために、自動販売機は携帯電話を含むべきである。

【００７０】

一旦、取引支払センターが、買い手の身元と自動販売機の身元とを検査すると、その稼動信号を送信する自動販売機と接続される。この接続は、自動販売機に含まれる携帯電話によってなされる。その後、以下のステップによって稼動が実行する。買い手の身元をスクリーンに表示する。それは、買い手が製品を選択（ｓｅｌｅｃｔ）／選択（ｃｈｏｏｓｅ）することを可能にする。その後、製品が販売される。

【００７１】

本発明の実施の形態において、自動販売機で累積される貸し付け命令は、全ての累積命令が処理される取引支払センターによって、周期的に問い合わされる。

【００７２】

発明の処理が自動販売機に適用されるとき、本発明のシステムに関して、すでに上述された段階と手段が使用される。

【００７３】

また、本発明は、知的財産、すなわち、上述されたソフトウェアファイルの購入が、インターネットによってなされることを可能にする。このために、買い手は、自分の携帯電話番号を、通信回線上にある店、この場合にはバーチャルストア、に提供する。収集取引は、インターネットによる支払いの場合で述べられたように、この店から始められる。この場合には、買い手の装置において暗号化されたファイルを解読した後、買い手は、取引支払センターからの復号コードを要請する。これらのコードは売り手によって生成され、ファイルの承認を決定し、故に、その配達を決定する取引支払いセンターまで、安全チャンネルに沿って送信される。それは取引支払いセンターの側で、買い手の携帯電話に、続いて復号コードを送信するステップを含む。これが、知的財産の配達の確認を構成する。

【００７４】

本発明は、さらに、電子受領書の機能を実行するために使用できる。この場合に、売り手は、売り手が、なされた接続によって暗黙に識別されるといった方法で、自分の携帯電話と取引支払センターとの間の接続を実行する。ここに、その識別をした後、売り手は、買い手に製品の配達をするために、取引支払いセンターから制御ナンバーを要請するといった方法で、配達される製品の識別コードが送信される。その後、取引支払センターは、買い手との接続によって、配達される製品のみならず、売り手によって要請された制御ナンバーを、買い手に送信する。その後、買い手の秘密コードが要請され、買い手の携帯電話によって入力された後、これが、製品の配達と受け取りの確認を示す。

【００７５】

この方法で、受領書は、上述された処理に取って代わり、売り手の、紙を排除するロジスティック制御の自動化を可能にし、このために、売り手にアクセスできるデータベースが提供される。

【００７６】

この後者の場合に関して、両者間で認められることに従い、取引が支払いと同時に起こるか起こらないかが指摘されるべきである。

【００７７】

また、明らかに、そのシステムに関して前述された操作特性と技術特性は、本発明の処理に適用でき、逆もまた同じである。

【００７８】

【発明の効果】

発明は、携帯電話を有する任意の所有者が支払い機能や支払いサービスのグループを借りられるように、携帯電話を改良せずに、任意の型のデジタル携帯電話（以後、「携帯電話」という）から、支払いがなされることを可能にする。この全てがクレジットカードを使用せず、使用者が必ず銀行の顧客であることを必要としない。このため、取引支払いセンターが提供され、このセンターには、どの型の携帯電話の支払いが要請され、または、なされているのかを確認する相当の装置と手段と共に、異なるモバイル通信能力が提供される。従って、その取引支払いセンターに、任意の携帯電話と、相当する携帯電話装置によって通信することを可能にする。

【００７９】

また、発明は、インターネットによる知的財産の購入の場合でさえ、購入時の領収書が得られることを可能にする。さらに、売り手が受領書を手渡す必要なしに配達を証明する、前もって購入された商品の配達確認が、発明により達成される。

【００８０】

発明は、携帯電話方式のネットワークを有する全ての国、特に、全国的経営会社が設立された国で実行できるであろう。この会社は、サービスを提供して施す条件で、その国の携帯電話オペレータと同意する。支払いは、任意の型の携帯電話により、その改良をする必要なしに実行される。

【００８１】

【好ましい実施の形態の説明】

添付の図面に基づいて、以下に発明の説明がなされる。

【００８２】
図１は、直接購入、すなわち、この場合に買い手である支払人（１３）が、購入をするため、この場合に売り手である受取人（１４）の店に行く場合の購入の処理を説明する。
【００８３】
購入するために、売り手（１４）と買い手（１３）は、取引支払いセンター（１７）に承認されることが必要である。そのため、各々の買い手（１３）は、自分の携帯電話番号に関連した秘密コードが割り当てられる。
【００８４】
直接購入において、買い手（１３）は、ステップ（１ａ）を利用して、秘密の識別コードとは異なる、自分のモバイル局国際番号統合サービスデジタル通信網番号（ＭＳＩＳＤＮ）、または、それに関連した番号を、売り手（１４）に送信する。このステップ（１ａ）は、口頭で、または、売り手の装置（１５）に提供された光学ペンシル、ラベルまたは消費者のカードのバーコードを読み取るペンシルを利用して実行される。例えば、このカードは、買い手（１３）の携帯電話（１６）に装着される。
【００８５】
売り手（１４）は、取引の許可を要請するために、その装置（１５）を利用して取引支払いセンター（１７）との通信（２ａ）を確立する。通信（２ａ）では、その許可が要請されている取引額だけではなく、買い手（１３）のＭＳＩＳＤＮ、または、それに関連する番号を含むコレクションオーダー（ｃｏｌｌｅｃｔｉｏｎ　ｏｒｄｅｒ）が送信される。
【００８６】
例として、装置（１５）は、発明による販売申し込みがなされることを可能にするプログラミングを記憶するマイクロプロセッサに基づいた、小型のモバイルターミナルから構成されてもよい。それは、携帯電話によって、取引支払いセンター（１７）と異なる通信をするために、スクリーン、キーボード、および、ＵＳＳＤステップ２通信キャパシティを備えた携帯電話を含む。
【００８７】
通信（２ａ）の確立を可能にするために、取引支払いセンターは、ＵＳＳＤモバイル通信装置（１９）を有し、それによって、売り手の装置の携帯電話との通信（２ａ）が確立される。
【００８８】
さらに、その取引支払いセンター（１７）は、各々の買い手（１３）と各々の売り手（１４）の各々の電話番号だけではなく、両者の各々の携帯電話（１６）の型を記憶するデータバンク（２１）と、取引支払いセンター（１７）に関連するデータを記憶するデータバンク（２２）も含むオンライン取引支払いサーバ（２０）を有する。
【００８９】
また、そのデータバンク（２２）は、取引支払いセンター（１７）によって実現される支払いサービスに加入した各々の買い手（１３）についての第１の情報や各々の売り手（１４）についての第２の情報も記憶する。そのために、データバンク（２２）は、買い手の電話番号、支払いサービスに許可されている各々の買い手に割り当てられる秘密コード、および、買い手の電話番号またはそれに関連する番号である各々の買い手のコードを記憶する。万一、買い手の電話番号に関連する番号が送信された場合には、この番号も、データバンク（２２）に記憶される。
【００９０】
故に、サーバ（２０）は、第１の検査手段（２０ａ）を利用して、通信（２ａ）源により、買い手の身元を検査する。買い手の電話番号は、装置（１５）によってなされる接続で暗に示されるからである。さらに、そのサーバは、送信された買い手の電話番号、または、それに関連する番号が、支払いサービスの加入者に相当するかどうかを、手段（２０ａ）によって検査する。もし、その検査が正しければ、それは受け取りメッセージを生成する。
【００９１】

さらに、ステップ（３）により、そのサーバ（２０）は、第２の検査手段（２０ｂ）を利用して、買い手の残高または貸方の総額を検査することによって前もって規定された認可基準を検査する。残高の検査は、データバンク（２２）で以前に開かれた財布においてなされる。もし、その検査が正しければ、第２の受け取りメッセージが生成される。

【００９２】

もし、先の検査が肯定結果を提供し、その結果、受け取りメッセージが生成されると、買い手（１３）との通信が確立される。この通信で、サーバ（２０）は、買い手（１３）の携帯電話（１６）に、コレクションオーダー確認要請（５ａ）または（５ｂ）を、買い手が得た携帯電話の任意の型との通信が可能になるといった方法で、買い手（１３）によって所有される携帯電話（１６）の型によって、ＵＳＳＤモバイル通信装置（１９）（５ａ）を利用してか、または、ショートメッセージセンター（１８）（ＳＭＣ）（５ｂ）によって実現されたモバイル通信装置を利用してかのどちらかで送信する。

【００９３】

ステップ（５ａ）または（５ｂ）を選択するために、サーバ（２０）は、買い手（１３）が所有する携帯電話の型が何かを検査し、その通信が実行される装置（１８）または（１９）を選択するために、ステップ（４）により、選択手段（２０ｈ）を利用して、データバンク（２１）に諮問する。

【００９４】

この段階で、以下に指摘するように、以前に「発明の説明」の項で既に述べられた１以上の可能性を利用して、買い手（１３）の携帯電話（１６）の国際モバイル装置識別器（ＩＭＥＩ）が記録され、システムがその特性を知るモバイル通信網のノードの諮問処理によって、データベース（２１）が自動的に更新される。

【００９５】

図７は、特に、ＩＭＥＩコードを調査して更新する複数の具体的な調査更新手段を有する第１のサーバ（２０）の実施の形態を示す。その調査更新手段の全てにおいて、第２のデータ記憶手段（２１）に含まれる、各々の支払人（１３）の各々の許容電話番号と各々の受取人（４０）の各々の許容識別コードとに関して第２のデータ記憶手段に含まれるデジタル携帯電話（１６、４０）の型に関係する各々の第２の情報は、（この後者コードが下記で説明されるデジタル携帯電話の番号であるとき）ＩＭＥＩコードを表わす第１の識別コードである。

【００９６】

従って、第１の具体例において、第１の調査手段（２０ｒ）は、各々の許容電話番号に関連するＩＭＥＩコードを、各々の許容電話番号と各々の許容電話番号に相当するＩＭＥＩコードとの間の関連付けを含み、そのビジターロケーションレジスタによって更新されるとき、各々のビジターロケーションレジスタからその関連を受け取る装置識別レジスタ（ＥＩＲ）から引き出す。

【００９７】

第２の具体例において、第１の調査手段（２０ｒ）は、各々の許容電話番号に関連するＩＭＥＩコードを、非構成補足サービスデータ（ＵＳＳＤ）フレームから引き出す。そのＵＳＳＤフレームには、そのフレームを発した各々のモバイル交換局（ＭＳＣ）に関連する各々のビジターロケーションレジスタが、そのフレームを発したユーザーに相当する許容電話番号に関連したＩＭＥＩコードを挿入する。

【００９８】

第３の具体例において、第１の調査手段（２０ｒ）は、各々の許容電話番号に関連するＩＭＥＩコードを、ビジターロケーションレジスタとその調査手段（２０ｒ）との間のインターフェースを通して引き出す。

【００９９】

第４の具体例において、第１のサーバ（２０）は、モバイル電話方式ネットワークオペレータのデータバンクの複数の通話データレジスタ（ＣＤＲ）において、各々の許容電話番号に相当するＩＭＥＩコードを調査する調査手段であって、その複数の通話データレジス

タが、通話に基づいて、１つの通話データレジスタを生成した各々の電話番号と、その通話が発生した端末のＩＭＥＩコードとの関係を含む第２の調査手段（２０ｔ）と、
第２の調査手段（２０ｔ）によって調査された各々のＩＭＥＩコードと、第２のデータ記憶手段（２１）に含まれる各々の許容電話番号と関連したＩＭＥＩコードを表わす各々のコードとの比較に基づいて、第２の記憶手段（２１）における第２の情報を更新する第２の更新手段（２０ｕ）とを含む。

【０１００】

第５の具体例において、第２の情報は、さらに、ＩＭＥＩコードによって識別される許容電話番号に関連したデジタル携帯電話の、ワイヤレスアプリケーションプロトコル（ＷＡＰ）によるセッションを管理するキャパシティ、非構成補足サービスデータ（ＵＳＳＤ）のセッションを管理するキャパシティ、その組合せから選ばれた通信キャパシティを示す少なくとも１つのデータを含む。

【０１０１】

最後に第６の具体例において、第１のサーバ（２０）は、モバイル電話方式ネットワークオペレータのデータバンクの複数の通話データレジスタ（ＣＤＲ）において、各々の許容電話番号に相当するＩＭＥＩコードを調査する調査手段であって、その複数の通話データレジスタが、通話に基づいて、１つの通話データレジスタを生成した各々の電話番号と、その通話が発生した端末のＩＭＥＩコードとの関係を含む第２の調査手段（２０ｔ）と、
第２の調査手段（２０ｔ）によって調査された各々のＩＭＥＩコードと、第２のデータ記憶手段（２１）に含まれる各々の許容電話番号と関連したＩＭＥＩコードを表わす各々のコードとの比較に基づいて、第２の記憶手段（２１）における第２の情報を更新する第２の更新手段（２０ｕ）とを含む。

【０１０２】

明らかに、図７は、第１のサーバ（２０）に共存する複数の具体例を示しているけれども、本発明のシステムは、その具体例をほんの１以上含むだけである。

【０１０３】

万一、携帯電話（１６）が、ＵＳＳＤバージョン２のキャパシティを有しているとしても、ステップ（５ａ）は、ＵＳＳＤフレームと、携帯電話（１６）による処理とサーバ（２０）との間の接続がつながる、その処理によって実行される。このフレームを受け取ると、携帯電話（１６）は、スクリーンに、コレクションオーダーの詳細と共に、許可要請を表示する。

【０１０４】

万一、携帯電話（１６）が、ＵＳＳＤバージョン２のキャパシティを有していない場合には、この要請は、コレクションオーダーの詳細と、許可を送信せよという命令とを有するクラス０のショートメッセージの送信（５ｂ）によってなされる。クラス０のショートメッセージを受け取ると、携帯電話（１６）は、ユーザーが自分の携帯電話に記憶されたメニューの構造を通して命令する必要性なしに、それをスクリーンに表示する。同期通信を実行するときに特徴付けられるショートメッセージセンター（１８）は、３の確認要請メッセージを送信するのに使用される。

【０１０５】

図１に戻ると、買い手（１３）は、サービスに加入しているとき彼に割り当てられる秘密コードを、彼の携帯電話のキーボードを利用して入力する（６）ことによって、受け取られたコレクションオーダー（５ａ）または（５ｂ）を確認する。万一、携帯電話が、ＳＩＭカード識別機構を有している場合であれば、この識別コードは、ステップ（３３）によって、携帯電話において局所的に検査できる。この場合に、暗号化された局所的識別の結果が、上述の同期ショートメッセージセンター（１８）に向けられるショートメッセージによって、支払サーバに送信される、ステップ（７ｄ）が実行される。この場合に、取引支払いセンターは、記憶されるユーザの秘密識別コードから検査の結果を復号し、検査する。

【０１０６】

もし、これらの機構が利用できないなら、その秘密コードは、以後示される任意の処理を利用することによって、「発明の説明」で述べられたモバイル通信ネットワークの暗号化を使用することによって送信される。

【０１０７】

万一、それが、ステップ（５ａ）による要請を受け取ったＵＳＳＤバージョン１、２のキャパシティを有する携帯電話（１６）である場合は、買い手がステップ（６）で鍵をかけた秘密識別コードは、ステップ（５ａ）でつながれた接続を通じて、ステップ（７ａ）により送信される。

【０１０８】

万一、それが、ステップ（５ｂ）によって要請を受け取ったＵＳＳＤバージョン１キャパシティを有する携帯電話である場合には、買い手が鍵をかけたシーケンスは、秘密コードが後に続くＵＳＳＤサービスコードから成り、それは、携帯電話で発生したＵＳＳＤバージョン１操作フレームにおいてステップ（７ｂ）によって送信される。

【０１０９】

万一、それが、ステップ（５ｂ）による要請を受け取ったＵＳＳＤキャパシティのない携帯電話である場合には、ショートメッセージにおいて、買い手（１３）が鍵をかけるシーケンスは、ステップ（５ｂ）に対する応答として、ステップ（７ｃ）によって、買い手（１３）の携帯電話（１６）番号に従い、オペレータによってそのサービスに割り当てられたショートナンバーに送信される秘密コードから成る。

【０１１０】

その後、サーバ（２０）は、第３の検査手段（２０ｃ）によって、買い手（１３）によって送信される秘密コードを検査する。その検査は、ステップ（８）によって実行され、万一、その検査結果が肯定的である場合には、第３の受け取りメッセージが生成される。

【０１１１】

サーバ（２０）は、それが、３つの許可メッセージを受け取ると、いくつかの口座管理手段（２０ｅ）を許可する許可手段（２０ｄ）を有する。その口座管理手段は、サーバ（２０）に含まれ、買い手の財布／クレジット口座から、取引総額を減じて、その総額をステップ（９）によって売り手の口座に振り込む。口座管理手段は、ステップ（１０）によって買い手（１３）の携帯電話（１６）のみならず、売り手（１５）の端末に取引の確認を送信する。この確認は、サーバ（２０）に含まれるいくつかの確認メッセージ生成手段（２０ｇ）によって実行される。また、これらの手段（２０ｇ）は、買い手（１３）および／または売り手（１４）に対して、手段（２０ａ）と（２０ｂ）によって実行される検査を確認することができる。

【０１１２】

その後、オフラインステップであるステップ（１１）によって、そのデータは、経営管理サーバ（２３）に対して更新される。その経営管理サーバから、選択された支払いの型により、ファイナンシャルエンティティと関連して構築された特定のアプリケーションを利用して、加入者の処理が店に転送され、借方が買い手に転送される。経営管理サーバとの通信は、ライン（２６）によって確立される。この機能を実行する為に、経営管理サーバ（２３）は、店のデータバンク（２４）と買い手のデータバンク（２５）を有する。

【０１１３】

サーバ（２０）は、少なくとも１つの受け取りメッセージが生成されなかったとき、売り手および／もしくは買い手に不許可メッセージを送信する不許可メッセージ生成手段（２０ｆ）を有する。

【０１１４】

前述された操作は、購入がインターネットによってなされる場合や、支払人が買い手（１３）で、受取人がバーチャルストア（２７）であり、それが、この形式の購入、すなわち、インターネットによって通常なされるように、買い手が、自分の電話番号またはそれに関連する番号を、ステップ（１ｂ）によって、買い手（１３）とバーチャルストア（２７）との間の通信を利用して送信する場合で同一である。

【０１１５】
その後、バーチャルストア（２７）は、先に述べられたコレクションオーダー（２ａ）に対応する、コレクションオーダー（２ｂ）を送信する。しかし、このコレクションオーダーは、サーバ（２０）との通信が確立される手段であるネットワーク（２８）に送信されるという違いがある。
【０１１６】
この場合に、その処理は、先に述べられた処理と同様である。そのために、ステップ（１０）による確認の送信が、通信ネットワーク（２８）によってなされる。
【０１１７】
通信ネットワーク（２８）は、インターネット、デジタル統合サービスネットワーク、交換電話ネットワーク、または、他の任意のネットワークであってよい。
【０１１８】
これらのアクセスは、各々の場合に必要な安全機構が提供される。
【０１１９】
さらに、また、図１で説明された処理は、前払い購入がなされることを可能にする。そのために、この場合では、買い手（１３）は、売り手（１４）に、サービスセンターとの電話接続、または、売り手がこのために働かせる自動販売システムによって、買い手の電話番号を知らせる。この時点で、その処理は、直接購入の処理と同じである、しかし、売り手が、取引支払いセンター（１７）と通信するとき、売り手が、取引のデータと買い手（１３）の電話番号と共に、命令を送信するという違いがある。その命令は、サーバ（２０）に含まれるいくらかの第１の検知手段（２０ｉ）によって検知される前払い購入を示す。また、そのサーバは、その命令を検知したときにコレクションコードが生成されるコレクションコード生成手段（２０ｊ）も有している。このコードは、ステップ（１０）で、上述されたこのステップ１０の確認と共に、買い手と売り手に送信される。この点で、売り手が、問題の買い手とは誰なのか、彼にどの製品が手渡されるべきかを知ることができるように、買い手が、直接売り手（１４）の店に行くとき、前もって注文された製品のコレクションコードを知らせるべきである。
【０１２０】
この操作モードは、製品の生産をする店で、例えば腐りやすい商品のように、製品の代金がすでに支払われているという前提で、特に、役に立つ。従って、その製品は、後に収集されないけれども、その価格は、既に収集されたということが生じる。この構想は、その取引がオンラインでなされるときのみ可能である。買い手による売り手へのコレクションコードの提供は、支払いが前もってすでになされたという確認となる。
【０１２１】
本発明のシステムと処理を利用して、図２で説明されるように、支払いが自動販売機でもなされる。
【０１２２】
この場合に、受取人は自動販売機（２９）であり、それは、ショートメッセージとデータ通信キャパシティを有する携帯電話を含むべきである。
【０１２３】
ステップ（３０）よって示されるように、買い手（１３）は、自動販売機（２９）から自動販売機の識別コードを読み取る。
【０１２４】
その後、買い手（１３）は、買い手が持つ携帯電話（１６）の型に従い、通信（３１ａ）または（３１ｂ）によって、既に先に述べられたように、自動販売機（２９）の識別コードを、サーバ（２０）に送信する。
【０１２５】
このステップは、上述のステップ（２ａ）、（２ｂ）に等しいが、買い手の識別が、接続（３１ａ）または（３１ｂ）によって暗黙のうちに実行され、この場合では自動販売機（２９）である店の識別が、買い手によって送信されるコードによって実行されるという違

いがある。

【０１２６】

取引支払いセンターは、自動販売機（２９）に提供される、顧客の身元、彼の残高またはクレジット限界、携帯電話（１６）の型、および、携帯電話番号を検査する。これは、ステップ（３）または（４）によってなされる。

【０１２７】

ステップ（５ａ）、（５ｂ）、（６）、（７ａ）、（７ｂ）、（７ｃ）、（７ｄ）、（８）、および、（９）は、上記の場合と一致する。

【０１２８】

その後、自動販売機の稼動命令（３２）が、携帯電話ネットワーク（装置１８または１９）によって送信される。この稼動命令は、自動販売機（２９）の携帯電話との通信によって実行される。このために、取引支払いセンター（１７）は、自動販売機の携帯電話との通信を確立し、その自動販売機は、その命令を受け取ると、まるでコインがそれに投入されたのと同じように稼動させられる。自動販売機が、スクリーンに買い手の身元証明を表示し、その後、ステップ（３１）によって、買い手が選択し、欲しい製品を得るといった方法で、自動販売機（２９）の稼動命令と共に、買い手（１３）の身元証明が送信される。このために、第１のサーバ（２０）は、自動販売機（２０）との通信を切り、支払人が自動販売機（２９）のディスプレイまたはキーボードによって選択することを可能にする。自動販売機に適用できるシステムの実施の形態において、確認メッセージ生成手段（２０ｇ）は、支払人（１３）の携帯電話（１６）と自動販売機（２９）との間の通信を、前もって決められた時間に確立する。その間、支払人（１３）は、第１のサーバ（２０）を通して、自動販売機（２９）に選択メッセージを送信する。すなわち、自動販売機のディスプレイのかわりに、携帯電話（１６）を利用して、製品の選択がなされる。この期間の終了後、第１のサーバ（２０）、自動販売機（２９）、および、支払人（１３）の間の通信が切られる。

【０１２９】

また、第１のサーバ（２０）が、自動販売機（２９）の非稼動を検知する非稼動検知手段（２０ｏ）を含む可能性もある。これは、この場合に、第１のサーバ（２０）、携帯電話（２９）、および、支払人（１３）の間の通信を切る機能も有する。

【０１３０】

取引支払いセンター（１７）によって問い合わされるとき、自動販売機（２９）は、周期的に、サーバ（２０）に、ステップ（１２）によって、購入とそれを行ったユーザーとの記録を送信する。このために、第１のサーバ（２０）は、各々の自動販売機（２９）に記録された取引を記録する取引記録手段（２０ｐ）を含む。その記録手段は、許可手段（２０ｄ）に関連している。

【０１３１】

なされた購入を周期的にクリアするとき、ステップ（１０）が実行される。

【０１３２】

ある状況において、例えば、なされる取引総額が低い場合に、買い手の秘密コードを入力する必要がないということが起こりうる。この場合に、この処理に相当するステップは、除去される。

【０１３３】

また、本発明のシステムは、図３で説明されるように、インターネットまたは他の遠隔チャンネルによって購入を処理する場合に適用できる。

【０１３４】

インターネットによる買い手（１３）（支払人）は、ステップ（１）によって、買い手の電話番号を、バーチャルストア（２７）（受取人）にオンラインで提供する。電話番号と、なされる購入の総額とを含むコレクションオーダーを、サーバ（２０）に送信することを含むステップ（２）は、バーチャルストア（２７）からネットワーク（２８）を利用して実行される。この操作において、サーバ（２０）は、買い手と売り手の身元を検査し、

買い手に、図１で説明されるステップによって必要とされる店の身元、購入物の総額、および、秘密コードを知らせるメッセージを送信するために、装置（１８）を利用して、または、買い手が所有する電話の型に従って、買い手（１３）の携帯電話（１６）に対して接続を生成する。有効残高があることを確認した後、その取引は、買い手（１３）とバーチャルストア（２７）に確認される。従って、ステップ（１）から（１０）は、すでに上述された場合と同一である。その後、バーチャルストアは、買い手（１３）のコンピュータにおける暗号化されたソフトウェアファイルを、ステップ（３４）によるインターネットによってオンラインで解読する。買い手（１３）がそれらを受け取ったとき、ステップ（１２ａ）または（１２ｂ）によって、サーバ（２０）から、復号コードが、携帯電話の型に従って要請される。これらのコードは、売り手（２７）によって生成され、その要請で、安全チャンネルによって、サーバ（２０）に送信される。その後、サーバ（２０）の確認メッセージ生成手段（２０ｇ）は、ステップ（１３ａ）または（１３ｂ）によって、買い手（１３）の携帯電話（１６）の型に従って、買い手に送信されるソフトウェアファイルの復号コードを含む確認メッセージを生成する。最後に、オフラインステップ（１１）によって、サーバ（２０）と経営管理サーバ（２３）においてデータが更新される。

【０１３５】

さらに、本発明のシステムは、図４で説明されるように、電子受領書としての用途を可能にする。

【０１３６】

供給者（１４ａ）（受取人）が、買い手（１３）の家屋に配達をするとき、供給者（１４ａ）は、先に、携帯電話（１５ａ）によって、購入される製品の識別コードと買い手の電話番号が送信され、さらに、例えば制御番号のような配達コードが要請される取引支払いセンター（１７）と通信をする。このために、売り手は、サーバ（２０）に供給されたいくつかの第２の検知手段（２０ｋ）によって検知される第２の配達管理命令を送信する。一旦、そのセンター（１７）が、その検知に関して、通信（２ｃ）によって、および、配達コードの生成手段（２０１）のいくつかを利用して、供給者（１４ａ）の身元を検査すると、すでに説明されたように、センター（１７）がステップ（４）によって、買い手の携帯電話の型を検査し、買い手（１３）の携帯電話（１６）の型による接続（３６ａ）または（３６ｂ）によってそれと通信するといった方法で、そのコードは生成されて、ステップ（３５）によって売り手に送信される。通信（３６ａ）または（３６ｂ）において、買い手（１３）は、配達される製品と、彼の秘密コードの要請との制御番号に関するデータを受け取る。このために、サーバ（２０）は、その製品またはサービスを識別するメッセージ生成手段（２０ｍ）を有する。

【０１３７】

その後、買い手は自分の秘密コードを入力する。それは、配達の受領と製品の受け取りを暗に示す。サーバ（２０）は、先の例ですでに述べられた方法で、ステップ（８ａ）によってデータが正しいことを確認する（ステップ８）。その後、サーバ（２０）に含まれる配達管理処理手段（２０ｎ）の利用により、入力が受領書データベース（３７）で生成され、配達が、ステップ（１０）によって両者に確認される。最後に、配達のデータは、経営管理サーバ（２３）において、オフラインステップ（１１ａ）によって更新される。サーバ（２０）のデータベース（３７）は、供給者にとってアクセス可能であり、供給者が、配達の状態のコンピュータ制御と、制御ナンバーと秘密コードの送信によって顧客の受け取りのデジタルサインを生成する制御とを行うことを可能にする。これがステップ（３８）によってなされる。

【０１３８】

この方法で、通常、買い手に手渡される物質的なレシートは、上述された処理に取って代わられる。

【０１３９】

同様に、このステップ（３８）は、先に述べられた、直接購入、前払い購入、および、インターネットによる購入と共に実行できる。

【０１４０】
これらの取引は、支払いに付随されてもよい、または、されなくてもよい。
【０１４１】
図５は、カタログによる購入、例えば、テレビコマーシャル、文書公告のような、コマーシャルまたは公告の任意の型に反応した購入、ペイパービュー、または、他の任意の形式の購入をするために、製品またはサービスに、コードを割り当てることを含む、製品コードまたはサービスコードによって購入をするもう１つの可能な実施の形態を示す。
【０１４２】
この場合において、購入をするために、買い手は、一旦、買い手が買いたいと思う製品に割り当てられたコードを知る。その買い手は、自分の携帯電話で取引支払いセンター（１７）に電話をかけ、買い手（１３）が所有する携帯電話の型に従って、通信（４５ａ）または（４５ｂ）を確立する。先の場合で説明されたように、その通信（４５ａ）は、モバイル通信装置（１９）によって確立され、その通信（４５ｂ）は、ショートメッセージセンター（１８）によって確立される。
【０１４３】
通信（４５ａ）または（４５ｂ）によって、買い手は、買いたいと思う製品に相当する電話番号を送信する。この電話番号は、彼が買いたいと思う製品のコードを示す部分と、売り手の身元を示すもう１つの部分とから成る。これは、データバンク（２２）に記憶される。
【０１４４】
この時点で、発明のさらなる実施の形態によると、取引支払いセンター（１７）と通信するために買い手によって取引された電話番号自体は、取引支払いセンターが、この電話のコールを受けるとき、そのデータバンク（２２）にアクセスし、買い手に、売り手の異なるオプションを有するメッセージを送信するといった方法で、データバンク（２２）に記憶される一連の異なる売り手のコードへのアクセスを可能にすることがありうるということが指摘されるべきである。この時点で、第１の売り手、第１の購入されるべき製品の選択がなされる。他の実施の形態によると、取引支払いセンター（１７）にアクセスするために買い手によってダイアルされる番号が、取引支払いセンター（１７）が、顧客に、選択された売り手の異なる製品を有するメッセージを送信するといった方法で、取引支払いセンターのデータバンク（２２）に記憶される特定の売り手に属すという可能性もある。
【０１４５】
この構成は、ユーザーが製品のコードを知る必要がなく、それどころか、ユーザーは、特定の売り手、または、複数の売り手の製品に、包括的な電話番号をかけることによってアクセスできるという利点がある。
【０１４６】
どの場合でも、買い手と通信（４５ａ）または（４５ｂ）を確立するモバイル通信装置（１８、１９）の選択は、ステップ（４）によって実行される。そのステップにおいて、サーバ（２０）は、すでに説明されたように、買い手（１３）が所有する携帯電話の型が何かを判断するためにデータバンク（２１）に諮問する。
【０１４７】
同様に、この場合で、サーバ（２０）は、通信（４５ａ）または（４５ｂ）の源を利用することにより、買い手の身元を検査する。なぜなら、彼の電話番号は、なされる接続で暗に示されるからである。さらに、サーバは、支払いサービスに加入した売り手に相当する製品の電話番号を検査する。そして、受け取られたコードから、購入される製品とその価格とを判断する。このコードは、示されたように、買い手によってダイアルされる番号から直接的に、または、最初にダイアルされる電話番号が関連する１人の売り手または複数の売り手から間接的に獲得できる。
【０１４８】
各々の売り手の各々の製品に関するデータが、売り手（４６）自身の装置に記憶されるという可能性がある。この場合に、取引支払いセンター（１７）は、彼らを接続する通信ネ

ットワーク（４７）を利用することによって、買い手が関連する価格と製品について、売り手（４６）に諮問する。売り手（４６）は、十分なデータと共に返答し、取引支払いセンター（１７）は、それについて買い手（１３）に知らせる。

【０１４９】

その後、残高を検査するステップ（３）が、任意の示された場合で実行される。もし、先の検査が肯定的な結果を与えるなら、先に述べられた、コレクションオーダーを確認するステップ（５ａ）または（５ｂ）が生成される。

【０１５０】

その後、買い手（１３）は、受け取られたコレクションオーダー（５ａ）または（５ｂ）を確認する。その秘密コードは、買い手の携帯電話のキーボードを利用することによって取り入れられ、先に述べられたステップ（３３）、（７ｄ）または（７ａ）、（７ｂ）または（７ｃ）から、ステップ（８）により検査される。

【０１５１】

万一、検査の結果が肯定的である場合には、取引の総額は、買い手の財布／クレジット口座から減ぜられ、その総額は、ステップ（９）によって売り手の口座に振り込まれる。買い手の識別と購入された製品の身元が、通信ネットワーク（４７）を利用して、売り手が、その購入された製品を買い手の居住地に送るために売り手（４６）に伝えられる。さらに、その取引の確認が、ステップ（１０）によって送られる。

【０１５２】

その後、前述されたステップ（１１）が実行される。

【０１５３】

ネットワーク（４７）を利用して、売り手（４６）は、その製品、価格、および、それらに関係するコードに関する取引支払いセンター（１７）のデータベース（２２）を、これらのデータがそのセンター（１７）に記憶されるとき、その修正をする毎に更新する。

【０１５４】

万一、それがペイパービューであるときは、買い手は、テレビのスクリーンに現れるナンバーに電話することによって、一般的な取引を開始する。それから、取引支払センター（１７）は、選択された復号化プログラムを放送するテレビ放送センターと通信し、それに対してプログラムの購入を選択する買い手が、それに示される。換言すると、それは、売り手がテレビ信号を送る場合を除いて、物理的製品を配達する場合と同様に作動する。

【０１５５】

図６は、携帯電話（１６）、（４１）をそれぞれ所有し、明らかに取引支払いセンター（１７）に加入している、ユーザー（１３）と（４０）との間の取引が、上述の方法で可能になるもう１つの可能な実施の形態を示す。

【０１５６】

この場合に、ユーザー（１３）は支払人を構成し、ユーザー（４０）は受取人を構成する。

【０１５７】

従って、支払人（１３）が、受取人（４０）に有利に取引を実行したいときは、ユーザーが有する携帯電話の型に従って、通信（３９ａ）が、ショートメッセージセンター（１８）と共に確立される、または、通信（３９ｂ）が、モバイル通信装置（１９）と共に確立される。

【０１５８】

この場合に、受取人（４０）の電話番号またはそれに関する番号を含む支払い命令が、通信（３９ａ）または（３９ｂ）で送信され、さらに、その許可が要請される取引の総額が送信される。これは、例えば、決算されるべき借方、または、なされるべき貸方に相当してもよい。

【０１５９】

この場合に、取引支払いセンターは、そのデータバンク（２１）と（２２）に受取人（４０）に相当するデータを、支払人（１３）にするのと同じ方法で記憶する。

【０１６０】
通信（３９ａ）または（３９ｂ）を確立するための通信装置の選択は、ステップ（４）を利用して実行される。
【０１６１】
支払人（１３）の身元と受取人（４０）の電話番号は、通信（３９ａ）または（３９ｂ）の源を利用して検査される。その後、支払人の残高が、ステップ（３）によって検査される。
【０１６２】
先の検査が、肯定的な結果を与えるとき、ステップ（５ａ）、（６）、および、（７ａ）、または、（５ｂ）、（６）、および、（７ｂ）、または、（５ｂ）、（６）、および（７ｃ）と、最後のステップ（８）が、既に述べられた方法で実行される。
【０１６３】
その後、サーバ（２０）は、受取人（４０）の携帯電話（４１）に、受取人（１３ａ）が所有する携帯電話の型に従って、支払い命令確認要請（５ｃ）または（５ｄ）を送信する。これは、ステップ４によって選択される。
【０１６４】
ステップ（５ｃ）または（５ｄ）の選択のために、サーバ（２０）は、ステップ（５ａ）または（５ｂ）の前述された処理と同一の処理を実行する。ステップ（７）とステップ（７ｆ）は、ステップ（７ａ）と（７ｂ）に一致し、ステップ（７ｇ）とステップ（７ｆ）は、ステップ（７ｃ）と（７ｄ）に一致する。
【０１６５】
最初に、サーバは、受取人（４０）によって送られる秘密コードを、ステップ（８）を利用して検査する。万一、支払人と受取人に相当する両方の秘密識別コードの検査結果が肯定的である場合には、取引の総額が、ステップ（９）によって、支払人の財布またはクレジット口座から減ぜられ、取引の総額は、ステップ（９）によって、受取人の財布／クレジット口座に振り込まれる。その後、確認が、ステップ（１０）によって、支払人（１３）と受取人（４０）に送信される。
（訂正の理由１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１頁第２行の「REAL TIME」であり、より直訳に近くするため、「リアルタイム」と訂正しました。
（訂正の理由２－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５２頁第１５行の「selectively」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５２頁第２６行の「at least」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５２頁第３５行の「first」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２－４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５３頁第１９－２０行の「the first」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２－５）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５３頁第２８－３４行の「authorization means … been generated;」であり、翻訳に際して、「authorize A to動詞（Aに～する権限を与える）」の構文について誤訳を致しました。従って、この部分の訂正を行いました。
（訂正の理由２－６）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５４頁第２０－２９行の「selecting means … second information.」であり、第２０行の「for verifying」と第２３－２４行の「for selecting」とは、明らかに第２０行の「selecting means」を修飾しています。従って、これが翻訳文

において明確になるように、訂正を行いました。（訂正の理由２－７）第５４頁第２７行の「by means of ～」は、「～を利用して」の意味であり、この部分の訂正を行いました。
（訂正の理由２－８）第５４頁第２７行の「being compatible with ～」は、「～に適合する」と翻訳することが適当であると考えられます。従って、この部分の訂正を行いました。
（訂正の理由２－９）第５４頁第２８行の「identified in said second information」を、「前記の第２の情報で識別される」と翻訳しておりましたが、「in」の意味を正確に表現するため、「前記の第２の情報において識別される」と訂正致しました。
（訂正の理由３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５５頁第１７行の「against」であり、翻訳文において、その意味をより正確に表現するため、「と比較して」と訂正致しました。
（訂正の理由４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５６頁第８行の「fourth」であり、「第３の」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由５）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５６頁第１２－１７行の「A system … account.」であります。ここで、「a command to ～（動詞）」は、「～せよという命令」の意であり、第１４－１７行の「a command … to process the debit … and to process the corresponding credit …」は、「… 借方を処理せよという命令と、… 相当する貸方を処理せよという命令」と翻訳すべきであります。従って、この部分の訂正を行いました。
（訂正の理由６）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５６頁第２３行の「credit」であり、「クレジット」と翻訳致しました。しかしながら、本外国語明細書において、この「クレジット」は、「debit（借方）」と対比して使用され、かつ「credit」は、日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由７－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５６頁第２９行の「in favor of ～」であり、「～に有利に」と誤訳致しました。従って、これを「～のために」と訂正致しました。
（訂正の理由７－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５６頁第２９行の「credits」であり、「クレジット」と翻訳致しました。しかしながら、本外国語明細書において、この「クレジット」は、「debit（借方）」と対比して使用され、かつ「credit」は、日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由７－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５６頁第２７行の「credit」であり、「クレジット」と翻訳致しました。しかしながら、本外国語明細書において、この「クレジット」は、「debit（借方）」と対比して使用され、かつ「credit」は、日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。（訂正の理由７－４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５６頁第３１行の「the credits」であり、「クレジット」と翻訳致しました。しかしながら、本外国語明細書において、この「クレジット」は、「debit（借方）」と対比して使用され、かつ「credit」は、日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由８）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５７頁第３行の「real time」であり、より直訳に近くするため、「リアルタイム」と訂正致しました。
（訂正の理由９－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５７頁第２４行の「debits」であり、「デビット」と翻訳致しました。しかしながら、「デビット」は、日本語でいう「借方」であり、「デビット」を

「借方」とする訂正を行いました。
（訂正の理由９－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５７頁第２２行の「debit」であり、「デビット」と翻訳致しました。しかしながら、「デビット」は、日本語でいう「借方」であり、「デビット」を「借方」とする訂正を行いました。
（訂正の理由９－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５７頁第２６行の「the credits」であり、「クレジット」と翻訳致しました。しかしながら、本外国語明細書において、この「クレジット」は、「debit（借方）」と対比して使用され、かつ「credit」は、日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由１０－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５８頁第２６行の「（１６）」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由１０－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５８頁第２６－３０行の「an order … safety parameter.」であります。ここで、第２８行の「requesting」は、第２７行の「a message」を修飾するものであると考えられます。従って、この部分の訂正を行いました。
（訂正の理由１１－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５９頁第６行の「e-mail」であり、これを「ｅメール」と日本語に翻訳する訂正を行いました。
（訂正の理由１１－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５９頁第７行の「the payee」でありますところ、「支払人」と誤訳致しました。従って、この部分の訂正を行いました。（訂正の理由１１－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５９頁第１１行の「in」であり、この「in」の意味を正確に表現するため、この部分の訂正を行いました。
（訂正の理由１２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５９頁第１７－１８行の「a first instruction … advance payment」であり、「instruction to ～（動詞）」は「～せよという命令」の意であります。従って、この部分の訂正を行いました。
（訂正の理由１３－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５９頁第２９－３０行の「third information … second information」であり、「第３の情報が前記の第２の情報に関連している」ことを明確に表現するために、「前記の第２の情報に関連し、」の挿入部分を変更致しました。
（訂正の理由１３－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５９頁第３５行－第６０頁第１行の「corresponding to an authorized transaction」であり、この部分の翻訳が重複しておりますので、削除致しました。
（訂正の理由１３－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６０頁第１７行の「have verified that」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由１４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６２頁第１０行の「the payer」でありますところ、「受取人」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由１５）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６５頁第５－１０行の「each second information …each payee (40)」であり、第８－９行の「each admissible telephone number of each associated payer」と第９－１０行の「each admissible identification code of each payee」との関係は、明らかに対等であります。しかしながら、翻訳に際して、これを見落としてしまいました。従って、この部分の訂正を行いました。

（訂正の理由１６）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６６頁第５行の「Supplementary」でありますところ、翻訳に際し、「供給」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由１７－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６６頁第２０－２６行の「second inquiry… call originated,」であり、第６６頁第２３行の「,that contain」における「that」は、直後が「contains」ではないため、明らかに複数のものを示しています。この「that」は、直前の文章における第６６頁第２２行の「Call Data Registers」を示すものと考えられます。従って、この部分の訂正を行いました。
（訂正の理由１７－２）第６６頁第２３－２６行の「a relation of A with B」の構文は、「ＡのＢとの関係」と翻訳することが適当であるにもかかわらず、これを誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由１７－３）第６６頁第２４行の「call」は、「通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由１７－４）第６６頁第２６行の「call」は、「通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由１７－５）第６６頁第２５－２６行の「the terminal」は、「端末」と翻訳する方が適当であると思われます。従って、これらの部分の訂正を行いました。
（訂正の理由１７－６）第６６頁第２２行の「Call Data Registers（複数）」、及び第６６頁第２５行の「a Call Data Register（単数）」を区別するため、それぞれ、「複数の（コールデータレジスタ）」、及び「１つの（コールデータレジスタ）」を追加しました。
（訂正の理由１７－７）第６６頁第２４行の「on the grounds of a call」を、「on the grounds of」の意味について誤解を招かないように、「通話に基づいて」と訂正しました。
（訂正の理由１８）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６７頁第５行の「Supplementary」でありますところ、翻訳に際し、「供給」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由１９－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６７頁第１５行の「a voice call」であり、これは、「音声通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由１９－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６７頁第１８行の「a call was made」であり、これは、「電話される」の意味であります。従って、以上の部分の訂正を行いました。
（訂正の理由１９－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６７頁第１９行の「call」であり、これは、「通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由１９－４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６７頁第１９行の「the terminal」であり、これは「端末」と翻訳する方が適当であると思われます。従って、これらの部分の訂正を行いました。
（訂正の理由２０－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６８頁第７－９行の「receiving the amount … transaction center (17),」であり、「a purchase」と単数形であることから、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。従って、この部分の訂正を行いました。なお、第８行の「or of a code identifying a product or service」については、翻訳は困難ですが、明細書中の他の箇所との整合を取るため、「製品またはサービスを識別するコード」と翻訳致しました。
（訂正の理由２０－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６８頁第２３行の「being compatible with ～」は、「～に適合する」と翻訳することが適当であると考えられます。従って、この部分の訂正を行い

ました。
（訂正の理由２１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第４頁第２７行の「in real time」であり、より直訳に近くするため、「リアルタイムに」と補正しました。
（訂正の理由２２－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５頁第３５行の「selectively」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２２－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６頁第１０行の「at least」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２２－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６頁第１８行の「first」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２２－４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第６頁第３５行の「the first」であり、翻訳に際して、これを欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２２－５）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第７頁第８－１３行の「authorization means … generated;」であり、翻訳に際して、「authorize A to動詞（Aに～する権限を与える）」の構文について誤訳を致しました。従って、この部分の訂正を行いました。
（訂正の理由２２－６）第７頁第１０行の「a debit」を、「デビット」と翻訳致しました。しかしながら、「デビット」は、日本語でいう「借方」であり、この部分の訂正を行いました。
（訂正の理由２２－７）第７頁第１１行の「a corresponding credit」を、「相当のクレジット」と翻訳致しました。しかしながら、「クレジット」は、「debit（借方）」と対比して使用され、かつ日本語でいう「貸方」の意味を含有するため、「相当の貸方」とする訂正を行いました。
（訂正の理由２３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第８頁第６－１１行の「each second … each payee」であり、第９－１０行の「each admissible telephone number of each associated payer」と第１０－１１行の「each admissible identification code of each payee」との関係は、明らかに対等であります。しかしながら、翻訳に際して、これを見落としてしまいました。従って、この部分の訂正を行いました。
（訂正の理由２４－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第８頁第２２－２６行の「first inquiry … telephone numbers,」であり、翻訳に際し、第２２－２３行の「inquiring in at least one Visitor Location Register（ＶＬＲ）」を、「少なくとも１つのビジスタロケーションレジスタ（ＶＬＲ）を調査する」と誤訳致しました。調査する対象は、正しくは、第２４行の「the IMEI … telephone number」であります。従って、この部分の訂正を行いました。
（訂正の理由２４－２）第８頁第２４行の「with the IMEI code」を、翻訳に際して、欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。
（訂正の理由２５－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第９頁第１５－３０行の「by third …storage means.」であり、第１５行の「by third inquiry means」と第２４行の「by third updating」との関係は、明らかに対等であります。従って、これが明確に表現されるように訂正を行いました。
（訂正の理由２５－２）第９頁第１５行の「inquiring」の目的語は、明らかに第１６行の「registers」であり、その「registers」は、直後の関係代名詞「that」により、第１７行の「transfer」の目的語でもあります。第１９－２４行の「said registers … telephone number,」は、その第１６行の「registers」の説明であります。従って、これが明

確に表現されるように訂正を行いました。
（訂正の理由２５－３）第９頁第１７行の「transfer」を、「変更」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由２５－４）第９頁第１８行の「a voice call」は、「音声通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由２５－５）第９頁第２０行の「call」は、「通話」の意味であり、第２０－２１行の「a call was made」は、「電話される」と翻訳することができます。従って、この部分の訂正を行いました。
（訂正の理由２５－６）第２０頁第２２行の「call」は、「通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由２６－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第９頁第３１－第１０頁第３行の「the first … call originated,」であり、翻訳に際して、第９頁第３２－３４行の「inquiring ～ in Call Data Registers (CDR)」を、「コールデータレジスタ（Ｃａｌｌ Ｄａｔａ Ｒｅｇｉｓｔｅｒｓ：ＣＤＲ）に、～を調査する」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由２６－２）第９頁第３４行の「Call Data Registers（複数）」と、第１０頁第２行の「a Call Data Register（単数）」を区別するため、それぞれ、「複数の（コールデータレジスタ）」、及び「１つの（コールデータレジスタ）」を追加しました。
（訂正の理由２６－３）第１０頁第１行の「on the grounds of a call」を、「on the grounds of」の意味について誤解を招かないように、「通話に基づいて」と訂正しました。
（訂正の理由２６－４）第１０頁第２行「has originated（現在完了形）」を、「生成する」と誤訳しました。従って、この部分の訂正を行いました。
（訂正の理由２６－５）第１０頁第３行の「the terminal from which said call originated」を、「その電話が生成したターミナル」と誤訳しました。また、第１０頁第３行の「terminal」は、「端末」と翻訳する方が適当であると思われます。従って、この部分の訂正を行いました。
（訂正の理由２７）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１３頁第１７－２１行の「the third … payee's account.」であり、翻訳に際して、「command to 動詞（～せよと命じる）」の構文について誤訳を致しました。従って、この部分の訂正を行いました。
（訂正の理由２８－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１３頁第２４行の「credit」であり、「クレジット」と翻訳致しました。しかしながら、「クレジット」は、「debit（借方）」と対比して使用され、かつ日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由２８－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１３頁第２７行の「credit」であり、「クレジット」と翻訳致しました。しかしながら、「クレジット」は、「debit（借方）」と対比して使用され、かつ日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由２８－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１３頁第２９行の「credit」であり、「クレジット」と翻訳致しました。しかしながら、「クレジット」は、「debit（借方）」と対比して使用され、かつ日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由２８－４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１３頁第３１行の「credit」であり、「クレジット」と翻訳致しました。しかしながら、「クレジット」は、「debit（借方）」と対比して使用され、かつ日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由２８－５）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１３頁第３４行－第１４頁第１１行の「the account …cred

it cards.」であり、「accounts selected from prepayment accounts,（第１４頁第１行）… real time debit accounts（第１４頁第７行）… and post-payment accounts（第１４頁第１０行）」に示される３つの「accounts」は、明らかに対等の関係にあります。しかしながら、翻訳に際して、これを見落としてしまいました。従って、この部分の訂正を行いました。

（訂正の理由２８－６）第１３頁第３５行の「advantageously」を、「都合のよいことに」と翻訳致しました。しかしながら、明細書中の用語として、「好ましくは」と翻訳する方が適当であると考えられるため、この部分の訂正を行いました。

（訂正の理由２８－７）第１４頁第２－７行の「such as accounts … telephone cards,」は、「prepayment accounts」の例を示していることが明らかであります。従って、これが明確に表現されるように訂正を行いました。

（訂正の理由２８－８）第１４頁第４－７行の「has previously … telephone cards」は、第１４頁第３行の「each payer who」により、明らかに「each payer」の行為として翻訳すべきものであります。従って、この部分の訂正を行いました。（訂正の理由２８－９）第１４頁第４行の「by means of a payment」を、翻訳に際し、欠落しておりました。従って、この欠落部分の翻訳を挿入致しました。

（訂正の理由２８－１０）第１４頁第６行の「payment cards」は、「支払いカード」と翻訳する方が適当であると考えられます。従って、この部分の訂正を行いました。

（訂正の理由２８－１１）第１４頁第７行の「real time」は、より直訳に近くするため、「リアルタイム」と訂正致しました。

（訂正の理由２８－１２）第１４頁第８行の「that」は、明らかに、第１４頁第８行の「performance」を示しています。従って、これが明確に表現されるように、訂正を行いました。

（訂正の理由２８－１３）第１４頁第８行の「debits」を、翻訳に際し、「デビッド」と誤訳致しました。従って、この訂正を行いました

（訂正の理由２８－１４）第１４頁第８行の「charged by」は、「よって支払い請求される」と翻訳する方が適当であると考えられます。従って、この部分の訂正を行いました。

（訂正の理由２８－１５）第１４頁第９行の「debit cards」を、翻訳に際し、「デビッドカード」と誤訳致しました。従って、この部分の訂正を行いました。（訂正の理由２８－１６）第１４頁第１０行の「post-payment」を、「前払い」と誤訳致しました。従って、以上の部分の訂正を行いました。

（訂正の理由２９－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１４頁第２０行の「debit」であり、「デビット」と翻訳致しました。しかしながら、「デビット」は、日本語でいう「借方」であり、この部分の訂正を行いました。

（訂正の理由２９－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１４頁第２２行の「debits」であり、「デビット」と翻訳致しました。しかしながら、「デビット」は、日本語でいう「借方」であり、この部分の訂正を行いました。

（訂正の理由２９－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１４頁第２４行の「credits」であり、「クレジット」と翻訳致しました。しかしながら、「クレジット」は、「debit（借方）」と対比して使用され、かつ日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。

（訂正の理由３０－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１５頁第２６行の「On the one hand」であり、翻訳に際し、「一方、」と翻訳致しました。しかしながら、これは第１６頁第７行の「On the other hand」と対比させて「一方では、」と翻訳すべきものであるため、この部分の訂正を行いました。

（訂正の理由３０－２）この訂正に対応する英語表記は、第３６条の２第１項の規定によ

る特許出願の外国語明細書第１６頁第３－４行の「which are … safety criterion,」であり、「which」の直後の「are」により、「which」は、明らかに複数のものを示しています。ここで、直前の第１５頁第３５行－第１６頁第３行に「transmit at least the value … an identification of the payee」とあり、「which are transmitted」の「which」は、この第１５頁第３５行－第１６頁第３行の「the value of the transaction … an identification of the payee」を示すと考えられます。しかし、翻訳に際して、「which」が「an identification of the payee（単数）」を示しているものとして誤訳を致しました。従って、この部分の訂正を行いました。

（訂正の理由３１－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１６頁第７行の「On the other hand」であり、翻訳に際し、「他方、」と翻訳致しました。しかしながら、これは第１５頁第２６行の「On the one hand」と対比させて「他方では、」と翻訳すべきものであるため、この部分の訂正を行いました。

（訂正の理由３１－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１６頁第８－１６行の「a first … certain payee.」であり、翻訳に際し、第１２行の「such that ～」を、「従って、～」と誤訳を致しました。従って、この部分の訂正を行いました。

（訂正の理由３２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第１７頁第６行の「advantageously」であり、「都合のよいことに」と翻訳致しました。しかしながら、明細書中の用語として、「好ましくは」と翻訳する方が適当であると考えられるため、この部分の訂正を行いました。

（訂正の理由３３－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２０頁第１８－２４行の「is a direct … been detected.」であり、翻訳に際し、第２２行の「such that ～」を、「故に、～」と誤訳を致しました。従って、この部分の訂正を行いました。

（訂正の理由３３－２）第２０頁第２４行の「the direct authorization code」を、「直接的許可メッセージ」と誤訳を致しました。従って、この部分の訂正を行いました。

（訂正の理由３４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２２頁第５－６行の「the amount of a purchase or of a code identifying a product or service」であり、「a purchase」と単数形であることから、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。従って、この部分の訂正を行いました。なお、第５－６行の「or of a code identifying a product or service」については、翻訳は困難ですが、明細書中の他の箇所との整合を取るため、「製品またはサービスを識別するコード」と翻訳致しました。

（訂正の理由３５－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２３頁第１９－２０行の「the amount … being purchased」であり、翻訳に際し、第１９行の「the amount」を、「数」と誤訳致しました。ここで、第１９行の「purchase」は、単数形であることから、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。

（訂正の理由３５－２）第２３頁第２０行の「is being purchased」を、「購入される」と誤訳致しました。従って、この部分の訂正を行いました。

（訂正の理由３６－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２４頁第５－７行の「the amount … being purchased」であり、翻訳に際し、第５行の「the amount」を「数」と誤訳致しました。ここで、第５行の「purchase」は、単数形であることから、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。

（訂正の理由３６－２）第２４頁第６－７行の「is being purchased」を、「購入される」と誤訳致しました。従って、この部分の訂正を行いました。

（訂正の理由３７）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２４頁第３１－３２行の「synchronous communication」であり

ますところ、翻訳に際し、「同時通信」と誤訳致しました。従って、この訂正を行いました。
（訂正の理由３８－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２７頁第１２行の「the amount of his purchases」であり、翻訳に際し、第１２行の「the amount」を「数」と誤訳致しました。この「amount」は、直前の「pay（支払う）」の目的語となることから、「総額」と翻訳することが適当であると考えられます。従って、この部分の訂正を行いました。
（訂正の理由３８－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２７頁第１３行の「Prepayment:」でありますところ、翻訳に際し、「支払い：」との誤訳を致しました。従って、この訂正を行いました。
（訂正の理由３８－３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２７頁第１６－１７行の「in real time」であり、より直訳に近くするため、「リアルタイムに」と補正しました
（訂正の理由３８－４）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２７頁第１８行の「Post-payment:」でありますところ、翻訳に際し、「前払い：」との誤訳を致しました。従って、この訂正を行いました。
（訂正の理由３８－５）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２７頁第１８行の「the amount of purchases」であり、翻訳に際し、「購入の数」と誤訳致しました。ここで、「the amount of purchases」は、第１９行の「are entered in the user's purse（ユーザの財布に入力され）」の主語になることから、「amount」は、「総額」と翻訳することが適当であると考えられます。従って、この部分の訂正を行いました。（訂正の理由３８－６）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２７頁第１９－２０行の「the total thereof」であり、翻訳に際し、「その数」と誤訳致しました。ここで、「thereof」は、「of the amount」に等しく、かつ第２０行の「will be billed（請求される）」の主語になることから、「total」は、「総額」と翻訳することが適当であると考えられます。従って、この部分の訂正を行いました。
（訂正の理由３９－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２７頁第３４－３５行の「the amount … being purchased」であり、翻訳に際し、第３４行の「the amount」を「数」と誤訳致しました。ここで、第３４行の「purchase」は、単数形であることから、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。（訂正の理由３９－２）第２７頁第３５行の「is being purchased」を、「購入される」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由４０－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２８頁第３－５行の「the amount… being purchased」であり、翻訳に際し、第３行の「the amount」を「数」と誤訳致しました。ここで、第４行「purchase」は、単数形であることから、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。
（訂正の理由４０－２）第２８頁第４－５行の「is being purchased」を、「購入される」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由４１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第２８頁第６－７行の「the amount of the purchase」であり、翻訳に際し、「購入の数」と誤訳致しました。ここで、「purchase」は単数形であるため、「amount」は「数」ではないと考えられます。また、第６－７行の「subtracting the amount … from the buyer's purse」により、「買い手の財布から減ずるもの」として、「amount」は、「総額」と翻訳することが適当であると考えられます。従って、この部分の訂正を行いました。
（訂正の理由４２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３４頁第４行の「credit」であり、「クレジット」と翻訳致しま

した。しかしながら、「クレジット」は、「debit（借方）」と対比して使用され、かつ日本語でいう「貸方」の意味を含有するため、「貸方」とする訂正を行いました。
（訂正の理由４３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３５頁第２３行の「Supplementary」でありますところ、翻訳に際し、「供給」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由４４－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３５頁第３４行－第３６頁第５行の「second inquiry … call originated,」であり、第３６頁第２行の「,that contain」における「that」は、直後が「contains」ではないため、明らかに複数のものを示しています。この「that」は、直前の文章における第３６頁第１行の「Call Data Registers」を示すものと考えられます。従って、この部分の訂正を行いました。
（訂正の理由４４－２）第３６頁第２－４行の「a relation of A with B」の構文は、「ＡのＢとの関係」と翻訳することが適当であるにもかかわらず、これを誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由４４－３）第３６頁第３行の「call」は、「通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由４４－４）第３６頁第５行の「call」は、「通話」の意味であります。
従って、この部分の訂正を行いました。
（訂正の理由４４－５）第３６頁第１行の「Call Data Registers（複数）」、及び第３６頁第４行の「a Call Data Register（単数）」を区別するため、それぞれ、「複数の（コールデータレジスタ）」、及び「１つの（コールデータレジスタ）」を追加しました。
（訂正の理由４５）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３６頁第１７行の「Supplementary」でありますところ、翻訳に際し、「供給」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由４６－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３６頁第２２－２８行の「second inquiry… call originated,」であり、第３６頁第２５行の「,that contain」における「that」は、直後が「contains」ではないため、明らかに複数のものを示しています。この「that」は、直前の文章における第３６頁第２４行の「Call Data Registers」を示すものと考えられます。従って、この部分の訂正を行いました。
（訂正の理由４６－２）第３６頁第２５－２７行の「a relation of A with B」の構文は、「ＡのＢとの関係」と翻訳することが適当であるにもかかわらず、これを誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由４６－３）第３６頁第２６行の「call」は、「通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由４６－４）第３６頁第２８行の「call」は、「通話」の意味であります。従って、この部分の訂正を行いました。
（訂正の理由４６－５）また、第３６頁第２４行の「Call Data Registers（複数）」、及び第３６頁第２７行の「a Call Data Register（単数）」を区別するため、それぞれ、「複数の（コールデータレジスタ）」、及び「１つの（コールデータレジスタ）」を追加しました。
（訂正の理由４７）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３７頁第２１行の「synchronous communication」でありますところ、翻訳に際し、「同時通信」と誤訳致しました。従って、この訂正を行いました。
（訂正の理由４８）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３７頁第３４－３５行の「synchronous short message center」でありますところ、翻訳に際し、「同時ショートメッセージセンター」と誤訳致しました。従って、この訂正を行いました。
（訂正の理由４９－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３９頁第２－３行の「credit said … step (9);」であり、

翻訳に際し、「その総額をステップ（９）によって売り手の口座にクレジットする」と翻訳致しました。しかしながら、「credit A to B(account)」は、「ＡをＢ（口座）に振り込む」の意味であるため、この部分の訂正を行いました。
（訂正の理由４９－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３９頁第９－１１行の「These means … and (20b).」であり、翻訳に際し、「confirm」を「従わせる」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由５０）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第３９頁第１５行の「debits」であり、「デビット」と翻訳致しました。しかしながら、「デビット」は、日本語でいう「借方」であり、この部分の訂正を行いました。
（訂正の理由５１－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第４３頁第２７－２８行の「the amount of the purchase to be made」であり、「なされる購入の数」と誤訳致しました。ここで、「purchase」は単数形であり、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。従って、この部分の訂正を行いました。（訂正の理由５１－２）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第４３頁第３５行の「the amount of purchase」であり、「購入の数」と誤訳致しました。ここで、「purchase」は、単数形であることから、「amount」は、「数」ではなく、「総額」と訳すことが正しいと考えられます。従って、この部分の訂正を行いました。
（訂正の理由５２－１）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第４６頁第２９行－第４７頁第２行の「there is ～ the buyer.」であり、翻訳に際し、第４６頁第２９－３０行「there is the possibility that～」を、「～がありうる」と誤訳致しました。また、第４６頁第２行の「permit」を「可能にする」と誤訳致しました。従って、この部分の訂正を行いました。
（訂正の理由５２－２）第４６頁第３５行の「this telephone call」は、「この通話」と翻訳する方が適当であると思われます。従って、この部分の訂正を行いました。
（訂正の理由５３）この訂正に対応する英語表記は、第３６条の２第１項の規定による特許出願の外国語明細書第５０頁第２７行の「payer's purse」でありますところ、翻訳に際し、「受取人の財布」と誤訳致しました。従って、この訂正を行いました。

【０１６６】
最後に、ステップ（１１）が、すでに述べられた方法で実行される。

【０１６７】
明らかに、その取引は、受取人（４０）によって始められ、この場合に、処理は、前述された方法と逆の方法、すなわち、受取人の秘密コードの確認が要請され、その後、支払人の秘密コードの確認が要請されうるという可能性がある。

【図面の簡単な説明】
【図１】　直接購入、前払い購入、および、インターネットによる購入をするための本発明のシステムの可能な実施の形態の機能的ブロック図
【図２】　自動販売機からの購入をするための本発明のシステムの可能な実施の形態の機能的ブロック図
【図３】　インターネットによって知的財産を購入するための本発明のシステムの可能な実施の形態の機能的ブロック図
【図４】　本発明の処理による電子受領書の機能を実行するための本発明のシステムの機能的ブロック図の可能な実施の形態
【図５】　カタログによる購入、テレビコマーシャルに応答した購入、またはペイパービューによる購入をするための、本発明のシステムの可能な実施の形態の機能的ブロック図
【図６】　ユーザー間の取引を実行するための、本発明のシステムの可能な実施の形態の機能的ブロック図
【図７】　上記の図で示される取引支払いセンターに含まれる第１のサーバを構成する種

々の手段の相互関係の実施の形態の概略図

【符号の説明】

１３　支払人

１６、４１　デジタル携帯電話

１７　取引支払いセンター

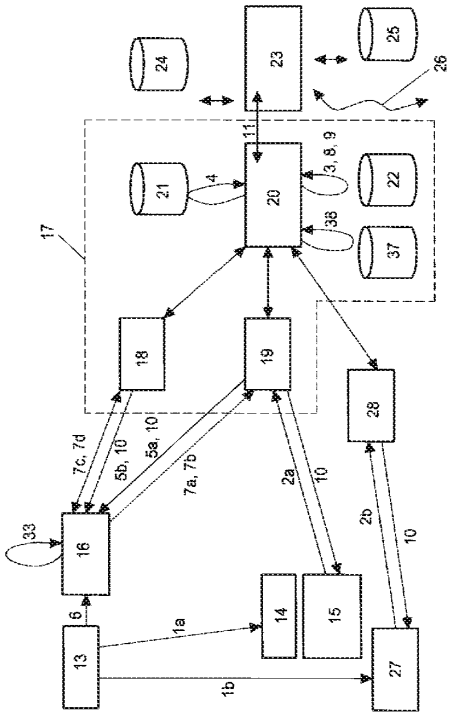
１８、１９　遠隔通信装置

２０　第１のサーバ

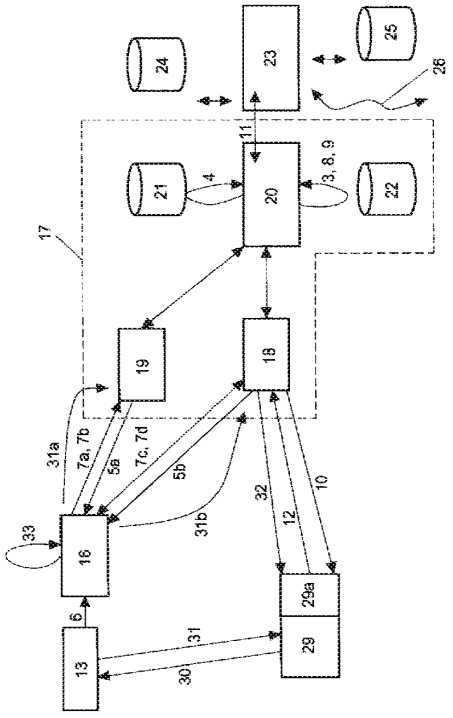
２２　第１のデータ記憶手段

２７、２９、１４、１４ａ、１３ａ、４６　受取人

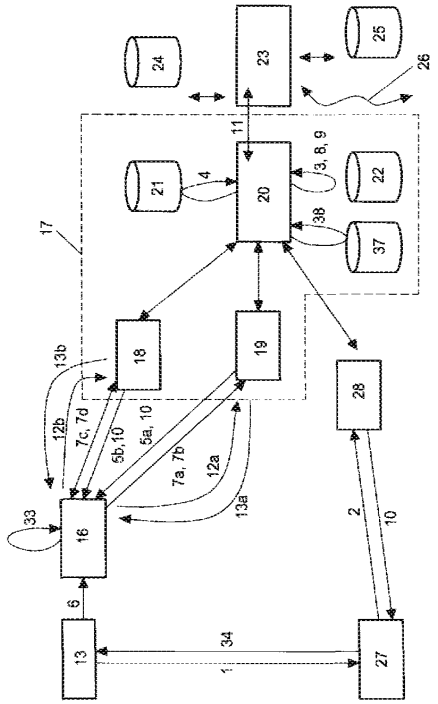
【図１】



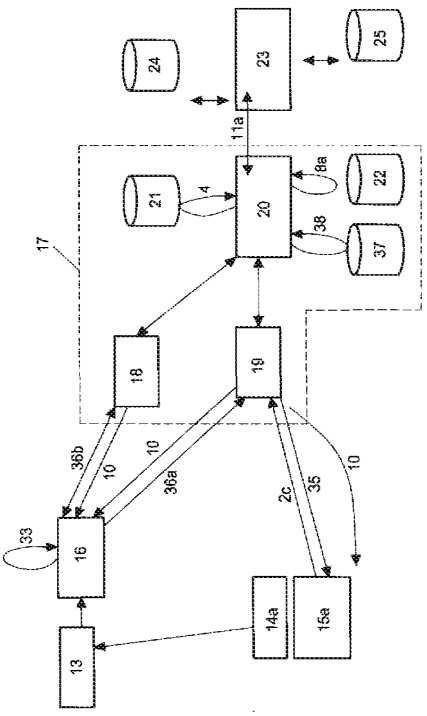

【図２】



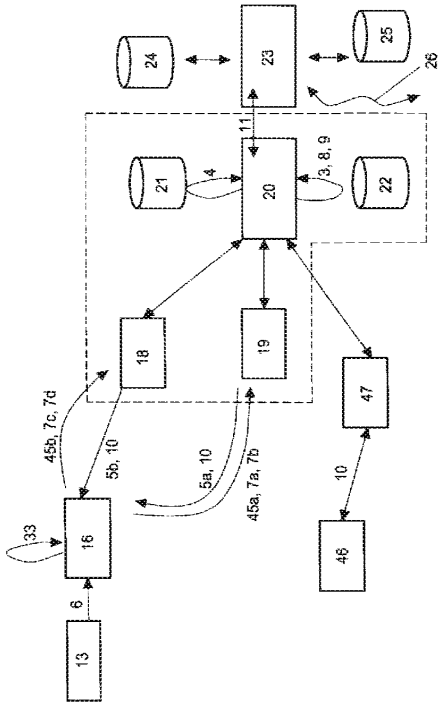
【図３】


24
23
25
26
11
21
4
20
3, 8, 9
22
38
37
17
18
19
28
13b
12b
7c, 7d
5b, 10
5a, 10
7a, 7b
12a
13a
33
16
2
10
6
13
34
27
1

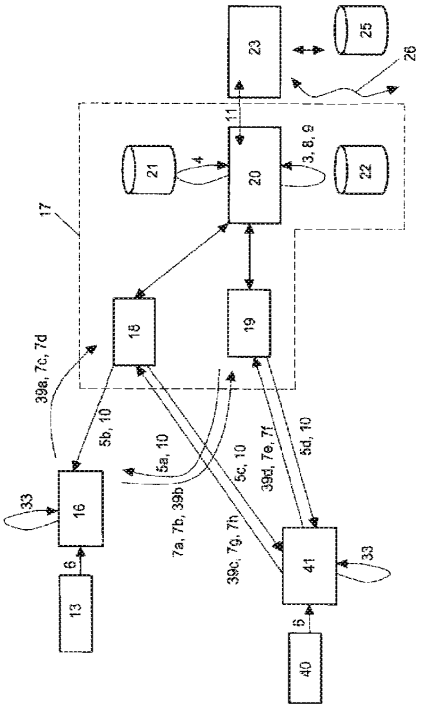
【図４】


24
23
25
11a
21
4
20
8a
22
38
37
17
18
19
36b
10
10
36a
2c
35
10
33
16
14a
15a
13

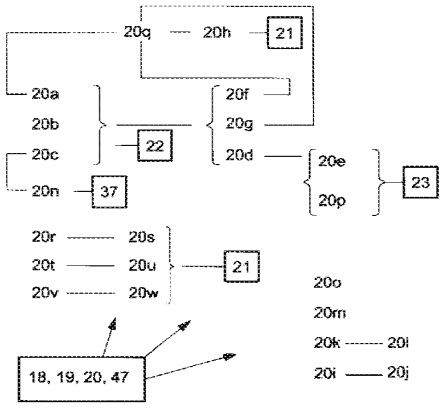
【図５】


24
23
25
26
11
21
4
20
3, 8, 9
22
17
18
19
47
45b, 7c, 7d
5b, 10
5a, 10
45a, 7a, 7b
10
33
16
46
6
13

【図６】


23
25
26
11
21
4
20
3, 8, 9
22
17
18
19
39a, 7c, 7d
5b, 10
5a, 10
5c, 10
5d, 10
39d, 7e, 7f
7a, 7b, 39b
39c, 7g, 7h
33
16
41
33
6
13
40

【図７】


20q
20h
21
20a
20b
20c
20n
22
37
20f
20g
20d
20e
20p
23
20r
20s
20t
20u
20v
20w
21
20o
20m
20k
20i
20i
20j
18, 19, 20, 47

フロントページの続き

(72)発明者 ホセ・マヌエル・デ・ラ・クルス・ベガ
スペイン２８００７マドリッド、アベニダ・シウダ・デ・バルセロナ１３８番
(72)発明者 ペドロ・マルティネス・エルナンデス
スペイン２８２２０マドリッド、マハダオンダ、カリェ／ドクトル・カレロ２番、プリメロ・ペ
(72)発明者 イバン・クレメンテ・シモン
スペイン２８２３０マドリッド、ラス・ロサス、ロス・モリノス２４番
(72)発明者 ハビエル・ディアス・マルティン
スペイン２８２２３マドリッド、ポスエロ・デ・アラルコン、アブレホ１５番
(72)発明者 ゴンサロ・ゴメス－アセボ・デネス
スペイン２８０３４マドリッド、セロ・デル・カスタニャール１７１番、テルセロ・セ
(72)発明者 パブロ・デ・カソ・バステレチェア
スペイン２８０２０マドリッド、カリェ／ヘネラル・モスカルド８番、キント・イ
(72)発明者 ホルヘ・ミゲル・モレノ・カマチョ
スペイン２８２２４マドリッド、ポスエロ、カレテラ・デ・ベニテス５２番
(72)発明者 アリシア・ルイサ・カルボ・ペスケラ
スペイン２８２２０マドリッド、アベニダ・マハダオンダ１５番、テルセロ・ア
(72)発明者 ホセ・ルイス・バカス・シド
スペイン２８８０６マドリッド、アルカラ・デ・エナレス、カリェ／アルコル８番、セグンド・ヘ

審査官 宮下 浩次

(56)参考文献 欧州特許出願公開第９８６２７５（ＥＰ，Ａ１）
国際公開第９９／３３０３４（WO，Ａ１）
国際公開第９８／４７１１６（WO，Ａ１）
国際公開第９９／２２３４６（WO，Ａ１）
国際公開第９７／４１４９９（WO，Ａ１）
特開２０００－５９４２２（ＪＰ，Ａ）

(58)調査した分野(Int.Cl.[7]，ＤＢ名)
G06F 17/60

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: March 22, 2022 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

| | | |
|---|---|---|
| **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** (Not for submission under 37 CFR 1.99) | Application Number | 16/507,595 |
| | Filing Date | July 10, 2019 |
| | First Named Inventor | Charles Lee Oakes |
| | Art Unit | 3697 |
| | Confirmation Number | 4037 |
| | Examiner Name | LIU, I JUNG |
| | Attorney Docket No. | US-0152.11 \| 514538-5000668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**US PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | US 8,768,836 | 07/01/2014 | Ravi V. Acharya |
| | 2 | US 9,235,860 | 01/12/2016 | Lisa M. Boucher et al. |
| | 3 | US 2007/0058874 A1 | 03/15/2007 | Tabata Sunao et al. |
| | 4 | US 11,232,517 B1 | 01/25/2022 | Reynaldo Medina et al. |
| | 5 | US 11,222,315 B1 | 01/11/2022 | Bharat Prasad et al. |
| | 6 | US 8,824,772 B2 | 09/02/2014 | Edward Viera |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | 7 | JP 2004-23158 | 01/22/2004 | Japan | Yes |
| | 8 | JP 3708807 | 10/20/2005 | Japan | Yes |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 9 | Bruno-Britz, Maria "Mitek Launches Mobile Phone Check Capture Solution," Bank Systems and Technologies Information Week (Jan. 24, 2008) |
| | 10 | V User Guide, https://www.lg.com/us/support/manualsdocuments?customerModelCode=%20LGVX9800&csSalesCode=LGVX9800, select"VERISON(USA) en"; The V_UG_051125.pdf |
| | 11 | MING Phone User Manual, 2006 |
| | 12 | Patel, Kunur, "How Mobile Technology is Changing Banking's Future" AdAge, September 21, 2009, 4 pages |
| | 13 | Spencer, Harvey, "Controlling Image Quality at the Point of Capture" Check 21, Digital Check Corporation & HSA 2004 |
| | 14 | Moseik, Celeste K., "Customer Adoption of Online Restaurant Services: A Multi-Channel Approach", Order No. 1444649 University of Delaware, 2007, Ann Arbor: ProQuest., Web. January 10, 2022 (Year: 2007) |

| | | | |
|---|---|---|---|
| Examiner Signature | | Date Considered | |

**Information Disclosure Statement**

1. **PRIORITY INFORMATION:**

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): 16/165,622, 16/025,679, 15/663,284, 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

2. **CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. **FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☒ Applicant has calculated a processing fee in the amount of $260.00 to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to our Stored Payment Method as selected in Financial Manager.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

March 22, 2022
Date

/Scott W. Brim/
Scott W. Brim (Reg. No. 51,500)

| Examiner Signature | | Date Considered | |
|---|---|---|---|

| Electronic Acknowledgement Receipt | |
|---|---|
| **EFS ID:** | 45273499 |
| **Application Number:** | 16507595 |
| **International Application Number:** | |
| **Confirmation Number:** | 4037 |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes |
| **Customer Number:** | 16530 |
| **Filer:** | Scott Wayne Brim/Juan Garibay |
| **Filer Authorized By:** | Scott Wayne Brim |
| **Attorney Docket Number:** | US-0152.11(14538-668) |
| **Receipt Date:** | 22-MAR-2022 |
| **Filing Date:** | 10-JUL-2019 |
| **Time Stamp:** | 14:29:30 |
| **Application Type:** | Utility under 35 USC 111(a) |

## Payment information:

| | |
|---|---|
| Submitted with Payment | yes |
| Payment Type | DA |
| Payment was successfully received in RAM | $260 |
| RAM confirmation Number | E20223LE29542247 |
| Deposit Account | 504184 |
| Authorized User | Juan Garibay |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:<br>37 CFR 1.16 (National application filing, search, and examination fees)<br>37 CFR 1.17 (Patent application and reexamination processing fees) | |

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

## File Listing:

| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
|---|---|---|---|---|---|
| 1 | Transmittal Letter | 14538-668_Transmittal.pdf | 118420<br>276732ce80ab3347b5e39472c80a1a5022dfc17b7 | no | 1 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 2 | Foreign Reference | 7-JP2004023158A.pdf | 12637841<br>4224386eb0b4e6ef79c7563dc7bf5676847689d4 | no | 54 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 3 | Foreign Reference | 8-JP3798807.pdf | 661141<br>6c0b767cfb7b88fa83dd2bbeeec8e267b58c53b9 | no | 46 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 4 | Non Patent Literature | 9-Bruno-Britz_Mitek_Launches_Mobile_Phone.pdf | 136982<br>32b31a6c9f0e500811f6f70b2bee960e134b5181 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 5 | Non Patent Literature | 10-V_User_Guide_1.pdf | 18597048<br>1df74cfd2f4404233735fffcd813b49e00a7b1c6 | no | 65 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 6 | Non Patent Literature | 10-V_User_Guide_2.pdf | 21599471<br>fa4e673860689cf2e790134d0dcee7f4ce8fffcf | no | 66 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 7 | Non Patent Literature | 10-V_User_Guide_3.pdf | 21823669<br>28415e6da8844fc3b7c9f5254f7a9b2b58ce<br>e1eb | no | 65 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 8 | Non Patent Literature | 11-MING_User_Manual_1.pdf | 17656765<br>c72b4867c1851a9c90001e43dee2d27f497<br>20d8f | no | 47 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 9 | Non Patent Literature | 11-MING_User_Manual_2.pdf | 17167727<br>dc54a959fc1c90418e6c513bed76f5f1f11e2<br>5fc | no | 48 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 10 | Non Patent Literature | 11-MING_User_Manual_3.pdf | 15349423<br>c75d2cb9f9a0d75883d18e32686535413d7<br>23a1c | no | 46 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 11 | Non Patent Literature | 12-Patel_How_Mobile_Technology_Is_Changing.pdf | 144119<br>6f1d4fafba777034dccbd9786a343c5b1353<br>16e8 | no | 3 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 12 | Non Patent Literature | 13-Spencer_Check21-Controlling_Image_Quality.pdf | 261558<br>047b038d19aedc1051f4bfb7bf883ea92b6c<br>5f35 | no | 7 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| 13 | Non Patent Literature | 14-Moziek_customer_Adoption.pdf | 367458<br>d37fb5d266ed4ba0456920f88d6d9b463c3<br>b5157 | no | 21 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 14 | Information Disclosure Statement (IDS) Form (SB08) | 14538-668_IDS.pdf | 37720<br>6d7e50effa2770cb7dbf9db3c7459eaa097b<br>f571 | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| This is not an USPTO supplied IDS fillable form | | | | | |
| 15 | Fee Worksheet (SB06) | fee-info.pdf | 38418<br>6c57b0700f13f39de7d045f9fa98b6f084ecb<br>09e | no | 2 |
| **Warnings:** | | | | | |
| **Information:** | | | | | |
| | | **Total Files Size (in bytes):** | 126597760 | | |

**This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.**

**New Applications Under 35 U.S.C. 111**
**If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.**
**National Stage of an International Application under 35 U.S.C. 371**
**If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.**
**New International Application Filed with the USPTO as a Receiving Office**
**If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.**

Crowell

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: March 22, 2022 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|---|---|---|---|
| In re Appln. of: | Charles Lee Oakes | | |
| Appln. No.: | 16/507,595 | Examiner: | LIU, I JUNG |
| Filed: | July 10, 2019 | Art Unit: | 3697 |
| For: | DIGITAL CAMERA PROCESSING SYSTEM | Conf. No.: | 4037 |
| Attorney Docket No.: | US-0152.11 \| 514538-5000668) | | |

# TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

**Attached is/are**:

☒ Information Disclosure Statement (and references)..

**Fee calculation**:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ An additional filing fee has been calculated as shown below:

| | | | | | Fee | | Small Entity Fee | | Micro Entity Fee | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Claims Remaining After Amendment | | Highest No. Previously Paid | Present Extra | Rate | Add'l Fee | Rate | Add'l Fee | Rate | Add'l Fee |
| Total | | Minus | | | x $100 = | $ | x $ 50 = | $ | x $25 = | $ |
| Independent | | Minus | | | x $480 = | $ | x $240 = | $ | x $120 = | $ |
| First Presentation of Multiple Dep. Claim | | | | | + $860 = | $ | + $430 = | $ | + $215 = | $ |
| | | | | | Total | $ | Total | $ | Total | $ |

**Fee payment:**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. DA051323.

Respectfully submitted,

March 22, 2022
Date

/Scott W. Brim/
Scott W. Brim (Reg. No. 51,500)

| Electronic Patent Application Fee Transmittal | | | | | |
|---|---|---|---|---|---|
| **Application Number:** | 16507595 | | | | |
| **Filing Date:** | 10-Jul-2019 | | | | |
| **Title of Invention:** | DIGITAL CAMERA PROCESSING SYSTEM | | | | |
| **First Named Inventor/Applicant Name:** | Charles Lee Oakes | | | | |
| **Filer:** | Scott Wayne Brim/Jay Harris | | | | |
| **Attorney Docket Number:** | US-0152.11(14538-668) | | | | |
| Filed as Large Entity | | | | | |
| **Filing Fees for Utility under 35 USC 111(a)** | | | | | |
| **Description** | | **Fee Code** | **Quantity** | **Amount** | **Sub-Total in USD($)** |
| **Basic Filing:** | | | | | |
| **Pages:** | | | | | |
| **Claims:** | | | | | |
| **Miscellaneous-Filing:** | | | | | |
| **Petition:** | | | | | |
| **Patent-Appeals-and-Interference:** | | | | | |
| **Post-Allowance-and-Post-Issuance:** | | | | | |
| **Extension-of-Time:** | | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD($) |
|---|---|---|---|---|
| **Miscellaneous:** | | | | |
| SUBMISSION- INFORMATION DISCLOSURE STMT | 1806 | 1 | 260 | 260 |
| | | **Total in USD ($)** | | **260** |

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 16/507,595 | 07/10/2019 | Charles Lee Oakes III | US-0152.11(14538-668) | 4037 |

16530 7590 03/08/2022

Crowell
P.O. Box 10395
Chicago, IL 60610

| EXAMINER | |
|---|---|
| LIU, I JUNG | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 3697 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 03/08/2022 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| *Office Action Summary* | Application No. 16/507,595 | Applicant(s) Oakes et al. | |
|---|---|---|---|
| | Examiner I JUNG LIU | Art Unit 3697 | AIA (FITF) Status Yes |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☑ Responsive to communication(s) filed on 12/17/2011.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims***

5) ☑ Claim(s) 25-44 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 25-44 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

**Application Papers**

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

**Certified copies:**

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date See Continuation Sheet.

3) ☑ Interview Summary (PTO-413) Paper No(s)/Mail Date 2/28/2022.

4) ☐ Other: _____.

Continuation of Attachment(s) 2) Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date: 7/10/2019, 8/19/2019, 10/23/2019, 12/23/2019, 8/27/2020, 10/21/2020, 10/4/2021, 12/17/2021

***Notice of Pre-AIA or AIA Status***

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

***Double Patenting***

Claims 25-44 of this application is patentably indistinct from claims 25, 27-28, 31-39 and 42-59 of Application No. 16165622. Pursuant to 37 CFR 1.78(f), when two or more applications filed by the same applicant or assignee contain patentably indistinct claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the patentably indistinct claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application,

or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 et seq. for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

Claims 25-44 rejected on the ground of nonstatutory double patenting as being unpatentable over claim 25, 27-28, 31-39 and 42-59 of U.S. Patent No. 10402638. Although the claims at issue are not identical, they are not patentably distinct from each other because application 16165622 claims are more narrow than the instant application, but are not patentably distinct

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 25-44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to abstract idea without significantly more.

The claim(s) 25, or 38 or 41 recite(s) the series of steps of receive input entered by the customer indicating an amount of the check; use a display to assist the customer take a photo of the check; assist

the customer as to an orientation for taking the photo; transmit a copy of the photo to the bank; a bank: check for errors in the check in the photo by: on the check in the photo to determine an amount shown on the check, and comparing the amount shown-to the amount entered by the customer; to update a balance of an account after determining that no errors were found in the check in the photo, which is a fundamental economic practice and thus grouped as a certain method of organizing human interactions and/or mental processes.

This judicial exception is not integrated into a practical application because the generically recited computer elements do not add a meaningful limitation to the abstract idea because they amount to simply implementing the abstract idea on a computer.

The claim(s) does/do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional limitations of the customer's handheld mobile device in having a digital camera; over the Internet from the customer's handheld mobile device and using a wireless network, computer programmed to; performing optical character recognition; and the system being configured are well-understood, routine, conventional computer functions as recognized by the court decisions listed in MPEP § 2106.05(d): send, receive and identify information with a computer as "normal, basic functions of a computer." (Versata) 793 F.3d at 1335, 115 USPQ2d at 1702; Receiving, processing, and storing data (Alice Corp); Electronic recordkeeping (Alice Corp and Ultramercial), Automating mental tasks (Benson, Bancorp and CyberSource), and Receiving or transmitting data over a network.

**Step 1:** The claims are directed to the statutory categories of a system (apparatus). Step 1: Yes.

**2A - Prong 1:** Judicial Exception Recited? **Yes**. The claim recites the limitation of receive input entered by the customer indicating an amount of the check; use a display to assist the customer take a photo of the check; assist the customer as to an orientation for taking the photo; transmit a copy of the photo to the bank; a bank: check for errors in the check in the photo by: on the

check in the photo to determine an amount shown on the check, and comparing the amount shown-to the amount entered by the customer; to update a balance of an account after determining that no errors were found in the check in the photo. This limitation, as drafted, is a process that, under its broadest reasonable interpretation, covers performance of the limitation in the mind but for the recitation of generic computer components. That is, other than reciting customer's handheld mobile device in having a digital camera; over the Internet from the customer's handheld mobile device and using a wireless network, computer programmed to; performing optical character recognition; and the system, nothing in the claim element precludes the step from practically being performed in the mind. For example, but for customer's handheld mobile device in having a digital camera; over the Internet from the customer's handheld mobile device and using a wireless network, computer programmed to; performing optical character recognition; and the system language, the claim encompasses receive input entered by the customer indicating an amount of the check; use a display to assist the customer take a photo of the check; assist the customer as to an orientation for taking the photo; transmit a copy of the photo to the bank; a bank: check for errors in the check in the photo by: on the check in the photo to determine an amount shown on the check, and comparing the amount shown-to the amount entered by the customer; to update a balance of an account after determining that no errors were found in the check in the photo, which is a fundamental economic practice and thus grouped as a certain method of organizing human interactions and/or mental processes. The mere nominal recitation of a generic computing device does not take the claim limitation out of the mental processes grouping. Thus, the claim recites a mental process.

**2A - Prong 2:** Integrated into a Practical Application? **No**. The claim recites additional elements: customer's handheld mobile device in having a digital camera; over the Internet from the customer's handheld mobile device and using a wireless network, computer programmed to; performing optical character recognition; and the system are used to perform receive, use, assist, using, check, performing, comparing and update steps.

The in the steps is recited at a high level of generality, i.e., as generic mobile device, camera, network and system to processing data. This generic mobile device, camera, network and system limitation is no more than mere instructions to apply the exception using a generic computer component. Accordingly, this additional element does not integrate the abstract idea into a practical application because it does not impose any meaningful limits on practicing the abstract idea. The claim(s) is/are directed to the abstract idea.

**2B:** Claims provide(s) an Inventive Concept? **No.** As discussed with respect to Step 2A Prong Two, the additional element in the claim amounts to no more than mere instructions to apply the exception using a generic computer component. The same analysis applies here in 2B, i.e., mere instructions to apply an exception using a generic computer component cannot integrate a judicial exception into a practical application at Step 2A or provide an inventive concept in Step 2B. The claim is **ineligible**.

As for dependent claims, 26-37, 39-40 and 42-44, these claims recite limitations that further define the abstract idea noted in claim 25 or claim 38 or claim 41. Even in combination, these additional elements do not integrate the abstract idea into a practical application. Further in step 2B, as noted above, this is considered well-understood, routine, conventional activity noting the Symantec, TLI, and OIP Techs court decisions cited in MPEP 2106.05(d)(II) that indicate that mere receipt or transmission of data over a network is a well-understood, routine and conventional function.

***Claim Rejections - 35 USC § 103***

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 25-44 is/are rejected under 35 U.S.C. 103 as being unpatentable over unpatentable over Singfield (US Publication Number: 2005/0097046), Hicks et al. (US Publication Number 2006/0248009 A1) in view of Bellinger et al. (US Patent Number 6,023,705).

As per claim 25, Singfield teaches a system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including (abstract; paragraphs 0029-0033 and 0088): a customer's handheld mobile device including a downloaded app, the app associated with a bank and causing the customer's handheld mobile device to (abstract; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4): receiving input from the customer indicating an amount of the check (paragraph 0083); use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check (paragraph 0052 and 0055); check for errors in the check in the photo by: performing optical character recognition on the check in the photo to determine

an amount shown on the check, and comparing the amount shown-to the amount entered by the customer (abstract; paragraphs 0029-0033, 0049 and 0072-0073); and the system being configured to update a balance of an account after determining that no errors were found in the check in the photo (abstract; paragraphs 0029-0033, 0049 and 0072-0073).

Singfield does not explicitly disclose, Hicks et al. teaches and using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device to the bank (paragraphs 0027, 0032 and 0038).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with and using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device to the bank of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

Singfield does not explicitly disclose, Bellinger et al. teaches: assist the customer as to an orientation for taking the photo (Figures 21-22; column 10, lines 7-15; column 11, lines 29-36).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield by assist the customer as to an orientation for taking the photo of Bellinger et al. in order to help showing the image of a check (Bellinger et al. column 10 lines 8-11 ) or facilitate transaction.

As per claim 26, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield does not explicitly disclose wherein the bank computer is configured to confirm that mobile deposit of the check can proceed after duplicate detection is performed on the check in the photo. Hicks teaches wherein the bank computer is configured to confirm that

mobile deposit of the check can proceed after duplicate detection is performed on the check in the photo (paragraphs 0040-0044).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with wherein the bank computer is configured to confirm that mobile deposit of the check can proceed after duplicate detection is performed on the check in the photo of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

As per claim 27, Singfield, Hicks et al. and Bellinger et al. teach the claim 26 described above. Singfield does not explicitly disclose: wherein the system is configured to initiate the mobile deposit of the check after bank computer confirms that the mobile deposit can proceed. Hicks teaches wherein the system is configured to initiate the mobile deposit of the check after bank computer confirms that the mobile deposit can proceed (paragraphs 0043).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with wherein the system is configured to initiate the mobile deposit of the check after bank computer confirms that the mobile deposit can proceed of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

As per claim 28, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield does not explicitly teach: wherein the system is configured to perform the update the balance after it is determined that a mark or signature is present in an endorsement location in the photo of a back side of the check. Hicks teaches w wherein the system is configured to perform the update the balance after it is determined that a mark or signature is

present in an endorsement location in the photo of a back side of the check (Figure 4B; paragraphs 0038 and 0040-0041).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with wherein the system is configured to perform the update the balance after it is determined that a mark or signature is present in an endorsement location in the photo of a back side of the check of the check of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

As per claim 29, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield teaches wherein use of the display of the customer's handheld mobile device to assist the customer includes instructing the customer to have the digital camera take a photo of a front side of the check and a photo of a back side of the check (paragraphs 0032-34, 0045 and 0048).

As per claim 30, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield does not explicitly teach wherein the system is configured to convert the photo into a bi-tonal Tag Image File Format (TIFF). Hicks teaches w wherein the system is configured to convert the photo into a bi-tonal Tag Image File Format (TIFF) (paragraphs 0015 and 0028).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with wherein the system is configured to convert the photo into a bi-tonal Tag Image File Format (TIFF) of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

As per claim 31, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield teaches wherein the customer's handheld mobile device further includes camera software that controls a customer's digital camera, the camera software being separate from the

downloaded app, the downloaded app at least partially controlling the camera software (abstract; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4).

As per claim 32, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield teaches wherein the downloaded app manages taking the photo (abstract; paragraphs 0032-0034; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4).

As per claim 33, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield teaches wherein the downloaded app instructs the customer to place the check in front of the digital camera before taking the photo (abstract; paragraphs 0032-0034; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4).

As per claim 34, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield teaches wherein the system is configured to generate a log file for the mobile deposit of the check, wherein the log file includes an image of the check submitted for mobile deposit of the check (abstract; paragraphs 0030 and 0034).

As per claim 35, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield teaches wherein the copy of the photo is a modified version of the photo taken with the digital camera (paragraph 0088).

As per claim 36, Singfield, Hicks et al. and Bellinger et al. teach the claim 46 described above. Singfield teaches wherein the copy of the photo has a different format than the photo taken with the digital camera (page 15, paragraph 2-page 16 paragraph 2).

As per claim 37, Singfield, Hicks et al. and Bellinger et al. teach the claim 25 described above. Singfield does not explicitly teach further comprising a third-party vendor computer. Hicks teaches further comprising a third-party vendor computer. It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with further comprising a third-party vendor computer of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

As per claim 38, Singfield teaches As per claim 25, Singfield teaches a system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including (abstract; paragraphs 0029-0033 and 0088): a customer's handheld mobile device including (abstract; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4): camera software that controls the digital camera; and a downloaded app associated with a bank to control the camera software and to control submitting a check for deposit by causing the customer's handheld mobile device to perform the following steps (paragraph 0052 and 0055): receiving input from the customer indicating an amount of the check (paragraph 0083); use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check (paragraph 0052 and 0055); a computer associated with the bank programmed to update a balance of an account to reflect the check submitted for mobile check deposit by the customer's handheld mobile device (abstract; paragraphs 0029-0033, 0049 and 0072-0073); and the system configured to perform additional steps including: confirming that the mobile check deposit can go forward after optical character recognition is performed on the check, the optical character recognition determining an amount of the check, performing duplicate detection, and comparing the determined amount to the amount indicated by the customer (abstract; paragraphs 0029-0033, 0049 and 0072-0073); and generating a log file for the

mobile check deposit, the log file including an image of the check submitted for mobile check deposit (abstract; paragraphs 0029-0033, 0049 and 0072-0073).

Singfield does not explicitly disclose, Hicks et al. teaches and using a wireless cellular network, transmitting a copy of the photos over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank after the photos of the check are presented to the customer (paragraphs 0027, 0032 and 0038).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with and using a wireless cellular network, transmitting a copy of the photos over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank after the photos of the check are presented to the customer of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

Singfield does not explicitly disclose, Bellinger et al. teaches: instructing the customer to have the digital camera take photos of front and back sides of the check (Figures 21-22; column 10, lines 7-15; column 11, lines 29-36); using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check (Figures 21-22; column 10, lines 7-15; column 11, lines 29-36).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield by instructing the customer to have the digital camera take photos of front and back sides of the check; using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check of Bellinger et al. in order to help showing the image of a check (Bellinger et al. column 10 lines 8-11 ) or facilitate transaction.

(abstract; paragraphs 0029-0033 and 0088): a customer's handheld mobile device including a downloaded app, the app associated with a bank and causing the customer's handheld mobile device to (abstract; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4): receiving input from the customer indicating an amount of the check (paragraph 0083); use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check (paragraph 0052 and 0055); check for errors in the check in the photo by: performing optical character recognition on the check in the photo to determine an amount shown on the check, and comparing the amount shown-to the amount entered by the customer (abstract; paragraphs 0029-0033, 0049 and 0072-0073); and the system being configured to update a balance of an account after determining that no errors were found in the check in the photo (abstract; paragraphs 0029-0033, 0049 and 0072-0073).

Singfield does not explicitly disclose, Hicks et al. teaches and using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device to the bank (paragraphs 0027, 0032 and 0038).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with and using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device to the bank of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

Singfield does not explicitly disclose, Bellinger et al. teaches: assist the customer as to an orientation for taking the photo (Figures 21-22; column 10, lines 7-15; column 11, lines 29-36).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield by assist the customer as to an orientation for taking the photo of Bellinger et al. in order to help showing the image of a check (Bellinger et al. column 10 lines 8-11 ) or facilitate transaction.

As per claim 39, Singfield, Hicks et al. and Bellinger et al. teach the claim 38 described above. Singfield teaches wherein the digital camera is separate from the customer's handheld mobile device (abstract; paragraphs 0049).

As per claim 40, Singfield, Hicks et al. and Bellinger et al. teach the claim 38 described above. Singfield teaches wherein the customer's handheld mobile device is a PDA (abstract).

As per claim 41, Singfield teaches a system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including (abstract; paragraphs 0029-0033 and 0088): a customer's handheld mobile device including a downloaded app, the app associated with a bank and causing the customer's handheld mobile device to (abstract; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4): receiving input from the customer indicating an amount of the check (paragraph 0083); use a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check (paragraph 0052 and 0055); check for errors in the check in the photo by: performing optical character recognition on the check in the photo to determine an amount shown on the check, and comparing the amount shown-to the amount entered by the customer (abstract; paragraphs 0029-0033, 0049 and 0072-0073); and the system being configured to update a balance of an account after determining that no errors were found in the check in the photo (abstract; paragraphs 0029-0033, 0049 and 0072-0073).

Singfield does not explicitly disclose, Hicks et al. teaches and using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device to the bank (paragraphs 0027, 0032 and 0038); and the system being configured to update the balance of the account after optical character recognition reads a Magnetic Ink Character Recognition (MICR) line of the check in the photo (paragraphs 0018 and 0040).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield with and using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device to the bank; and the system being configured to update the balance of the account after optical character recognition reads a Magnetic Ink Character Recognition (MICR) line of the check in the photo of Hicks et al. in order to help to processing electronic payments (title) or facilitate transaction.

Singfield does not explicitly disclose, Bellinger et al. teaches: assist the customer as to an orientation for taking the photo (Figures 21-22; column 10, lines 7-15; column 11, lines 29-36).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified the system of Singfield by assist the customer as to an orientation for taking the photo of Bellinger et al. in order to help showing the image of a check (Bellinger et al. column 10 lines 8-11 ) or facilitate transaction.

As per claim 42, Singfield, Hicks et al. and Bellinger et al. teach the claim 41 described above. Singfield teaches wherein the digital camera is separate from the customer's handheld mobile device (abstract; paragraphs 0049).

As per claim 43, Singfield, Hicks et al. and Bellinger et al. teach the claim 41 described above. Singfield teaches wherein the downloaded app manages taking the photo (abstract; paragraphs 0032-0034; pages 11 paragraph 2-page 12 second paragraph; page 14 second paragraph; and page 21 paragraph 4).

As per claim 44, Singfield, Hicks et al. and Bellinger et al. teach the claim 41 described above. Singfield teaches wherein the system is configured to generate a log file for the mobile check deposit, wherein the log file includes an image of the check submitted for mobile check deposit (abstract; paragraphs 0030 and 0034).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to I JUNG LIU whose telephone number is (571)270-1370. The examiner can normally be reached Monday-Friday.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christine Behncke can be reached on 571/272-8103. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: https://patentcenter.uspto.gov. Visit https://www.uspto.gov/patents/apply/patent-center for more information about Patent Center and https://www.uspto.gov/patents/docx for information about filing in DOCX format. For additional

questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

I JUNG LIU
Examiner
Art Unit 3697

/I JUNG LIU/
Primary Examiner, Art Unit 3697

| *Applicant-Initiated Interview Summary* | Application No. 16/507,595 | Applicant(s) Oakes et al. | | |
|---|---|---|---|---|
| | Examiner I JUNG LIU | Art Unit 3697 | AIA (First Inventor to File) Status Yes | Page 1 of 1 |

| All Participants (applicant, applicants representative, PTO personnel) | Title | Type |
|---|---|---|
| I JUNG LIU | Primary Examiner | Telephonic |
| Kent Genin | Attorney | |

**Date of Interview:** 28 February 2022

**Issues Discussed:**

**Other**

The examiner and applicant's representative discussed the claims.

| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | |
|---|---|

**Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04**
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

**Applicant recordation instructions:** The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

**Examiner recordation instructions:** Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

**DOCUMENT ID**
JP-3708807-B2

**DATE PUBLISHED**
2005-10-19

**INVENTOR INFORMATION**

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|---|---|---|---|---|
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| – | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |
| | N/A | N/A | N/A | N/A |

**DATE FILED**
2000-08-04

**CPC CURRENT**

| TYPE | CPC | DATE |
|---|---|---|
| CPCI | G06Q20/223 | 2013-01-01 |
| CPCI | G06Q20/223 | 2013-01-01 |
| CPCI | G06Q20/04 | 2013-01-01 |
| CPCI | G06Q20/20 | 2013-01-01 |
| CPCI | G06Q20/3223 | 2013-01-01 |
| CPCI | G07F9/002 | 2020-05-01 |
| CPCI | G06Q20/20 | 2013-01-01 |
| CPCI | G06Q20/3223 | 2013-01-01 |
| CPCI | G06Q20/425 | 2013-01-01 |
| CPCI | G06Q20/10 | 2013-01-01 |
| CPCI | G06Q20/04 | 2013-01-01 |
| CPCI | G06Q20/10 | 2013-01-01 |
| CPCI | G06Q20/425 | 2013-01-01 |
| CPCI | G06Q20/32 | 2013-01-01 |
| CPCI | G06Q20/40 | 2013-01-01 |
| CPCI | G06Q20/40 | 2013-01-01 |
| CPCI | G06Q20/32 | 2013-01-01 |
| CPCI | G07F9/001 | 2020-05-01 |

| | | |
|---|---|---|
| CPCI | G07F9/002 | 2020-05-01 |
| CPCI | G07F9/001 | 2020-05-01 |

**Description**

[0001]
BACKGROUND OF THE INVENTION
The present invention can be applied to the industrial field of electronic commerce related to business and payment means, and the field of mobile phones.
[0002]
[Prior art]
In the prior art, it is known to use a mobile phone use payment process and a mobile phone use payment system in which a mobile phone is added to execute a transaction based on the use of a trading terminal point.
[0003]
In this sense, European Patent Publication No. 0940783 or US Pat. No. 5,754,655 can be cited.
[0004]
Furthermore, a system is known in which a mobile phone not only serves as a trading terminal point, but payment is made by a mobile phone. For this reason, mobile phones must be improved so that secure transactions can be performed. In this sense, we can cite European Patent Publication No. 0785534.
[0005]
Other systems utilize the collector's mobile phone to bank connection as in International Patent Publication WO-A-96 / 12814 or International Patent Publication WO-A-97 / 45814. , Based on sending the payer's bank account number to the collector.
[0006]
These systems have the disadvantage that the user has to give his bank account number to those who do not want to be known, which means it is very dangerous.
[0007]
French Patent Publication No. 2779896 describes a process in which payment is performed by buyer identification. In that process, it should be pointed out that the buyer is established by ensuring that the buyer is a legitimate subscriber on the list of subscribers of the communication network.
[0008]
An object of the present invention is to purchase directly, that is, when a user goes directly to a store, purchases goods and intellectual property such as information, music, or video on the Internet, or purchases from a vending machine. Payment method in case of purchase, reservation with advance payment, purchase by catalog, purchase in response to any commercial or advertisement such as TV commercial or written advertisement, or pay-per-view As such, any mobile phone can be used and transactions between users can be made, all of which solve the disadvantages of the prior art using systems and processes that do not depend on the type of mobile phone that the user has. That is. Depending on the system design, it can be used for any other form of purchase. DealIn real timeExecuted.
[0009]
Another document is European Patent Publication No. 986275, which relates to a method of performing a transaction between a seller and a buyer with a mobile phone. Both have joined the verification platform. In order to execute the transaction, contact is made between the buyer and seller and a purchase agreement is reached, after which the buyer sends a confirmation message containing the buyer's identity. A copy of the purchase confirmation is automatically sent from the buyer or seller to the confirmation platform.
[0010]
In addition, a description relating to a system for operating a fuel pump using a mobile phone is made by PCT Publication WO-A-98 / 54678. To fill the tank, the buyer calls a unit from his cell phone and gives a first secret code. The unit checks the buyer's phone number and the first secret code to see if the code matches the phone number and whether the checked buyer is on the “black list”. If the inspected buyer is not on the “black list”, the unit will grant access to the system and the buyer can enter a code identifying the oil pump in

question and fill the tank.
[0011]
European Patent Publication No. 950968 describes an electronic commerce system including a mobile terminal that can provide means for performing a wide range of operations (payment cards, telephone cards, electronic tickets for entertainment, etc.).
[0012]
PCT Publication No. WO-A-98 / 471116 relating to a payment system using a mobile phone can also be cited. In this case, the payer transmits information for identifying the payer and information on the transaction total and the seller who is the confirmer to the transaction center.
[0013]
A summary of the publication of Japanese Patent Application No. 08/249530, which describes how to operate a vending machine using a mobile phone, can also be cited.
[0014]
French Patent Publication No. 2780800 relates to a mobile phone payment system that includes sending data identifying a seller from a payer's mobile phone.
[0015]
German Patent Publication No. 1806557 describes a system for reporting costs.
[0016]
PCT Publication No. 98/06214 relates to a system that alerts the carrier of a credit card, payment card, cell phone or the like about their unauthorized use. When a transaction using a credit card is attempted at the point of sale, the system is attempting to use a credit card and the carrier can accept or reject the transaction, or Simply detect that the cardholder is alerted to the cardholder's telecommunications device, such as a cell phone, so that the cardholder is informed of the transaction being executed.
[0017]
All cited documents are by selecting the appropriate communication channel depending on the type of mobile phone of the user, such that payment is made by multiple types of mobile phone without changing its structure or parts. In particular, it does not permit selection of an appropriate communication device.
[0018]
On the other hand, all of the cited documents do not consider the possibility of performing proof of intellectual property purchases, inclusion of electronic receipts, or purchases from vending machines.
[0019]
OBJECT OF THE INVENTION
An object of the present invention is to purchase directly, that is, when a user goes directly to a store, purchases goods and intellectual property such as information, music, or video on the Internet, or purchases from a vending machine. Payment method in case of purchase, reservation with advance payment, purchase by catalog, purchase in response to any commercial or advertisement such as TV commercial or written advertisement, or pay-per-view As such, any mobile phone can be used and transactions between users can be made, all of which solve the disadvantages of the prior art using systems and processes that do not depend on the type of mobile phone that the user has. That is. Depending on the system design, it can be used for any other form of purchase. DealIn real timeExecuted.
[0020]
To achieve the foregoing object, the present invention is a system for processing a payment transaction between a payer and a payee associated with a system using at least one communication facility using a digital cellular telephone system. ,
The system includes a first server;
The first server includes account management means for processing each payer's first account data and each payee's second account data, has first data storage means, and has remote communication Interconnected to the means,
Here, the first remote communication means including a plurality of remote communication devices identifies the first server by a digital cellular phone unit identified by a payer's allowable telephone number or a recipient's allowable identification code. Remote communication terminalSelectivelyLet communicate
Here, the first data storage means includes not only some second information about each payee including at least an acceptable identification code, but also includes first information about each payer, Information

permits at least one acceptable telephone number and at least one transaction requiring payment from the payer's account,at leastIncluding pre-established authorization standards and at least safety standards that are uniquely related to the payer's phone number;
The first server is
In the data storage means, an inspection means for checking whether the first message received through the telecommunications means includes the payer's acceptable telephone number and the recipient's acceptable identification code, wherein the acceptable identification code Generate a first receipt message when it detects an allowed phone numberFirstInspection means;
In the data storage means, a test for checking whether a transaction permission request received through the remote communication means satisfies the aforementioned pre-established permission criteria in addition to the allowable telephone number detected by the first checking means Means for generating a second received message when the permission request satisfies the permission criteria; and
FirstA test means for checking in the data storage means whether the safety parameters received through the telecommunication means satisfy the safety criteria associated with the acceptable telephone number detected by the first test means, A third checking means for generating a third received message when it detects that the safety parameter satisfies a safety standard associated with an acceptable telephone number;
As long as the first, second and third receipt messages are generated for the account management means based on the authorization request, the debit in the payer's account is processed and the corresponding credit in the payee's account is processed Permission means to give authority to
A non-permission message generating means for generating a non-permission message and transmitting the non-permission message to the remote communication means when at least one of the received messages is not generated;
Confirmation message generating means for generating at least one confirmation message when at least one of the received messages is generated and sending the confirmation message to the remote communication means, according to an allowed telephone number in the first message Confirmation message generating means for selectively transmitting a confirmation message to the identified mobile phone and the remote communication terminal identified by the acceptable identification code;
Second data storage means including at least first information relating to each payer's allowable telephone number and at least second information relating to the type of digital mobile phone belonging to each telephone number;
In the second data storage means, the second information corresponding to the digital cellular phone unit identified by the allowable telephone number is inspected and compatible with the type of the digital cellular phone identified by the second information. Selecting means for selecting one of the remote communication devices that communicate with the digital mobile phone identified by the allowable telephone number using the means of the remote communication service;
A system including
[0021]
In an embodiment of the invention,Each of the second information contained in the second data storage means associated with the type of digital mobile phone corresponding to each allowed telephone number of each payer and each allowed identification code of each payee IsWhen the latter is a digital mobile phone number, it is a first identification code representing an International Mobile Equipment Identifier (IMEI).
[0022]
According to this embodiment, the IMEI code from which the mobile phone type corresponding to each of the allowed telephone numbers is identified can be retrieved by loading data from a source different from the system, or alternatively Alternatively, or in addition, it may be made by survey update means in the system. The first server may include a first investigation unit and a second update unit. The first search means includes at least one register that includes a first register that associates a telephone number with an IMEI code.Visitor location registerIn (VLR), the IMEI code corresponding to each allowed telephone number is examined. The updating means compares each IMEI code investigated by the first examining means with each code representing an IMEI code associated with each of the allowed telephone numbers included in the second data storage means. Thus, the second information in the second data storage means is updated.
[0023]

Alternatively or additionally, the first searcher may retrieve the IMEI code associated with each of the allowed telephone numbers as follows:

-An association between each allowed telephone number and the IMEI code corresponding to each allowed telephone number;Visitor location registerWhen updated by eachVisitor location registerFrom the Equipment Identifier Register (EIR) that receives the association from the.

-Unstructured Supplementary Service Data (USSD) frames related to each of the mobile switching centers (MSCs) that originated the framesVisitor location registerEach of the frames from which it is intended to insert an IMEI code associated with an acceptable telephone number corresponding to the user who originated the frame.

-Visitor location registerAnd / or through the interface between the investigation means and / or

In a mobile telephone network operator's data bank, each time a USSD frame or voice call is addressed to a specific telephone number, it is an investigation means that immediately examines the registers that each mobile switching center (MSC) transfers. The register contains, for each IMEI code corresponding to each allowed telephone number, each of the telephone numbers to be called or from which the USSD frame is generated, and the IMEI code of the terminal from which the call or frame is generated. A third investigation means including an association of

Third update means for updating the second information in the second data storage means, the update being recorded in each survey IMEI code investigated by the third survey means, and in the second data storage means Updating means performed on the basis of a comparison with each code representing an IMEI code associated with each allowed telephone number included;

By.

[0024]

Instead or as an aid,The first server has a plurality of call data registers (Call) in the data bank of the mobile telephone network operator. Data (Registers: CDR) may include a second searching means for checking the IMEI code corresponding to each of the allowed telephone numbers. The plurality of CDRs include an association between each telephone number that generated one call data register based on the call and the IMEI code of the terminal that originated the call.Based on the comparison of each IMEI code investigated by the second search means with each code representing the IMEI code associated with each allowed telephone number, the second information in the second data storage means is Included in the second data storage means by the second update means for updating.

[0025]

On the other hand, information about the type of mobile phone corresponding to each allowed telephone number stored in the second data storage means may be supplemented with other data. The data includes, for example, a session of capacity, unconfigured supplementary service data for each digital cellular phone associated with the allowed telephone number identified by the IMEI code, which manages the session through the Wireless Application Protocol (WAP). It is at least one data indicating the capacity to be managed and the communication capacity selected from the combination thereof.

[0026]

The presence of the second data storage means is most effective for communicating with the payer based on that the system includes information about the payer, and in some cases the payee's mobile phone type. It has the advantage that a fast communication channel can be selected. This is particularly important when the first message, ie the first communication about the transaction, has not been established from the payer's telephone number. This is because fast and effective communication can be established without having to change the user's mobile phone.

[0027]

Each recipient's acceptable identification code can be selected from a telephone number, a number associated with the telephone number, an Internet code, a code representing the Internet code, an e-mail address, and a code based on the e-mail address. The permissible identification code of the recipient may also be the permissible telephone number and telephone type contained in the second data storage means, that of a digital mobile phone. In this latter case, the first server further includes auxiliary checking means associated with the selection means. The checking means checks whether or not the allowable identification

code in the first message checked by the first checking means corresponds to the second allowable telephone number. The first message includes a transaction request received from the payer identified by the first allowed telephone number and verified by the second verification means. The second allowable number is obtained from the allowable telephone numbers of the digital mobile phone included in the first information included in the first data storage means. Thus, when the checking means detects that the first message is the same as the second acceptable telephone number as the recipient's identity, the auxiliary checking means can be processed by the confirmation message generating means. A fourth receipt message is generated. On the other hand, when the fourth message is not generated, the non-permission message generation means generates a non-permission message.
[0028]
Also, each or at least the payer's acceptable telephone number is associated with the first and / or second data storage means by itself and / or representing that number, for example associated with an acceptable telephone number May be included in the form of a code, such as MSISDN. The first checking means checks the payer's allowed telephone number from a code included in the first data storage means and representing the allowed telephone number when received through the remote communication means. According to the invention, the second received message may be designed such that its emission generates an instruction to the telecommunications means. The command is a command to send a first confirmation message to the payer's mobile phone identified by the allowed telephone number. The first confirmation message includes a request to send a safety parameter to be inspected by the third inspecting means against the safety standard. This embodiment is applicable when the first message does not contain a safety parameter. It is always the case that the first communication related to the transaction has been established by the payee and the payer has not yet sent the safety parameters in the payer's first communication. Thus, when the first message checked by the first checking means is a message received from the recipient's telecommunications terminal, the second received message is identified to the telecommunications means by the allowed telephone number. Generate an instruction to establish a communication with the mobile phone, requesting the payer to send the safety parameters. On the other hand, when the first message checked by the first checking means is a message received without a safety parameter from the payer's mobile phone, the second received message is sent to the mobile phone by the remote communication means. A message is generated to request that the payer identified by the allowed telephone number be sent the safety parameters. The second message also generates an instruction to the remote communication means to communicate with the remote communication terminal identified by the acceptable identification code detected by the first checking means.
[0029]
The third receipt message generated by the third checking means further communicates to the remote communication means with the mobile phone identified by the allowed telephone number detected by the first checking means, eg, payment A person generates an instruction to send a fourth confirmation message confirming the generation of the third receipt message, such as receiving confirmation that the transaction has been authorized.
[0030]
In a preferred embodiment of the invention,The third receipt message generated by the third checking means instructs the account management means to process the debit in the payer's account and to process the corresponding credit in the payee's account. Generate.
[0031]
Finally, the account management means is included in the first data storage means for eachCreditControl at least the first intermediate account of each payee. In a preferred embodiment of the invention, the account management meansCreditIs transmitted to the business management server. Its management server is made for each recipientCreditConsists of the recipient's data bank, all of which are stored in that data bankCreditTo a financial entity that manages each payee's financial account. On the other handThe account management means can also preferably be designed to control a second intermediate account selected from among prepaid accounts, real time debit accounts and postpaid accounts. For example, a prepaid account is an account based on an electronic wallet that was previously generated in the first data storage means for each payer that pre-loaded the electronic wallet for payment, The electronic wallet is loaded in a manner similar to the way that an electronic wallet is normally loaded, for example on a payment card or

telephone card. Real-time debit accounts have operations similar to debit operations that are billed by a bank for payments made with a debit card. Postpaid accounts are similar to bank accounts that are charged with payments made with a credit card.Each intermediate account of each payer is associated with a predetermined authorization criteria that is examined by the second authorization means. The permission criteria can be, for example, an active balance in an intermediate account, a maximum credit limit, or a combination thereof.
[0032]
On the other hand, in a preferred embodiment of the invention, the account management means sends the account management means to the business management server.DebitIncludes second transmitting means for transmitting. The business management server is made for each payerDebitIncluding the payer's data bank, where all of these are stored. The business management server sends the payer to the financial entity that manages each payer's financial account to perform all required financial processing from each payer's account to each payee's account. Included in the data bankCreditSend.
[0033]
The security standard associated with each allowed telephone number known to the payer identified by the allowed telephone number is stored in a first data storage means, such as a secret such as an alphanumeric code, such as a PIN code. It may be an identification code. In this case, the third checking means, in a manner known per se, determines whether the safety parameter received from the payer's digital mobile phone associated with a transaction corresponds to the code in the following manner: Designed to inspect using one of the inspection means. The inspection means are applied according to the type of safety standard associated with the allowed telephone number. That is,
A direct check that the safety parameter contains a secret identification code and
A check whether the safety parameter includes an encrypted result of a self-test carried out locally on the mobile phone after the payer has entered the secret identification code directly into the mobile phone, A test using decryption means for decrypting the encrypted result based on a secret identification code stored in one data storage means;
It is.
[0034]
As already mentioned above. In addition to the reference advertisement information, the first stored data means further includes auxiliary information, i.e., fourth information related to the second information, at least for some recipients. The fourth information includes a reference code that identifies the recipient's product or service, as well as the price associated with each product or service. This fourth information is useful for the application of the inventive system described hereinafter.
[0035]
on the one hand,The fourth information calculates the requested transaction amount and asks the payer that the authorization is being processed, processed or should be processed, and therefore the payer is obeyed It can be used to send transaction information and products and / or services and / or full prices and / or partial prices. Accordingly, in an embodiment of the invention, the second receipt message further includes at least the transaction amount or the total price of the product and / or service corresponding to the transaction, together with the identification of the recipient, to the telecommunications means. And an instruction to send the specification to the payer's mobile phone identified by the allowed telephone number associated with the transaction.The identity of the recipient and the transaction amount, or the total price and specification of the product and / or service corresponding to the transaction are sent with a message requesting safety standards.
[0036]
On the other hand,The fourth information may further include a first selectable telephone number consisting of one of the aforementioned reference codes and the corresponding recipient identification code.The selectable phone number utilizes an acceptable identification code, such as a phone number, where each purchase of a product or service uniquely identifies each recipient product or service or group of products or services, for example. Configure acceptable proof of identity as possible.
[0037]
On the other hand, the fourth information further includes an acceptable identification code in the form of an access telephone number to the recipient. The access telephone number is associated with at least a first

menu comprising a reference code, a product or service identified by each of the reference code, and a price of the product or service.
[0038]
In another embodiment of the invention, the first data storage means can, for example, classify recipients offering similar products or services into one and the same allowed identification code, in particular an allowed access telephone number. . The allowed access phone number, when dialed, provides access to an optional menu. Here, the recipients classified in the allowed access telephone number are specified, and the payer can select from the menu at least one recipient identified in turn by the allowed phone. Depending on the menu design, starting from the same, the payer has direct access to the chosen payee, knows the payee's product and / or service, and makes a payer selection on the menu A recipient selection can provide a payer with access to fifth information related to the second information and similar to the fourth information. This fifth information isPreferablyIt also includes a reference code identifying the product or service of each one of the recipients, as well as the price associated with each product or service.
[0039]
The system of the present invention can be used, for example, for direct purchases where the payer is in the home, such as the recipient is in the store, purchases of software files over the Internet, prepaid purchases of products or services, products or services with delivery receipts. Suitable for use and application in several different transactions such as delivery and payment from one person to another.
[0040]
Thus, in an embodiment applicable when a payer wishes to obtain a software file such as a computer program, computer game, music, video, etc., the system includes the payer's acceptable telephone number and, in this case In addition to the recipient acceptable identification code of the recipient who is the software provider, the payer can process a first message that includes a recipient e-mail address where the recipient wishes to send a software file. Designed to. In this case, in addition to the execution of the steps already described above, the system operates with a confirmation message generating means which additionally generates a further confirmation message received from the recipient at the first server, including the decryption code of the software file. . The further confirmation message is sent to the payer's mobile phone so that the payer can decrypt the software file received at the receiving e-mail address.
[0041]
On the other hand, when the system is used to make a prepaid purchase, the system additionally includes a first detection means and a collection code generating means for the first server to detect a first command to make a prepaid purchase. It can be designed by the method including. In this embodiment, the confirmation message generating means further generates an auxiliary confirmation message including a collection code. The supplementary confirmation message is sent to the payer's mobile phone and the recipient's remote communication terminal. Therefore, by informing the payer of the collection code, the payer or the person on behalf of the payer can receive the product or service obtained from the payee.
[0042]
In an embodiment of the system applicable to transactions that require the delivery receipt to be issued, the first data storage means further includes, for each recipient, each authorized transaction associated with the second information. 3rd information including the data regarding the product or service corresponded to is included. The first server further includes second detection means, delivery code generation means for generating at least a delivery code for identifying the product or service to be delivered, and identification message generation means for identifying the product or service. . The second detection means detects a second command received from a remote communication terminal, which is the recipient's mobile phone, to manage a direct delivery corresponding to an authorized transaction. In this embodiment, the confirmation message generating means further generates an additional message including a delivery code. The additional message is sent to the payer's mobile phone and the payee's mobile phone, and the identification message is sent to at least the payer's mobile phone along with a request to send the safety parameter. In order to manage delivery, the system includes delivery management processing means. The delivery management processing means generates an input in the receipt data when the third checking means confirms that the safety parameters satisfy the safety criteria associated with the payer's mobile phone. The receipt is preferably requested by the recipient from whom such receipt is generated.
In an embodiment of the present invention applicable to transactions relating to purchases at a payer's

vending machine, the second information in the first data storage means is a remote communication, each identified by a mobile phone number of an acceptable identification code. To receive a request from a payer identified by an identification number of multiple vending machines, including digital mobile phones, an authorization code associated with each vending machine's acceptable identification code, and an acceptable telephone number as a terminal And an operation code for operating the vending machine, associated with each authorization code for operating the vending machine. In this embodiment, the confirmation message generation means operates at least the vending machine when the first, second, and third inspection means generate the first, second, and third receipt messages, respectively. A confirmation message is generated and transmitted, including the code to be executed and the payer's mobile phone allowable telephone number. Thus, the payer can pick and get the product he / she wants to get at the vending machine. In this embodiment, one or both of the following conditions can be adopted depending on a predetermined condition stored in the first data storage means.
[0043]
According to a first of these configurations, the confirmation message generating means is automatically connected to the payer's mobile phone during a predetermined period of time during which the payer can send a selection message to the vending machine through the first server. Establish communication between vending machines. In this configuration, the server further includes non-operation detecting means for detecting non-operation of the vending machine.
[0044]
According to the second configuration, the confirmation message generating means in the first server ends the communication with the vending machine after transmitting the confirmation message. Thus, the payer can directly make his selection using the vending machine selection display or keyboard.
[0045]
In most cases, given that the products offered by the vending machine are only low in price, in this embodiment, the authorization criteria for each vending machine's acceptable telephone number is the economic value and sales demand. Set maximum limit selected from number andA direct authorization code, which is allowed for a specific period of time for a request made from the same mobile phone so that the confirmation message generating means generates a confirmation message when the direct authorization code is detected .Thus, the need for a second checking means that has to access the first data storage means to check the authorization criteria specifically assigned to the payer is avoided, thus increasing transaction speed and lower costs. Is realized.
[0046]
In this embodiment, the first server preferably further includes a recording means associated with the authorization means for recording the transactions recorded in each vending machine. The system of the present invention can also be employed to enable payment transactions from one related user to another related user. To that end, the system identifies the payer's identity, the transaction proof, and the first message when the confirmation message generator detects the first, second, third and fourth receipt messages. It can be designed to generate a first confirmation message that includes a request to follow the recipient. The request to comply further includes a request to send a safety parameter that the confirmation message is sent to the recipient's mobile phone identified by the second allowed telephone number through the telecommunication means selected by the selection means. In addition, the third checking means checks whether the safety parameter transmitted from the mobile phone satisfies the safety standard related to the second allowable telephone number as a response to the request to comply, and the parameter is the safety parameter. When the criteria are met, a fifth received message is generated. On the other hand, when the fifth receipt message is generated, the permission unit permits the account management unit. Thereafter, the confirmation message generating means generates a second confirmation message and transmits it to the payer's mobile phone and the recipient's mobile phone.
[0047]
Preferably, at least a first server having the aforementioned means is integrated with the transaction payment center.
[0048]
On the other hand, the present invention also relates to a process for processing payment transactions between payers and payees associated with the system described above by utilizing at least one mobile

telephony communication. In particular, the process is
Selectively receiving at a payment transaction center a first message including a payer's mobile phone number or a recipient's identification code via telecommunications means; and
At the payment transaction center,A code that identifies the total purchase price or product or serviceReceiving the step,
Checking whether the first message was generated from a payer identified by an acceptable telephone number or a recipient's acceptable identification code;
Checking whether the transaction conditions required in the first message satisfy the transaction criteria stored in the first data storage means;
In the second data storage means, the type of the digital mobile phone associated with the allowable telephone number is checked and identified by the allowable telephone number through a telecommunication means consistent with the type of digital mobile phone identified by the allowable telephone number. Selecting one remote communication device to communicate with the selected digital mobile phone;
In a first data storage means, the payer checks “online” whether he / she has a freely available balance in an electronic wallet previously made at the transaction payment center;
When the transaction conditions are satisfied and there is enough free balance to authorize the transaction, the payer identified in the first message is populated with the safety parameters in the mobile phone identified in the first message; Requesting to send it, and
Checking in the first data storage means whether the safety parameters captured and transmitted by the payer's mobile phone satisfy the safety criteria uniquely assigned to the mobile phone;
Allowing and executing the requested transaction when the safety parameters meet safety standards;
Sending a confirmation to the payer's mobile phone and the payee that the transaction has been executed.
[0049]
All of these steps are common to the different embodiments of the invention, in the event that the buyer purchases directly, i.e., when buying directly at the seller's store, the seller initiates the transaction and the buyer's identity is This is done by the seller sending the buyer's mobile phone number to the transaction payment center.
[0050]
In this case, the seller's identity isTotal purchase price or product identification codeAlong with it, it is done implicitly by communication means installed at the transaction payment center to send the buyer's mobile phone number. This communication is performed using a connection between the seller's mobile phone and the transaction payment center.
[0051]
Therefore, the process of the present invention includes the step of the buyer providing his telephone number to the seller. This step is performed directly by the buyer verbally informing the seller of the phone number or by reading a support that includes the buyer's phone number. Obviously, the buyer can communicate his mobile phone number by any process and a normal device with equivalent functions.
[0052]
After verifying the buyer and seller's identity and both joining the transaction payment center, the process of the present invention includes sending a confirmation request to the buyer's mobile phone using a connection from the transaction payment center. The buyer confirms that confirmationTotal purchase price or product identification codeTo accept a collection order or a requested transaction to be executed by using the previous transmission. The transaction data is included in this request.
[0053]
The buyer then accepts the collection order by entering and transmitting his secret identification code to the transaction payment center using his mobile phone, which is verified.
[0054]
In order to carry out the communication between the transaction payment center and the buyer's mobile phone, the process is carried out at the transaction payment center side, the database provided here, a database advisory means including the characteristics of each buyer's mobile phone. From this consultation, it is stipulated that the mobile phone communication device is selected from the following devices included in the transaction payment center itself.

Short Message Center (SMC) where the Short Message Service (SMS) defined in ETSI standards 03.98, 03.40, 04.11, 09.02 is permitted / executed. By using this system, messages of up to 160 characters can be exchanged between mobile phones or between a mobile phone and an application. Between mobile phone and transaction payment centerSyncIn order to allow communication, special short message centers as well as ordinary short message centers are used for this transaction payment system. The center is used for all short message communications where mobile phones are terminated.
Unconfigured supplementary service data (USSD) as defined in ETSI standards GSM 02.90, 03.90, 04.80, 04.90, is used for continuous and interactive communication between mobile phones and applications. Can be established and initiated by the mobile phone user (MAP steps 1 and 2) as well as the application (telephone MAP step 2) by using the so-called USSD operation.
[0055]
Similar to the short message service, the USSD operation described above is a stand-alone dedicated control channel (SDCCH) at the interface between the mobile phone and the base station, from the base station to the mobile network switching center (Mobile Network Switching). Direct Transfer Application Part (DTAP) operation up to Center (MSC), Mobile User Application Part (MAP) operation between MSC, USSD Center and Short Message Center, respectively , WAP Forum (http: // www.wap-fprum.org) between a mobile phone provided with suitable software using a short message or data service as a transport in the case of a GSM network and a resident application at an internet terminal It is used by the Wireless Application Protocol (WAP) that enables communication.
[0056]
Therefore, the present invention allows the exchange of information between a transaction payment center and a different type of mobile phone in such a way that payments are made by any type of mobile phone without the need to improve the mobile phone. enable.
[0057]
An update of the database containing the characteristics of each buyer's mobile phone is made automatically for the transaction payment center to consult the terminals of the mobile phone network.
[0058]
In the secret identification code verification process, some of the following mechanisms are involved.
Authentication and GSM encryption based on the authentication center of the GSM network to which each user's Ki secret authentication code belongs. This same code belongs without access to the user's subscriber identity module (SIM). In order to access the GSM network, the authentication center generates a 128-bit RAND random number along with the Ki code. It is the number entered into the non-standard algorithms A3 and A8 that generate the SRES parameter and the Kc session code, respectively. These parameters send the RAND random number to the authentication center's SIM that performs the same process.Visitor location register(VLR). The SRES parameter is returned to the network identifying the user, and the Kc session code is stored on the mobile terminal. From this time, communication between the mobile phone and the base controller (BSC) is encrypted using the Kc code and algorithm A5.
The SIM card programming model, software identification and encryption contained in the SIM toolkit card, is described in ERSI standards GSM 11.11 and 11.14. Regardless of the GSM encryption application that all SIM cards execute, a SIM application can be developed that performs the same management of the same digital certificate currently executed in a personal computer application.
In the case of identification and encryption using mobile phone software, and the mobile phone has the necessary processing capacity, the above digital certificate management can be performed by the mobile phone itself.
[0059]
As already pointed out, the results of the local examination are sent to the transaction payment center in these latter two cases.
[0060]
Further, for direct purchases, after checking at the transaction payment center that the secret code is correct, the process includes the step of deducting the transaction amount from the buyer's wallet. Once the transaction is confirmed by the buyer and seller, after a certain time, the step of updating the transaction data is executed. That is, depending on the payment format chosen, the store is credited and the buyer is debited. The two forms of payment can be made by the user of the serviceTotal purchasesDepends on the

means you can pay.
Prepayment: The buyer lends the total amount in advance to his wallet that is open to the transaction payment center in advance. Once a purchase is made, the total amount will be charged from this accountIn real timeBe reduced.
Postpay: 1 monthTotal purchaseIs entered into the user 's wallet,Total amountWill be charged monthly to the working account indicated by the user.
[0061]
In both cases, secondary accounts can be used in such a way that multiple users, each with their own mobile phone and each associated with a secondary wallet, can use a service where one owner appears. May be associated with the primary account.
[0062]
In addition, the process of the present invention may purchase in advance. In this case, the process corresponds to the process described in the direct purchase. However, the buyer provides his phone number to the seller by connecting with the seller's service center or vending system, and then the seller goes to the transaction payment center,Total purchase price or product identification codeThere is a difference of sending.
[0063]
Then the transaction payment center tells the sellerTotal purchase price or product identification codeA collection code is also sent.
[0064]
And from the buyer's walletTotal purchaseAfter confirmation, the confirmation is sent to the buyer so that the order collection code is sent to the buyer, and the prescribed delivery time for the purchase being made is also sent.
[0065]
In this way, when the buyer attempts to collect the product to be purchased, the collection code constitutes a receipt code that guarantees that payment has been made, and it further represents the product delivered to the buyer.
[0066]
The present invention also allows purchases to be made over the Internet. In this case, the store is a regular virtual store that communicates with the transaction payment center via the Internet or any type of network.
[0067]
In this case, the process is exactly the same as described for direct purchase, with the difference that the buyer sends his phone number to the virtual store over the Internet.
[0068]
Should an internet purchase be made from a mobile phone with WAP capacity, the buyer's phone number is implicitly communicated to the seller when establishing communication between them. The collection order is communicated to the buyer either by the process described in direct purchase or by WAP communication established between the transaction payment center and the buyer's mobile phone.
[0069]
The present invention also allows purchases to be made from vending machines. In this case, the process is exactly the same as that described for direct purchase, but here it is the buyer who initiates the transaction using the connection between the mobile phone and the transaction payment center. There is a difference. That identification is performed implicitly by the connection made. The vending machine (seller) is identified by sending the vending machine identification code on the buyer side using the connection made. For this purpose, the vending machine should include a mobile phone.
[0070]
Once the transaction payment center checks the buyer's identity and the identity of the vending machine, it is connected to the vending machine that transmits its operational signal. This connection is made by a mobile phone included in the vending machine. Thereafter, the operation is executed according to the following steps. Display the buyer's identity on the screen. It allows the buyer to select / choose a product. The product is then sold.
[0071]
In an embodiment of the present invention, loan instructions accumulated at a vending machine are queried

periodically by a transaction payment center where all accumulated instructions are processed.
[0072]
When the inventive process is applied to a vending machine, the steps and means already described above are used with respect to the system of the present invention.
[0073]
The present invention also allows the purchase of intellectual property, ie the software files described above, to be made over the Internet. For this purpose, the buyer provides his mobile phone number to a store on the communication line, in this case a virtual store. Collection transactions are initiated from this store as described in the case of payment over the Internet. In this case, after decrypting the encrypted file at the buyer's device, the buyer requests a decryption code from the transaction payment center. These codes are generated by the seller and sent along the secure channel to the transaction payment center which determines the approval of the file and hence its delivery. It includes the step of subsequently sending a decryption code to the buyer's mobile phone at the transaction payment center. This constitutes confirmation of the delivery of intellectual property.
[0074]
The present invention can also be used to perform electronic receipt functions. In this case, the seller performs a connection between his mobile phone and the transaction payment center in such a way that the seller is implicitly identified by the connection made. Here, after the identification, the seller sends the identification code of the product to be delivered, for example, by requesting a control number from the transaction payment center in order to deliver the product to the buyer. Thereafter, the transaction payment center transmits not only the product to be delivered but also the control number requested by the seller to the buyer by connection with the buyer. Thereafter, after the buyer's secret code is requested and entered by the buyer's mobile phone, this indicates confirmation of product delivery and receipt.
[0075]
In this way, the receipt replaces the processing described above and allows the seller to automate logistic control that eliminates paper, thus providing a database accessible to the seller.
[0076]
In this latter case, it should be pointed out whether the transaction occurs at the same time as the payment, according to what is permitted between the two.
[0077]
Obviously, the operating characteristics and technical characteristics described above for the system are also applicable to the process of the present invention, and vice versa.
[0078]
The invention's effect
The invention is based on any type of digital cell phone (hereinafter “cell phone”) without modifying the cell phone so that any owner with the cell phone can rent a group of payment functions and payment services. Allowing payments to be made. All of this does not use a credit card and does not require the user to be a bank customer. To this end, a transaction payment center is provided, which provides different mobile communication capabilities along with considerable equipment and means to determine what type of mobile phone payment is requested or made. . Therefore, it is possible to communicate with any mobile phone by the corresponding mobile phone device to the transaction payment center.
[0079]
The invention also allows receipts at the time of purchase to be obtained even for the purchase of intellectual property over the Internet. In addition, delivery confirmation of pre-purchased goods is achieved by the invention, demonstrating delivery without the seller having to hand over the receipt.
[0080]
The invention could be practiced in all countries with mobile phone based networks, especially in countries where national management companies were established. The company agrees with the mobile phone operator in the country on terms of providing and providing the service. Payment is performed by any type of mobile phone without the need for improvement.
[0081]
[Description of Preferred Embodiment]
The invention is described below with reference to the accompanying drawings.

[0082]
FIG. 1 illustrates the processing of a direct purchase, i.e. the purchaser payer (13) in this case goes to the seller's payee (14) store in this case to make a purchase. .
[0083]
In order to purchase, the seller (14) and buyer (13) need to be approved by the transaction payment center (17). Therefore, each buyer (13) is assigned a secret code associated with his mobile phone number.
[0084]
In direct purchase, buyer (13) uses step (1a) to provide his mobile station international number integrated service digital network number (MSISDN), or a number related thereto, which is different from the secret identification code. To the seller (14). This step (1a) is performed verbally or using a pencil that reads the barcode of the optical pencil, label or consumer card provided on the seller's device (15). For example, this card is attached to the mobile phone (16) of the buyer (13).
[0085]
The seller (14) establishes communication (2a) with the transaction payment center (17) using the device (15) in order to request permission for the transaction. In the communication (2a), not only the transaction amount for which permission is requested, but also the collection order (collection order) including the MSISDN of the buyer (13) or a number related thereto is transmitted.
[0086]
As an example, the device (15) may consist of a small mobile terminal based on a microprocessor that stores programming that allows a sales application according to the invention to be made. It includes a mobile phone with screen, keyboard, and USSD Step 2 communication capacity to communicate with the transaction payment center (17) via the mobile phone.
[0087]
In order to allow the establishment of communication (2a), the transaction payment center has a USSD mobile communication device (19), whereby communication (2a) with the mobile phone of the seller's device is established.
[0088]
Further, the transaction payment center (17) has a data bank (not only storing each phone number of each buyer (13) and each seller (14)) but also the type of each mobile phone (16) of both. 21) and an online transaction payment server (20) that also includes a data bank (22) for storing data related to the transaction payment center (17).
[0089]
The data bank (22) also includes first information about each buyer (13) who has subscribed to the payment service realized by the transaction payment center (17) and second information about each seller (14). Also remember. To that end, the data bank (22) provides the buyer's phone number, a secret code assigned to each buyer authorized for the payment service, and each buyer's code, which is the buyer's phone number or related number. Remember. Should a number associated with the buyer's phone number be transmitted, this number is also stored in the data bank (22).
[0090]
Therefore, the server (20) uses the first inspection means (20a) to inspect the identity of the buyer using the communication (2a) source. This is because the buyer's phone number is implied by the connection made by the device (15). Furthermore, the server checks by means (20a) whether the transmitted buyer's telephone number or the number associated therewith corresponds to a payment service subscriber. If the check is correct, it generates a receipt message.
[0091]
Further, in step (3), the server (20) uses the second inspection means (20b) to determine the balance of the buyer orCreditInspect the pre-determined authorization criteria by inspecting the total amount. The balance check is done in a wallet previously opened in the data bank (22). If the check is correct, a second receipt message is generated.
[0092]
If the previous check provides a positive result and, as a result, a receipt message is generated, communication with the buyer (13) is established. Through this communication, the server (20) can communicate the collection order confirmation request (5a) or (5b) with the mobile phone (16) of the buyer

(13) with any type of mobile phone obtained by the buyer. Depending on the type of mobile phone (16) owned by the buyer (13), using the USSD mobile communication device (19) (5a) or by the short message center (18) (SMC) Transmit either using the mobile communication device realized by (5b).
[0093]
To select step (5a) or (5b), the server (20) checks what type of mobile phone the buyer (13) owns and the device (18) or ( In order to select 19), in step (4), the selection means (20h) is used to consult the data bank (21).
[0094]
At this stage, as pointed out below, the international mobile device identification of the mobile phone (16) of the buyer (13) using one or more of the possibilities already mentioned in the "Description of the invention" section above. The database (21) is automatically updated by the consulting process of the node of the mobile communication network in which the device (IMEI) is recorded and the system knows its characteristics.
[0095]
FIG. 7 shows in particular an embodiment of the first server (20) having a plurality of specific survey update means for investigating and updating the IMEI code. In all of the survey updating means, regarding each allowed telephone number of each payer (13) and each allowed identification code of each payee (40) included in the second data storage means (21). Each second information related to the type of digital mobile phone (16, 40) contained in the second data storage means is IMEI (when this latter code is the digital mobile phone number described below). It is the 1st identification code showing a code.
[0096]
Therefore, in the first specific example, the first checking means (20r) sets the IMEI code related to each permitted telephone number between each permitted telephone number and the IMEI code corresponding to each permitted telephone number. Including the associationVisitor location registerWhen updated by eachVisitor location registerFrom the device identification register (EIR) that receives the association.
[0097]
In the second example, the first examining means (20r) extracts the IMEI code associated with each allowed telephone number from the unconfigured supplementary service data (USSD) frame. The USSD frame includes each associated mobile switching center (MSC) that originated the frame.Visitor location registerInserts an IMEI code associated with an acceptable telephone number corresponding to the user who originated the frame.
[0098]
In the third specific example, the first search means (20r) calculates the IMEI code associated with each allowed telephone number,Visitor location registerAnd through its interface between the investigation means (20r).
[0099]
In the fourth specific example, the first server (20)In a plurality of call data registers (CDRs) in a data bank of a mobile telephone network operator, an investigation means for investigating an IMEI code corresponding to each allowable telephone number, the plurality of call data registers being based on a call A second investigation means (20t) including the relationship between each telephone number that generated one call data register and the IMEI code of the terminal where the call occurred;
Based on a comparison of each IMEI code surveyed by the second surveying means (20t) with each code representing the IMEI code associated with each allowed telephone number contained in the second data storage means (21). And second update means (20u) for updating the second information in the second storage means (21).
[0100]
In a fifth example, the second information further comprises a capacity to manage a session with a wireless application protocol (WAP) of a digital cellular phone associated with an allowed telephone number identified by the IMEI code, unconfiguredSupplementIt includes at least one data indicating a capacity for managing a session of service data (USSD) and a communication capacity selected from the combination thereof.
[0101]
Finally, in the sixth example, the first server (20)In a plurality of call data registers (CDRs) in a data bank of a mobile telephone network operator, an investigation means for investigating an IMEI code corresponding to

each allowable telephone number, the plurality of call data registers being based on a call A second investigation means (20t) including the relationship between each telephone number that generated one call data register and the IMEI code of the terminal where the call occurred;
Based on a comparison of each IMEI code surveyed by the second surveying means (20t) with each code representing the IMEI code associated with each allowed telephone number contained in the second data storage means (21). And second update means (20u) for updating the second information in the second storage means (21).
[0102]
Obviously, FIG. 7 shows a plurality of specific examples coexisting on the first server (20), but the system of the present invention includes only one or more specific examples.
[0103]
Even if the mobile phone (16) has USSD version 2 capacity, the step (5a) is performed between the USSD frame, the processing by the mobile phone (16), and the server (20). It is executed by the process of connecting. Upon receiving this frame, the mobile phone (16) displays a permission request on the screen along with the details of the collection order.
[0104]
In the unlikely event that the mobile phone (16) does not have USSD version 2 capacity, this request will be sent to a Class 0 short message with details of the collection order and an instruction to send permission. This is done by transmission (5b). Upon receipt of the class 0 short message, the cell phone (16) displays it on the screen without the need for the user to command through the menu structure stored on his cell phone.Synchronous communicationThe short message center (18), which is characterized when performing, is used to send three confirmation request messages.
[0105]
Returning to FIG. 1, the buyer (13) receives the collection order received by entering (6) the secret code assigned to him when subscribing to the service using his mobile phone keyboard. Check (5a) or (5b). If the mobile phone has a SIM card identification mechanism, this identification code can be locally checked in the mobile phone by step (33). In this case, the result of the encrypted local identification isSynchronous short message centerStep (7d), which is sent to the payment server by the short message directed to (18), is executed. In this case, the transaction payment center decrypts and inspects the result of the inspection from the stored secret identification code of the user.
[0106]
If these mechanisms are not available, the secret code is transmitted using the mobile communications network encryption described in the "Description of the Invention" by utilizing any of the processes described below. .
[0107]
If it is a mobile phone (16) having the capacity of USSD version 1, 2 that has received the request from step (5a), the secret identification code that the buyer has locked in step (6) is , Transmitted by step (7a) through the connection connected in step (5a).
[0108]
Should it be a mobile phone with USSD version 1 capacity that received the request by step (5b), the sequence locked by the buyer consists of a USSD service code followed by a secret code, It is transmitted by step (7b) in the USSD version 1 operation frame generated on the mobile phone.
[0109]
Should it be a mobile phone without USSD capacity that received the request from step (5b), the sequence in which the buyer (13) locks in the short message is as a response to step (5b). According to the step (7c), according to the mobile phone (16) number of the buyer (13), it consists of a secret code sent to the short number assigned to the service by the operator.
[0110]
Thereafter, the server (20) checks the secret code transmitted by the buyer (13) by the third checking means (20c). The check is performed by step (8), and if the check result is positive, a third received message is generated.
[0111]
The server (20) has an authorization means (20d) that authorizes several account management means

(20e) when it receives three authorization messages. The account management means is included in the server (20) and subtracts the total transaction from the buyer's wallet / credit account,The total amount is transferred to the seller's account in step (9).In step (10), the account management means transmits the transaction confirmation not only to the mobile phone (16) of the buyer (13) but also to the terminal of the seller (15). This confirmation is executed by several confirmation message generation means (20g) included in the server (20).Moreover, these means (20g) can confirm the inspection performed by the means (20a) and (20b) against the buyer (13) and / or the seller (14).
[0112]
Then, the data is updated with respect to the business management server (23) by step (11) which is an offline step. From its management server, depending on the type of payment selected, the subscriber's processing is transferred to the store using a specific application built in connection with the financial entity,DebitIs transferred to the buyer. Communication with the business management server is established by the line (26). In order to execute this function, the business management server (23) has a store data bank (24) and a buyer data bank (25).
[0113]
The server (20) has a disallowed message generating means (20f) for transmitting a disallowed message to the seller and / or the buyer when at least one receipt message is not generated.
[0114]
The operations described above are usually made when the purchase is made via the internet, or the payer is the buyer (13) and the payee is the virtual store (27), which is usually this type of purchase, ie via the internet. Thus, it is the same when the buyer transmits his / her telephone number or a number related thereto using the communication between the buyer (13) and the virtual store (27) in step (1b).
[0115]
Thereafter, the virtual store (27) transmits the collection order (2b) corresponding to the collection order (2a) described above. However, there is a difference that this collection order is transmitted to the network (28), which is a means for establishing communication with the server (20).
[0116]
In this case, the process is the same as the process described above. For this purpose, a confirmation transmission in step (10) is made by the communication network (28).
[0117]
The communication network (28) may be the Internet, a digital integrated services network, a switched telephone network, or any other network.
[0118]
These accesses provide the necessary safety mechanisms in each case.
[0119]
In addition, the process described in FIG. 1 also allows prepaid purchases to be made. For this reason, in this case, the buyer (13) informs the seller (14) of the buyer's phone number by telephone connection with the service center or by a vending system that the seller works for. At this point, the process is the same as the direct purchase process, but when the seller communicates with the transaction payment center (17), the seller, along with the transaction data and the phone number of the buyer (13), orders There is a difference of sending. The instruction indicates a prepaid purchase detected by some first detection means (20i) included in the server (20). The server also has a collection code generation means (20j) for generating a collection code when the command is detected. This code is sent to the buyer and seller in step (10) along with the confirmation of step 10 described above. In this regard, when the buyer goes directly to the seller's (14) store so that the seller can know who is the buyer in question and what products should be handed to him, it is ordered in advance. You should inform your product collection code.
[0120]
This mode of operation is particularly useful in stores that produce products, assuming that the product has already been paid for, for example, perishable products. Thus, the product will not be collected later, but the price will have already been collected. This concept is only possible when the transaction is made online. Providing the collection code to the seller by the buyer confirms that the payment has already been made in advance.
[0121]

Using the system and process of the present invention, payment is also made at a vending machine as illustrated in FIG.
[0122]
In this case, the recipient is a vending machine (29), which should include a mobile phone with short message and data communication capacity.
[0123]
As indicated by step (30), buyer (13) reads the vending machine identification code from vending machine (29).
[0124]
Thereafter, the buyer (13), according to the type of the mobile phone (16) possessed by the buyer, by communication (31a) or (31b) Send to server (20).
[0125]
This step is equivalent to steps (2a), (2b) above, but buyer identification is performed implicitly by connection (31a) or (31b), in this case vending machine (29) There is a difference that store identification is performed by a code sent by the buyer.
[0126]
The transaction payment center checks the customer's identity, his balance or credit limit, cell phone (16) type, and cell phone number provided to the vending machine (29). This is done by step (3) or (4).
[0127]
Steps (5a), (5b), (6), (7a), (7b), (7c), (7d), (8), and (9) are consistent with the above case.
[0128]
Thereafter, the vending machine operating instructions (32) are transmitted by the mobile phone network (device 18 or 19). This operation command is executed by communication with the mobile phone of the vending machine (29). For this purpose, the transaction payment center (17) establishes communication with the mobile phone of the vending machine, and when the vending machine receives the command, it operates as if a coin was inserted into it. Be made. The vending machine displays the buyer's identity on the screen, and then, in step (31), the buyer selects and obtains the desired product, along with the operating instructions of the vending machine (29), along with the buyer (13 ) Is sent. For this purpose, the first server (20) disconnects from the vending machine (20) and allows the payer to select via the display or keyboard of the vending machine (29). In an embodiment of the system applicable to the vending machine, the confirmation message generating means (20g) is pre-determined for communication between the payer's (13) mobile phone (16) and the vending machine (29). Established at the time. Meanwhile, the payer (13) sends a selection message to the vending machine (29) through the first server (20). That is, the product is selected using the mobile phone (16) instead of the display of the vending machine. After this period, communication between the first server (20), the vending machine (29) and the payer (13) is disconnected.
[0129]
In addition, the first server (20) may include non-operation detecting means (20o) for detecting non-operation of the vending machine (29). This also has the function of disconnecting the communication between the first server (20), the mobile phone (29) and the payer (13) in this case.
[0130]
When queried by the transaction payment center (17), the vending machine (29) periodically sends a record of the purchase and the user who made it to the server (20) according to step (12). For this purpose, the first server (20) includes transaction recording means (20p) for recording transactions recorded in each vending machine (29). The recording means is related to the permission means (20d).
[0131]
Step (10) is executed when periodically clearing the purchases made.
[0132]
In certain situations, for example, it may happen that the buyer's secret code does not need to be entered if the total amount of transactions made is low. In this case, the step corresponding to this process is removed.
[0133]
The system of the present invention can also be applied to processing purchases over the Internet or other remote channel, as illustrated in FIG.
[0134]

The buyer (13) (payer) via the Internet provides the buyer's phone number online to the virtual store (27) (recipient) in step (1). Phone number,Total amount of purchases madeStep (2), including sending a collection order including: to the server (20), is performed from the virtual store (27) using the network (28). In this operation, the server (20) checks the identity of the buyer and seller and tells the buyer the store identity required by the steps described in FIG.Total purchaseAnd create a connection to the mobile phone (16) of the buyer (13) using the device (18) or according to the type of phone owned by the buyer to send a message informing the secret code To do. After confirming that there is a valid balance, the transaction is confirmed with the buyer (13) and the virtual store (27). Steps (1) to (10) are therefore the same as already described above. The virtual store then decrypts the encrypted software file on the buyer's (13) computer online via the Internet according to step (34). When the buyer (13) receives them, a decryption code is requested from the server (20) according to the type of the mobile phone by step (12a) or (12b). These codes are generated by the seller (27) and are sent to the server (20) over the secure channel at the request. After that, the confirmation message generating means (20g) of the server (20), in step (13a) or (13b), decodes the software file transmitted to the buyer according to the type of the mobile phone (16) of the buyer (13). Generate a confirmation message containing Finally, data is updated in the server (20) and the business management server (23) by the offline step (11).

[0135]

Furthermore, the system of the present invention enables use as an electronic receipt, as illustrated in FIG.

[0136]

When the supplier (14a) (recipient) delivers to the home of the buyer (13), the supplier (14a) first sends the identification code of the product to be purchased and the buyer by the mobile phone (15a). A telephone number is transmitted and further communicates with a transaction payment center (17) where a delivery code such as a control number is requested. For this purpose, the seller sends a second delivery management instruction which is detected by some second detection means (20k) supplied to the server (20). Once the center (17) verifies the identity of the supplier (14a) with respect to its detection by communication (2c) and using some of the delivery code generation means (201) As has been done, the center (17) checks the type of the buyer's mobile phone according to step (4) and communicates with it by the connection (36a) or (36b) of the buyer's (13) mobile phone (16) type. The code is generated and sent to the seller in step (35). In communication (36a) or (36b), buyer (13) receives data regarding the control number of the product to be delivered and the request for his secret code. For this purpose, the server (20) has message generating means (20m) for identifying the product or service.

[0137]

The buyer then enters his secret code. It implies delivery receipt and product receipt. The server (20) confirms that the data is correct by step (8a) in the manner already described in the previous example (step 8). Thereafter, by using the delivery management processing means (20n) included in the server (20), an input is generated in the receipt database (37), and the delivery is confirmed to both by the step (10). Finally, the delivery data is updated in the business management server (23) by the offline step (11a). The database (37) of the server (20) is accessible to the supplier, where the supplier controls the delivery status of the computer and the control of generating the customer's receipt digital signature by sending the control number and secret code. Makes it possible to do. This is done by step (38).

[0138]

In this way, the material receipt that is usually handed to the buyer is replaced by the process described above.

[0139]

Similarly, this step (38) can be performed in conjunction with the direct purchase, prepaid purchase, and Internet purchase described above.

[0140]

These transactions may or may not be accompanied by payment.

[0141]

FIG. 5 illustrates a product or service for making purchases in catalogues, for example, purchases in response to any type of commercial or announcement, such as television commercials, document announcements, pay-per-view, or any other form of purchase. Shows another possible embodiment for making a purchase by product code or service code, including assigning a code.

[0142]
In this case, to make a purchase, the buyer once knows the code assigned to the product that the buyer wants to buy. The buyer calls the transaction payment center (17) with his mobile phone and establishes communication (45a) or (45b) according to the type of mobile phone owned by the buyer (13). As explained in the previous case, the communication (45a) is established by the mobile communication device (19) and the communication (45b) is established by the short message center (18).
[0143]
By communication (45a) or (45b), the buyer transmits a telephone number corresponding to the product he / she wants to buy. This phone number consists of a part indicating the code of the product he wants to buy and another part indicating the seller's identity. This is stored in the data bank (22).
[0144]
At this point, according to a further embodiment of the invention,The telephone number itself traded by the buyer to communicate with the transaction payment center (17), when the transaction payment center receives this phone call, will access its data bank (22), and the buyer will be different from the seller. It may be possible to access a series of different seller codes stored in the data bank (22) in such a way as to send a message with options.It should be pointed out. At this point, the first seller, the first product to be purchased, is selected. According to another embodiment, the number dialed by the buyer to access the transaction payment center (17) is sent by the transaction payment center (17) to the customer with a message with a different product of the selected seller. It is also possible that they belong to a particular seller stored in the data bank (22) of the transaction payment center.
[0145]
This configuration has the advantage that the user does not need to know the code of the product, but rather the user can access a specific seller or products of multiple sellers by calling a comprehensive telephone number.
[0146]
In any case, the selection of the mobile communication device (18, 19) establishing communication (45a) or (45b) with the buyer is performed by step (4). In that step, the server (20) consults the data bank (21) to determine what type of mobile phone the buyer (13) owns, as already explained.
[0147]
Similarly, in this case, the server (20) verifies the buyer's identity by utilizing the source of communication (45a) or (45b). This is because his telephone number is implied by the connection made. In addition, the server checks the phone number of the product corresponding to the seller who subscribed to the payment service. Then, from the received code, the product to be purchased and its price are determined. This code, as indicated, can be obtained directly from the number dialed by the buyer or indirectly from the seller or sellers with whom the first dialed telephone number is associated.
[0148]
It is possible that data about each product of each seller is stored on the seller's (46) own device. In this case, the transaction payment center (17) consults the seller (46) about the price and product to which the buyer relates by utilizing the communication network (47) connecting them. The seller (46) responds with sufficient data and the transaction payment center (17) informs the buyer (13) about it.
[0149]
Thereafter, step (3) of checking the balance is performed in any indicated case. If the previous check gives a positive result, the step (5a) or (5b) described above for confirming the collection order is generated.
[0150]
The buyer (13) then confirms the received collection order (5a) or (5b). The secret code is incorporated by using the buyer's mobile phone keyboard and from step (33), (7d) or (7a), (7b) or (7c) described above, step (8). Inspected by
[0151]
Should the test result be positive, the total amount of the transaction is deducted from the buyer's wallet / credit account, and the total amount is transferred to the seller's account in step (9). The buyer's identity and the identity of the purchased product are communicated to the seller (46) using the communication network (47) to allow the seller to send the purchased product to the buyer's residence. In addition, confirmation of the transaction is sent by step (10).

[0152]
Thereafter, step (11) described above is executed.
[0153]
Utilizing the network (47), the seller (46) enters the database (22) of the transaction payment center (17) regarding its products, prices and associated codes, and these data are stored in the center (17). It is updated every time the correction is made.
[0154]
In the unlikely event that it is pay-per-view, the buyer initiates a general transaction by calling the number that appears on the television screen. The transaction payment center (17) then communicates with the television broadcast center that broadcasts the selected decryption program, to which buyers are shown to choose to purchase the program. In other words, it operates in the same way as delivering a physical product, except when the seller sends a television signal.
[0155]
FIG. 6 shows that the transaction between the users (13) and (40), who owns the mobile phones (16) and (41), respectively, and is clearly subscribed to the transaction payment center (17) Fig. 4 shows another possible embodiment that is possible with
[0156]
In this case, the user (13) constitutes a payer and the user (40) constitutes a payee.
[0157]
Thus, when the payer (13) wishes to execute a transaction in favor of the payee (40), communication (39a) is established with the short message center (18) according to the type of mobile phone the user has. Alternatively, communication (39b) is established with the mobile communication device (19).
[0158]
In this case, a payment instruction including the telephone number of the recipient (40) or a number related thereto is transmitted in communication (39a) or (39b), and the total amount of the transaction for which permission is requested is transmitted. This may correspond to, for example, a debit to be settled or a credit to be made.
[0159]
In this case, the transaction payment center stores the data corresponding to the payee (40) in its data banks (21) and (22) in the same way as the payer (13).
[0160]
Selection of a communication device for establishing communication (39a) or (39b) is performed using step (4).
[0161]
The identity of the payer (13) and the telephone number of the payee (40) are verified using the source of the communication (39a) or (39b). Thereafter, the balance of the payer is checked according to step (3).
[0162]
When the previous test gives a positive result, steps (5a), (6) and (7a) or (5b), (6) and (7b) or (5b), (6) and (7c) and the last step (8) are carried out in the manner already described.
[0163]
Thereafter, the server (20) transmits a payment command confirmation request (5c) or (5d) to the mobile phone (41) of the recipient (40) according to the type of the mobile phone owned by the recipient (13a). This is selected by step 4.
[0164]
For the selection of step (5c) or (5d), the server (20) performs the same process as described above in step (5a) or (5b). Step (7) and step (7f) coincide with steps (7a) and (7b), and step (7g) and step (7f) coincide with steps (7c) and (7d).
[0165]
Initially, the server checks the secret code sent by the recipient (40) using step (8). In the unlikely event that the test results of both the payer and payee secret identification codes are positive, the total amount of the transaction is determined by step (9):Payer walletOr deducted from the credit account and the total amount of the transaction is transferred to the recipient's wallet / credit account by step (9). A confirmation is then sent to the payer (13) and the payee (40) by step (10).

(Reason for correction 1) The English notation corresponding to this correction is “REAL TIME” on page 2, line 2 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. In order to make it closer, I corrected it to "real time".
(Reason for correction 2-1) The English notation corresponding to this correction is “selectively” on page 52, line 15 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. , This was missing. Therefore, we have inserted the translation of this missing part.
(Reason for correction 2-2) The English notation corresponding to this correction is “at least” on page 26, line 26 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1, At the time, this was missing. Therefore, we have inserted the translation of this missing part.
(Reason for Correction 2-3) The English notation corresponding to this correction is “first” on page 35, line 35 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2 (1). , This was missing. Therefore, we have inserted the translation of this missing part.
(Reason for correction 2-4) The English notation corresponding to this correction is “the first” on page 53, lines 19-20 of the foreign language specification of the patent application pursuant to the provision of Article 36-2, paragraph 1. This was missing during translation. Therefore, we have inserted the translation of this missing part.
(Reason for correction 2-5) The English notation corresponding to this correction is “authorization means.Math. been generated” on page 28-34, page 53 of the foreign language specification of the patent application according to the provisions of Article 36-2 (1). ; "And the translation of" authorize A to verb (gives authority to A) "was mistranslated. Therefore, this part has been corrected.
(Reason for correction 2-6) The English notation corresponding to this correction is “selecting means.Math. second information” on page 54, lines 20-29 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph (1). "For verifying" on line 20 and "for selecting" on lines 23-24 clearly modify "selecting means" on line 20. Therefore, corrections have been made to make this clear in the translation. (Reason for correction 2-7) “by means of ~” on page 27, line 27, means “using” and this part was corrected.
(Reason for correction 2-8) It is considered appropriate to translate "being compatible with ~" on line 27 of page 54 to "compatible with ~". Therefore, this part has been corrected.
(Reason for correction 2-9) “Identified in said second information” on page 54, line 28 was translated as “identified by the second information”, but the meaning of “in” In order to express accurately, “It is identified in the second information mentioned above” was corrected.
(Reason for correction 3) The English notation corresponding to this correction is "against" on page 55, line 17 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1, In order to express the meaning more accurately, we have corrected it to “Compare with”.
(Reason for Correction 4) The English notation corresponding to this correction is “fourth” on page 8, line 56 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. Was mistranslated. Therefore, this part has been corrected.
(Reason for correction 5) The English notation corresponding to this correction is "A system ... account." On page 12-17, page 56 of the foreign language specification of the patent application under the provisions of Article 36-2 paragraph 1 There is. Here, “a command to ~ (verb)” means “to command”, and “a command.Math. to process the debit.Math. and to process the corresponding credit.Math.” on lines 14-17 is It should be translated as "... an order to process the debit and ... an order to process the corresponding credit". Therefore, this part has been corrected.
(Reason for correction 6) The English notation corresponding to this correction is "credit" on page 23, line 56 of the foreign language specification of the patent application according to the provisions of Article 36-2 (1). I translated it. However, in this foreign language specification, this “credit” is used in contrast to “debit” and “credit” contains the meaning of “credit” in Japanese. Was corrected.
(Reason for correction 7-1) The English notation corresponding to this correction is “in favor of” on page 29, line 29 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1 , Mistranslated as “in favor of”. Therefore, this has been corrected as "for".
(Reason for correction 7-2) The English notation corresponding to this correction is “credits” on page 29, line 29 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2,

paragraph 1. Translated. However, in this foreign language specification, this “credit” is used in contrast to “debit” and “credit” contains the meaning of “credit” in Japanese. Was corrected.
(Reason for correction 7-3) The English notation corresponding to this correction is “credit” on page 27, line 27 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. Translated. However, in this foreign language specification, this “credit” is used in contrast to “debit” and “credit” contains the meaning of “credit” in Japanese. Was corrected. (Reason for correction 7-4) The English notation corresponding to this correction is “the credits” on page 31 line 56 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. "Credit" translated. However, in this foreign language specification, this “credit” is used in contrast to “debit” and “credit” contains the meaning of “credit” in Japanese. Was corrected.
(Reason for Correction 8) The English notation corresponding to this correction is “real time” on page 57, line 3 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2 (1). In order to make it closer, we corrected it to "real time".
(Reason for correction 9-1) The English notation corresponding to this correction is “debits” on page 24, line 57 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2, paragraph 1. Translated. However, “Debit” is a “debit” in Japanese, and “Debit” is debited.
(Reason for Correction 9-2) The English notation corresponding to this correction is "debit" on page 57, line 22 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2 (1). Translated. However, “Debit” is a “debit” in Japanese, and “Debit” is debited.
(Reason for Correction 9-3) The English notation corresponding to this correction is “the credits” on page 26, line 26 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1, "Credit" translated. However, in this foreign language specification, this “credit” is used in contrast to “debit” and “credit” contains the meaning of “credit” in Japanese. Was corrected.
(Reason for correction 10-1) The English notation corresponding to this correction is “(16)” on page 26, line 26 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1, This was missing during translation. Therefore, we have inserted the translation of this missing part.
(Reason for Correction 10-2) The English notation corresponding to this correction is “an order.Math. safety parameter” on page 26-30, page 58 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1 . " Here, “requesting” on line 28 is considered to qualify “a message” on line 27. Therefore, this part has been corrected.
(Reason for Correction 11-1) The English notation corresponding to this correction is “e-mail” on page 59, line 6 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1, A correction was made to translate this into "e-mail" and Japanese.
(Reason for Correction 11-2) The English notation corresponding to this correction is “the payee” on page 7 line 7 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. Mistranslated as "payer". Therefore, this part has been corrected. (Reason for Correction 11-3) The English notation corresponding to this correction is “in” on page 11, line 59 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. In order to accurately represent the meaning of “in”, this part has been corrected.
(Reason for correction 12) The English notation corresponding to this correction is "a first instruction ... advance payment" on page 59, lines 18-18 of the foreign language specification of the patent application according to the provisions of Article 36-2 (1). And "instruction to ~ (verb)" means "instruction to ~". Therefore, this part has been corrected.
(Reason for correction 13-1) The English notation corresponding to this correction is “third information.Math. second information” on page 29-30, page 59, foreign language specification of the patent application according to the provisions of Article 36-2, paragraph (1). In order to clearly express that “the third information is related to the second information”, the insertion part of “related to the second information” has been changed. It was.
(Reason for correction 13-2) The English notation corresponding to this correction shall be written in the foreign language specification of page 59, line 35 to page 60, line 1 of the patent application as stipulated in Article 36-2, paragraph 1. "corresponding to an authorized transaction" and the translation of this part is duplicated.

(Reason for Correction 13-3) The English notation corresponding to this correction is “have verified that” on page 60, line 17 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. This was missing during translation. Therefore, we have inserted the translation of this missing part.
(Reason for Correction 14) The English notation corresponding to this correction is “the payer” on page 10 line 10 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. "Someone" was mistranslated. Therefore, this part has been corrected.
(Reason for Correction 15) The English notation corresponding to this correction is “each second information.Math. each payee (p. 65-10, page 65, foreign language specification of the patent application under Article 36-2, paragraph 1”. 40) ”, and the relationship between“ each admissible telephone number of each associated payer ”in lines 8-9 and“ each admissible identification code of each payee ”in lines 9-10 is clearly equal. However, this was overlooked during translation. Therefore, this part has been corrected.
(Reason for Correction 16) The English notation corresponding to this correction is “Supplementary” on page 66, line 5 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. “Translation” was mistranslated. Therefore, this part has been corrected.
(Reason for correction 17-1) The English notation corresponding to this correction is “second inquiry.Math. call originated” on page 66, lines 20-26 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. , ”And“ that ”in“, that contain ”on page 66, line 23, is not“ contains ”immediately after it, so clearly shows multiple things. This “that” is considered to indicate “Call Data Registers” on page 66, line 22 in the previous sentence. Therefore, this part has been corrected.
(Reason for correction 17-2) Although the syntax of “a relation of A with B” on page 66, lines 23-26 is appropriately translated as “relation between A and B”, I mistranslated this. Therefore, this part has been corrected.
(Reason for correction 17-3) "call" on page 66, line 24 means "call". Therefore, this part has been corrected.
(Reason for correction 17-4) “call” on page 26, line 26 means “call”. Therefore, this part has been corrected.
(Reason for correction 17-5) It seems that "the terminal" on page 66, lines 25-26 should be translated as "terminal". Therefore, we corrected these parts.
(Reason for correction 17-6) In order to distinguish between “Call Data Registers (plural)” on page 66, line 22 and “a Call Data Register (single)” on page 66, line 25, (Call data register) "and" one (call data register) "were added.
(Reason for correction 17-7) Corrected “on the grounds of a call” on line 24 of page 66 to “based on calls” so as not to mislead the meaning of “on the grounds of”. did.
(Reason for correction 18) The English notation corresponding to this correction is "Supplementary" on page 67, line 5 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2 (1). “Translation” was mistranslated. Therefore, this part has been corrected.
(Reason for correction 19-1) The English notation corresponding to this correction is “a voice call” on page 15 line 67 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1, This means “voice call”. Therefore, this part has been corrected.
(Reason for correction 19-2) The English notation corresponding to this correction is “a call was made” on page 67, line 18 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. This means "to be called". Therefore, the above part was corrected.
(Reason for correction 19-3) The English notation corresponding to this correction is “call” on page 67, line 19 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. , "Call" means. Therefore, this part has been corrected.
(Reason for correction 19-4) The English notation corresponding to this correction is “the terminal” on page 67, line 19 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2, paragraph 1. Would be better translated as "terminal". Therefore, we corrected these parts.
(Reason for correction 20-1) The English notation corresponding to this correction is the “receiving the amount.Math. transaction” on page 7-9, page 68 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. center (17), ”and“ a purchase ”, which is singular, so“ amount ”should be translated as“ total ”, not“ number ”. Therefore, this part has been corrected. Note that “or of a code identifying a product or service” on line 8 is difficult to translate, but in order to align with other parts of the specification, “code for identifying a product or service” I translated it.

(Reason for correction 20-2) The English notation corresponding to this correction is "being compatible with" on page 23, line 68 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. It is considered appropriate to translate “conforms to”. Therefore, this part has been corrected.
(Reason for correction 21) The English notation corresponding to this correction is “in real time” on page 27, line 4 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. In order to make it closer to, we corrected it to “real time”
(Reason for correction 22-1) The English notation corresponding to this correction is “selectively” on page 35, line 35 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2, paragraph 1. , This was missing. Therefore, we have inserted the translation of this missing part.
(Reason for correction 22-2) The English notation corresponding to this correction is “at least” on page 10, line 10 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1, At the time, this was missing. Therefore, we have inserted the translation of this missing part.
(Reason for Correction 22-3) The English notation corresponding to this correction is “first” on page 18, line 18 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. , This was missing. Therefore, we have inserted the translation of this missing part.
(Reason for correction 22-4) The English notation corresponding to this correction is “the first” on page 35, line 35 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1, At the time, this was missing. Therefore, we have inserted the translation of this missing part.
(Reason for Correction 22-5) The English notation corresponding to this correction is “authorization means.Math. generated; on line 8-13, page 7 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1”. In the translation, the syntax of “authorize A to verb” is mistranslated. Therefore, this part was corrected.
(Reason for Correction 22-6) “a debit” on page 7, line 10 has been translated as “debit”. However, “Debit” is a “debit” in Japanese, and this part was corrected.
(Reason for Correction 22-7) “a corresponding credit” on page 11, line 11 has been translated as “equivalent credit”. However, since “credit” is used in contrast to “debit” and contains the meaning of “credit” in Japanese, it has been corrected to “equivalent credit”.
(Reason for correction 23) The English notation corresponding to this correction is "each second ... each payee" on page 6-11, page 8-11 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. Yes, the relationship between "each admissible telephone number of each associated payer" on line 9-10 and "each admissible identification code of each payee" on line 10-11 is clearly equal. However, this was overlooked during translation. Therefore, this part has been corrected.
(Reason for Correction 24-1) The English notation corresponding to this correction is “first inquiry.Math. telephone numbers” on page 22-26, page 8 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. , "And translated" Inquiring in at least one Visitor Location Register (VLR) "on lines 22-23 as" Investigates at least one visitor location register (VLR) ". The subject to be investigated is "the IMEI.Math. telephone number" on line 24. Therefore, this part has been corrected.
(Reason for correction 24-2) “with the IMEI code” on page 24, line 24 was missing during translation. Therefore, we have inserted the translation of this missing part.
(Reason for correction 25-1) The English notation corresponding to this correction is “by third.Math. storage means” on page 15-30, page 9 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. The relationship between "by third inquiry means" on line 15 and "by third updating" on line 24 is clearly equal. Therefore, corrections have been made so that this is clearly expressed.
(Reason for correction 25-2) The object of "inquiring" on page 15, line 15 is clearly "registers" on line 16, and "registers" is expressed by the related pronoun "that" It is also the object of “transfer” on line 17. Lines 19-24, “said registers.Math. telephone number,” is an explanation of line 16 “registers”. Therefore, corrections have been made so that this is clearly expressed.
(Reason for Correction 25-3) “transfer” on page 9, line 17 was mistranslated as “change”. Therefore, this

part has been corrected.
(Reason for correction 25-4) “a voice call” on page 18, line 18 means “voice call”. Therefore, this part has been corrected.
(Reason for correction 25-5) “call” on line 20 of page 9 means “call”, and “a call was made” on line 20-21 translates as “called”. can do. Therefore, this part has been corrected.
(Reason for correction 25-6) “call” on page 20, line 22 means “call”. Therefore, this part has been corrected.
(Reason for Correction 26-1) The English notation corresponding to this correction shall be written in the foreign language description of the patent application pursuant to the provision of Article 36-2, Paragraph 1, page 9, page 31-page 10, line 3, "the "first ... call originated," and at the time of translation, investigate "inquiring ~ in Call Data Registers (CDR)" on page 9 lines 32-34 and "Call Data Registers (CDR)" "I'm sorry." Therefore, this part has been corrected.
(Reason 26-2) In order to distinguish between “Call Data Registers (plural)” on page 9 and line 34 and “a Call Data Register (single)” on page 10 and line 2, (Call data register) "and" one (call data register) "were added.
(Reason for correction 26-3) “on the grounds of a call” on page 10, line 1 is corrected to “based on phone calls” so as not to misunderstand the meaning of “on the grounds of”. did.
(Reason for correction 26-4) The second line “has originated (currently completed)” on page 10 was mistranslated as “generate”. Therefore, this part has been corrected.
(Reason for correction 26-5) “The terminal from which said call originated” on page 10, line 3, was mistranslated as “terminal generated by the phone”. Moreover, it seems that it is more appropriate to translate “terminal” on the third line of page 10 to “terminal”. Therefore, this part was corrected.
(Reason for correction 27) The English notation corresponding to this correction is “the third.Math. payee's account.” On page 17-21, page 13 of the foreign language specification of the patent application pursuant to the provision of Article 36-2, paragraph 1. And during translation, we mistranslated the syntax of “command to verb”. Therefore, this part has been corrected.
(Reason for correction 28-1) The English notation corresponding to this correction is “credit” on page 13, line 24 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. Translated. However, since “credit” is used in contrast to “debit” and contains the meaning of “credit” in Japanese, it has been corrected to “credit”.
(Reason for correction 28-2) The English notation corresponding to this correction is “credit” on page 13, line 27 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. Translated. However, since “credit” is used in contrast to “debit” and contains the meaning of “credit” in Japanese, it has been corrected to “credit”.
(Reason for Correction 28-3) The English notation corresponding to this correction is “credit” on page 29, line 29 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. Translated. However, since “credit” is used in contrast to “debit” and contains the meaning of “credit” in Japanese, it has been corrected to “credit”.
(Reason for correction 28-4) The English notation corresponding to this correction is “credit” on page 13, line 31 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. Translated. However, since “credit” is used in contrast to “debit” and contains the meaning of “credit” in Japanese, it has been corrected to “credit”.
(Reason for Correction 28-5) The English notation corresponding to this correction is “Foreign language specification page 13 line 34 to page 14 line 11” of the patent application pursuant to the provisions of Article 36-2, paragraph 1. "accounts selected from prepayment accounts, (page 14, line 1) ... real time debit accounts (page 14, line 7) ... and post-payment accounts (page 14, line 10) The three “accounts” shown in the “line” are clearly in an equal relationship. However, this was overlooked during translation. Therefore, this part has been corrected.
(Reason for correction 28-6) “Advantageously” on page 35, line 35 was translated as “conveniently”. However, since it is considered appropriate to translate “preferably” as a term in the specification, this part was corrected.
(Reason for correction 28-7) It is clear that “such as accounts.Math. telephone cards,” on page 2-7, page 14, shows an example of “prepayment accounts”. Therefore, corrections have been made so that this is clearly expressed.

(Reason for Correction 28-8) “has previously.Math. telephone cards” on page 14 line 4-7 is clearly translated as “each payer” by “each payer who” on page 14 line 3 It should be. Therefore, this part has been corrected.
(Reason for Correction 28-9) “by means of a payment” on page 14, line 4, was missing during translation. Therefore, we have inserted the translation of this missing part.
(Reason for correction 28-10) “payment cards” on page 14, line 6 is considered more appropriate to translate as “payment cards”. Therefore, this part has been corrected.
(Reason for Correction 28-11) “Real time” on page 14, line 7 has been corrected to “real time” to make it more literal.
(Reason for correction 28-12) “that” on page 14, line 8 clearly indicates “performance” on page 14, line 8. Therefore, corrections have been made so that this is clearly expressed.
(Reason for Correction 28-13) "debits" on page 14, line 8 was mistranslated as "David" during translation. Therefore, this correction was made
(Reason for correction 28-14) “charged by” on page 14, line 8 is considered to be more appropriate to translate “to be charged”. Therefore, this part has been corrected.
(Reason for Correction 28-15) “debit cards” on page 9, line 9 was mistranslated as “David Card” during translation. Therefore, this part has been corrected. (Reason for Correction 28-16) "post-payment" on page 14, line 10 was mistranslated as "prepayment". Therefore, the above part was corrected.
(Reason for correction 29-1) The English notation corresponding to this correction is “debit” on page 14, line 20 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1, Translated. However, “Debit” is a “debit” in Japanese, and this part was corrected.
(Reason for Correction 29-2) The English notation corresponding to this correction is “debits” on page 14, line 22 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2, paragraph 1. Translated. However, “Debit” is a “debit” in Japanese, and this part was corrected.
(Reason for correction 29-3) The English notation corresponding to this correction is “credits” on page 24, line 24 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. Translated. However, since “credit” is used in contrast to “debit” and contains the meaning of “credit” in Japanese, it has been corrected to “credit”.
(Reason for correction 30-1) The English notation corresponding to this correction is “On the one hand” on page 26, line 15 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1 I translated "On the other hand" when translating. However, since this should be translated as “On the other hand” in contrast to “On the other hand” on page 16, line 7, we corrected this part.
(Reason for correction 30-2) The English notation corresponding to this correction is the “which are.Math. safety criterion” on page 3-4, page 16 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2, paragraph 1. , ”, And“ are ”immediately following“ which ”clearly indicates“ which ”is more than one. Here, there is “transmit at least the value.Math. an identification of the payee” in the 15th page, line 35 to page 16, 3rd line, and “which” of “which are transmitted” is the 15th page. Line 35-Page 16, line 3, “the value of the transaction.Math. an identification of the payee”. However, when translating, "which" was misinterpreted as indicating "an identification of the payee". Therefore, this part has been corrected.
(Reason for correction 31-1) The English notation corresponding to this correction is "On the other hand" on page 16, line 7 of the foreign language specification of the patent application under the provisions of Article 36-2 paragraph 1 When translating, I translated "The other,". However, this should be translated as “On the one hand” in contrast to “On the one hand” on page 15, line 26, so this part was corrected.
(Reason for correction 31-2) The English notation corresponding to this correction is “a first.Math. certain payee” on page 16 lines 8-16 of the foreign language specification of the patent application pursuant to the provision of Article 36-2 (1). . ”And“ such that ~ ”in the 12th line was mistakenly translated as“ accordingly, ”when translating. Therefore, this part has been corrected.
(Reason for correction 32) The English notation corresponding to this correction is “advantageously” on page 6, line 6 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2 (1). I translated it. However, since it is considered appropriate to translate “preferably” as a term in the specification, this part was corrected.
(Reason for Correction 33-1) The English notation corresponding to this correction is “is a direct.Math. been”

on page 18-24, page 20 of the foreign language specification of the patent application according to the provisions of Article 36-2 (1). detected. "and translated" such that ~ "in the 22nd line as" because it was ~ "during translation. Therefore, this part has been corrected.
(Reason for correction 33-2) “The direct authorization code” on page 24, line 24 was mistranslated as “direct authorization message”. Therefore, this part has been corrected.
(Reason for correction 34) The English notation corresponding to this correction is “the amount of a purchase or of” on page 5-6, page 22 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. "a code identifying a product or service" and "a purchase" is singular, so "amount" should be translated as "total", not "number". Therefore, this part has been corrected. Note that “or of a code identifying a product or service” on line 5-6 is difficult to translate, but for consistency with other parts of the description, “code identifying product or service” Translated.
(Reason for correction 35-1) The English notation corresponding to this correction is “the amount.Math. being purchased” on page 23, lines 19-20 of the foreign language specification of the patent application pursuant to the provision of Article 36-2 (1). "In the translation," the amount "in the 19th line was mistranslated as" number ". Here, “purchase” on the 19th line is singular, so “amount” should be translated as “total”, not “number”.
(Reason for correction 35-2) "is being purchased" on page 23, line 20 was mistranslated as "purchased". Therefore, this part has been corrected.
(Reason for correction 36-1) The English notation corresponding to this correction is “the amount.Math. being purchased” on page 24, line 5-7 of the foreign language specification of the patent application pursuant to the provision of Article 36-2, paragraph 1. "The amount" in the fifth line was mistranslated as "Number" during translation. Here, “purchase” in the fifth line is singular, so “amount” should be translated as “total amount”, not “number”.
(Reason for correction 36-2) “is being purchased” on page 24, line 6-7 was mistranslated as “purchased”. Therefore, this part has been corrected.
(Reason for correction 37) The English notation corresponding to this correction is "synchronous communication" on pages 31-32 on page 24 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. When translating, I mistranslated it as “simultaneous communication”. Therefore, this correction was made.
(Reason for correction 38-1) The English notation corresponding to this correction is “the amount of his purchases” on page 12, line 12 of the foreign language specification of the patent application pursuant to the provision of Article 36-2, paragraph 1. Yes, at the time of translation, "the amount" on line 12 was mistranslated as "number". This “amount” is the object of “pay” just before, so it is considered appropriate to translate it into “total amount”. Therefore, this part has been corrected.
(Reason for correction 38-2) The English notation corresponding to this correction is "Prepayment:" on page 27, line 13 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. During translation, we made a mistranslation of "Payment:". Therefore, this correction was made.
(Reason for correction 38-3) The English notation corresponding to this correction is "in real time" on page 27, lines 16-17 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2 (1). Yes, corrected to "real time" to make it more literal
(Reason for Correction 38-4) The English notation corresponding to this correction is “Post-payment:” on page 27, line 18 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2, paragraph 1. However, when translating, we made a mistranslation of “Prepay:”. Therefore, this correction was made.
(Reason for correction 38-5) The English notation corresponding to this correction is “the amount of purchases” on page 27, line 18 of the foreign language specification of the patent application pursuant to the provision of Article 36-2, paragraph 1. When translating, I mistranslated it as "Number of purchases." Here, “the amount of purchases” is the subject of “are entered in the user's purse” on line 19, so “amount” should be translated as “total amount”. Is considered appropriate. Therefore, this part has been corrected. (Reason for correction 38-6) The English notation corresponding to this correction is “the total representatives” on page 27, lines 19-20 of the foreign language specification of the patent application according to the provisions of Article 36-2 (1). Yes, when translating it, it was mistranslated as “the number”. Here, “thereof” is

equal to “of the amount” and is the subject of “will be billed” in line 20, so “total” should be translated as “total amount”. Is considered appropriate. Therefore, this part has been corrected.
(Reason for correction 39-1) The English notation corresponding to this correction is “the amount.Math. being purchased” on page 27, lines 34-35 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2 (1). "The amount" on the 34th line was mistakenly translated as "number" during translation. Here, “purchase” on line 34 is singular, so “amount” should be translated as “total”, not “number”. (Reason for correction 39-2) “is being purchased” on page 27, line 35 was mistranslated as “purchased”. Therefore, this part has been corrected.
(Reason for correction 40-1) The English notation corresponding to this correction is “the amount.Math. being purchased” on page 3-5, page 28 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. In the translation, “the amount” in the third line was mistranslated as “number”. Here, the fourth line “purchase” is singular, so “amount” should be translated as “total”, not “number”.
(Reason for correction 40-2) "is being purchased" on page 28, line 4-5 was mistranslated as "purchased". Therefore, this part has been corrected.
(Reason for correction 41) The English notation corresponding to this correction is “the amount of the purchase” on page 6-7, page 28 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. Yes, at the time of translation, I mistranslated it as "Number of purchases." Here, “purchase” is a singular form, so “amount” is not a “number”. In line 6-7, “subtracting the amount.Math. from the buyer's purse”, it is considered appropriate to translate “amount” as “total amount” as “subtracting from the buyer ’s wallet”. . Therefore, this part has been corrected.
(Reason for Correction 42) The English notation corresponding to this correction is “credit” on page 34, line 4 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. I translated it. However, since “credit” is used in contrast to “debit” and contains the meaning of “credit” in Japanese, it has been corrected to “credit”.
(Reason for Correction 43) The English notation corresponding to this correction is “Supplementary” on page 23, line 23 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. “Translation” was mistranslated. Therefore, this part has been corrected.
(Reason for Correction 44-1) The English notation corresponding to this correction shall be written in the foreign language specification of page 35, line 34 to page 36, line 5 of the patent application as stipulated in Article 36-2, paragraph 1. “second inquiry.Math. call originated,” and “that” in “, that contain” on page 36, second line, is not “contains” immediately after, so clearly shows multiple things. This “that” is considered to indicate “Call Data Registers” on the first line of page 36 in the previous sentence. Therefore, this part has been corrected.
(Reason for correction 44-2) Although the syntax of “a relation of A with B” on page 36, lines 2-4 is appropriately translated as “relation between A and B”, I mistranslated this. Therefore, this part has been corrected.
(Reason for Correction 44-3) “call” on page 36, line 3, means “call”. Therefore, this part has been corrected.
(Reason for correction 44-4) “call” on page 36, line 5 means “call”.
Therefore, this part has been corrected.
(Reason for correction 44-5) In order to distinguish "Call Data Registers (plural)" on page 36, first line and "a Call Data Register (single)" on page 36, fourth line, (Call data register) "and" one (call data register) "were added.
(Reason for correction 45) The English notation corresponding to this correction is "Supplementary" on page 36, line 17 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1. “Translation” was mistranslated. Therefore, this part has been corrected.
(Reason for correction 46-1) The English notation corresponding to this correction is “second inquiry.Math. call originated” on page 36, lines 22-28 of the foreign language specification of the patent application according to the provisions of Article 36-2, paragraph 1. , ”And“ that ”in“, that contain ”on page 36, line 25, is not“ contains ”immediately after, so clearly shows multiple things. This “that” is considered to indicate “Call Data Registers” on page 36, line 24 in the previous sentence. Therefore, this part has been corrected.
(Reason for correction 46-2) Although the syntax of “a relation of A with B” on page 36, lines 25-27 is appropriate to translate as “relation between A and B”, I mistranslated this. Therefore, this part has been

corrected.
(Reason for Correction 46-3) “call” on page 36, line 26 means “call”. Therefore, this part has been corrected.
(Reason for correction 46-4) “call” on page 36, line 28 means “call”. Therefore, this part has been corrected.
(Reason for Correction 46-5) Also, in order to distinguish between “Call Data Registers (plural)” on page 36, line 24 and “a Call Data Register (single)” on page 36, line 27, respectively, Added "Multiple (Call Data Register)" and "One (Call Data Register)".
(Reason for correction 47) The English notation corresponding to this correction is “synchronous communication” on page 21 line 21 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2 (1). , Mistranslated as "simultaneous communication". Therefore, this correction was made.
(Reason for Correction 48) The English notation corresponding to this correction is "synchronous short message center" on pages 37-35, pages 37-35 of the foreign language specification for patent applications pursuant to the provisions of Article 36-2, paragraph 1. However, the translation was mistranslated as “Simultaneous Short Message Center”. Therefore, this correction was made.
(Reason for correction 49-1) The English notation corresponding to this correction is “credit said.Math. step (line 39), line 39, page 39 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph (1). 9); ”and translated it as“ Credit the seller to the seller's account in step (9) ”. However, since “credit A to B (account)” means “transfer A to B (account)”, this part was corrected.
(Reason for correction 49-2) The English notation corresponding to this correction is “These means.Math. and (in the foreign language specification, page 39, lines 9-11 of the patent application under the provisions of Article 36-2, paragraph 1”. 20b). ”And translated it as“ submit ”for“ confirm ”. Therefore, this part has been corrected.
(Reason for correction 50) The English notation corresponding to this correction is "debits" on page 39, line 15 of the foreign language specification of the patent application under the provisions of Article 36-2, paragraph 1, I translated it. However, “Debit” is a “debit” in Japanese, and this part was corrected.
(Reason for correction 51-1) The English notation corresponding to this correction is “the amount of the purchase” on page 43, lines 27-28 of the foreign language specification of the patent application pursuant to the provision of Article 36-2 (1). to be made "and was mistranslated as" Number of purchases made. " Here, “purchase” is singular, and “amount” should be translated as “total”, not “number”. Therefore, this part has been corrected. (Reason for correction 51-2) The English notation corresponding to this correction is “the amount of purchase” on page 35, line 35 of the foreign language specification of the patent application in accordance with the provisions of Article 36-2, paragraph 1 , "Number of purchases" was mistranslated. Here, “purchase” is singular, so “amount” should be translated as “total”, not “number”. Therefore, this part has been corrected.
(Reason for correction 52-1) The English notation corresponding to this correction shall be written in the foreign language specification of page 46, line 29-page 47, line 2 of the patent application as stipulated in Article 36-2, paragraph 1. There is ~ the buyer. "and translated" there is the possibility that ~ "on page 46, lines 29-30," to be there ". Also, “permit” on page 46, second line was mistranslated to “enable”. Therefore, this part has been corrected.
(Reason for correction 52-2) “This telephone call” on page 46, line 35 seems to be more appropriate to translate “this telephone call”. Therefore, this part has been corrected.
(Reason for correction 53) The English notation corresponding to this correction is “payer's purse” on page 27, line 27 of the foreign language specification of the patent application pursuant to the provisions of Article 36-2 (1). , Misunderstood as "recipient's wallet". Therefore, this correction was made.
[0166]
Finally, step (11) is performed in the manner already described.
[0167]
Obviously, the transaction is initiated by the payee (40), in which case the process is requested in the opposite way as described above, i.e. confirmation of the payee's secret code, after which the payer's There is a possibility that confirmation of the secret code may be requested.
[Brief description of the drawings]
FIG. 1 is a functional block diagram of a possible embodiment of the system of the present invention for making direct purchases, prepaid purchases, and Internet purchases.

FIG. 2 is a functional block diagram of a possible embodiment of the system of the present invention for making a purchase from a vending machine.
FIG. 3 is a functional block diagram of a possible embodiment of the system of the present invention for purchasing intellectual property over the Internet.
FIG. 4 is a possible embodiment of a functional block diagram of the system of the present invention for performing the function of an electronic receipt according to the process of the present invention.
FIG. 5 is a functional block diagram of a possible embodiment of the system of the present invention for purchasing by catalog, purchasing in response to television commercials, or purchasing by pay-per-view.
FIG. 6 is a functional block diagram of a possible embodiment of the system of the present invention for performing transactions between users.
FIG. 7 is a schematic diagram of an embodiment of the interrelationship of the various means constituting the first server included in the transaction payment center shown in the above figure.
[Explanation of symbols]
13 Payer
16, 41 Digital mobile phone
17 Transaction payment center
18, 19 Remote communication device
20 First server
22 First data storage means
27, 29, 14, 14a, 13a, 46 Recipient

**Claims**

Process payment transactions between payers (13) and payees (27, 29, 14, 14a, 13a, 46) associated with the system using at least one communication facility utilizing a digital mobile phone system A system,
The system includes a first server (20),
The first server (20) processes the first account data of each payer (13) and the second account data of each payee (27, 29, 14, 14a, 40, 46). An account management means (20e) having first data storage means (22) and interconnected to remote communication means (18, 19, 28, 47);
Said remote communication means (18, 19, 28, 47) including a plurality of remote communication devices (18, 19) are identified by the payer (13) allowed telephone number by the first server (20). Digital mobile phone unit (16) and the remote communication terminal (15, 15a, 27, 29, 41, 46) identified by the permitted identification code of the recipient (27, 29, 14, 14a, 40, 46) Selectively communicate with
Said first data storage means (22) includes each payer (13) together with second information about each payee (27, 29, 14, 14a, 40, 46) including at least an acceptable identification code. First information about)
The first information includes at least the permissible telephone number, at least a pre-determined authorization criteria for authorizing at least one transaction that requires payment from the payer (13) account, and at least the payer ( 13) a safety standard uniquely associated with the telephone number of
The authorization criteria is selected from an active balance defined for each account of each payer (13), a maximum credit limit, and combinations thereof;
Said safety standard consists of a secret identification code stored in the first data storage means (22) and known by the payer (13),
The first server (20) is
The first message received through the telecommunications means (18, 19, 28, 47) is the payer (13) allowed telephone number and the recipient (27, 29, 14, 14a, 40, 46) allowed identification. In the first data storage means (22), the first check means (20a) for generating a first received message when the allowable identification code and the allowable telephone number are detected. )When,
In addition to the allowed telephone number detected by the first checking means, a transaction authorization request received through the remote communication means (18, 19, 28, 47) is sent to each account of each payer (13). The first data storage means (22) checks whether the pre-defined authorization criteria selected from the effective balance, maximum credit limit, and combinations thereof defined for the first data storage means (22) and the transaction A second checking means (20b) for generating a second

received message when the permission request satisfies the permission criteria;
Whether the safety parameter received through the remote communication means (18, 19) corresponds to the secret identification code associated with the allowed telephone number detected by the first checking means, the first data storage means ( A third checking means (20c) for generating a third received message when checking in 22) and detecting that the safety parameter satisfies a safety criterion associated with an acceptable telephone number;
As long as the first, second and third receipt messages are generated for the account management means (20e) based on the transaction permission request , the debit in the payer (13) account is processed and the recipient ( 27, 29, 14, 14a, 40, 46) authorization means (20d) for authorizing authority to process a considerable credit in the account;
A non-permission message generating means (20f) for generating a non-permission message and transmitting the non-permission message to the remote communication means (18, 19, 28, 47) when at least one of the received messages is not generated;
Means for generating at least one confirmation message and sending said confirmation message to a remote communication means (18, 19, 28, 47) when at least one of the received messages is generated, comprising: Selective confirmation between the digital mobile phone unit (16, 41) identified by the acceptable telephone number in the message and the remote communication terminal (15, 15a, 27, 29, 41, 46) identified by the acceptable identification code Confirmation message generation means (20g) for transmitting a message;
A second data store comprising at least first information relating to the permitted telephone number of each payer (13) and at least second information relating to the type of digital mobile telephone unit (16, 41) belonging to each telephone number Means (21);
Second information corresponding to the digital cellular phone unit (16, 41) identified by the allowed telephone number is examined in the second data storage means (21) and the remote communication device (18, 41). 19) means for selecting one of the telecommunications devices (18, 19) adapted to the type of digital mobile phone unit (16, 41) identified in said second information A system comprising: selecting means (20h) for communicating with the digital mobile phone unit (16, 41) identified by the allowed telephone number using the service.
The acceptable identification code of each recipient (27, 29, 14, 14a, 40, 46) is a telephone number, a number associated with the telephone number, an internet code, a code representing the internet code, an email address, and an email. The system of claim 1, selected from among address based codes.
A first verification means is received from the remote communication means (18, 19, 28, 47) and is included in the first data storage means (22) and from the code representing the allowable telephone number, the payer The system according to claim 1, wherein the allowable telephone number of (13) is inspected.
The confirmation message generating means (20g) includes a first confirmation request including a transmission request for a safety parameter to be inspected by the third inspection means (20c) in comparison with the safety standard after the second reception message is generated. An instruction to generate a message and send the first confirmation message to the digital mobile phone unit (16) of the payer (13) identified by the allowed telephone number to the remote communication means (18, 19) The system according to claim 1, wherein the first confirmation message includes a request for transmission of a safety parameter to be inspected by the third inspection means (20c) in comparison with the safety standard.

The confirmation message generation means (20g) further generates a second confirmation message for confirming the generation of the second reception message after the second reception message is generated, and the remote communication means (18, 19). , 28, 47)
The command communicates with the remote communication terminal (15, 15a, 27, 29, 46) identified by the acceptable identification code detected by the first inspection means (20a) and said remote communication terminal (15 , 15a, 27, 29, 46), the command to send the second confirmation message.
The confirmation message generation means (20g) generates a second confirmation message for confirming the generation of the third reception message after the third reception message is generated by the third inspection means (20c), and Send commands to the remote communication means (18, 19, 28, 47);

The command communicates with the remote communication terminal (15, 15a, 27, 29, 46) identified by the acceptable identification code detected by the first inspection means (20a) and said remote communication terminal (15 , 15a, 27, 29, 46), the command to send the third confirmation message.
The confirmation message generation means (20g) generates a fourth confirmation message for confirming the generation of the third reception message after the third reception message is generated by the third inspection means (20c), And commands to the remote communication means (18, 19),

The command communicates with the digital mobile phone unit (16) identified by the allowable telephone number detected by the first inspection means (20a) and the digital mobile phone unit. The system according to claim 1 or 6, wherein the command is an instruction to send the fourth confirmation message to the group (16).
When the permission means (20d) detects the third receipt message generated by the third inspection means (20c), the debit in the account of the payer (13) is processed for the account management means (20e). 8. The system according to claim 1, 6 or 7, wherein the system generates an instruction to authorize processing of a substantial credit in the account of the payee (27, 29, 14, 14a, 40, 46).

An account management means (20e) is included in the first data storage means (22) and is credited to each recipient (27, 29, 14, 14a, 40, 46) at least a first The system according to claim 1 or 8, wherein the system controls an intermediate account.
The account management means (20e) includes a first transmission means for transmitting the credit to the business management server (23),
The management server (23) includes a recipient data bank (25) in which all credits made for each recipient (27, 29, 14, 14a, 46) are stored. 10. The system of claim 9, wherein the credit included in (25) is transmitted to a financial entity that manages each payee's financial account.

9. System according to claim 1 or 8, wherein the account management means (20e) controls a second intermediate account selected from the payer's (13) prepaid account, immediate debit account and postpaid account.

12. System according to claim 11, wherein the prepaid account controlled by the account management means (20e) comprises an electronic wallet previously created in the first data storage means (22) for each buyer (13).
The account management means (20e) includes a second transmission means for transmitting the debit to the business management server (23),
The business management server (23) includes a payer data bank (24) in which all debits made to each payer (13) are stored, and is included in the payer data bank (24). 9. The system of claim 8, wherein the debits are sent to a financial entity that manages each payer's financial account.
The system according to claim 1 , wherein the third checking means (20c) directly checks whether the safety parameter includes its secret identification code.
Based on the secret identification code stored in the first data storage means (22), the third checking means (20c) determines whether the safety parameter includes the encrypted result of the self-check (33). Inspect using the decryption means to decrypt the encrypted result,
Its self-test (33), the payer by (13) after the secret identification code is inputted directly (6) to the digital mobile telephone unit, according to claim 1 which locally performed in the digital mobile telephone unit (16) The system described in.
When the second received message is derived from the first message received from the telecommunications terminal (15, 15a, 27, 41, 46) and inspected by the first inspecting means (20a);

5. The confirmation message generating means (20g) according to claim 4, further comprising, in the first confirmation message, a request for transmitting a safety parameter to a payer (13) identified by an allowed telephone number. system.
When the second receipt message is derived from the first message received from the payer's (13) digital mobile phone unit (16) and inspected by the first inspection means (20a);

5. The confirmation message generating means (20g) according to claim 4, further comprising, in the first confirmation message, a request for transmitting a safety parameter to a payer (13) identified by an allowed telephone number. system.
The confirmation message generation means (20g) further sends a message requesting a safety standard to the first confirmation message after the second reception message is generated. 18. A system according to

claim 4, 16 or 17, which includes at least a transaction amount and a recipient's identification along with the page.
The first server (20) further processes a first message including identification of the email address, and the recipient (27) is the supplier of the software file;
Confirmation message generating means (20g) further generates a further confirmation message including a decryption code of the software file received from the recipient (27) in the first server (20);
The system according to claim 1, wherein the confirmation message is sent to the payer's (13) digital mobile phone unit (16) .
The first server (20) further includes first detection means (20i) for detecting a first command to make a prepaid purchase, and a collection code generation means (20j),
The confirmation message generation means (20g) generates an auxiliary confirmation message including the collection code,
Said auxiliary confirmation message is sent to the payer's (13) digital mobile phone unit (16) and the payee's (14, 14a, 27, 29, 46) remote communication terminals (15, 15a, 27, 29). 46. The system of claim 1 transmitted to 46).
The first data storage means (22) further relates to said second information, including for each recipient (14a, 46) data relating to a product or service corresponding to each authorized transaction. Including third information,
The first server (20) further includes
Second detection means (20k) for detecting a second command received from the remote communication terminal (15a), which is the digital mobile phone unit of the recipient (14a), to manage the direct delivery corresponding to the authorized transaction. )When,
Delivery code generation means (201) for generating a delivery code identifying at least the product or service to be delivered;
Identification message generating means (20m) for identifying the product or service;
Delivery management that generates an input in the receipt database (37) when the third checking means (20c) verifies that the safety parameters meet the safety standards associated with the payer (13) digital cell phone unit. Processing means (20n) and
The confirmation message generating means (20g) further generates an additional message including a delivery code,
The additional message is sent to the payer (13) digital mobile phone unit (16) and the payee (14a) digital mobile phone unit (15a) ;
2. The system according to claim 1, wherein the identification message is sent to at least the payer (13) digital mobile phone unit (16) with a request to send the safety parameters.
The first data storage means (22) also includes a reference code identifying the product or service of at least one recipient (14a, 46) as well as the price associated with each product or service, The system of claim 1, comprising fourth information related to the second information.
The fourth information includes one of the reference codes and an identification code of the corresponding recipient (14, 46) and includes a first selectable telephone number constituting an allowable identification code. The system of claim 22 .
In addition, the fourth information is a recipient (related to at least a first menu comprising a reference code, a product or service respectively identified by each of the reference codes, and a price of the product or service. 24. A system according to claim 22 or 23 , comprising an acceptable identification code in the form of a telephone number for accessing 16,46).
The allowed identification code is an allowed access telephone number for accessing a second menu of allowed identification codes for each of the plurality of recipients (14a, 46);
The first data storage means (22) further includes a reference code identifying the product or service of each one recipient (14a, 46) as well as the price associated with each product or service; The system of claim 1, comprising fifth information related to the second information.
The fifth information further comprises one of the reference codes and an identification code of the corresponding recipient (14, 46) and includes a first selectable telephone number constituting an acceptable identification code 26. The system of claim 25 .
The fifth information further comprises a reference code, a product or service respectively identified by each

of the reference codes, and a receipt associated with at least a first menu comprising the price of each of the products or services; 27. System according to claim 25 or 26 , comprising an acceptable identification code as the access telephone number of the person (16, 46).
The second information in the first data storage means (22) is
An identification code of a plurality of vending machines (29) each including a digital cellular phone unit (29a) as a telecommunications terminal identified by a cellular phone number as an acceptable identification code;

An authorization code associated with the acceptable identification code of each vending machine;
An activation code for operating the vending machine (29) associated with each authorization code for operating the vending machine to receive a request from the payer (13) identified by the allowed telephone number;
The confirmation message generation means (20g) is at least automatic when the first, second and third inspection means (20a, 20b, 20c) generate the first, second and third receipt messages, respectively. 2. The system according to claim 1, wherein the system generates and transmits a confirmation message including a code for operating the vending machine and an acceptable telephone number of the payer (13) digital mobile phone unit (16) .
The confirmation message generating means (20g) is a digital mobile phone of the payer (13) for a predetermined period of time during which the payer (13) can send a selection message to the vending machine (29) through the first server (20). establishing a communication between the telephone unit and the vending machine (29), claim the server (20) further comprising a non-operating detection means for detecting non-operation of the vending machine (29) (20o) 28. The system according to 28 .
Permit criteria for each vending machine's acceptable telephone number was granted for a specific period of time for requests made from the same digital cell phone unit that set a maximum limit selected from economic value and number of sales demands A direct authorization code,
30. The system according to claim 29 , wherein the confirmation message generating means (20g) generates a confirmation message when the direct authorization code is detected.
After the confirmation message generating means (20g) in the first server (20) transmits the confirmation message, the communication with the vending machine (29) is cut off, so that the payer (13) The system of claim 28 , wherein the system can be selected directly by a selection display.
The first server (20) further comprises a recording means (20p) associated with the authorization means (20d) for recording transactions recorded in each vending machine, according to claim 28 , 29, 30 or 31 .
The described system.
The first inspection means (20a) of the first server (20) further includes auxiliary inspection means (20q) related to the selection means (20h),
The inspection means (20q) is received from the payer (13) identified by the first allowed telephone number and includes a first inspection means (20a) comprising a transaction request identified by the second inspection means (20b). The allowable identification code in the first message to be checked by (1) is the first of the allowable telephone numbers of the digital cellular phone unit (41) in the first information included in the first data storage means (22). And whether the first message corresponds to the second allowable telephone number as identification of the recipient (40), and its auxiliary checking means When (20q) detects that the second allowed telephone number is the same as the recipient (40), a fourth received message that can be processed by the confirmation message generating means (20g) Generated,
The system according to claim 1, wherein the non-permission message generating means (20f) generates a non-permission message when the fourth message is not generated.
When the confirmation message generating means (20g) detects the first, second, third and fourth receipt messages, it is identified by the payer (13) proof of identity, proof of transaction and the first message. Generating a first confirmation message including a request to follow including a request to send a safety parameter to the recipient (40), and sending said confirmation message through the remote communication means (18, 19) selected by the selection means; , To the recipient's (40) digital mobile phone unit (41) identified by the second allowed telephone number,
The third checking means (20c) further checks whether the safety parameters transmitted from the digital mobile phone unit (41) in response to the request to comply satisfy the safety standards associated with the second allowed telephone number. And when the parameters satisfy the safety criteria, generate a fifth

received message;
The permission means (20e) permits the account management means (20d) when the fifth receipt message is generated,
Confirmation message generating means (20 g) generates a second confirmation message to claim 33 to be transmitted to the digital mobile telephone unit (41) of the payer's digital mobile telephone unit (16) and recipient (41) The described system.
In the first server (20), associated with the type of digital cell phone unit corresponding to each allowed telephone number of each payer (13) and each allowed identification code of each payee (40). , Each second information contained in the second data storage means (21) comprises a first identification representing an international mobile device identifier (IMEI) when the allowable identification code is a number of a digital cellular phone unit. 35. A system according to any of claims 1, 33 and 34, which is a code.
The first server (20)
First search means (20r) for searching for an IMEI code corresponding to each of the allowed telephone numbers in at least one visitor location register (VLR) including a first register associating the phone number with the IMEI code;
By comparing each IMEI code investigated by the first search means (20r) with each code representing the IMEI code associated with each allowed telephone number contained in the second data storage means (21). 36. The system according to claim 35 , further comprising: update means (20s) for updating the second information in the second data storage means (21).
First investigating means (20r) includes an association between each allowed telephone number and an IMEI code corresponding to each allowed telephone number, and an IMEI code associated with each allowed telephone number; the association, when updated by said Visitor Location register, system of claim 36 to withdraw from the device identification register (EIR) received from each of the visitor location register.
A first investigating means (20r) extracts an IMEI code associated with each allowed telephone number from an unconfigured supplementary service data (USSD) frame;
Claim Each visitor location register associated with the mobile switching center (MSC) of each emitted the frame comprises at its USSD frame, inserting the IMEI code associated to the allowable telephone number corresponding to the user to generate the frame 38. The system according to 36 or 37 .
The system according to claim 36 , wherein the first search means (20r) retrieves the IMEI code associated with each allowed telephone number through an interface between the visitor location register and its search means (20r).
Cellular network operator data including the association of each telephone number for which the first server (20) generated one call data register for the call with the IMEI code of the terminal where the call originated In a plurality of call data registers (CDRs) of the bank, a second investigation means (20t) for examining the IMEI code corresponding to each allowable telephone number;
Based on a comparison of each IMEI code surveyed by the second surveying means (20t) with each code representing the IMEI code associated with each allowed telephone number contained in the second data storage means (21). 36. The system according to claim 35 , further comprising: second update means (20u) for updating the second information in the second storage means (21).
The second information is further a capacity for managing a session with a wireless application protocol (WAP) of each digital cellular phone unit associated with the allowed telephone number identified by the IMEI code, unconfigured supplementary service data (USSD) 36. The system of claim 35 , comprising at least one data indicative of a capacity to manage a plurality of sessions and a communication capacity selected from a combination thereof.
The first server (20) immediately forwards each mobile switching center (MSC) to a specific phone number each time a USSD frame or voice call is addressed in the cellular network operator's data bank. A search means for checking a register, wherein the register is called for each IMEI code corresponding to each allowed phone number, or each phone number for which a USSD frame is generated, and the call or frame.
A third investigation means (20v) including an association with the IMEI code of the terminal for which Updating means for updating the second information in the second data storage means (21), the update being carried out by each investigation IMEI code investigated by the third investigation means (20v); of claim 35 and a third updating unit that is performed based on comparison of the respective code (20 w)

representing the IMEI code associated to each of the allowable telephone number included in the second data storage means system.

*Copyright © 2022 Clarivate Analytics. All rights reserved. Republication or redistribution of Clarivate Analytics content, including by framing or similar means, is prohibited without the prior written consent of Clarivate Analytics. Clarivate and its logo are trademarks of the Clarivate Analytics group.*

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | Examiner | Art Unit |
| | I JUNG LIU | 3697 |

| CPC - Searched* | | |
|---|---|---|
| Symbol | Date | Examiner |
| G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001 | 03/07/2022 | IL |

| CPC Combination Sets - Searched* | | |
|---|---|---|
| Symbol | Date | Examiner |
| | | |

| US Classification - Searched* | | | |
|---|---|---|---|
| Class | Subclass | Date | Examiner |
| 705 | all | 03/07/2022 | IL |

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | |
|---|---|

| Search Notes | Application/Control No. | Applicant(s)/Patent Under Reexamination |
|---|---|---|
| | 16/507,595 | Oakes et al. |
| | Examiner | Art Unit |
| | I JUNG LIU | 3697 |

| Search Notes | | |
|---|---|---|
| **Search Notes** | **Date** | **Examiner** |
| STIC EIC 3600 Search Report | 11/13/2019 | IL |
| IPR2020-01742 Reviewed Petition for Inter Partes Review of US Patent No. 10,013,605 | 02/28/2022 | IL |
| IPR2020-01516 Reviewed Petition for Inter Partes Review of US Patent 10402638 | 03/01/2022 | IL |
| consulted restriction and post grant outcomes case notifications with SPE Christine | 03/01/2022 | IL |
| IPR2021-01399 Reviewed Petition for Inter Partes Review of US Patent No.10,013,605, US Patent No. 8708227, US Patent No. 7873200 | 03/02/2022 | IL |
| IPR2022-00049 Reviewed Petition for Inter Partes Review of US Patent No. 10,402,638 | 03/03/2022 | IL |
| IPR2022-00050 Reviewed Petition for Inter Partes Review of US Patent No. 9,129,340, U.S. Patent No. 7,873,200, U.S. Patent No. 8,708,227, and U.S. Patent No. 10,402,638 | 03/07/2022 | IL |
| NPL search using IP.com, see attached | 03/07/2022 | IL |
| PE2E search | 03/07/2022 | IL |
| G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001 further limited by text search in PE2E, see attached | 03/07/2022 | IL |

| Interference Search | | | |
|---|---|---|---|
| **US Class/CPC Symbol** | **US Subclass/CPC Group** | **Date** | **Examiner** |
| 705 | all | 03/07/2022 | IL |
| G06Q | 20/04, 20/042, 20/108, 40/02 | 03/07/2022 | IL |
| G06K | 7/10861 | 03/07/2022 | IL |

| | |
|---|---|
| /I JUNG LIU/<br>Primary Examiner, Art Unit 3697 | |

STIC Scientific & Technical Information Center

# EIC 3600 Search Report

| | |
|---|---|
| **Examiner:** | Marissa Liu |
| **Location:** | KNX-5D49 |
| **Art Unit:** | 3697 |
| **Case Serial Number:** | 16507595 |
| **Access Search Log Number:** | 605839 |

| | |
|---|---|
| **Searcher:** | BENJAMIN SCHULZE |
| **Location:** | EIC-3600 KNOX 4A70 |
| **Phone:** | 571-272-1103 |
| **Email:** | Benjamin.Schulze@uspto.gov |
| **Date Completed:** | 11/13/2019 |

**This search report contains the following content:**

- **Search Histories**
  Keyword/synonym strings and search strategies used by the EIC Searcher in completing the prior art search are included. The search history for each database or resource utilized appears at the top of each database/resource section, indicated by the database/resource section headings.

- **Search Results**
  Only on-topic results are included in the search report. On-topic results include all references found that are related to the art area being searched. These references may not necessarily be useful for a rejection or other office action, but are included for the Examiner's review. Off-topic, unrelated, or irrelevant search results ("false drops" or "false hits") were removed by the Searcher. Off-topic results include all references that are unrelated to the art area being searched.

If you have any questions about this search, or about how to interpret this search report, please do not hesitate to contact the Searcher using the contact information listed above.

If you need assistance retrieving the full text of any of the references contained in this report, please contact the Searcher listed above, or the EIC 3600 Reference Desk at 571-272-3488 (x23488) or STIC-EIC3600@uspto.gov.

Thank you for using the EIC, and we look forward to your next search!

# Potential References of Interest

**Electronic check image storage and retrieval system**
PUBLICATION NUMBER: GB 2305753 A PUBLICATION DATE: 16-Apr-1997
APPLICATION NUMBER: GB 19960026385 A FILING DATE: 20-Nov-1995
SIMPLE FAMILY: 26308146 (size 8) EARLIEST PRIORITY DATE: 18-Nov-1994
Inventors:
THOMAS * CAHILL • LOUISE A * MCNULTY • JOHN J * MCMONAGLE • RICHARD H * SFERRA • GLENN * LEVINE • SAUL * GOLDFISHER • PHILIP * WILSON • VLADIMIR * KOROTEYEV
Applicants:
THE * CHASE MANHATTAN BANK
Abstract (English):
*In a system for storing and retrieving electronic images of documents, e.g. checks, segments of information from a check are used, in dependence on a maximum directory size input, to name different hierarchical directory levels in file storage, in such a way as to optimise file access times.*

Spec:
**Normal**: This function returns the image to normal, i.e., size, **orientation**, and video. This operates the same as toolbar button K. Preferably function key F11 also returns the image to normal.

Once downloaded to local storage of the workstation, the system software resident at the workstation will read the data stored within each **check image** file to- obtain the account number, check number and **amount of the check**. When check images -13 are received at the local workstation, the system software will **correlate** the check request **entry** with the **check images**. The filename of the check in the local database as well as a status field will be updated so as to indicate that the item has been downloaded, processed and received from the host archive system.

-86 As b and f files are received from the host 8, they are placed in the default directory 702A. As previously described, the b and f files are in TIFF format and contain tag fields containing data about the check. This data includes the account and check number and the check amount. Thus, after receiving a download from the host 8, the workstation software scans each of the newly received image (.b and f) files, retreives the data about the check from the tag fields, and associates the files with a "Pending" request by matching account and check number, and if present, amount. When a match is found, the main data file 710 fields are updated as follows:
AMT If not entered by the user, this field is **updated** with the **amount** of the **check**.

In the preferred embodiment of the invention, the imager 204 generates digital images of the front and back of each check using a pair of **cameras** (not shown), as known in the art, which convert the analog image data of the front and back of the checks into digital image data.

With reference to Figure 3, checks 1 are fed into input hopper 203 of the sorter 200. The checks 1 are then conveyed along the track 220 sequentially to digital imager 204 and MICR line reader 205. The check images made by the imager are passed to the **Optical Character Recognition** device (**OCR**) 206.

**Financial document processing system**

**Publication info:** Jones, John E.; Jones, William J.; Csultis, Frank M. (Inventors). JONES JOHN E.; JONES WILLIAM J.; CSULTIS FRANK M. (Assignees). US 20040153408 A1 . (Published 05 Aug 2004).

**Application number:** US 2003669787 A (24 September 2003)

**Abstract (English):** A system for processing deposits and/or withdrawals in a financial institution accepts a plurality of documents, including currency bills, at an input receptacle of a document-processing device, converts the image of at least some of the documents to electronic data representing the image. The currency bills are denominated by the document processing device, and the total value of the bills included in each deposit is accumulated. Whenever the total value of the bills in a deposit exceeds a prescribed value, a report may be generated containing at least an identification of the specified account, the total value of the bills in the deposit, and the serial numbers of the bills. The serial numbers may be extracted from images of the bills.

**Spec:**

[0029] The term "non-currency documents" includes any type of document, except currency documents, that may be evaluated according to a predetermined criterion. For example, such as color, size, shape, **orientation**, or that can simply be **imaged**. Examples of such documents include **checks**, deposit slips, withdrawal slips, coupon and loan payment documents, food stamps, cash tickets, and all other documents utilized for transactions at financial institutions, including not only deposits and withdrawals but also loan applications, credit card applications, student loan applications, accounting invoices, debit forms, account transfer forms, and all other types of forms with predetermined fields.

The core of the automated equipment is illustrated by the block diagram in FIG. 1, and one embodiment of a **customer interface** containing a major portion of the automated equipment is illustrated in FIG. 2. A user makes a deposit by using a communications panel **10** to **input** the identification of the account to which the deposit is to be credited, the **amount of the deposit**, and any other required information, such as a password or PIN.

[0050] By "central accounting system," it is meant to include the hardware and software associated with accessing, maintaining, tracking, and updating savings accounts, checking accounts, credit card accounts, business and commercial loans, consumer payments, or other similar accounts at locations remote from the full image scanners. The term includes any of three broad types of systems: systems where deposits are made; systems where withdrawals are made; and systems where both deposits and withdrawals are made. Although the central accounting system described herein is described as being employed at a financial institution such as a bank, it will be understood that any business, public or private institution, or individual can employ a central accounting system to process transactions. By "financial institution" it is meant to include banks, savings and loans, investment houses, and all other types of financial institutions whether private, public, or government. The following description is in terms of banks but it will be understood that it is applicable to other financial institutions as well.

The scanheads **80** and **82** are arranged for simultaneously scanning both the front and back surfaces of the documents and are connected respectively to analog-to-digital converters **84** and **86** which **convert** the **analog** values into discrete **binary** gray scale values of, for example, **256** gray scale levels. The scanheads **80** and **82** are capable of obtaining images of varying resolutions. The particular resolution chosen, which may be varied by the user, is selected based upon the type of document being scanned, as is known in the art.

Programs for **converting** bitmap images of handwritten numeric amounts (such as, written on checks or other documents) into **computer-usable character data** are available from Orbograph Corporation in Billerica, Mass.

# IP.com / InnovationQ- Patent

US Patents, US Designs, US Applications, Canadian Patents, Canadian Applications, Mexican Patents, Mexican Applications, European Patents, European Applications, French Patents, French Applications, German Patents, German Applications, Great Britain Patents, Great Britain Applications, Netherlands Patents, Netherlands Applications, Luxembourg Patents, Denmark Patents, Denmark Applications, Finnish Patents, Finnish Applications, Sweden Patents, Sweden Applications, Switzerland Patents, Switzerland Applications, Austrian Patents, Austrian Applications, Italian Patents, Italian Applications, Spanish Patents, Spanish Applications, Poland Patents, Poland Applications, Chinese Patents, Chinese Applications, Indian Patents, Indian Applications, Japanese Patents, Japanese Applications, Korean Patents, Korean Applications, Taiwanese Patents, Taiwanese Applications, Israel Applications, Australian Patent Documents, Brazil Patents, Brazil Applications, New Zealand Patents, Russian Patents, Russian Applications, WIPO Applications, and South Africa Patents.

| | **Concept Searched for:** |
|---|---|
| L1 | Complete Main Concept Text<br>==========<br>take a picture of a check involving assistance with the orientation of the picture. Use OCR to verify the amount entered on the check by the user. Then update the account of the user.<br>(No Concept Modifiers)<br>==========<br>Filters (2)<br>==========<br>Application Date: To 2006-10-31<br>Classic Syntax limited to: bank or financial adj institution or hsbc or wachovia or wells adj fargo or credit adj union or clearing adj house or jpmorgan or citi or pnc or remote near1 banking<br>Options<br>=======<br>De-dup: Simple Family Numbers<br>Cut-off: None<br>Sort: Relevance |

**Electronic check image storage and retrieval system**
PUBLICATION NUMBER: GB 2305753 A PUBLICATION DATE: 16-Apr-1997
APPLICATION NUMBER: GB 19960026385 A FILING DATE: 20-Nov-1995
SIMPLE FAMILY: 26308146 (size 8) EARLIEST PRIORITY DATE: 18-Nov-1994
Inventors:
THOMAS * CAHILL • LOUISE A * MCNULTY • JOHN J * MCMONAGLE • RICHARD H * SFERRA • GLENN * LEVINE • SAUL * GOLDFISHER • PHILIP * WILSON • VLADIMIR * KOROTEYEV
Applicants:
THE * CHASE MANHATTAN BANK
Abstract (English):
*In a system for storing and retrieving electronic images of documents, e.g. checks, segments of information from a check are used, in dependence on a maximum directory size input, to name different hierarchical directory levels in file storage, in such a way as to optimise file access times.*

Spec:
**Normal**: This function returns the image to normal, i.e., size, **orientation**, and video. This operates the same as toolbar button K. Preferably function key F11 also returns the image to normal.

Once downloaded to local storage of the workstation, the system software resident at the workstation will read the data stored within each **check image** file to- obtain the account number, check number and **amount of the check**. When check images -13 are received at the local workstation, the system software will **correlate** the check request **entry** with the **check images**. The filename of the check in the local database as well as a status field will be updated so as to indicate that the item has been downloaded, processed and received from the host archive system.

-86 As b and f files are received from the host 8, they are placed in the default directory 702A. As previously described, the b and f files are in TIFF format and contain tag fields containing data about the check. This data includes the account and check number and the check amount. Thus, after receiving a download from the host 8, the workstation software scans each of the newly received image (.b and f) files, retreives the data about the check from the tag fields, and associates the files with a "Pending" request by matching account and check number, and if present, amount. When a match is found, the main data file 710 fields are updated as follows:
AMT If not entered by the user, this field is **updated** with the **amount** of the **check**.

In the preferred embodiment of the invention, the imager 204 generates digital images of the front and back of each check using a pair of **cameras** (not shown), as known in the art, which convert the analog image data of the front and back of the checks into digital image data.

With reference to Figure 3, checks 1 are fed into input hopper 203 of the sorter 200. The checks 1 are then conveyed along the track 220 sequentially to digital imager 204 and MICR line reader 205. The check images made by the imager are passed to the **Optical Character Recognition** device (**OCR**) 206.

**Automatic check cashing using biometric identification verification**
PUBLICATION NUMBER: US 6149056 A PUBLICATION DATE: 21-Nov-2000
APPLICATION NUMBER: US 8/854,326 FILING DATE: 12-May-1997
SIMPLE FAMILY: 26713626 (size 2) EARLIEST PRIORITY DATE: 06-Feb-1997
Inventors:
Stinson; Michael C. (Fort Worth, TX, US) • Templer, Jr.; John W. (Fort Worth, TX, US) • Clower; Dyron (Fort Worth, TX, US)
Assignees:
Mr. Payroll Corporation (Fort Worth, TX, US)
Abstract (English):
An automated check-cashing unit includes an input device configured to generate input signals in response to inputs from a customer, a storage device including a database of customer information, a check reader configured to receive and read a check to be processed, a cash dispenser, and an electronic processor. The processor is configured to receive the input signals from the input device, receive information about the check to be processed from the check reader, access the database of customer information to obtain data about the customer, and determine automatically whether to accept or reject the check based on the input signals, the received information about the check, and the data about the customer. Upon accepting the check, the processor signals the cash dispenser to dispense cash to the customer. The processor may be further configured to confirm the identity of the customer based on biometric information about the customer. Examples of suitable biometric information include the customer's fingerprint or an image of the customer's face.

Spec:
Next, the ATM 350 sends information to the processor 300 (step 650). The information sent includes the customer's social security number or other identification number, the **images** of the front and back of the **check**, MICR information, information as to whether the contents of the check passed the **validation** step, the check amount read by **OCR**, the check amount **entered** by the **customer**, and the **difference**, if any, **between the two amounts**. The ATM then prompts the customer to remove any hat, sunglasses, or other items that would obscure the customer's face (step 652) and waits for a response from the processor 300. The message may be accompanied by an animated character that removes its hat and sunglasses.

---

**Method and system for computer control from physical / electronic objects, ie linking to Internet resources**
PUBLICATION NUMBER: JP 4808850 B2 PUBLICATION DATE: 02-Nov-2011
APPLICATION NUMBER: JP 2000-618954 A FILING DATE: 15-May-2000
SIMPLE FAMILY: 40762893 (size 6) EARLIEST PRIORITY DATE: 19-May-1999
Inventors: *RHOADS GEOFFREY B (US) • RODRIGUEZ TONY F (US) • DAVIS BRUCE L (US) • CARR J SCOTT (US) • GROSSI BRIAN J (US) • MCKINLEY TYLER J (US) • SEDER PHILLIP A (US) • PERRY BURT W (US) • HEIN WILLIAM C (US) • MACINTOSH BRIAN T (US)*
Abstract (English):
*Physical or electronic objects are encoded with identifiers and served to trigger appropriate responses to the object from computer systems that encounter these objects. Since the encoding is steganographic (eg by digital watermarks), the presence of these identifiers is not apparent to the person meeting the objects. An example application is a computer system that looks at a printed magazine advertisement 20 and initiates a link to the corresponding internet page. In one such embodiment, the computer system detects an identifier encoded in the advertisement, passes the identifier to a remote database, receives a corresponding Internet address 18a, 18b,*

*18c from the database 17, and also a browser. Is connected to its addresses 18a, 18b, and 18c. The same arrangement can be used for on-line orders from printed product catalogs. Another application is a computer system that looks at a printed spreadsheet 20 and retrieves an electronic version of the same document from disk storage for editing.*

*Physical or electronic objects are encoded with identifiers, which serve to trigger object-appropriate responses from computer systems that encounter such objects. The encoding may be steganographic (e.g., by digital watermarks), so the presence of such identifiers is not evident to persons encountering the objects. An exemplary application is a computer system that looks at a printed magazine advertisement (20) and initiates a link to a corresponding internet page. In one such implementation, the computer system senses an identifer encoded in the advertisement, forwards the identifier to a remote database, receives from the database (17) a corresponding internet address (18a, 18b, 18c), and directs a browser to that address (18a, 18b, 18c). The same arrangement can be used for on-line ordering from printed merchandise catalogs. Another application is a computer system that looks at a printed spreadsheet (20), and retrieves from disk storage an electonic version of the same document for editing.*

Spec:

[0069]

Once the **orientation** of the object is identified, the image data is effectively re-registered and effectively mapped to another perspective (eg, on a straight image plane). In this mapping, a well-known image processing technique can be used to correct, for example, the rotation state, size state, state different from that, and XY offset of the original bedoop image data. The resulting frame of data is processed more quickly to extract steganographically encoded bedoop data.

---

# IP.com / InnovationQ- NPL

IEEE Xplore Publications: IEEE Periodicals, IEEE Xplore Publications: IEEE Conferences, IEEE Xplore Publications: IEEE Standards, IEEE Xplore Publications: IEEE Early Access, Prior Art Database: The IP.com Journal, Prior Art Database: Internet Society RFC, Prior Art Database: IBM TDB Archive, Prior Art Database: Legacy Journals, Prior Art Database: Software Patent Institute, Other Literature: IBM Redbooks, and Other Literature: PubMed Central.

| | Concept Searched for: |
|---|---|
| L1 | Complete Main Concept Text<br>==========<br>take a picture of a check involving assistance with the orientation of the picture. Use OCR to verify the amount entered on the check by the user. Then update the account of the user.<br>(No Concept Modifiers)<br>==========<br>Filters (1)<br>==========<br>Publication Date: To 2006-10-31<br>Options<br>=======<br>De-dup: None<br>Cut-off: None<br>Sort: Relevance |

**Optical character recognition for self-service banking**
ISSN (PAPER): 8756-2324
DIGITAL OBJECT IDENTIFIER: 10.1002/j.1538-7305.1995.tb00189.x
PERIODICAL ACRONYM: ATTTJ
PUBLICATION DATE: 01-Jul-1995
ELECTRONIC PUBLICATION DATE: 15-Mar-2014
Published in: AT&T Technical Journal (Volume: 74, Issue: 4, Page(s): 16-24)
Authors:
Lawrence D. Jackel • David Sharman • Charles E. Stenard • B. Ivan Strom • Derek Zuckert
Abstract:
Self-service automatic teller machines (ATMs) have dramatically altered the ways in which customers interact with banks. ATMs provide the convenience of completing some **banking transactions remotely** and at any time. AT&T Global Information Solutions (GIS) is the world's leading provider of ATMs. These machines support such familiar services as cash withdrawals and balance inquiries. Further technological development has extended the utility and convenience of ATMs produced by GIS by facilitating **check cashing** and **depositing**, as well as direct bill payment, using an on-line system. These enhanced services, discussed in this paper, are made possible primarily through sophisticated **optical character recognition (OCR) technology**. Developed by an AT&T team that included GIS, AT&T Bell Laboratories Quality, Engineering, Software, and Technologies (QUEST), and AT&T Bell Laboratories Research, OCR technology was crucial to the development of these advanced ATMs.

Courtesy Amount Verification (CAV) If the best OCR systems are used to read the courtesy amount on personal checks, high-confidence recognition (an error probability of less than one percent) will be achieved only on about 50 percent of checks. While this is an acceptable read rate for applications in which a reduction of keypunching by human operators is desired, it is far too low to satisfy user demands for check cashing. To increase the number of checks that can be read with high confidence, a method known as **courtesy amount verification** (CAV) is used. In CAV, the user assists in the recognition process simply by **keying in the amount written on the check**. Instead of having to read the check from scratch, now the **ATM** must **determine** only that the **amount keyed** in by the user is a high-probability **match** to the **characters written in ink**.

# Dialog - Patents

**Databases:** Argentina Patents Fulltext, Australia Patents Fulltext, Austria Patents Fulltext, Belgium Patents Fulltext, Brazil Patents Fulltext, Canada Patents Fulltext, China Patents Fulltext, Denmark Patents Fulltext, Derwent Patents Citation Index®, Derwent World Patents Index®, Eurasia Patents Fulltext, European Patents Fulltext, Finland Patents Fulltext, France Patents Fulltext, Germany Patents Fulltext, Global Patents Bibliographic, Great Britain Patents Fulltext, India Patents Fulltext™, Ireland Patents Fulltext, Italy Patents Fulltext, Japan Patents Fulltext, JAPIO - Patent Abstracts of Japan, Korea Patents Fulltext, Luxembourg Patents Fulltext, Mexico Patents Fulltext, Monaco Patents Fulltext, Netherlands Patents Fulltext, Norway Patents Fulltext, Portugal Patents Fulltext, Russia Patents Fulltext, Spain Patents Fulltext, Sweden Patents Fulltext, Switzerland Patents Fulltext, United States Patents Fulltext, WIPO PCT Patents Fulltext

| Set# | Searched for | Results |
|---|---|---|
| S1 | (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 68947115 |
| S2 | (((mobile or portable or wireless or handheld or communication or cell or cellular or smart or i) p/0 (device$1 or apparatus$3 Or computer$1 or communicat$3 or phone$1 or terminal$1)) or smartphone$1 or iphone$1 or phone$1 or cellphone$1 or blackberr$3 or android$1 or pda or tablet$1 or (personal p/0 digital p/0 assist$4)) | 17573481 |
| S3 | (camera$1 or imager$1 or ((picture$1 or photo$1 or photograph$5 or image$1) n/1 (take$1 or taking or record$4 or captur$4))) | 11538235 |
| S4 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 96535966 |
| S5 | (check$1 or payment$1 or IOU or "I owe you") | 37137917 |
| S6 | (orient* or angl$3 or align* or tilt* or slant* or angular$4) | 134213531 |
| S7 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 1203397 |
| S8 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 28192183 |
| S9 | (enter$4 or entry or entries or input$4 or indicat$4 or ((put or putting or type$1 or typing) p/0 in)) n/5 (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 8974096 |
| S10 | (updat$4 or modif* or adjust$5 or conver* or alter* or chang$4 or adapt* or (up p/0 (date$1 or dating$1)) or tweak$4 or amend$5 or revis$4 or rewrit$4 or edit$4 or reformulat$4) n/5 (account$4 or balance$1 or amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 22510449 |
| S11 | CPC,IPC(G06K 9/* or H04N1/* or G06Q 20/042* or G06Q 20/108) | 2199995 |
| S12 | USCL(705/*) | 310855 |

| | | |
|---|---|---|
| S13 | s7 n/15 s8 | 15772 |
| S14 | s13 n/15 s4 | 3633 |
| S15 | s14 n/15 s9 | 69 |
| S16 | s15 and APD(<=20061031) | 6 |
| S17 | s4 n/10 s5 | 435912 |
| S18 | s17 n/10 s6 | 9083 |
| S19 | s18 and s1 | 7002 |
| S20 | s19 and s2 | 3025 |
| S21 | s20 and s3 | 2667 |
| S22 | s21 and s10 | 1578 |
| S23 | s22 and s12 | 60 |
| S24 | s23 and APD(<=20061031) | 5 |
| S25 | s22 and s11 | 607 |
| S26 | s25 and s7 | 296 |
| S27 | s26 and ti,ab(s5) | 122 |
| S28 | s27 and APD(<=20061031) | 31 |

**Financial document processing system**

**Publication info:** Jones, John E.; Jones, William J.; Csultis, Frank M. (Inventors). JONES JOHN E.; JONES WILLIAM J.; CSULTIS FRANK M. (Assignees). US 20040153408 A1 . (Published 05 Aug 2004).

**Application number:** US 2003669787 A (24 September 2003)

**Abstract (English):** A system for processing deposits and/or withdrawals in a financial institution accepts a plurality of documents, including currency bills, at an input receptacle of a document-processing device, converts the image of at least some of the documents to electronic data representing the image. The currency bills are denominated by the document processing device, and the total value of the bills included in each deposit is accumulated. Whenever the total value of the bills in a deposit exceeds a prescribed value, a report may be generated containing at least an identification of the specified account, the total value of the bills in the deposit, and the serial numbers of the bills. The serial numbers may be extracted from images of the bills.

**Spec:**

[0029] The term "non-currency documents" includes any type of document, except currency documents, that may be evaluated according to a predetermined criterion. For example, such as color, size, shape, **orientation**, or that can simply be **imaged**. Examples of such documents include **checks**, deposit slips, withdrawal slips, coupon and loan payment documents, food stamps, cash tickets, and all other documents utilized for transactions at financial institutions, including not only deposits and withdrawals but also loan applications, credit card applications, student loan applications, accounting invoices, debit forms, account transfer forms, and all other types of forms with predetermined fields.

The core of the automated equipment is illustrated by the block diagram in FIG. 1, and one embodiment of a **customer interface** containing a major portion of the automated equipment is illustrated in FIG. 2. A user makes a deposit by using a communications panel **10** to **input** the identification of the account to which the deposit is to be credited, the **amount of the deposit**, and any other required information, such as a password or PIN.

[0050] By "central accounting system," it is meant to include the hardware and software associated with accessing, maintaining, tracking, and updating savings accounts, checking accounts, credit card accounts, business and commercial loans, consumer payments, or other similar accounts at locations remote from the full image scanners. The term includes any of three broad types of systems: systems where deposits are made; systems where withdrawals are made; and systems where both deposits and withdrawals are made. Although the central accounting system described herein is described as being employed at a financial institution such as a bank, it will be understood that any business, public or private institution, or individual can employ a central accounting system to process transactions. By "financial institution" it is meant to include banks, savings and loans, investment houses, and all other types of financial institutions whether private, public, or government. The following description is in terms of banks but it will be understood that it is applicable to other financial institutions as well.

The scanheads **80** and **82** are arranged for simultaneously scanning both the front and back surfaces of the documents and are connected respectively to analog-to-digital converters **84** and **86** which **convert** the **analog** values into discrete **binary** gray scale values of, for example, **256** gray scale levels. The scanheads **80** and **82** are capable of obtaining images of varying resolutions. The particular resolution chosen, which may be varied by the user, is selected based upon the type of document being scanned, as is known in the art.

Programs for **converting** bitmap images of handwritten numeric amounts (such as, written on checks or other documents) into **computer-usable character data** are available from Orbograph Corporation in Billerica, Mass.

**Method and apparatus for correcting erroneously decoded magnetic ink characters**
**Publication info:** Cahill, Thomas; Sferra, Richard H; Levine, Glenn; GOLDFISHER SAUL; Wilson, Philip; KOROTEYEV VLADIMIR (Inventors). CHASE MANHATTAN BANK NAT ASS (Assignee). US 5963659 A . (Published 05 Oct 1999).
**Application number:** US 1995435830 (05 May 1995)
**Abstract (English):** A method and apparatus for storing and retrieving images of documents, e.g. checks. The method comprises placing a plurality of documents in a document imaging machine and forming an electronic image of each document, storing each electronic image in an electronic storage device, providing at least one user interface device in communication on a communication link with the electronic storage device, placing a request for at least one document image on the user interface device, transmitting the request by the communication link to the electronic storage device, searching the electronic storage device for the requested electronic image of the document, retrieving the at least one electronic image or providing an indication that the image was not found, storing the electronic image, if found, in an electronic file, for transmission to the user interface device at user option, providing the electronic image to the user interface device at command of a user at the user interface device for storage at the user interface device and displaying the requested electronic image on a display of the user interface device. Preferably, the electronic, images are stored with embedded identifying information in a TIFF TM (trademark of Aldus Corp.) file format and the check images can be displayed on a display device which permits the user to view both sides of the checks simultaneously and perform functions such as zooming and rotation of the images.
**Spec:**
With reference to FIG. 3, checks 1 are fed into input hopper 203 of the sorter 200. The checks 1 are then conveyed along the track 220 sequentially to digital imager 204 and MICR line reader 205. The check images made by the imager are passed to the Optical Character Recognition device (OCR) 206. After the MICR line is decoded by station 205, the checks 1 are passed to one of the eight output pockets, i.e. the repair pocket 208, the repass pocket 209 or one of the six normal sort pockets 210. Checks 1 that are routed to the repass pocket 209 are again placed in the input hopper during the repass run of the sorter 200. During the repass run, checks 1 are manually placed in the input hopper 203 as shown by dashed lines 207, processed to the repair pocket 208 (described in greater detail below), one of the six normal pockets 210 or killed (removed from processing). According to the preferred embodiment, the sorter 200 may be an NCR 7780 check reader/sorter, which processes approximately 370 checks/minute.

Normal Reset, or returns the image to normal, i.e., size, **orientation**, and video. Preferably function key F11 also returns the image to normal.

2. One of the valid account numbers will appear in the entry field. The account number may be changed by selecting the Account field 352 and changing the account number. To change the account number, as is customary in Windows.TM., the user clicks on the .dwnarw.! button 402 to the right of the account number entry field. A drop down box or window listing the valid account numbers will be displayed. The user then chooses the appropriate account number. The user can select an account number from the drop down box as is customary in Windows.TM., e.g. click on the one desired or use the arrow keys to select the desired entry and press <Enter />. The selected account number will appear in the entry field 352 and the cursor will move to the Check Number field 354.

In an **image capture** environment, this situation will result in the front image of the first check being associated with the back image of the second check.

# Dialog – NPL

**Databases:** ABI/INFORM® Professional Advanced, Abstracts in New Technology & Engineering, Abstracts in New Technology & Engineering, AdisInsight: Drugs, Adis Pharmacoeconomics & Outcomes News, AGRICOLA, AGRIS, Allied & Complementary Medicine™, Analytical Abstracts, Aqualine, Aqualine, Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Australian Education Index, Bacteriology Abstracts (Microbiology B), Bacteriology Abstracts (Microbiology B), British Library Inside Conferences, Business & Industry, CAB ABSTRACTS, Chemical Business Newsbase, Chemical Engineering & Biotechnology Abstracts, Chemical Safety Newsbase, Civil Engineering Abstracts, Civil Engineering Abstracts, Current Contents® Search, DH-DATA: Health Administration, Medical Toxicology & Environmental Health, Earthquake Engineering Abstracts, Earthquake Engineering Abstracts, Ecology Abstracts, Ecology Abstracts, EconLit, Ei Compendex®, Ei EnCompassLIT, Embase®, EMCare®, Environment Abstracts, Environmental Engineering Abstracts, Environmental Impact Statements: Digests, ERIC, ESPICOM Pharmaceutical & Medical Device News, FDAnews, FLUIDEX (Fluid Engineering Abstracts), Foodline®: MARKET, Foodline®: PRODUCT, Foodline®: SCIENCE, FSTA®, Gale Group Computer Database™, Gale Group Health Periodicals Database, Gale Group New Product Announcements / Plus®, Gale Group Newsletter Database™, Gale Group PharmaBiomed Business Journals, Gale Group PROMT®, Gale Group Trade & Industry Database™, GEOBASE, GeoRef, Global Health, Health & Safety Science Abstracts, Health & Safety Science Abstracts, ICONDA - International Construction Database, IMS R&D Focus, IMS R&D Focus Drug News, Incidence & Prevalence Database, Industrial and Applied Microbiology Abstracts (Microbiology A), Industrial and Applied Microbiology Abstracts (Microbiology A), Inspec®, Jane's Defense & Aerospace News, King's Fund, KOSMET: Cosmetic Science, Lancet Titles, Material Safety Datasheets -OHS™, Mechanical & Transportation Engineering Abstracts, Mechanical & Transportation Engineering Abstracts, MEDLINE®, Meteorological & Geoastrophysical Abstracts, Meteorological & Geoastrophysical Abstracts, New England Journal of Medicine, Northern Light Life Sciences Conference Abstracts, NTIS: National Technical Information Service, PAIS International, Pollution Abstracts, ProQuest Advanced Tech & Aerospace Professional, ProQuest Advanced Tech & Aerospace Professional, ProQuest Dissertations and Theses Professional, ProQuest Newsstand Professional, PsycINFO, Registry of Toxic Effects of Chemical Substances (RTECS®), Risk Abstracts, SciSearch®: a Cited Reference Science Database, Social SciSearch®, Sustainability Science Abstracts, Toxicology Abstracts, Toxicology Abstracts, TOXLINE, TOXLINE, Transport Research International Documentation, UBM Computer Full Text, Water Resources Abstracts, Weldasearch®, Zoological Record Plus

| Set# | Searched for | Results |
|---|---|---|
| S1 | (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 322510289* |
| S2 | (((mobile or portable or wireless or handheld or communication or cell or cellular or smart or i) p/0 (device$1 or apparatus$3 Or computer$1 or communicat$3 or phone$1 or terminal$1)) or smartphone$1 or iphone$1 or phone$1 or cellphone$1 or blackberr$3 or android$1 or pda or tablet$1 or (personal p/0 digital p/0 assist$4)) | 36339347* |
| S3 | (camera$1 or imager$1 or ((picture$1 or photo$1 or photograph$5 or image$1) n/1 (take$1 or taking or record$4 or captur$4))) | 14694919* |
| S4 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 100002242* |
| S5 | (check$1 or payment$1 or IOU or "I owe you") | 36852869* |

| | | |
|---|---|---|
| S6 | (assist$4 or help$4 or aid or aids or aiding or aided or guid$4) | 185688588* |
| S7 | (orient* or angl$3 or align* or tilt* or slant* or angular$4) | 37536101* |
| S8 | (bank$3 or ((financ$4) p/0 (institut$4)) or hsbc or Wachovia$1 or (wells p/0 fargo$1) or (credit p/0 union$1) or (clearing p/0 house$1) or clearinghouse$1 or JPmorgan$1 or citi or pnc) | 65770905* |
| S9 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 367545* |
| S10 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 27174931* |
| S11 | (enter$4 or entry or entries or input$4 or indicat$4 or ((put or putting or type$1 or typing) p/0 in)) n/5 (customer$1 or party or parties or payor$1 or patron$2 or client$4 or purchaser$1 or (account p/0 holder$1) or user$1 or participant$1 or member$1 or consumer$1 or subscriber$1 or enrollee$1 or person$1 or people or visitor$1 or shopper$1 or participator$1) | 5902862* |
| S12 | (updat$4 or modif* or adjust$5 or conver* or alter* or chang$4 or adapt* or (up p/0 (date$1 or dating$1)) or tweak$4 or amend$5 or revis$4 or rewrit$4 or edit$4 or reformulat$4) n/5 (account$4 or balance$1 or amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 17876480* |
| S13 | s9 n/10 s10 | 1516° |
| S14 | s13 n/7 s4 | 131° |
| S15 | s14 and s11 | 20° |
| S16 | s15 and PD(<=20061031) | 2° |
| S17 | s1 n/10 s2 | 6463085* |
| S18 | s17 n/20 s3 | 166332* |
| S19 | s18 n/20 s4 | 69058* |
| S20 | s19 n/20 s5 | 1961° |
| S21 | s20 n/20 s7 | 35° |
| S22 | s21 and PD(<=20061031) | 2° |
| S23 | s13 and s8 | 277° |
| S24 | s23 and s12 | 171° |
| S25 | s24 and s6 | 165° |
| S26 | s25 and ti,ab(s8) | 8° |
| S27 | s26 and PD(<=20061031) | 3° |

**The banking industry: following the fathers of imaging**
**Publication info:** Document Imaging Report 4.n10: p1(4). Access Intelligence, LLC. (May 18, 1994)
**Publisher:** Access Intelligence, LLC
**Abstract (English):** When imaging systems first appeared, the banking community was a pioneer in utilizing the technology. Paper-burdened executives were quick to see the cost savings and benefits of imaging, and quickly appropriated the technology for applications in the financial services industry.
Banks are once again turning to imaging, this time to provide the increased customer service ability needed to remain on top of an unforgiving economy. Imaging systems are experiencing a revival because banks are coming under fire from mutual fund and insurance companies eager to snap up consumers who are demanding more from their financial institutions.
"The banking industry is becoming very competitive, and imaging is becoming increasingly necessary to hold onto their business," says Lynn Leahy, principal at EIM Consulting Associates (San Carlos, Calif.).
Commercial customers frequently want remote access to image archives to facilitate cash management and disbursement, and some banks have started distributing images to commercial accounts on CD-ROM, Thompson says. Another growing interest for many corporations and banks is fraud detection through signature verification and Courtesy Amount Read (CAR) with OCR technology.

# Inventor Search - Patents

**Databases:** Argentina Patents Fulltext, Australia Patents Fulltext, Austria Patents Fulltext, Belgium Patents Fulltext, Brazil Patents Fulltext, Canada Patents Fulltext, China Patents Fulltext, Denmark Patents Fulltext, Derwent Patents Citation Index®, Derwent World Patents Index®, Eurasia Patents Fulltext, European Patents Fulltext, Finland Patents Fulltext, France Patents Fulltext, Germany Patents Fulltext, Global Patents Bibliographic, Great Britain Patents Fulltext, India Patents Fulltext™, Ireland Patents Fulltext, Italy Patents Fulltext, Japan Patents Fulltext, JAPIO - Patent Abstracts of Japan, Korea Patents Fulltext, Luxembourg Patents Fulltext, Mexico Patents Fulltext, Monaco Patents Fulltext, Netherlands Patents Fulltext, Norway Patents Fulltext, Portugal Patents Fulltext, Russia Patents Fulltext, Spain Patents Fulltext, Sweden Patents Fulltext, Switzerland Patents Fulltext, United States Patents Fulltext, WIPO PCT Patents Fulltext

| Set# | Searched for | Results |
|---|---|---|
| S1 | INV(Oakes n/3 (c or Charles) or Morlen n/3 (r or Randy) or Morris n/3 (m or Michael) or Medina n/3 (r or Reynaldo) or Harpel n/3 (g or Greg) or Gavia n/3 (g or Gabriel) or Prasad n/3 (b or Bharat) or Major n/3 (f or Frank) or Pollack (j or Jeffrey)) | 9923* |
| S2 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 28192265* |
| S3 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 1203412* |
| S4 | (check$1 or payment$1 or IOU or "I owe you") | 37139532* |
| S5 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 96536897* |
| S6 | s2 n/20 s3 | 19786* |
| S7 | s6 n/20 s4 | 568° |
| S8 | s7 n/20 s5 | 229° |
| S9 | s8 and s1 | 28° |

**Incontinence device for receiving urine comprises a bag to fit the groin region of the user containing a housing comprising a motorized system**

**Publication info:** CAMPBELL J A A; Campbell, J V; Campbell, R O, C; Huth, T B; MORLEN, R R; NUGGEHALLI R B P; Oakes, C L; Prasad, B (Inventors). Campbell, J; CAMPBELL J A A; Campbell, J V; Campbell, R; Campbell, R O, C; UNITED SERVICES AUTOMOBILE ASSOC USAA (Assignees). US 9224136 B1 . (Published 29 Dec 2015). 200564 (First update). 201603 (Last update).

**Alerting**

**Novelty**

An incontinence device comprises a bag tailored to fit the groin region of the user where the bag accepts urine above the point of exit via a tube and has an additional flexible detachable self-closing outlet. The bag has two compartments to hold a container housing a motor, battery and electronic circuit. The housing comprises a motorized system consisting of an automatic liquid detector, a non-return valve and a motorized pump.

**Use**

For receiving urine from a user (claimed).

**Advantage**

The tapered shape of motorized housing allows the contents to be removed, cleaned and reassembled in one direction only. The liquid detector and non-return valve is made as one unit to aid easy dismantling and reassembling after cleaning. The valve's gland can be extracted during menstruation thereby preventing sticking and the liquid detector can be electronically varied in sensitivity by user to cater for personal need. The motorized housing accommodates a flexible, detachable, expandable and vented appendage into which penis can be inserted. The appendage has an internally rolled upper edge to facilitate an expandable ring thereby catering for variation in size and additional low-tension elasticated band to permit minor expansion and contraction. The detachable appendage permits safety overflow in the event of an electrical or mechanical malfunction. The bag is made of flexible, impervious and reusable material. The device permits the user to select, program, customize and control the volume of all audible signals and vary the speed of the motor to comply with individual demand.

**Application number:** GB 20044603 A (01 March 2004)

**Publication number:** GB 2411591 A (07 September 2005)

**Keywords in context:**

**Inventor:** CAMPBELL J A A
Campbell, J V
Campbell, R O, C
Huth, T B
MORLEN, R R
NUGGEHALLI R B P
Oakes, C L
Prasad, B

**StandardCitations:** CAMPBELL J A A; Campbell, J V; Campbell, R O, C; Huth, T B; MORLEN, R R; NUGGEHALLI R B P; Oakes, C L; Prasad, B (Inventors). Campbell, J; CAMPBELL J A A; Campbell, J V; Campbell, R; Campbell, R O, C; UNITED SERVICES AUTOMOBILE ASSOC USAA (Assignees). **US 9224136 B1 ...**

**Claims:** ... system comprising: a processor; and a memory storing processor-executable instructions that, when executed by the processor, cause the processor to: receive an account identification number, check amount indication, and check image, where the check image is an image of a check captured by a camera; perform optical character recognition on the check image to determine a routing number for the check image; validate the routing number for the check image; and initiate a check deposit for the check image.

# Author Search - NPL

**Databases:** ABI/INFORM® Professional Advanced, Abstracts in New Technology & Engineering, Abstracts in New Technology & Engineering, AdisInsight: Drugs, Adis Pharmacoeconomics & Outcomes News, AGRICOLA, AGRIS, Allied & Complementary Medicine™, Analytical Abstracts, Aqualine, Aqualine, Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Aquatic Science & Fisheries Abstracts (ASFA), Australian Education Index, Bacteriology Abstracts (Microbiology B), Bacteriology Abstracts (Microbiology B), British Library Inside Conferences, Business & Industry, CAB ABSTRACTS, Chemical Business Newsbase, Chemical Engineering & Biotechnology Abstracts, Chemical Safety Newsbase, Civil Engineering Abstracts, Civil Engineering Abstracts, Current Contents® Search, DH-DATA: Health Administration, Medical Toxicology & Environmental Health, Earthquake Engineering Abstracts, Earthquake Engineering Abstracts, Ecology Abstracts, Ecology Abstracts, EconLit, Ei Compendex®, Ei EnCompassLIT, Embase®, EMCare®, Environment Abstracts, Environmental Engineering Abstracts, Environmental Impact Statements: Digests, ERIC, ESPICOM Pharmaceutical & Medical Device News, FDAnews, FLUIDEX (Fluid Engineering Abstracts), Foodline®: MARKET, Foodline®: PRODUCT, Foodline®: SCIENCE, FSTA®, Gale Group Computer Database™, Gale Group Health Periodicals Database, Gale Group New Product Announcements / Plus®, Gale Group Newsletter Database™, Gale Group PharmaBiomed Business Journals, Gale Group PROMT®, Gale Group Trade & Industry Database™, GEOBASE, GeoRef, Global Health, Health & Safety Science Abstracts, Health & Safety Science Abstracts, ICONDA - International Construction Database, IMS R&D Focus, IMS R&D Focus Drug News, Incidence & Prevalence Database, Industrial and Applied Microbiology Abstracts (Microbiology A), Industrial and Applied Microbiology Abstracts (Microbiology A), Inspec®, Jane's Defense & Aerospace News, King's Fund, KOSMET: Cosmetic Science, Lancet Titles, Material Safety Datasheets -OHS™, Mechanical & Transportation Engineering Abstracts, Mechanical & Transportation Engineering Abstracts, MEDLINE®, Meteorological & Geoastrophysical Abstracts, Meteorological & Geoastrophysical Abstracts, New England Journal of Medicine, Northern Light Life Sciences Conference Abstracts, NTIS: National Technical Information Service, PAIS International, Pollution Abstracts, ProQuest Advanced Tech & Aerospace Professional, ProQuest Advanced Tech & Aerospace Professional, ProQuest Dissertations and Theses Professional, ProQuest Newsstand Professional, PsycINFO, Registry of Toxic Effects of Chemical Substances (RTECS®), Risk Abstracts, SciSearch®: a Cited Reference Science Database, Social SciSearch®, Sustainability Science Abstracts, Toxicology Abstracts, Toxicology Abstracts, TOXLINE, TOXLINE, Transport Research International Documentation, UBM Computer Full Text, Water Resources Abstracts, Weldasearch®, Zoological Record Plus

| Set# | Searched for | Results |
|---|---|---|
| S1 | AU(Oakes n/3 (c or Charles) or Morlen n/3 (r or Randy) or Morris n/3 (m or Michael) or Medina n/3 (r or Reynaldo) or Harpel n/3 (g or Greg) or Gavia n/3 (g or Gabriel) or Prasad n/3 (b or Bharat) or Major n/3 (f or Frank) or Pollack (j or Jeffrey)) | 95346* |
| S2 | (compar* or match* or (cross p/0 referenc*) or correlat* or correspond* or link* or relat* or associat* or verif* or valid* or cerif* or (check$4 n/2 (error$4 or erron* or mistak$2))) n/5 (amount$1 or number$1 or quanti* or total$5 or (how p/0 much) or sum or sums or summat$5 or valu$5) | 27176529* |
| S3 | (OCR or (optical n/3 (recogni* or read$4)) or ((conver$5) n/2 (image$1 or picture$1 or photo$1 or photograph$4) n/2 (text$1))) | 367571* |
| S4 | (check$1 or payment$1 or IOU or "I owe you") | 36854041* |
| S5 | (picture$1 or image$1 or photo$1 or photograph$1 or pic or pics) | 100004173* |
| S6 | s2 n/20 s3 | 2450° |

| | | |
|---|---|---|
| S7 | s6 n/20 s4 | 67° |
| S8 | s7 n/20 s5 | 26° |
| S9 | s8 and s1 | 0° |

## PE2E SEARCH - Search History (Prior Art)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | British Equivalents | Time Stamp |
|---|---|---|---|---|---|---|---|
| L1 | 38 | "10402638" | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/03 01:10 PM |
| L2 | 2 | "10402638".pn. | (US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/03 01:11 PM |
| L3 | 9 | "20050097046" | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/03 01:34 PM |
| L4 | 17 | "10013605".pn. OR "8708227".pn. OR "7873200".pn. | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, | OR | ON | ON | 2022/03/03 06:21 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | | | | |
| L7 | 60104 | (G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001).cpc. | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:31 PM |
| L8 | 29307398 | (mobile OR portable OR wireless OR handheld OR communication OR cell OR cellular OR smart) NEAR (device$1 OR apparatus$3 OR computer$1 OR communicat$3 OR phone$1 OR terminal$1) | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:33 PM |
| L9 | 4246550 | (picture$1 OR photo$1 OR photograph$5 OR image$1) near1 (take$1 OR taking OR record$4 OR captur$4) | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, | OR | ON | ON | 2022/03/07 07:34 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | | | | |
| L10 | 161811 | 705/$.icls. | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:34 PM |
| L11 | 91086154 | account$4 OR balance$1 OR amount$1 OR number$1 OR quanti* OR total$5 | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:35 PM |
| L12 | 5807055 | consumer$1 OR subscriber$1 OR enrollee$1 | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:35 PM |
| L13 | 2289336 | OCR OR (optical near3 (recogni* OR read$4)) | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, | OR | ON | ON | 2022/03/07 07:35 PM |

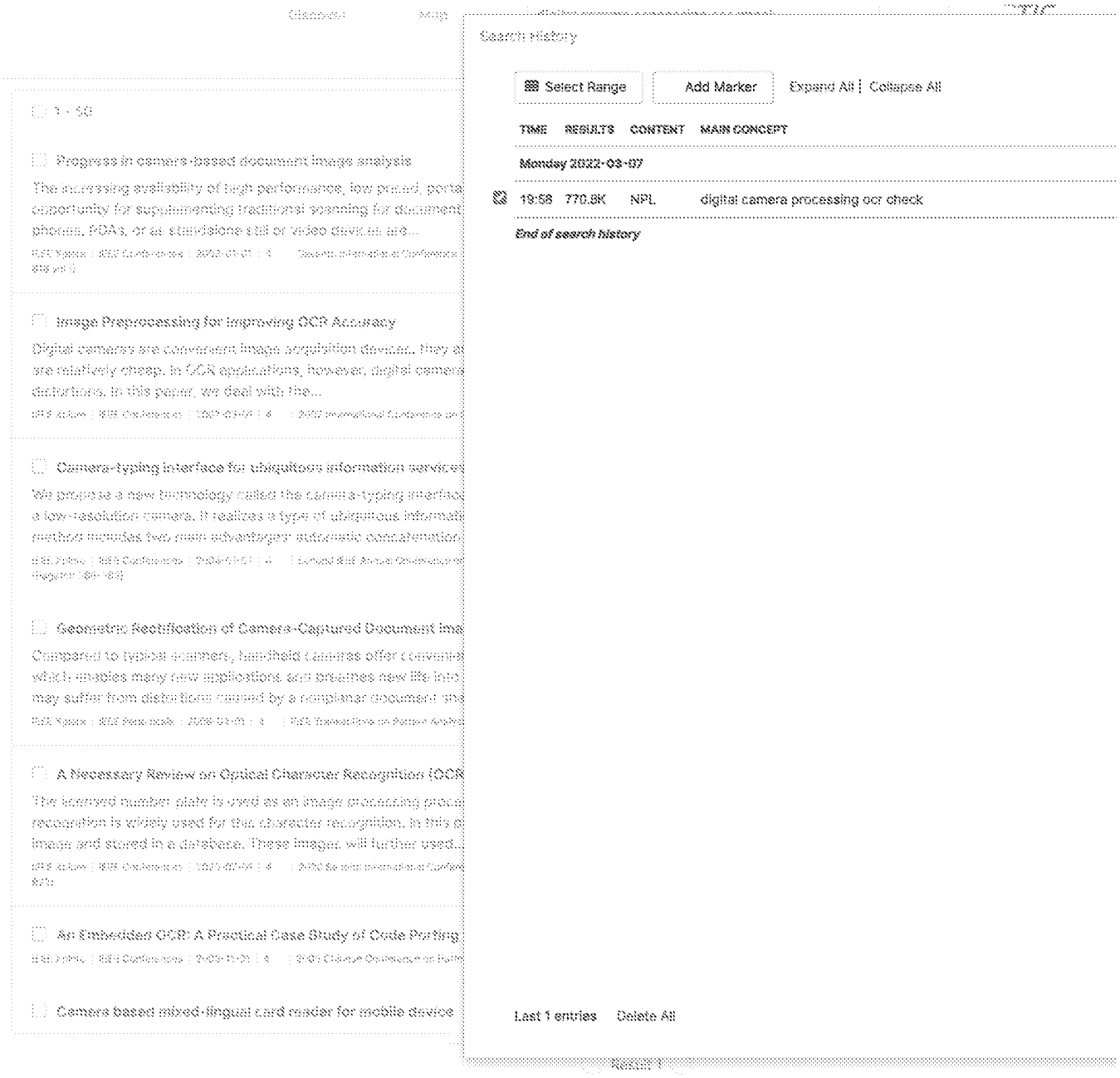
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | | | | |
| L14 | 11419979 | check$1 OR payment$1 OR IOU OR "I owe you" | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:36 PM |
| L15 | 11419979 | check$1 OR payment$1 OR IOU OR "I owe you" | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:40 PM |
| L16 | 99159 | L15 AND L14 AND L13 AND 12 AND L11 | (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; | OR | ON | ON | 2022/03/07 07:42 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | IBM_TDB) | | | | |
| L17 | 43120 | L15 AND L14 AND L13 AND 12 AND L11 | (FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:42 PM |
| L18 | 449 | L15 AND L14 AND L13 AND 12 AND L11 AND L7 | (FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:43 PM |
| L19 | 181 | L15 AND L14 AND L13 AND 12 AND L11 AND L7 AND @py<"2006" | (FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB) | OR | ON | ON | 2022/03/07 07:43 PM |

## PE2E SEARCH - Search History (Interference)

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | British Equivalents | Time Stamp |
|---|---|---|---|---|---|---|---|
| N1 | 15129 | (G06V30/40 G06V10/20 G06Q20/04 G06Q20/042 G06Q20/108 G06Q40/00 G06Q40/02 | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:31 PM |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | H04N1/00204 H04N1/00244 H04N1/00307 H04N1/00816 H04N1/387 H04N1/403 G06K7/10861 H04N2101/00 H04N2201/001).cpc. | | | | | |
| N2 | 5612080 | (mobile OR portable OR wireless OR handheld OR communication OR cell OR cellular OR smart) NEAR (device$1 OR apparatus$3 OR computer$1 OR communicat$3 OR phone$1 OR terminal$1) | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:33 PM |
| N3 | 961838 | (picture$1 OR photo$1 OR photograph$5 OR image$1) near1 (take$1 OR taking OR record$4 OR captur$4) | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:34 PM |
| N5 | 161811 | 705/$.icls. | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:34 PM |
| N6 | 5612080 | (mobile OR portable OR wireless OR handheld OR communication OR cell OR cellular OR smart) NEAR (device$1 OR apparatus$3 OR computer$1 OR communicat$3 OR phone$1 OR terminal$1) | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:34 PM |
| N7 | 961838 | (picture$1 OR photo$1 OR photograph$5 OR image$1) near1 (take$1 OR taking OR record$4 OR captur$4) | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:34 PM |
| N8 | 12915017 | account$4 OR balance$1 OR amount$1 OR number$1 OR quanti* OR total$5 | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:35 PM |
| N9 | 1554775 | consumer$1 OR subscriber$1 OR enrollee$1 | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:35 PM |
| N10 | 387926 | OCR OR (optical near3 (recogni* OR read$4)) | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:36 PM |
| N11 | 2258231 | check$1 OR payment$1 OR IOU OR “I owe you” | (US-PGPUB; USPAT) | OR | ON | ON | 2022/03/07 07:36 PM |


Search History
Select Range
Add Marker
Expand All | Collapse All
TIME RESULTS CONTENT MAIN CONCEPT
Monday 2022-03-07
19:58 770.8K NPL digital camera processing ocr check
End of search history
Last 1 entries
Delete All

| Notice of References Cited | Application/Control No. 16/507,595 | Applicant(s)/Patent Under Reexamination Oakes et al. | |
|---|---|---|---|
| | Examiner I JUNG LIU | Art Unit 3697 | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Name | CPC Classification | US Classification |
|---|---|---|---|---|---|---|
| * | A | US-20060248009-A1 | 11-2006 | Hicks; Sydney Smith | G06Q20/40 | 705/40 |
| * | B | US-6023705-A | 02-2000 | Bellinger; David T. | G06Q30/06 | 1/1 |
| * | C | US-20030217005-A1 | 11-2003 | Drummond, Jay Paul | G06Q20/18 | 707/E17.107 |
| * | D | US-20050097046-A1 | 05-2005 | Singfield, Joy Shantia | G06V40/172 | 705/42 |
| | E | | | | | |
| | F | | | | | |
| | G | | | | | |
| | H | | | | | |
| | I | | | | | |
| | J | | | | | |
| | K | | | | | |
| | L | | | | | |
| | M | | | | | |

**FOREIGN PATENT DOCUMENTS**

| * | | Document Number Country Code-Number-Kind Code | Date MM-YYYY | Country | Name | CPC Classification |
|---|---|---|---|---|---|---|
| | N | JP-3708807-B2 | 10-2005 | JP | *CALVO *PESQUERA A L | G06Q20/20 |
| | O | | | | | |
| | P | | | | | |
| | Q | | | | | |
| | R | | | | | |
| | S | | | | | |
| | T | | | | | |

**NON-PATENT DOCUMENTS**

| * | | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|---|---|---|
| | U | Craig Varеam, Image Deposit Solutions, November 2005, JP Morgan Chase, web, 1-13 (Year: 2005) |
| | V | |
| | W | |
| | X | |

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: October 23, 2019 Name: Patricia Chiovari Signature: /Patricia Chiovari/

BRINKS GILSON & LIONE 100 YEARS OF IP LAW

| SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 16/507,595 |
| | Filing Date | July 10, 2019 |
| | First Named Inventor | Charles Lee Oakes |
| | Art Unit | 3693 |
| | Confirmation Number | 4037 |
| | Examiner Name | TBA |
| | Attorney Docket No. | US-0152.11 \| 14538-668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | C1 | 4,896,363 | 01/23/1990 | Taylor et al. |
| | C2 | 6,064,753 | 05/16/2000 | Bolle et al. |
| | C3 | 7,240,336 | 07/03/2007 | Baker |
| | C4 | 8,000,514 | 08/16/2011 | Nepomniachtchi et al. |
| | C5 | 10,402,638 | 09/03/2019 | Oakes, III et al. |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | C6 | CN 1897644 A | 01/17/2007 | China | Abstract |
| | C7 | WO 2004/008350 A1 | 01/22/2004 | WIPO | |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | |
|---|---|---|
| | C8 | Defendant Wells Fargo Bank, N.A.'s Second Amended Answer, Affirmative Defenses, and Counterclaims To Plaintiff's Amended Complaint, United Services Automobile Association v. Wells Fargo Bank, N.A., Civil Action No. 2:18-cv-245, dated August 1, 2019, 72 pgs. |
| | C9 | Claim Construction Memorandum Opinion and Order, United Services Automobile Association v. Wells Fargo Bank, N.A., Civil Action No. 2:18-cv-366, dated July 29, 2019, 36 pgs. |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. 16/507,595 Attorney Docket No. US-0152.11 |14538-668

| EXAMINER INITIAL | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | |
|---|---|---|
| | C10 | Wells Fargo's Objections To Magistrate Judge Payne's Claim Construction Memorandum Opinion and Order, United Services Automobile Association v. Wells Fargo Bank, N.A., Civil Action No. 2:18-cv-366, dated August 12, 2019, 7 pgs. |
| | C11 | USAA's Objections To Magistrate Judge Payne's Claim Construction Memorandum Opinion and Order, United Services Automobile Association v. Wells Fargo Bank, N.A., Civil Action No. 2:18-cv-366, dated August 12, 2019, 10 pgs. |
| | C12 | IPR2019-00815 Patent No. 9,818,090, Petitioner's Reply Brief to Patent Owner Preliminary Response Pursuant To Authorization Provided In Paper No. 13, dated August 1, 2019, 9 pgs. |
| | C13 | IPR2019-00815 Patent No. 9,818,090, Petitioner's Supplemental Exhibit List, dated August 1, 2019, 5 pgs. |
| | C14 | IPR2019-00815 Patent No. 9,818,090, United Services Automobile Association ('USAA")'s Sur-Reply In Support of Patent Owner Preliminary Response, dated August 8, 2019, 8 pgs. |
| | C15 | IPR2019-00815 Patent No. 9,818,090, Decision Denying Institution of Inter *Parties* Review, dated August 26, 2019, 28 pgs. |

**1. PRIORITY INFORMATION:**

☐ This application claims priority under 35 USC §120 to the following United States patent application(s):_____. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

**2. CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 2 of 3*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. 16/507,595 Attorney Docket No. US-0152.11 |14538-668

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of _____ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account 50-4184.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

October 23, 2019
Date

Kent E. Genin (Reg. No. 37,834)

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 3 of 3*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: December 17, 2021 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| | |
|---|---|
| Application Number | 16/507,595 |
| Filing Date | July 10, 2019 |
| First Named Inventor | Charles Lee Oakes |
| Art Unit | 3697 |
| Confirmation Number | 4037 |
| Examiner Name | LIU, I JUNG |
| Attorney Docket No. | 14538-668 (US-0152.11) |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**US PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | US 5,903,904 A | 05/11/1999 | Mark Peairs |
| | 2 | US 6,315,195 B1 | 11/13/2001 | N. Ramachandran |
| | 3 | US 2003/0051138 | 03/13/2003 | Fukiko Maeda et al. |
| | 4 | US 2003/0097592 | 05/22/2003 | K. Adusumilli |
| | 5 | US 2003/0200107 | 10/23/2003 | Jeffrey L. Allen et al. |
| | 6 | US 2003/0213841 | 11/20/2003 | Stanley M. Josephson et al. |
| | 7 | US 6,668,372 | 12/23/2003 | Youfeng Wu |
| | 8 | US 2004/0202349 A1 | 10/14/2004 | Berna Erol et al. |
| | 9 | US 2005/0015341 A1 | 01/20/2005 | Walter C. Jackson |
| | 10 | US 2005/0198364 | 09/08/2005 | David del Val et al. |
| | 11 | US 2005/0216409 A1 | 09/29/2005 | Patrick S. McMonagle et al. |
| | 12 | US 2005/0281450 | 12/22/2005 | Joseph L.Richardson |
| | 13 | US 2006/0071950 | 04/06/2006 | Raymond C. Kurzweil et al. |
| | 14 | US 2006/0112013 | 05/25/2006 | Rian R. Maloney |
| | 15 | US 2006/0186194 | 08/24/2006 | Joseph L. Richardson |
| | 16 | US 2007/0030363 A1 | 02/08/2007 | Stephen Philip Cheatle et al. |
| | 17 | US 2007/0116364 A1 | 05/24/2007 | Richard P. Kleihorst et al. |
| | 18 | US 2007/0118747 | 05/24/2007 | Leon Pintsov et al. |
| | 19 | US 2010/0016016 A1 | 01/21/2010 | Trent Brundage et al. |
| | 20 | US 8,531,518 B1 | 09/10/2013 | Asaf Zomet |
| | 21 | US 8,582,862 B2 | 11/12/2013 | Grigori Nepomniachtchi et al. |
| | 22 | US 2014/0197922 A1 | 07/17/2014 | Kenneth Stanwood et al. |
| | 23 | US 8,929,640 B1 | 01/06/2015 | Douglas U. Mennie et al. |
| | 24 | US 2016/0034590 A1 | 02/04/2016 | Mark Endras et al. |
| | 25 | US 9,270,804 B2 | 02/23/2016 | Walter Dees et al. |
| | 26 | US 2016/0142625 A1 | 05/19/2016 | Arnold Weksler et al. |
| | 27 | US 9,384,409 B1 | 07/05/2016 | Wei Ming |
| | 28 | US 2016/0335816 A1 | 11/17/2016 | Vijai Thoppae et al. |
| | 29 | US 9,613,467 B2 | 04/04/2017 | Robert Roberts et al. |
| | 30 | US 9,613,469 B2 | 04/04/2017 | James Fish et al. |
| | 31 | US 2017/0146602 A1 | 05/25/2017 | Chad Samp et al. |
| | 32 | US 9,824,453 B1 | 11/21/2017 | Stephen M. Collins et al. |
| | 33 | US 2017/0337610 A1 | 11/23/2017 | Nicole Michelle Beguesse |
| | 34 | US 10,157,326 B2 | 12/18/2018 | Fei Long et al. |
| | 35 | US 10,818,282 B1 | 10/27/2020 | Harmony Jane Clauer Salyers. |

| | | | |
|---|---|---|---|
| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | 36 | WO 96/14707 A1 | 05/17/1996 | WIPO | -- |
| | 37 | CA 2619884 | 03/01/2007 | Canada | -- |
| | 38 | WO 2007/024889 | 03/01/2007 | WIPO | -- |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 39 | Fletcher, Lloyd A., and Rangachar Kasturi, "A robust algorithm for text string separation from mixed text/graphics images", IEEE transactions on pattern analysis and machine intelligence 10.6 (1988), 910-918 (1988) |
| | 40 | IPR 2022-00076 filed November 17, 2021 on behalf of PNC Bank N.A., 98 pages |
| | 41 | IPR 2022-00075 filed November 5, 2021 on behalf of PNC Bank N.A., 90 pages |
| | 42 | IPR 2022-00050 filed October 22, 2021 on behalf of PNC Bank N.A., 126 pages |
| | 43 | IPR 2022-00049 filed October 22, 2021 on behalf of PNC Bank N.A., 70 pages |
| | 44 | *About Network Servers,* GlobalSpec (retrieved from https://web.archive.org/web/20051019130842/http://globalspec.com 80/LearnMore/Networking_Communication_Equipment/Networking_Equipment/Network_Servers ("GlobalSpec") |
| | 45 | FDIC: Check Clearing for the 21st Century act (Check21), FED. Deposit Ins. Corp., April 25, 2016 (retrieved from https://web.archive.org/web/20161005124304/https://www.fdic.gov/consumers/assistance/protection/check21.html ("FDIC") |

1. **PRIORITY INFORMATION:**

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): 16/165,622, 16/025,679, 15/663,284, 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

2. **CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of $0 to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to our Stored Payment Method as selected in Financial Manager.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

| | |
|---|---|
| December 17, 2021 | /Scott W. Brim/ |
| Date | Scott W. Brim (Reg. No. 51,500) |

| | | | |
|---|---|---|---|
| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: December 23, 2019 Name: Patricia Chiovari Signature: /Patricia Chiovari/

BRINKS GILSON & LIONE 100 YEARS OF IP LAW

| SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99) | | |
|---|---|---|
| | Application Number | 16/507,595 |
| | Filing Date | July 10, 2019 |
| | First Named Inventor | Charles Lee Oakes |
| | Art Unit | 3693 |
| | Confirmation Number | 4627 |
| | Examiner Name | Gerald O'Connor |
| | Attorney Docket No. | US-0152.11\| 14538-668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | D1 | US 2003/0177448 A1 | 09/18/2003 | Levine et al. |
| | D2 | US 6,922,487 B2 | 07/26/2005 | Dance et al. |
| | D3 | US 7,207,478 B1 | 04/24/2007 | Blackson et al. |
| | D4 | US 7,987,231 B2 | 07/26/2011 | Karkanias |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | | | | | |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | D5 | Herley, Cormac, "Recursive Method To Extract Rectangular Objects From Scans", *Microsoft Research*, October 2003, 4 pgs. |
| | D6 | Panini My Vision X Operator Manual, Panini, 2004, (cited in IPR2020-00093, US Patent No. 9,892,454), 51 pgs. |
| | D7 | Yeo, L.H. et al., "Submission of transaction from mobile workstations in a cooperative multidatabase environment", *IEEE*, 1994, (cited in IPR2020-00097, US Patent No. 7,885,880), 10 pgs. |

**1. PRIORITY INFORMATION:**

☐ This application claims priority under 35 USC §120 to the following United States patent application(s):_____. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. 16/507,595 Attorney Docket No. US-0152.11 |14538-668

**2. CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of _____ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account 50-4184.

☐ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

December 23, 2019
Date

Kent E. Genin (Reg. No. 37,834)

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 2 of 2*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: October 4, 2021 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| | |
|---|---|
| Application Number | 16/507,595 |
| Filing Date | July 10, 2019 |
| First Named Inventor | Charles Lee Oakes |
| Art Unit | 3697 |
| Confirmation Number | 4037 |
| Examiner Name | LIU, I JUNG |
| Attorney Docket No. | US-0152.11 \| 514538-5000668 |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

**US PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 1 | 5,930,501 A | 0727/1999 | John M. Neil |
| | 2 | 6,005,623 A | 12/21/1999 | Toshiya Takahashi |
| | 3 | 6,195,452 B1 | 02/27/2001 | George R. Royer |
| | 4 | 2001/0030695 | 10/18/2001 | Girish V. Prabhu et al. |
| | 5 | 6,315,195 | 11/13/2001 | Natarajan Ramachandrun |
| | 6 | 2001/0051965 A1 | 12/13/2001 | Didier Guillevic |
| | 7 | 2002/0116335 A1 | 08/22/2002 | Barry Star |
| | 8 | 2002/0145035 | 10/10/2002 | John E. Jones |
| | 9 | 2002/0154815 A1 | 10/24/2002 | Hiroyuki Mizutani |
| | 10 | 2002/0172516 | 11/21/2002 | Keisuke Aoyama |
| | 11 | 2004/0010803 A1 | 01/15/2004 | Viktors Berstis |
| | 12 | 2004/0061913 A1 | 04/01/2004 | Yuji Takiguchi |
| | 13 | 2004/0066419 | 04/08/2004 | Seppo Pyhalammi |
| | 14 | 2004/0201695 A1 | 10/14/2004 | Rei Inasaka |
| | 15 | 2004/0217170 | 11/04/2004 | Yuji Takiguchi et al |
| | 16 | 2004/0238619 A1 | 12/02/2004 | Nagasaka et al. |
| | 17 | 2004/0267665 | 12/30/2004 | Deok-Young Nam et al. |
| | 18 | 2005/0034046 A1 | 02/10/2005 | Jens Berkmann |
| | 19 | 2005/0144131 A1 | 06/30/2005 | Andy S. Aziz |
| | 20 | 2005/0157174 | 07/21/2005 | Kazuo Kitamura et al. |
| | 21 | 2005/0205660 | 09/22/2005 | Maximillian Munte |
| | 22 | 2005/0238257 A1 | 10/27/2005 | Kaneda et al. |
| | 23 | 2006/0077941 | 04/13/2006 | Meyyappan Alagappan et al. |
| | 24 | 2006/0229987 A1 | 10/12/2006 | John Thomas Leekley |
| | 25 | 2006/0255124 A1 | 11/16/2006 | Robert Hoch |
| | 26 | 2007/0005467 | 01/04/2007 | Christopher Haigh et al. |
| | 27 | 2007/0130063 A1 | 06/07/2007 | Ajay Kumar Jindia |
| | 28 | 2008/0069427 A1 | 03/20/2008 | Xu-Hua Liu |
| | 29 | 2008/0140552 A1 | 06/12/2008 | Andrew Blaikie |
| | 30 | 2010/0008579 A1 | 01/14/2010 | Evgeny P. Smimov |
| | 31 | 2013/0155474 | 06/20/2013 | John J. Roach et al. |
| | 32 | 2013/0201534 A1 | 08/08/2013 | Conrad Rhodes Carlen |
| | 33 | 8, 818,033 B1 | 08/26/2014 | Zongyi Liu |
| | 34 | 10,956,879 B1 | 03/23/2021 | Alexis M. Eidson |
| | 35 | 11,030,752 B1 | 06/08/2021 | Thomas Aaron Backlund |
| | 36 | 11,042,940 B1 | 06/22/2021 | Shanna Limas |

| | | | |
|---|---|---|---|
| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |

**Information Disclosure Statement**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | 37 | 11,042,941 B1 | 06/22/2021 | Shanna Limas |
| | 38 | 11,062,130 B1 | 07/13/2021 | Reynaldo Medina III |
| | 39 | 11,062,131 B1 | 07/13/2021 | Reynaldo Medina III |
| | 40 | 11,064,111 B1 | 07/13/2021 | Bharat Prasad |
| | 41 | 11,062,283 B1 | 07/13/2021 | Bharat Prasad |
| | 42 | 11,068,976 B1 | 07/20/2021 | Teddy Voutour |
| | 43 | 11,070,868 B1 | 07/20/2021 | Maland Mortensen |

**FOREIGN PATENT REFERENCES**

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | COUNTRY | TRANSLATION YES OR NO |
|---|---|---|---|---|---|
| | 44 | WO 2005/043857 | 05/12/2005 | WO | Yes |
| | 45 | WO 01/61436 | 08/23/2001 | WO | |
| | 46 | EP 0984410 | 03/08/2000 | WP | |
| | 47 | CN 1897644 A | 01/17/2007 | CN | Yes |

**OTHER ART – NON PATENT LITERATURE DOCUMENTS**

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 48 | Andrew S. Tanenbaum, Modern Operating Systems, Second Edition (2001) |
| | 49 | Arnold et al, The Java Programming Language, Fourth Edition (2005) |
| | 50 | Consumer Assistance & Information – Check 21 https://www.fdic.gov/consumers/assistance/protection/check21.html (FDIC) |
| | 51 | Halonen et al., GSM, GPRS, and EDGE Performance: Evolution Towards 3G/UMTS, Second Edition (2003) |
| | 52 | Heron, Advanced Encryption Standard (AES), 12 Network Security 8 (2009) |
| | 53 | Immich et al., Performance Analylsis of Five Interprocess CommunicAtion Mechanisms Across UNIX Operating Systems, 68 J. Syss. & Software 27 (2003) |
| | 54 | Leach, et al., A Universally Unique Identifier (UUID) URN Namespace, (July 2005) retrieved from https://www.ietf.org/rfc/rfc4122.txt |
| | 55 | N. Ritter & M. Ruth, The Geo Tiff Data InterchAnge Standard for Raster Geographic Images, 18 Int. J. Remote Sensing 1637 (1997) |
| | 56 | Pbmplus – image file format conversion package, retrieved from https://web.archive.org/web/20040202224728/https:/www.acme.com/software/pbmplus/ |
| | 57 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-23 of Patent 10,482,432, dated July 14, 2021, IPR2021-01071, 106 pages |
| | 58 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-7, 10-21 and 23 of Patent 10,482,432, dated July 14, 2021, IPR2021-01074 |
| | 59 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-18 of Patent 10,621,559, dated July 21, 2021, IPR2021-01076, 111 pages |
| | 60 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-18 of Patent 10,621,559, filed July 21, 2021, IPR2021-01077; 100 pages |
| | 61 | Petition filed by PNC Bank N.A. for Inter Partes Review of Claims 1-30 of Patent 10,013,681, filed August 27, 2021, IPR2021-01381, 127 pages |
| | 62 | Petition filed by PNC Bank N.A. for Inter Partes Review of Patent 10,013,605, filed August 27, 2021, IPR2021-01399, 113 pages |
| | 63 | Readdle, Why Scanner Pro is Way Better Than Your Camera? (June 27, 2016) retrieved from https://readdle.com/blog/why-scanner-pro-is-way-better-than-your-camera |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

| EXAMINER INITIAL | | Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. |
|---|---|---|
| | 64 | Santomero, The Evolution of Payments in the U.S.: Paper vs. Electronic (2005) retrieved from https://web.archive.org/web/20051210185509/https://www.philadelphiafed.org/publicaffairs/speeches/2005_santomero9.html |
| | 65 | Schindler, Scanner Pro Review (Dec. 27, 2016) retrieved from https://www.pcmag.com/reviews/scAnner-pro |
| | 66 | Sing Li & Jonathan Knudsen, Beginning J2ME: From Novice to Professional, Third Edition (2005), ISBN (pbk): 1-59059-479-7, 468 pages |
| | 67 | Wang, Ching-Lin et al. "Chinese document image retrieval system based on proportion of black pixel area in a character image", the 6th International Conference on Advanced Communication Technology, 2004, Vol. 1, IEEE, 2004 |
| | 68 | Zaw, Kyi Pyar and Zin Mar Kyu, "Character Extraction and Recognition for Myanmar Script Signboard Images using Block based Pixel Count and Chain Codes" 2018 IEEE/ACIS 17th International Conference on Computer and Information Science (CS), IEEE, 2018. |
| | 69 | Jung et al, "Rectangle Detection based on a Windowed Hough Transform", IEEE Xplore, 2004, 8 pgs. |
| | 70 | Craig Vaream, "Image Deposit Solutions" Emerging Solutions for More Efficient Check Processing", November 2005, 16 pages. |
| | 71 | Certificate of Accuracy related to Article entitled, "Deposit checks by mobile" on webpage: https://www.elmundo.es/navegante/2005/07/21/empresas/1121957427.html signed by Christian Paul Scrogum (translator) on September 9, 2021. |

**1. PRIORITY INFORMATION:**

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): 16/165,622, 16/025,679, 15/663,284, 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

**2. CERTIFICATIONS:** (CHECK ALL THAT APPLY)

**A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):**

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

**B. For Patent Term Adjustment Purposes:**

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant is hereby submitting concurrently with this Information Disclosure Statement a completed Form PTO/SB/133 that certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and

| Examiner Signature | | Date Considered | |
|---|---|---|---|

that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

**3. FEE INFORMATION:** (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to our Stored Payment Method as selected in Financial Manager.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.
By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

| | |
|---|---|
| October 4, 2021 | /Scott W. Brim/ |
| Date | Scott W. Brim (Reg. No. 51,500) |

| | | | |
|---|---|---|---|
| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 10, 2019 Name: Patricia Chiovari Signature: /Patricia Chiovari/

BRINKS GILSON & LIONE 100 YEARS OF IP LAW

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

| | |
|---|---|
| Application Number | To be assigned |
| Filing Date | Herewith |
| First Named Inventor | Charles Lee Oakes |
| Art Unit | To be assigned |
| Confirmation Number | To be assigned |
| Examiner Name | To be Assigned |
| Attorney Docket No. | US-0152.11 (14538-668) |

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

## US PATENT REFERENCES

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A1 | 3,005,282 | 10/24/1961 | Christiansen |
| | A2 | 3,341,820 | 09/12/1967 | Grillmeier, Jr. et al. |
| | A3 | 3,576,972 | 05/04/1971 | Wood |
| | A4 | 3,593,913 | 07/20/1971 | Bremer |
| | A5 | 3,620,553 | 11/16/1971 | Donovan |
| | A6 | 3,648,242 | 03/07/1972 | Grosbard |
| | A7 | 3,800,124 | 03/26/1974 | Walsh |
| | A8 | 3,816,943 | 06/18/1974 | Henry |
| | A9 | 4,002,356 | 01/11/1977 | Weidmann |
| | A10 | 4,060,711 | 11/29/1977 | Buros |
| | A11 | 4,070,649 | 01/24/1978 | Wright, Jr. et al. |
| | A12 | 4,128,202 | 12/05/1978 | Buros |
| | A13 | 4,136,471 | 01/30/1979 | Austin |
| | A14 | 4,205,780 | 06/03/1980 | Burns |
| | A15 | 4,264,808 | 04/28/1981 | Owens |
| | A16 | 4,305,216 | 12/15/1981 | Skelton |
| | A17 | 4,321,672 | 03/23/1982 | Braun |
| | A18 | 4,433,436 | 02/21/1984 | Carnes |
| | A19 | 4,454,610 | 06/12/1984 | Sziklai |
| | A20 | RE 31,692 | 10/02/1984 | Tyburski et al. |
| | A21 | 4,523,330 | 06/11/1985 | Cain ( |
| | A22 | 4,636,099 | 01/13/1987 | Goldston |
| | A23 | 4,640,413 | 02/03/1987 | Kaplan |
| | A24 | 4,644,144 | 02/17/1987 | Chandek |
| | A25 | 4,722,444 | 02/02/1988 | Murphy et al. |
| | A26 | 4,722,544 | 02/02/1988 | Weber |
| | A27 | 4,727,435 | 02/23/1988 | Otani et al. |
| | A28 | 4,739,411 | 04/19/1988 | Bolton |
| | A29 | 4,774,574 | 09/27/1988 | Daly et al. |
| | A30 | 4,774,663 | 09/27/1988 | Musmanno |
| | A31 | 4,790,475 | 12/13/1988 | Griffin |
| | A32 | 4,806,780 | 02/21/1989 | Yamamoto |
| | A33 | 4,837,693 | 06/06/1989 | Schotz |
| | A34 | 4,890,228 | 12/26/1989 | Longfield |
| | A35 | 4,927,071 | 05/22/1990 | Wood |
| | A36 | 4,934,587 | 06/19/1990 | McNabb |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A37 | 4,960,981 | 10/02/1990 | Benton |
| | A38 | 4,975,735 | 12/04/1990 | Bright |
| | A39 | 5,022,683 | 06/11/1991 | Barbour |
| | A40 | 5,053,607 | 10/01/1991 | Carlson |
| | A41 | 5,077,805 | 12/31/1991 | Tan |
| | A42 | 5,091,968 | 02/25/1992 | Higgins et al. |
| | A43 | 5,146,606 | 09/08/1992 | Grondalski |
| | A44 | 5,157,620 | 10/20/1992 | Shaar |
| | A45 | 5,159,548 | 10/27/1992 | Caslavka |
| | A46 | 5,164,833 | 11/17/1992 | Aoki |
| | A47 | 5,191,525 | 03/02/1993 | LeBrun |
| | A48 | 5,193,121 | 03/09/1993 | Elischer et al. |
| | A49 | 5,220,501 | 06/15/1993 | Lawlor |
| | A50 | 5,227,863 | 07/13/1993 | Bilbrey et al. |
| | A51 | 5,229,589 | 07/20/1993 | Schneider |
| | A52 | 5,237,159 | 08/17/1993 | Stephens |
| | A53 | 5,237,620 | 08/17/1993 | Deaton et al. |
| | A54 | 5,257,320 | 10/26/1993 | Etherington et al. |
| | A55 | 5,265,008 | 11/23/1993 | Benton |
| | A56 | 5,321,816 | 06/14/1994 | Rogan |
| | A57 | 5,345,090 | 09/06/1994 | Hludzinski |
| | A58 | 5,347,302 | 09/13/1994 | Simonoff |
| | A59 | 5,350,906 | 09/27/1994 | Brody |
| | A60 | 5,373,550 | 12/13/1994 | Campbell |
| | A61 | 5,419,588 | 05/30/1995 | Wood |
| | A62 | 5,422,467 | 06/06/1995 | Graef |
| | A63 | 5,444,616 | 08/22/1995 | Nair et al. |
| | A64 | 5,444,794 | 08/22/1995 | Uhland, Sr. |
| | A65 | 5,455,875 | 10/03/1995 | Chevion et al. |
| | A66 | 5,475,403 | 12/12/1995 | Havlovick et al. |
| | A67 | 5,504,538 | 04/02/1996 | Tsujihara |
| | A68 | 5,504,677 | 04/02/1996 | Pollin |
| | A69 | 5,528,387 | 06/18/1996 | Kelly et al. |
| | A70 | 5,577,179 | 11/19/1996 | Blank |
| | A71 | 5,583,759 | 12/10/1996 | Geer |
| | A72 | 5,590,196 | 12/31/1996 | Moreau |
| | A73 | 5,594,225 | 01/14/1997 | Botvin |
| | A74 | 5,598,969 | 02/04/1997 | Ong |
| | A75 | 5,602,936 | 02/11/1997 | Green |
| | A76 | 5,610,726 | 03/11/1997 | Nonoshita |
| | A77 | 5,611,028 | 03/11/1997 | Shibasaki |
| | A78 | 5,630,073 | 05/13/1997 | Nolan |
| | A79 | 5,631,984 | 05/20/1997 | Graf et al. |
| | A80 | 5,668,897 | 09/16/1997 | Stolfo |
| | A81 | 5,673,320 | 09/30/1997 | Ray et al. |
| | A82 | 5,677,955 | 10/14/1997 | Doggett |
| | A83 | 5,678,046 | 10/14/1997 | Cahill et al. |
| | A84 | 5,679,938 | 10/21/1997 | Templeton |
| | A85 | 5,680,611 | 10/21/1997 | Rail |
| | A86 | 5,691,524 | 11/25/1997 | Josephson |
| | A87 | 5,699,452 | 12/16/1997 | Vaidyanathan |
| | A88 | 5,734,747 | 03/31/1998 | Vaidyanathan |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A89 | 5,737,440 | 04/07/1998 | Kunkler |
| | A90 | 5,748,780 | 05/05/1998 | Stolfo |
| | A91 | 5,751,842 | 05/12/1998 | Riach |
| | A92 | 5,761,686 | 06/02/1998 | Bloomberg |
| | A93 | 5,784,503 | 07/21/1998 | Bleecker, III et al. |
| | A94 | 5,830,609 | 11/03/1998 | Warner |
| | A95 | 5,832,463 | 11/03/1998 | Funk |
| | A96 | 5,838,814 | 11/17/1998 | Moore |
| | A97 | 5,848,185 | 12/08/1998 | Koga et al. |
| | A98 | 5,863,075 | 01/26/1999 | Rich |
| | A99 | 5,870,456 | 02/09/1999 | Rogers |
| | A100 | 5,870,724 | 02/09/1999 | Lawlor |
| | A101 | 5,870,725 | 02/09/1999 | Bellinger et al. |
| | A102 | 5,878,337 | 03/02/1999 | Joao |
| | A103 | 5,889,884 | 03/30/1999 | Hashimoto et al. |
| | A104 | 5,893,101 | 04/06/1999 | Balogh et al. |
| | A105 | 5,897,625 | 04/27/1999 | Gustin |
| | A106 | 5,898,157 | 04/27/1999 | Mangili et al. |
| | A107 | 5,901,253 | 05/04/1999 | Tretter |
| | A108 | 5,903,878 | 05/11/1999 | Talati |
| | A109 | 5,903,881 | 05/11/1999 | Schrader |
| | A110 | 5,910,988 | 06/08/1999 | Ballard |
| | A111 | 5,917,931 | 06/29/1999 | Kunkler |
| | A112 | 5,924,737 | 07/20/1999 | Schrupp |
| | A113 | 5,926,548 | 07/20/1999 | Okamoto |
| | A114 | 5,930,778 | 07/27/1999 | Geer |
| | A115 | 5,937,396 | 08/10/1999 | Konya |
| | A116 | 5,940,844 | 08/17/1999 | Cahill |
| | A117 | 5,982,918 | 11/09/1999 | Mennie |
| | A118 | 5,987,439 | 11/16/1999 | Gustin et al. |
| | A119 | 6,012,048 | 01/04/2000 | Gustin et al. |
| | A120 | 6,014,454 | 01/11/2000 | Kunkler |
| | A121 | 6,021,202 | 02/01/2000 | Anderson |
| | A122 | 6,021,397 | 02/01/2000 | Jones |
| | A123 | 6,023,705 | 02/08/2000 | Bellinger |
| | A124 | 6,029,887 | 02/29/2000 | Furuhashi |
| | A125 | 6,030,000 | 02/29/2000 | Diamond |
| | A126 | 6,032,137 | 02/29/2000 | Ballard |
| | A127 | 6,038,553 | 03/14/2000 | Hyde |
| | A128 | 6,053,405 | 04/25/2000 | Irwin, Jr. et al. |
| | A129 | 6,059,185 | 05/09/2000 | Funk et al. |
| | A130 | 6,064,762 | 05/16/2000 | Haenel |
| | A131 | 6,073,119 | 06/06/2000 | Borenmisza-wahr |
| | A132 | 6,073,121 | 06/06/2000 | Ramzy |
| | A133 | 6,085,168 | 07/04/2000 | Mori |
| | A134 | 6,086,708 | 07/11/2000 | Colgate |
| | A135 | 6,089,450 | 07/18/2000 | Koeple |
| | A136 | 6,089,610 | 07/18/2000 | Greene |
| | A137 | 6,092,047 | 07/18/2000 | Hyman et al. |
| | A138 | 6,097,834 | 08/01/2000 | Krouse |
| | A139 | 6,097,845 | 08/01/2000 | Ng et al. |
| | A140 | 6,097,885 | 08/01/2000 | Rayner |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A141 | 6,105,865 | 08/22/2000 | Hardesty |
| | A142 | 6,141,339 | 10/31/2000 | Kaplan et al. |
| | A143 | 6,145,738 | 11/14/2000 | Stinson et al. |
| | A144 | 6,148,102 | 11/14/2000 | Stolin |
| | A145 | 6,151,423 | 11/21/2000 | Melen |
| | A146 | 6,151,426 | 11/21/2000 | Lee |
| | A147 | 6,159,585 | 12/12/2000 | Rittenhouse |
| | A148 | 6,170,744 | 01/09/2001 | Lee |
| | A149 | 6,178,409 | 01/23/2001 | Weber et al. |
| | A150 | 6,181,837 B1 | 01/30/2001 | Cahill et al. |
| | A151 | 6,188,506 | 02/13/2001 | Kaiserman |
| | A152 | 6,189,785 | 02/20/2001 | Lowery |
| | A153 | 6,192,165 | 02/20/2001 | Irons |
| | A154 | 6,195,694 | 02/27/2001 | Chen et al. |
| | A155 | 6,199,055 | 03/06/2001 | Kara |
| | A156 | 6,236,009 | 05/22/2001 | Emigh et al. |
| | A157 | 6,243,689 | 06/05/2001 | Norton |
| | A158 | 2001/0004235 | 06/21/2001 | Maloney |
| | A159 | 2001/0014881 | 08/16/2001 | Drummond |
| | A160 | 6,278,983 | 08/21/2001 | Ball |
| | A161 | 2001/0016084 | 08/23/2001 | Pollard et al. |
| | A162 | 6,282,523 | 08/28/2001 | Tedesco et al. |
| | A163 | 2001/0018739 | 08/30/2001 | Anderson |
| | A164 | 6,282,826 | 09/04/2001 | Richards |
| | A165 | 6,293,469 | 09/25/2001 | Masson et al. |
| | A166 | 2001/0027994 | 10/11/2001 | Hayashida |
| | A167 | 6,304,860 | 10/16/2001 | Martin |
| | A168 | 6,310,647 | 10/30/2001 | Parulski et al. |
| | A169 | 2001/0037299 | 11/01/2001 | Nichols et al. |
| | A170 | 6,314,452 | 11/06/2001 | Dekel |
| | A171 | 6,317,727 | 11/13/2001 | May |
| | A172 | 2001/0042171 | 11/15/2001 | Vermeulen |
| | A173 | 2001/0043748 | 11/22/2001 | Wesolkowski et al. |
| | A174 | 2001/0042785 | 11/22/2001 | Walker |
| | A175 | 2001/0047330 | 11/29/2001 | Gephart |
| | A176 | 6,328,207 | 12/11/2001 | Gregoire et al. |
| | A177 | 6,330,546 | 12/11/2001 | Gopinathan et al. |
| | A178 | 2001/0054020 | 12/20/2001 | Barth et al. |
| | A179 | 2002/0001393 | 01/03/2002 | Jones |
| | A180 | 6,339,658 | 01/15/2002 | Moccagatta |
| | A181 | 2002/0016769 | 02/07/2002 | Barbara et al. |
| | A182 | 2002/0016763 | 02/07/2002 | March |
| | A183 | 6,351,735 B1 | 02/26/2002 | Deaton et al. |
| | A184 | 2002/0026418 | 02/28/2002 | Koppel et al. |
| | A185 | 2002/0025085 A1 | 02/28/2002 | Gustafson et al. |
| | A186 | 2002/0032656 | 03/14/2002 | Chen |
| | A187 | 6,363,162 | 03/26/2002 | Moed et al. |
| | A188 | 6,363,164 | 03/26/2002 | Jones et al. |
| | A189 | 2002/0038289 | 03/28/2002 | Lawlor et al. |
| | A190 | 2002/0040340 | 04/04/2002 | Yoshida |
| | A191 | 2002/0052853 | 05/02/2002 | Munoz |
| | A192 | 2002/0052841 | 05/02/2002 | Guthrie |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 4 of 43*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A193 | 6,390,362 | 05/21/2002 | Martin |
| | A194 | 6,397,196 | 05/28/2002 | Kravetz |
| | A195 | 2002/0065786 | 05/30/2002 | Martens et al. |
| | A196 | 2002/0072974 | 06/13/2002 | Pugliese |
| | A197 | 6,408,084 | 06/18/2002 | Foley |
| | A198 | 2002/0075524 | 06/20/2002 | Blair |
| | A199 | 6,411,725 | 06/25/2002 | Rhoads |
| | A200 | 6,411,737 | 06/25/2002 | Wesolkowski et al. |
| | A201 | 6,411,938 | 06/25/2002 | Gates et al. |
| | A202 | 6,413,305 | 07/02/2002 | Mehta |
| | A203 | 2002/0087467 | 07/04/2002 | Mascavage, III et al. |
| | A204 | 2002/0084321 | 07/04/2002 | Martens |
| | A205 | 6,417,869 | 07/09/2002 | Do |
| | A206 | 6,425,017 | 07/23/2002 | Dievendorff |
| | A207 | 6,429,952 | 08/06/2002 | Olbricht |
| | A208 | 2002/0107809 | 08/08/2002 | Biddle et al. |
| | A209 | 2002/0107767 | 08/08/2002 | McClair et al. |
| | A210 | 2002/0116335 | 08/22/2002 | Star |
| | A211 | 2002/0116329 | 08/22/2002 | Serbetcioglu |
| | A212 | 6,439,454 | 08/27/2002 | Masson et al. |
| | A213 | 2002/0120846 | 08/29/2002 | Stewart et al. |
| | A214 | 2002/0120582 | 08/29/2002 | Elston et al. |
| | A215 | 2002/0120562 | 08/29/2002 | Opiela |
| | A216 | 2002/0118891 | 08/29/2002 | Rudd |
| | A217 | 6,449,397 | 09/10/2002 | Che-chu |
| | A218 | 2002/0129249 | 09/12/2002 | Maillard et al. |
| | A219 | 6,450,403 | 09/17/2002 | Martens et al. |
| | A220 | 2002/0133409 | 09/19/2002 | Sawano et al. |
| | A221 | 2002/0130868 | 09/19/2002 | Smith |
| | A222 | 2002/0138522 | 09/26/2002 | Muralidhar |
| | A223 | 6,463,220 | 10/08/2002 | Dance et al. |
| | A224 | 2002/0147798 | 10/10/2002 | Huang |
| | A225 | 6,464,134 | 10/15/2002 | Page |
| | A226 | 2002/0152169 | 10/17/2002 | Dutta et al. |
| | A227 | 2002/0152165 | 10/17/2002 | Dutta et al. |
| | A228 | 2002/0152164 | 10/17/2002 | Dutta |
| | A229 | 2002/0152161 | 10/17/2002 | Aoike |
| | A230 | 2002/0152160 | 10/17/2002 | Allen-Rouman et al. |
| | A231 | 2002/0150311 | 10/17/2002 | Lynn |
| | A232 | 2002/0150279 | 10/17/2002 | Scott |
| | A233 | 6,469,745 | 10/22/2002 | Yamada et al. |
| | A234 | 6,470,325 | 10/22/2002 | Leemhuis |
| | A235 | 2002/0154127 | 10/24/2002 | Vienneau et al. |
| | A236 | 6,473,519 B1 | 10/29/2002 | Pidhirny et al. |
| | A237 | 2002/0159648 | 10/31/2002 | Alderson et al. |
| | A238 | 2002/0171820 | 11/21/2002 | Okamura |
| | A239 | 2002/0178112 | 11/28/2002 | Goeller |
| | A240 | 2002/0188564 | 12/12/2002 | Star |
| | A241 | 2002/0186881 | 12/12/2002 | Li |
| | A242 | 2002/0195485 | 12/26/2002 | Pomerleau et al. |
| | A243 | 2003/0005326 | 01/02/2003 | Flemming |
| | A244 | 6,505,178 | 01/07/2003 | Flenley |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

Page 5 of 43

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A245 | 2003/0009420 | 01/09/2003 | Jones |
| | A246 | 2003/0015583 A1 | 01/23/2003 | Abdi et al. |
| | A247 | 2003/0023557 | 01/30/2003 | Moore |
| | A248 | 2003/0026609 | 02/06/2003 | Parulski |
| | A249 | 2003/0038227 | 02/27/2003 | Sesek |
| | A250 | 2003/0050889 | 03/13/2003 | Burke |
| | A251 | 2003/0055776 | 03/20/2003 | Samuelson |
| | A252 | 2003/0055756 | 03/20/2003 | Allan |
| | A253 | 2003/0053692 | 03/20/2003 | Hong et al. |
| | A254 | 6,546,119 | 04/08/2003 | Ciolli et al. |
| | A255 | 2003/0074315 | 04/17/2003 | Lam |
| | A256 | 2003/0072568 | 04/17/2003 | Lin et al. |
| | A257 | 2003/0075916 | 04/24/2003 | Gorski |
| | A258 | 2003/0075596 | 04/24/2003 | Koakutsu |
| | A259 | 2003/0081824 | 05/01/2003 | Mennie |
| | A260 | 2003/0086615 | 05/08/2003 | Dance et al. |
| | A261 | 2003/0093369 | 05/15/2003 | Ijichi et al. |
| | A262 | 2003/0093367 | 05/15/2003 | Allen-Rouman et al. |
| | A263 | 6,574,609 | 06/03/2003 | Downs |
| | A264 | 2003/0105714 | 06/05/2003 | Alarcon-Luther et al. |
| | A265 | 2003/0105688 | 06/05/2003 | Brown et al. |
| | A266 | 2003/0102714 | 06/05/2003 | Rhodes et al. |
| | A267 | 6,578,760 | 06/17/2003 | Otto |
| | A268 | 6,587,837 | 07/01/2003 | Spagna |
| | A269 | 2003/0126082 A1 | 07/03/2003 | Omura et al. |
| | A270 | 2003/0126078 | 07/03/2003 | Vihinen |
| | A271 | 2003/0130940 | 07/10/2003 | Hansen et al. |
| | A272 | 2003/0133610 | 07/17/2003 | Nagarajan et al. |
| | A273 | 2003/0132384 | 07/17/2003 | Sugiyama et al. |
| | A274 | 2003/0139999 | 07/24/2003 | Rowe |
| | A275 | 6,606,117 | 08/12/2003 | Windle |
| | A276 | 6,609,200 | 08/19/2003 | Anderson |
| | A277 | 2003/0159046 | 08/21/2003 | Choi et al. |
| | A278 | 6,611,598 | 08/26/2003 | Hayosh |
| | A279 | 6,614,930 | 09/02/2003 | Agnihotri et al. |
| | A280 | 2003/0167225 | 09/04/2003 | Adams |
| | A281 | 2003/0191869 | 10/09/2003 | Williams |
| | A282 | 2003/0191615 | 10/09/2003 | Bailey |
| | A283 | 2003/0200174 | 10/23/2003 | Star |
| | A284 | 2003/0202690 | 10/30/2003 | Jones et al. |
| | A285 | 6,643,416 | 11/04/2003 | Daniels |
| | A286 | 2003/0212904 | 11/13/2003 | Randle et al. |
| | A287 | 2003/0217005 | 11/20/2003 | Drummond et al. |
| | A288 | 6,654,487 | 11/25/2003 | Downs, Jr. |
| | A289 | 2003/0225705 | 12/04/2003 | Park et al. |
| | A290 | 6,661,910 | 12/09/2003 | Jones et al. |
| | A291 | 2003/0233318 | 12/18/2003 | King et al. |
| | A292 | 2003/0233278 | 12/18/2003 | Marshall |
| | A293 | 6,669,086 | 12/30/2003 | Abdi et al. |
| | A294 | 6,672,452 | 01/06/2004 | Alves |
| | A295 | 2004/0010466 | 01/15/2004 | Anderson |
| | A296 | 2004/0013284 | 01/22/2004 | Yu |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A297 | 2004/0012496 | 01/22/2004 | De Souza |
| | A298 | 6,682,452 | 01/27/2004 | Quintus |
| | A299 | 2004/0024708 | 02/05/2004 | Masuda |
| | A300 | 2004/0024626 | 02/05/2004 | Bruijning |
| | A301 | 2004/0030741 | 02/12/2004 | Wolton et al. |
| | A302 | 6,695,204 | 02/24/2004 | Stinson |
| | A303 | 2004/0044606 | 03/04/2004 | Buttridge et al. |
| | A304 | 6,711,474 | 03/23/2004 | Treyz et al. |
| | A305 | 2004/0058705 | 03/25/2004 | Morgan |
| | A306 | 2004/0057697 | 03/25/2004 | Renzi |
| | A307 | 2004/0066031 | 04/08/2004 | Wong |
| | A308 | 2004/0071333 | 04/15/2004 | Douglas et al. |
| | A309 | 2004/0069841 | 04/15/2004 | Wong |
| | A310 | 2004/0078299 | 04/22/2004 | Down-Logan |
| | A311 | 2004/0076320 | 04/22/2004 | Downs, Jr. |
| | A312 | 2004/0075754 | 04/22/2004 | Nakajima et al. |
| | A313 | 6,726,097 | 04/27/2004 | Graef |
| | A314 | 6,728,397 | 04/27/2004 | Mcneal |
| | A315 | 2004/0080795 | 04/29/2004 | Bean et al. |
| | A316 | 2004/0093305 | 05/13/2004 | Kight |
| | A317 | 2004/0093303 | 05/13/2004 | Picciallo |
| | A318 | 2004/0089711 | 05/13/2004 | Sandru |
| | A319 | 6,738,496 | 05/18/2004 | Van Hall |
| | A320 | 6,742,128 | 05/25/2004 | Joiner |
| | A321 | 2004/0103296 | 05/27/2004 | Harp |
| | A322 | 2004/0103057 | 05/27/2004 | Melbert et al. |
| | A323 | 6,745,186 | 06/01/2004 | Testa et al. |
| | A324 | 2004/0111371 | 06/10/2004 | Friedman |
| | A325 | 2004/0110975 | 06/10/2004 | Osinski et al. |
| | A326 | 2004/0109596 | 06/10/2004 | Doran |
| | A327 | 2004/0117302 | 06/17/2004 | Weichert |
| | A328 | 6,754,640 | 06/22/2004 | Bozeman |
| | A329 | 2004/0122754 | 06/24/2004 | Stevens |
| | A330 | 6,755,340 | 06/29/2004 | Voss et al. |
| | A331 | 2004/0133511 | 07/08/2004 | Smith et al. |
| | A332 | 6,763,226 | 07/13/2004 | McZeal |
| | A333 | 2004/0138974 | 07/15/2004 | Shimamura |
| | A334 | 2004/0148235 | 07/29/2004 | Craig et al. |
| | A335 | 2004/0158549 | 08/12/2004 | Matena |
| | A336 | 6,781,962 | 08/24/2004 | Williams |
| | A337 | 2004/0165096 | 08/26/2004 | Maeno |
| | A338 | 2004/0170259 | 09/02/2004 | Park |
| | A339 | 6,786,398 | 09/07/2004 | Stinson et al. |
| | A340 | 6,789,054 | 09/07/2004 | Makhlouf |
| | A341 | 2004/0184766 | 09/23/2004 | Kim et al. |
| | A342 | 6,796,489 | 09/28/2004 | Slater et al. |
| | A343 | 6,796,491 | 09/28/2004 | Nakajima |
| | A344 | 6,806,903 | 10/19/2004 | Okisu et al. |
| | A345 | 6,807,294 | 10/19/2004 | Yamazaki |
| | A346 | 2004/0210523 | 10/21/2004 | Gains et al. |
| | A347 | 2004/0210515 | 10/21/2004 | Hughes |
| | A348 | 6,813,733 | 11/02/2004 | Li |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A349 | 2004/0225604 | 11/11/2004 | Foss, Jr. et al. |
| | A350 | 2004/0228277 | 11/18/2004 | Williams |
| | A351 | 2004/0236688 | 11/25/2004 | Bozeman |
| | A352 | 2004/0236647 | 11/25/2004 | Acharya |
| | A353 | 2004/0240722 | 12/02/2004 | Tsuji et al. |
| | A354 | 6,829,704 | 12/07/2004 | Zhang |
| | A355 | 2004/0248600 | 12/09/2004 | Kim |
| | A356 | 2004/0247199 | 12/09/2004 | Murai et al. |
| | A357 | 2004/0245324 | 12/09/2004 | Chen |
| | A358 | 2004/0252679 | 12/16/2004 | Williams |
| | A359 | 2004/0260636 | 12/23/2004 | Marceau |
| | A360 | 2004/0267666 | 12/30/2004 | Minami |
| | A361 | 2005/0001421 | 01/06/2005 | Luth et al. |
| | A362 | 2005/0010108 | 01/13/2005 | Rahn et al. |
| | A363 | 6,844,885 | 01/18/2005 | Anderson |
| | A364 | 2005/0015332 | 01/20/2005 | Chen |
| | A365 | 2005/0021466 | 01/27/2005 | Buchanan et al. |
| | A366 | 2005/0038746 | 02/07/2005 | Latimer et al. |
| | A367 | 2005/0033695 | 02/10/2005 | Minowa |
| | A368 | 2005/0033685 | 02/10/2005 | Reyes |
| | A369 | 2005/0033645 | 02/10/2005 | Duphily |
| | A370 | 2005/0030388 | 02/10/2005 | Stavely et al. |
| | A371 | 6,856,965 | 02/15/2005 | Stinson |
| | A372 | 2005/0038754 | 02/17/2005 | Geist |
| | A373 | 2005/0035193 | 02/17/2005 | Gustin et al. |
| | A374 | 2005/0044577 | 02/24/2005 | Jerding |
| | A375 | 2005/0044042 | 02/24/2005 | Mendiola |
| | A376 | 2005/0049950 | 03/03/2005 | Johnson |
| | A377 | 6,863,214 | 03/08/2005 | Garner et al. |
| | A378 | 6,870,947 | 03/22/2005 | Kelland |
| | A379 | 2005/0071283 | 03/31/2005 | Randle et al. |
| | A380 | 2005/0075974 | 04/07/2005 | Turgeon |
| | A381 | 2005/0075969 | 04/07/2005 | Nielson et al. |
| | A382 | 2005/0080725 | 04/14/2005 | Pick |
| | A383 | 2005/0078336 | 04/14/2005 | Ferlitsch |
| | A384 | 2005/0077351 | 04/14/2005 | De Jong |
| | A385 | 6,883,140 | 04/19/2005 | Acker |
| | A386 | 2005/0086168 | 04/21/2005 | Alvarez |
| | A387 | 2005/0086140 | 04/21/2005 | Ireland |
| | A388 | 2005/0082364 | 04/21/2005 | Alvarez et al. |
| | A389 | 2005/0091161 | 04/28/2005 | Gustin |
| | A390 | 2005/0089209 | 04/28/2005 | Stefanuk |
| | A391 | 2005/0097050 | 05/05/2005 | Orcutt |
| | A392 | 2005/0097046 | 05/05/2005 | Singfield |
| | A393 | 2005/0097019 | 05/05/2005 | Jacobs |
| | A394 | 2005/0096992 | 05/05/2005 | Geisel |
| | A395 | 2005/0108168 | 05/19/2005 | Halpin |
| | A396 | 2005/0108164 | 05/19/2005 | Salafia |
| | A397 | 6,898,314 | 05/24/2005 | Kung et al. |
| | A398 | 2005/0115110 | 06/02/2005 | Dinkins |
| | A399 | 6,902,105 | 06/07/2005 | Koakutsu |
| | A400 | 2005/0125360 | 06/09/2005 | Tidwell et al. |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A401 | 2005/0125338 | 06/09/2005 | Tidwell et al. |
| | A402 | 2005/0131820 | 06/16/2005 | Rodriguez |
| | A403 | 2005/0127160 | 06/16/2005 | Fujikawa |
| | A404 | 6,910,023 | 06/21/2005 | Schibi |
| | A405 | 2005/0143136 | 06/30/2005 | Lev et al. |
| | A406 | 6,913,188 | 07/05/2005 | Wong |
| | A407 | 2005/0149436 | 07/07/2005 | Elterich |
| | A408 | 2005/0171907 | 08/04/2005 | Lewis |
| | A409 | 2005/0171899 | 08/04/2005 | Dunn |
| | A410 | 2005/0168566 | 08/04/2005 | Tada |
| | A411 | 2005/0177518 | 08/11/2005 | Brown |
| | A412 | 2005/0177510 A1 | 08/11/2005 | Hilt et al. |
| | A413 | 2005/0177499 | 08/11/2005 | Thomas |
| | A414 | 2005/0177494 | 08/11/2005 | Kelly et al. |
| | A415 | 6,931,591 | 08/16/2005 | Brown |
| | A416 | 2005/0182710 | 08/18/2005 | Anderson |
| | A417 | 6,934,719 | 08/23/2005 | Nally |
| | A418 | 2005/0188306 | 08/25/2005 | Mackenzie |
| | A419 | 2005/0203430 | 09/15/2005 | Williams et al. |
| | A420 | 6,947,610 | 09/20/2005 | Sun |
| | A421 | 2005/0209961 | 09/22/2005 | Michelsen |
| | A422 | 2005/0205661 | 09/22/2005 | Taylor |
| | A423 | 2005/0216410 | 09/29/2005 | Davis et al. |
| | A424 | 2005/0213805 | 09/29/2005 | Blake et al. |
| | A425 | 2005/0220324 | 10/06/2005 | Klein et al. |
| | A426 | 2005/0218209 | 10/06/2005 | Heilper et al. |
| | A427 | 2005/0228733 | 10/13/2005 | Bent et al. |
| | A428 | 6,957,770 | 10/25/2005 | Robinson |
| | A429 | 6,961,689 | 11/01/2005 | Greenberg |
| | A430 | 2005/0244035 | 11/03/2005 | Klein et al. |
| | A431 | 2005/0252955 | 11/17/2005 | Sugai |
| | A432 | 6,970,843 | 11/29/2005 | Forte |
| | A433 | 2005/0268107 | 12/01/2005 | Harris et al. |
| | A434 | 2005/0267843 | 12/01/2005 | Acharya et al. |
| | A435 | 6,973,589 | 12/05/2005 | Wright |
| | A436 | 2005/0273368 | 12/08/2005 | Hutten et al. |
| | A437 | 2005/0269412 | 12/08/2005 | Chiu |
| | A438 | 2005/0278250 | 12/15/2005 | Zair |
| | A439 | 2005/0281474 | 12/22/2005 | Huang |
| | A440 | 2005/0281471 | 12/22/2005 | LeConte |
| | A441 | 2005/0281448 | 12/22/2005 | Lugg |
| | A442 | 2005/0289182 | 12/29/2005 | Pandian et al. |
| | A443 | 2005/0289030 | 12/29/2005 | Smith |
| | A444 | 2006/0004660 | 01/05/2006 | Pranger |
| | A445 | 2006/0002426 | 01/05/2006 | Madour |
| | A446 | 6,983,886 | 01/10/2006 | Natsukari et al. |
| | A447 | 2006/0015733 | 01/19/2006 | O'Malley et al. |
| | A448 | 2006/0017752 | 01/26/2006 | Kurzweil et al. |
| | A449 | 6,993,507 | 01/31/2006 | Meyer |
| | A450 | 2006/0025697 | 02/02/2006 | Kurzweil |
| | A451 | 6,996,263 | 02/07/2006 | Jones et al. |
| | A452 | 6,999,943 | 02/14/2006 | Johnson |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 9 of 43*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A453 | 7,003,040 | 02/21/2006 | Yi |
| | A454 | 2006/0041506 | 02/23/2006 | Mason et al. |
| | A455 | 2006/0039629 | 02/23/2006 | Li et al. |
| | A456 | 2006/0039628 | 02/23/2006 | Li et al. |
| | A457 | 7,004,382 | 02/28/2006 | Sandru |
| | A458 | 2006/0047593 | 03/02/2006 | Naratil |
| | A459 | 2006/0045374 | 03/02/2006 | Kim et al. |
| | A460 | 2006/0045321 | 03/02/2006 | Yu |
| | A461 | 7,010,155 | 03/07/2006 | Koakutsu et al. |
| | A462 | 7,010,507 | 03/07/2006 | Anderson |
| | A463 | 2006/0053056 | 03/09/2006 | Alspach-Goss |
| | A464 | 2006/0049242 | 03/09/2006 | Mejias et al. |
| | A465 | 2006/0059085 | 03/16/2006 | Tucker |
| | A466 | 7,016,704 | 03/21/2006 | Pallakoff |
| | A467 | 2006/0064368 | 03/23/2006 | Forte |
| | A468 | 2006/0080245 | 04/13/2006 | Bahl |
| | A469 | 2006/0085516 | 04/20/2006 | Farr et al. |
| | A470 | 2006/0085357 | 04/20/2006 | Pizarro |
| | A471 | 7,039,048 | 05/02/2006 | Monta |
| | A472 | 2006/0106717 | 05/18/2006 | Randle |
| | A473 | 2006/0106691 | 05/18/2006 | Sheaffer |
| | A474 | 2006/0102704 | 05/18/2006 | Reynders |
| | A475 | 7,051,001 | 05/23/2006 | Slater |
| | A476 | 2006/0112013 | 05/25/2006 | Maloney |
| | A477 | 2006/0110063 | 05/25/2006 | Weiss |
| | A478 | 2006/0108168 | 05/25/2006 | Fischer et al. |
| | A479 | 2006/0115141 | 06/01/2006 | Koakutsu et al. |
| | A480 | 2006/0115110 | 06/01/2006 | Rodriguez |
| | A481 | 7,058,036 | 06/06/2006 | Yu |
| | A482 | 2006/0118613 | 06/08/2006 | McMann |
| | A483 | 7,062,099 | 06/13/2006 | Li et al. |
| | A484 | 7,062,456 | 06/13/2006 | Riehl et al. |
| | A485 | 7,062,768 | 06/13/2006 | Kubo |
| | A486 | 2006/0124730 | 06/15/2006 | Maloney |
| | A487 | 7,072,862 | 07/04/2006 | Wilson |
| | A488 | 2006/0144950 | 07/06/2006 | Johnson |
| | A489 | 2006/0144937 | 07/06/2006 | Heilper et al. |
| | A490 | 2006/0144924 | 07/06/2006 | Stover |
| | A491 | 7,076,458 | 07/11/2006 | Lawlor et al. |
| | A492 | 2006/0161501 | 07/20/2006 | Waserstein |
| | A493 | 2006/0161499 | 07/20/2006 | Rich et al. |
| | A494 | 2006/0159367 | 07/20/2006 | Zeineh et al. |
| | A495 | 2006/0167818 | 07/27/2006 | Wentker et al. |
| | A496 | 2006/0166178 | 07/27/2006 | Driedijk |
| | A497 | 2006/0164682 | 07/27/2006 | Lev |
| | A498 | 7,086,003 | 08/01/2006 | Demsky |
| | A499 | 7,092,561 | 08/15/2006 | Downs, Jr. |
| | A500 | 2006/0182332 A1 | 08/17/2006 | Weber |
| | A501 | 2006/0182331 | 08/17/2006 | Gilson et al. |
| | A502 | 2006/0181614 | 08/17/2006 | Yen et al. |
| | A503 | 2006/0186194 | 08/24/2006 | Richardson et al. |
| | A504 | 7,104,443 | 09/12/2006 | Paul et al. |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 10 of 43*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A505 | 2006/0206506 | 09/14/2006 | Fitzpatrick |
| | A506 | 2006/0212391 | 09/21/2006 | Norman et al. |
| | A507 | 2006/0210138 | 09/21/2006 | Hilton et al. |
| | A508 | 2006/0208059 | 09/21/2006 | Cable et al. |
| | A509 | 7,113,925 | 09/26/2006 | Waserstein |
| | A510 | 2006/0215230 | 09/28/2006 | Borrey et al. |
| | A511 | 2006/0215204 | 09/28/2006 | Miyamoto et al. |
| | A512 | 2006/0214940 | 09/28/2006 | Kinoshita |
| | A513 | 7,114,649 | 10/03/2006 | Nelson |
| | A514 | 2006/0222260 | 10/05/2006 | Sambongi et al. |
| | A515 | 2006/0229986 | 10/12/2006 | Corder |
| | A516 | 2006/0229976 | 10/12/2006 | Jung |
| | A517 | 2006/0242063 | 10/26/2006 | Peterson |
| | A518 | 2006/0242062 | 10/26/2006 | Peterson |
| | A519 | 2006/0238503 | 10/26/2006 | Smith |
| | A520 | 2006/0248009 A1 | 11/02/2006 | Hicks |
| | A521 | 7,131,571 | 11/07/2006 | Swift et al. |
| | A522 | 2006/0249567 | 11/09/2006 | Byrne |
| | A523 | 7,139,594 | 11/21/2006 | Nagatomo |
| | A524 | 7,140,539 | 11/28/2006 | Crews |
| | A525 | 2006/0274164 | 12/07/2006 | Kimura et al. |
| | A526 | 2006/0282383 | 12/14/2006 | Doran |
| | A527 | 2006/0279628 | 12/14/2006 | Fleming |
| | A528 | 2006/0291744 | 12/28/2006 | Ikeda et al. |
| | A529 | 2007/0002157 | 01/04/2007 | Shintani et al. |
| | A530 | 7,163,347 | 01/16/2007 | Lugg |
| | A531 | 2007/0016796 | 01/18/2007 | Singhal |
| | A532 | 2007/0013721 A1 | 01/18/2007 | Vau |
| | A533 | 2007/0022053 | 01/25/2007 | Waserstein |
| | A534 | 2007/0019243 | 01/25/2007 | Sato |
| | A535 | 2007/0027802 | 02/01/2007 | VanDeburg et al. |
| | A536 | 2007/0031022 | 02/08/2007 | Frew |
| | A537 | 2007/0030357 | 02/08/2007 | Levien et al. |
| | A538 | 2007/0038561 | 02/15/2007 | Vancini et al. |
| | A539 | 7,178,721 | 02/20/2007 | Maloney |
| | A540 | 7,181,430 | 02/20/2007 | Buchanan et al. |
| | A541 | 2007/0041629 | 02/22/2007 | Prakash et al. |
| | A542 | 7,184,980 | 02/27/2007 | Allen-Rouman et al. |
| | A543 | 2007/0050292 | 03/01/2007 | Yarbrough |
| | A544 | 7,185,805 | 03/06/2007 | McShirley |
| | A545 | 2007/0053574 | 03/08/2007 | Verma et al. |
| | A546 | 2007/0058851 | 03/15/2007 | Quine |
| | A547 | 2007/0065143 | 03/22/2007 | Didow et al. |
| | A548 | 2007/0064991 | 03/22/2007 | Douglas et al. |
| | A549 | 2007/0063016 | 03/22/2007 | Myatt |
| | A550 | 7,197,173 | 03/27/2007 | Jones et al. |
| | A551 | 7,200,255 | 04/03/2007 | Jones |
| | A552 | 2007/0077921 | 04/05/2007 | Hayashi |
| | A553 | 2007/0076941 A1 | 04/05/2007 | Carreon et al. |
| | A554 | 2007/0076940 | 04/05/2007 | Goodall et al. |
| | A555 | 2007/0075772 | 04/05/2007 | Kokubo |
| | A556 | 2007/0082700 | 04/12/2007 | Landschaft |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 11 of 43*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A557 | 2007/0080207 | 04/12/2007 | Williams |
| | A558 | 7,204,412 | 04/17/2007 | Foss, Jr. |
| | A559 | 2007/0086643 | 04/19/2007 | Spier |
| | A560 | 2007/0086642 | 04/19/2007 | Foth |
| | A561 | 2007/0084911 | 04/19/2007 | Crowell |
| | A562 | 2007/0094140 | 04/26/2007 | Riney et al. |
| | A563 | 2007/0094088 | 04/26/2007 | Mastie |
| | A564 | 2007/0100748 | 05/03/2007 | Dheer |
| | A565 | 7,216,106 | 05/08/2007 | Buchanan |
| | A566 | 7,219,082 | 05/15/2007 | Forte |
| | A567 | 2007/0110277 | 05/17/2007 | Hayduchok et al. |
| | A568 | 7,219,831 | 05/22/2007 | Murata |
| | A569 | 2007/0118472 | 05/24/2007 | Allen-Rouman et al. |
| | A570 | 2007/0124241 | 05/31/2007 | Newton |
| | A571 | 2007/0122024 | 05/31/2007 | Haas et al. |
| | A572 | 2007/0129955 | 06/07/2007 | Dalmia |
| | A573 | 2007/0127805 | 06/07/2007 | Foth et al. |
| | A574 | 2007/0136198 | 06/14/2007 | Foth et al. |
| | A575 | 2007/0131758 | 06/14/2007 | Mejias et al. |
| | A576 | 2007/0143208 | 06/21/2007 | Varga |
| | A577 | 2007/0140594 | 06/21/2007 | Franklin |
| | A578 | 2007/0140545 | 06/21/2007 | Rossignoli |
| | A579 | 2007/0138255 A1 | 06/21/2007 | Carreon et al. |
| | A580 | 2007/0150337 | 06/28/2007 | Hawkins et al. |
| | A581 | 2007/0156438 | 07/05/2007 | Popadic et al. |
| | A582 | 2007/0154098 | 07/05/2007 | Geva et al. |
| | A583 | 7,245,765 | 07/17/2007 | Myers et al. |
| | A584 | 2007/0168283 | 07/19/2007 | Alvarez et al. |
| | A585 | 2007/0168265 | 07/19/2007 | Rosenberger |
| | A586 | 7,249,076 | 07/24/2007 | Pendleton |
| | A587 | 2007/0172148 | 07/26/2007 | Hawley |
| | A588 | 2007/0172107 | 07/26/2007 | Jones et al. |
| | A589 | 2007/0171288 | 07/26/2007 | Inoue |
| | A590 | 2007/0179883 | 08/02/2007 | Questembert |
| | A591 | 7,252,224 | 08/07/2007 | Verma |
| | A592 | 2007/0183741 | 08/09/2007 | Lerman et al. |
| | A593 | 2007/0183000 | 08/09/2007 | Eisen et al. |
| | A594 | 7,257,246 | 08/14/2007 | Brodie et al. |
| | A595 | 2007/0198432 | 08/23/2007 | Pitroda et al. |
| | A596 | 2007/0194102 | 08/23/2007 | Cohen |
| | A597 | 2007/0203708 | 08/30/2007 | Polycn et al. |
| | A598 | 7,266,230 | 09/04/2007 | Doran |
| | A599 | 2007/0208816 | 09/06/2007 | Baldwin et al. |
| | A600 | 2007/0206877 | 09/06/2007 | Wu et al. |
| | A601 | 2007/0214086 | 09/13/2007 | Homoki |
| | A602 | 2007/0217669 | 09/20/2007 | Swift et al. |
| | A603 | 7,277,191 | 10/02/2007 | Metcalfe et al. |
| | A604 | 2007/0233585 | 10/04/2007 | Ben Simon et al. |
| | A605 | 2007/0233525 | 10/04/2007 | Boyle |
| | A606 | 2007/0235520 | 10/11/2007 | Smith et al. |
| | A607 | 2007/0235518 | 10/11/2007 | Mueller et al. |
| | A608 | 2007/0244782 | 10/18/2007 | Chimento |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|

*Page 12 of 43*

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A609 | 2007/0241179 | 10/18/2007 | Davis |
| | A610 | 2007/0246525 | 10/25/2007 | Smith et al. |
| | A611 | 7,290,034 | 10/30/2007 | Budd |
| | A612 | 2007/0255662 | 11/01/2007 | Tumminaro |
| | A613 | 2007/0255653 | 11/01/2007 | Tumminaro |
| | A614 | 2007/0255652 | 11/01/2007 | Tumminaro |
| | A615 | 2007/0251992 | 11/01/2007 | Sharma et al. |
| | A616 | 2007/0258634 | 11/08/2007 | Simonoff |
| | A617 | 2007/0271182 | 11/22/2007 | Prakash et al. |
| | A618 | 2007/0268540 | 11/22/2007 | Gaspardo et al. |
| | A619 | 7,299,970 | 11/27/2007 | Ching |
| | A620 | 7,299,979 | 11/27/2007 | Phillips |
| | A621 | 2007/0278286 | 12/06/2007 | Crowell et al. |
| | A622 | 2007/0288382 | 12/13/2007 | Narayanan et al. |
| | A623 | 2007/0288380 | 12/13/2007 | Starrs |
| | A624 | 7,313,543 | 12/25/2007 | Crane |
| | A625 | 2007/0299928 | 12/27/2007 | Kohli et al. |
| | A626 | 2007/0295803 | 12/27/2007 | Levine et al. |
| | A627 | 7,314,163 | 01/01/2008 | Crews et al. |
| | A628 | 2008/0002911 | 01/03/2008 | Eisen |
| | A629 | 2008/0010204 | 01/10/2008 | Rackley III et al. |
| | A630 | 7,321,874 | 01/22/2008 | Dilip |
| | A631 | 7,321,875 | 01/22/2008 | Dilip |
| | A632 | 2008/0021802 | 01/24/2008 | Pendelton |
| | A633 | 7,325,725 | 02/05/2008 | Foss, Jr. |
| | A634 | 7,328,190 | 02/05/2008 | Smith et al. |
| | A635 | 7,330,604 | 02/12/2008 | Wu et al. |
| | A636 | 2008/0040280 | 02/14/2008 | Davis et al. |
| | A637 | 7,331,523 | 02/19/2008 | Meier et al. |
| | A638 | 7,336,813 | 02/26/2008 | Prakash et al. |
| | A639 | 2008/0052182 | 02/28/2008 | Marshall |
| | A640 | 2008/0059376 | 03/06/2008 | Davis |
| | A641 | 7,343,320 | 03/11/2008 | Treyz |
| | A642 | 2008/0063253 | 03/13/2008 | Wood |
| | A643 | 2008/0071721 | 03/20/2008 | Wang |
| | A644 | 2008/0068674 | 03/20/2008 | McIntyre |
| | A645 | 7,349,566 | 03/25/2008 | Jones et al. |
| | A646 | 2008/0073423 | 03/27/2008 | Heit et al. |
| | A647 | 2008/0080760 | 04/03/2008 | Ronca |
| | A648 | 7,356,505 | 04/08/2008 | March |
| | A649 | 2008/0086770 | 04/10/2008 | Kulkarni et al. |
| | A650 | 2008/0086421 | 04/10/2008 | Gilder |
| | A651 | 2008/0086420 | 04/10/2008 | Gilder et al. |
| | A652 | 2008/0091599 | 04/17/2008 | Foss, Jr. |
| | A653 | 2008/0097899 | 04/24/2008 | Jackson et al. |
| | A654 | 2008/0103967 | 05/01/2008 | Ackert et al. |
| | A655 | 2008/0103790 | 05/01/2008 | Abernethy |
| | A656 | 2008/0115066 | 05/15/2008 | Pavley et al. |
| | A657 | 2008/0114739 | 05/15/2008 | Hayes |
| | A658 | 2008/0113674 | 05/15/2008 | Baig |
| | A659 | 2008/0119178 | 05/22/2008 | Peddireddy |
| | A660 | 2008/0117991 | 05/22/2008 | Peddireddy |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A661 | 2008/0116257 A1 | 05/22/2008 | Fickling |
| | A662 | 7,377,425 | 05/27/2008 | Ma |
| | A663 | 7,379,978 | 05/27/2008 | Anderson |
| | A664 | 7,383,227 | 06/03/2008 | Weinflash et al. |
| | A665 | 2008/0133411 | 06/05/2008 | Jones et al. |
| | A666 | 7,385,631 | 06/10/2008 | Maeno |
| | A667 | 7,386,511 | 06/10/2008 | Buchanan |
| | A668 | 2008/0140579 | 06/12/2008 | Sanjiv |
| | A669 | 2008/0147549 | 06/19/2008 | Ruthbun |
| | A670 | 7,391,897 | 06/24/2008 | Jones et al. |
| | A671 | 7,391,934 | 06/24/2008 | Goodall et al. |
| | A672 | 2008/0155672 | 06/26/2008 | Sharma |
| | A673 | 7,392,935 | 07/01/2008 | Byrne |
| | A674 | 2008/0162371 | 07/03/2008 | Rampell et al. |
| | A675 | 2008/0162350 | 07/03/2008 | Allen-Rouman et al. |
| | A676 | 2008/0162319 A1 | 07/03/2008 | Breeden et al. |
| | A677 | 2008/0156438 | 07/03/2008 | Stumphauzer et al. |
| | A678 | 7,401,048 | 07/15/2008 | Rosedale |
| | A679 | 7,403,917 | 07/22/2008 | Larsen |
| | A680 | 2008/0177659 | 07/24/2008 | Lacey et al. |
| | A681 | 7,406,198 | 07/29/2008 | Aoki et al. |
| | A682 | 2008/0180750 | 07/31/2008 | Feldman |
| | A683 | 2008/0208727 | 08/28/2008 | McLauqhlin et al. |
| | A684 | 2008/0205751 | 08/28/2008 | Mischler |
| | A685 | 7,421,107 | 09/02/2008 | Lugg |
| | A686 | 7,421,410 | 09/02/2008 | Schechtman et al. |
| | A687 | 2008/0214180 | 09/04/2008 | Cunningham et al. |
| | A688 | 2008/0219543 | 09/11/2008 | Csulits |
| | A689 | 7,427,016 | 09/23/2008 | Chimento |
| | A690 | 7,433,098 | 10/07/2008 | Klein et al. |
| | A691 | 2008/0249951 | 10/09/2008 | Gilder et al. |
| | A692 | 2008/0249931 | 10/09/2008 | Gilder et al. |
| | A693 | 2008/0247655 | 10/09/2008 | Yano |
| | A694 | 2008/0247629 | 10/09/2008 | Gilder |
| | A695 | 2008/0245869 | 10/09/2008 | Berkun et al. |
| | A696 | 7,437,327 | 10/14/2008 | Lam |
| | A697 | 7,440,924 | 10/21/2008 | Buchanan et al. |
| | A698 | 2008/0262953 | 10/23/2008 | Anderson |
| | A699 | 2008/0262950 | 10/23/2008 | Christensen et al. |
| | A700 | 7,447,347 | 11/04/2008 | Weber |
| | A701 | 2008/0275821 | 11/06/2008 | Bishop et al. |
| | A702 | 7,455,220 | 11/25/2008 | Phillips |
| | A703 | 7,455,221 | 11/25/2008 | Sheaffer |
| | A704 | 7,460,108 | 12/02/2008 | Tamura |
| | A705 | 2008/0301441 | 12/04/2008 | Calman et al. |
| | A706 | 7,461,779 | 12/09/2008 | Ramachandran |
| | A707 | 7,461,780 | 12/09/2008 | Potts |
| | A708 | 2008/0304769 | 12/11/2008 | Hollander et al. |
| | A709 | 7,464,859 | 12/16/2008 | Hawkins |
| | A710 | 2008/0316542 | 12/25/2008 | Mindrum et al. |
| | A711 | 7,471,818 | 12/30/2008 | Price |
| | A712 | 7,475,040 | 01/06/2009 | Buchanan |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A713 | 7,477,923 | 01/13/2009 | Wallmark |
| | A714 | 7,480,382 | 01/20/2009 | Dunbar |
| | A715 | 7,480,422 | 01/20/2009 | Ackley et al. |
| | A716 | 2009/0024520 | 01/22/2009 | Drory et al. |
| | A717 | 7,489,953 | 02/10/2009 | Griffin |
| | A718 | 7,490,242 | 02/10/2009 | Torres |
| | A719 | 2009/0046938 | 02/19/2009 | Yoder |
| | A720 | 7,497,429 | 03/03/2009 | Reynders |
| | A721 | 2009/0060396 | 03/05/2009 | Blessan et al. |
| | A722 | 2009/0066987 A1 | 03/12/2009 | Inokuchi |
| | A723 | 7,503,486 | 03/17/2009 | Ahles |
| | A724 | 7,505,759 | 03/17/2009 | Rahman |
| | A725 | 7,506,261 | 03/17/2009 | Statou |
| | A726 | 2009/0076921 A1 | 03/19/2009 | Nelson et al. |
| | A727 | 7,509,287 | 03/24/2009 | Nutahara |
| | A728 | 7,512,564 | 03/31/2009 | Geer |
| | A729 | 2009/0094148 | 04/09/2009 | Gilder et al. |
| | A730 | 7,519,560 | 04/14/2009 | Lam |
| | A731 | 7,520,420 | 04/21/2009 | Phillips |
| | A732 | 7,520,422 | 04/21/2009 | Robinson et al. |
| | A733 | 2009/0110281 | 04/30/2009 | Hirabayashi |
| | A734 | 2009/0108080 | 04/30/2009 | Meyer |
| | A735 | 2009/0114716 A1 | 05/07/2009 | Ramachandran |
| | A736 | 7,536,354 | 05/19/2009 | deGroeve et al. |
| | A737 | 7,536,440 | 05/19/2009 | Budd |
| | A738 | 7,539,646 | 05/26/2009 | Gilder |
| | A739 | 7,540,408 | 06/02/2009 | Levine |
| | A740 | 7,542,598 | 06/02/2009 | Jones |
| | A741 | 2009/0141962 | 06/04/2009 | Borgia et al. |
| | A742 | 7,545,529 | 06/09/2009 | Borrey et al. |
| | A743 | 7,548,641 | 06/16/2009 | Gilson et al. |
| | A744 | 2009/0164370 | 06/25/2009 | Sorbe et al. |
| | A745 | 2009/0164350 | 06/25/2009 | Sorbe et al. |
| | A746 | 2009/0171825 | 07/02/2009 | Roman |
| | A747 | 2009/0171819 | 07/02/2009 | Emde et al. |
| | A748 | 2009/0167870 | 07/02/2009 | Caleca et al. |
| | A749 | 2009/0166406 | 07/02/2009 | Pigg et al. |
| | A750 | 2009/0173781 | 07/09/2009 | Ramachadran |
| | A751 | 2009/0185738 | 07/23/2009 | Nepomniachtchi |
| | A752 | 2009/0185737 | 07/23/2009 | Nepomniachtchi |
| | A753 | 2009/0185241 | 07/23/2009 | Nepomniachtchi |
| | A754 | 7,566,002 | 07/28/2009 | Love et al. |
| | A755 | 2009/0192938 | 07/30/2009 | Amos |
| | A756 | 2009/0190823 | 07/30/2009 | Walters |
| | A757 | 7,571,848 | 08/11/2009 | Cohen |
| | A758 | 2009/0212929 | 08/27/2009 | Drory et al. |
| | A759 | 7,587,066 | 09/08/2009 | Cordery et al. |
| | A760 | 7,587,363 | 09/08/2009 | Cataline |
| | A761 | 7,590,275 | 09/15/2009 | Clarke et al. |
| | A762 | 2009/0240620 | 09/24/2009 | Kendrick et al. |
| | A763 | 2009/0236413 | 09/24/2009 | Mueller et al. |
| | A764 | 7,599,543 | 10/06/2009 | Jones |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./

**Information Disclosure Statement**

Application No. To be assigned Attorney Docket No. US-0152.11 (14538-668)

| EXAMINER INITIAL | | DOCUMENT NUMBER Number-Kind Code (if known) | DATE | NAME |
|---|---|---|---|---|
| | A765 | 7,599,888 | 10/06/2009 | Manfre |
| | A766 | 2009/0254447 | 10/08/2009 | Blades |
| | A767 | 2009/0252437 | 10/08/2009 | Li |
| | A768 | 7,602,956 | 10/13/2009 | Jones |
| | A769 | 7,606,762 | 10/20/2009 | Heit |
| | A770 | 2009/0263019 | 10/22/2009 | Tzadok et al. |
| | A771 | 7,609,873 | 10/27/2009 | Foth et al. |
| | A772 | 7,609,889 | 10/27/2009 | Guo et al. |
| | A773 | 2009/0271287 A1 | 10/29/2009 | Halpern |
| | A774 | 2009/0281904 | 11/12/2009 | Pharris |
| | A775 | 7,619,721 | 11/17/2009 | Jones |
| | A776 | 7,620,231 | 11/17/2009 | Jones |
| | A777 | 7,620,604 | 11/17/2009 | Bueche, Jr. |
| | A778 | 2009/0284637 | 11/19/2009 | Parulski et al. |
| | A779 | 2009/0292628 | 11/26/2009 | Dryer et al. |
| | A780 | 2009/0290751 | 11/26/2009 | Ferman et al. |
| | A781 | 7,630,518 | 12/08/2009 | Frew et al. |
| | A782 | 2009/0313167 | 12/17/2009 | Dujari et al. |
| | A783 | 2009/0319425 A1 | 12/24/2009 | Tumminaro et al. |
| | A784 | 2009/0327129 | 12/31/2009 | Collas et al. |
| | A785 | 7,644,037 | 01/05/2010 | Ostrovsky |
| | A786 | 7,644,043 | 01/05/2010 | Minowa |
| | A787 | 7,647,275 | 01/12/2010 | Jones |
| | A788 | 2010/0007899 | 01/14/2010 | Lay |
| | A789 | 2010/0030687 | 02/04/2010 | Panthaki et al. |
| | A790 | 2010/0027679 | 02/04/2010 | Sunahara et al. |
| | A791 | 7,668,363 | 02/23/2010 | Price |
| | A792 | 2010/0047000 | 02/25/2010 | Park et al. |
| | A793 | 7,672,022 | 03/02/2010 | Fan |
| | A794 | 7,672,940 | 03/02/2010 | Viola |
| | A795 | 2010/0057578 | 03/04/2010 | Blair et al. |
| | A796 | 7,676,409 | 03/09/2010 | Ahmad |
| | A797 | 2010/0061446 | 03/11/2010 | Hands et al. |
| | A798 | 7,680,732 | 03/16/2010 | Davies et al. |
| | A799 | 7,680,735 | 03/16/2010 | Loy |
| | A800 | 7,689,482 | 03/30/2010 | Lam |
| | A801 | 2010/0082470 | 04/01/2010 | Walach |
| | A802 | 2010/0082468 A1 | 04/01/2010 | Low et al. |
| | A803 | 2010/0078471 | 04/01/2010 | Lin et al. |
| | A804 | 7,697,776 | 04/13/2010 | Wu et al. |
| | A805 | 7,698,222 | 04/13/2010 | Bueche, Jr. |
| | A806 | 7,702,588 | 04/20/2010 | Gilder et al. |
| | A807 | 7,714,778 | 05/11/2010 | Dupray |
| | A808 | 7,720,735 | 05/18/2010 | Anderson et al. |
| | A809 | 7,734,545 | 06/08/2010 | Fogliano |
| | A810 | 7,743,979 | 06/29/2010 | Fredman |
| | A811 | 2010/0165015 | 07/01/2010 | Barkley et al. |
| | A812 | 7,753,268 | 07/13/2010 | Robinson et al. |
| | A813 | 7,761,358 | 07/20/2010 | Craig et al. |
| | A814 | 7,766,244 | 08/03/2010 | Field |
| | A815 | 7,769,650 | 08/03/2010 | Bleunven |
| | A816 | 2010/0198733 | 08/05/2010 | Gantman et al. |

| Examiner Signature | /I JUNG LIU/ | Date Considered | 03/01/2022 |
|---|---|---|---|



ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.L./