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Application Number: 16988413 Document Date: 08/07/2020

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Form Revision Date: March 1, 2019

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 870288.401C2	APPLICATION NO.
INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	FIRST NAMED INVENTOR Thinh Tran	
	FILING DATE	GROUP ART UNIT

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	NAME	FILING DATE IF APPROPRIATE
	1	2003/0095149	A1	05-22-2003	Fredriksson et al.	
	2	2004/0021673	A1	02-05-2004	Alessi et al.	
	3	2004/0125150	A1	07-01-2004	Adcock et al.	
	4	2005/0091596	A1	04-28-2005	Anthony et al.	
	5	2005/0114781	A1	05-26-2005	Brownholtz et al.	
	6	2005/0154988	A1	07-14-2005	Proehl et al.	
	7	2005/0210410	A1	09-22-2005	Ohwa et al.	
	8	2007/0061748	A1	03-15-2007	Hirose	
	9	2008/0294663	A1	11-27-2008	Heinley et al.	
	10	2009/0150822	A1	06-11-2009	Miller et al.	
	11	2010/0077355	A1	03-25-2010	Belinsky et al.	
	12	2010/0095238	A1	04-15-2010	Baudet	
	13	2011/0004662	A1	01-06-2011	Dodsworth	
	14	2013/0024803	A1	01-24-2013	Workman et al.	
	15	2013/0073984	A1	03-21-2013	Lessin et al.	
	16	2013/0157234	A1	06-20-2013	Gulli et al.	
	17	2013/0290430	A1	10-31-2013	Yung et al.	
	18	2014/0013243	A1	01-09-2014	Flynn, III et al.	
	19	2014/0040379	A1	02-06-2014	Sittig et al.	
	20	2014/0089816	A1	03-27-2014	DiPersia et al.	
	21	2014/0324797	A1	10-30-2014	Yung et al.	
	22	2015/0120766	A1	04-30-2015	Hamilton et al.	
	23	2015/0220264	A1	08-06-2015	Lewis et al.	
	24	2015/0378556	A1	12-31-2015	Ramanathan et al.	
	25	2016/0274785	A1	09-22-2016	Tolia et al.	
	26	2016/0364085	A1	12-15-2016	Henderson et al.	

EXAMINER	DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE **INFORMATION DISCLOSURE STATEMENT** (Use several sheets if necessary)	ATTY. DOCKET NO. 870288.401C2	APPLICATION NO.
	FIRST NAMED INVENTOR Thinh Tran	
	FILING DATE	GROUP ART UNIT

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	NAME	FILING DATE IF APPROPRIATE
	27	2017/0169800	A1	06-15-2017	Greco et al.	
	28	2019/0147017	A1	05-16-2019	Tran	
	29	8,793,579	B2	07-29-2014	Halliday et al.	
	30	8,990,255	B2	03-24-2015	Metsätähti et al.	

EXAMINER	DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	FLUID TIMELINE SOCIAL NETWORK
First Named Inventor/Applicant Name:	Thinh Tran
Filer:	Karl Anthony Hefter/Erika Taylor
Attorney Docket Number:	870288.401C2

Filed as Small Entity

Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	75	75
UTILITY SEARCH FEE	2111	1	330	330
UTILITY EXAMINATION FEE	2311	1	380	380
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2000	2000
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	1	50	50
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70

Petition:	
Patent-Appeals-and-Interference:	
Post-Allowance-and-Post-Issuance:	
Extension-of-Time:	
Miscellaneous:	
Total in USD ($)	**2905**

Electronic Acknowledgement Receipt

EFS ID:	40229676
Application Number:	16988413
International Application Number:	
Confirmation Number:	9294
Title of Invention:	FLUID TIMELINE SOCIAL NETWORK
First Named Inventor/Applicant Name:	Thinh Tran
Customer Number:	500
Filer:	Karl Anthony Hefter/Erika Taylor
Filer Authorized By:	Karl Anthony Hefter
Attorney Docket Number:	870288.401C2
Receipt Date:	07-AUG-2020
Filing Date:	
Time Stamp:	18:27:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$2905
RAM confirmation Number	E202087I28079702
Deposit Account	191090
Authorized User	Erika Taylor

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

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	TrackOne Request	870288401C2_Track1.pdf	113866 ab311370dbf65710c283aec8048612e9adf763b7	no	2
Warnings:					
Information:					
2	Application Data Sheet	870288401C2_ADS.pdf	1255932 34e33fa81adef4e2b8d4ddcb3a1b39b873acce9b	no	8
Warnings:					
Information:					
3		870288401C2_Specification.pdf	159746 b8956b59be58e0facc891fad5e60a48ca37a36d6	yes	55

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	49
Claims	50	54
Abstract	55	55

Warnings:					
Information:					
4	Drawings-only black and white line drawings	870288401C2_Drawings.pdf	2659661 ac431f9117c3a8dd5ace05588c796d1135a6c24e	no	15
Warnings:					
Information:					
5	Oath or Declaration filed	870288401C2_Declaration.pdf	1983022 d929a2c026d2b3c99d616211a1d5dcdeca8f70b7	no	2

Warnings:					
Information:					
6	Power of Attorney	870288401C2_POA.pdf	184782 2c12e1b8c27def7aa60119297ea35c74018878fc	no	2
Warnings:					
Information:					
7	Transmittal Letter	870288401C2_IDSTransmittal.pdf	96534 908b49d8c4114e23dc5658f6f7aa47025cc65e43	no	3
Warnings:					
Information:					
8	Information Disclosure Statement (IDS) Form (SB08)	870288401C2_1449.pdf	93093 c180afef0ae34d0f0005c9c32bc8496eaa5430b5	no	2
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
9	Fee Worksheet (SB06)	fee-info.pdf	41593 69f0d87c3ec4882679fd177e0d81591d5ed2a398	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	6588229		

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.

<u>New Applications Under 35 U.S.C. 111</u>
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.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
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.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
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.

PTO/AIA/82A (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
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.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	
Filing Date	
First Named Inventor	Thinh Tran
Title	FLUID TIMELINE SOCIAL NETWORK
Art Unit	
Examiner Name	
Attorney Docket Number	870288.401C2

SIGNATURE of Applicant or Patent Practitioner

Signature	/Karl A. Hefter/	Date (Optional)	August 7, 2020
Name	Karl A. Hefter	Registration Number	65,851
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ *Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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.

PTO/AIA/82B (07-13)
Approved for use through 03/31/2021. OMB 0651-0035
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

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 00500

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

☑ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☐ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	April 7, 2020
Name	Thinh Tran		
Title	Applicant		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor : Thinh Tran
For : FLUID TIMELINE SOCIAL NETWORK

Docket No. : 870288.401C2
Date : August 7, 2020

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

TRANSMITTAL LETTER OF INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents:

In accordance with 37 CFR §§ 1.56, 1.97 and 1.98, Applicant wishes to make known to the U.S. Patent and Trademark Office the reference(s) set forth on the enclosed Information Disclosure Statement (IDS). Please acknowledge receipt by initialing and returning a copy of the IDS and kindly make the cited reference(s) of record in the above-identified application. The Director is authorized to charge any deficiencies or credit any overpayment in fees due by way of the enclosed papers only to Deposit Account No. 19 1090.

Because copies of cited U.S. patents and published patent applications are not required, they have not been provided. Copies of cited unpublished U.S. patent applications are not provided based upon the good faith belief that such applications are available in the USPTO's Image File Wrapper system. Copies of all other reference(s) are provided except as noted.

☒ I. This IDS is being submitted pursuant to 37 CFR § 1.97(b) during one of the following time periods:

Within three months of the filing date of a national application other than a Continued Prosecution Application under 37 CFR § 1.53(d); Within three months of the date of entry of the national stage as set forth in 37 CFR § 1.491 in an international application; Before the mailing of a first Office Action on the merits; Before the mailing of a first Office Action after the filing of a Request for

Continued Examination under 37 CFR § 1.114; or Within three months of the date of publication of the international registration under Hague Agreement Article 10(3) in an international design application.

☐ II. This IDS is being submitted pursuant to 37 CFR § 1.97(c) after the period specified in 37 CFR § 1.97(b), but before the mailing date of a final Office Action under 37 CFR § 1.113, a Notice of Allowance under 37 CFR § 1.311, or any other action that closes prosecution in the application. Furthermore, this IDS is accompanied by one of the following:

☐ A. The fee set forth in 37 CFR § 1.17(p); or

☐ B. The statement specified in 37 CFR § 1.97(e):

☐ 1. Each item of information contained in the IDS 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 the IDS.

☐ 2. No item of information contained in the IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this certification after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of the IDS.

☐ III. This IDS is being submitted pursuant to 37 CFR § 1.97(d) after the period specified in 37 CFR § 1.97(c) provided this IDS is filed on or before the payment of the issue fee. Furthermore, this IDS is accompanied by both:

- The fee set forth in 37 CFR § 1.17(p); and
- The statement specified in 37 CFR § 1.97(e):

☐ 1. Each item of information contained in the IDS 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 the IDS.

☐ 2. No item of information contained in the IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this certification after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of the IDS.

PTA CERTIFICATION

☐ In accordance with 37 CFR § 1.704(d), a Patent Term Adjustment Statement

(PTO/SB/133) is included with this submission.

This IDS is not to be construed as a representation that a search has been made or an admission that any cited reference is considered to be prior art under 35 U.S.C. §§ 101, 102 or 103, or material to patentability under 37 CFR § 1.56. Notwithstanding the fact that the reference(s) being cited in this IDS are being made known to the USPTO in compliance with Applicant's duty to disclose, Applicant believes that their invention is patentable.

The Director is authorized to charge any deficiencies or credit any overpayment in fees due by way of the enclosed papers only to Deposit Account No. 19-1090.

Respectfully submitted,

SEED Intellectual Property Law Group LLP

/Karl A. Hefter/
Karl A. Hefter
Registration No. 65,851

KAH:est

Enclosure(s):
Information Disclosure Statement

701 Fifth Avenue, Suite 5400
Seattle, Washington 98104
Phone: (206) 622-4900
Fax: (206) 682-6031

7452278_1

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)

First Named Inventor:	Thinh Tran	Nonprovisional Application Number (if known):	
Title of Invention:	FLUID TIMELINE SOCIAL NETWORK		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently $0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.

2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.

3. The applicable box is checked below:

I. ☑ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, **or** the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Karl A. Hefter/	Date August 7, 2020
Name (Print/Typed) Karl A. Hefter	Practitioner Registration Number 65,851

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.**

☐ *Total of _____ forms are submitted.

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.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. 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 contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	870288.401C2
	Application Number	
Title of Invention	FLUID TIMELINE SOCIAL NETWORK	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 — Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Thinh		Tran	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Kirkland	WA	US

Mailing Address of Inventor:

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All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

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Application Information:

Title of the Invention	FLUID TIMELINE SOCIAL NETWORK		
Attorney Docket Number	870288.401C2	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	15	**Suggested Figure for Publication (if any)**	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	870288.401C2
	Application Number	
Title of Invention	FLUID TIMELINE SOCIAL NETWORK	

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For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

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☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	16/549859	2019-08-23

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	870288.401C2
	Application Number	
Title of Invention	FLUID TIMELINE SOCIAL NETWORK	

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
16/549859	Continuation of	16/300028	2018-11-08
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
16/300028	a 371 of international	PCT/US2017/032037	2017-05-10
Prior Application Status	Expired		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
PCT/US2017/032037	Claims benefit of provisional	62/334318	2016-05-10

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Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	870288.401C2
	Application Number	
Title of Invention	FLUID TIMELINE SOCIAL NETWORK	

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When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	870288.401C2
	Application Number	
Title of Invention	FLUID TIMELINE SOCIAL NETWORK	

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Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

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If the Applicant is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Applicant:

Address 1			
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	870288.401C2
	Application Number	
Title of Invention	FLUID TIMELINE SOCIAL NETWORK	

Assignee 1

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Signature	/Karl A. Hefter/			Date (YYYY-MM-DD)	2020-08-07
First Name	Karl A.	Last Name	Hefter	Registration Number	65851

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	870288.401C2
	Application Number	
Title of Invention	FLUID TIMELINE SOCIAL NETWORK	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

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FLUID TIMELINE SOCIAL NETWORK

BACKGROUND

Technical Field

The present application pertains to social media networks, and more particularly to a fluid timeline, time-based social network that orders posted content based on the time it was posted as well as a user-specified date to be associated with the content.

Description of the Related Art

Social media networks have been around for many years and they are very popular. Some social media networks have millions, tens of millions, and even hundreds of millions of daily users. Many social media networks, such as FACEBOOK, TWITTER, INSTAGRAM, and the like, allow users to generate content, which may then be posted or otherwise provided to a user's network of friends, followers, and others.

The user-generated content is typically displayed to users as part of a "wall" or "feed" of posted content. Users scroll through the feed backward in time starting from the current time. That is, the most recently posted content from within any particular user's network is generally displayed at the top of the wall or feed, while the oldest content is not displayed at all. To reach the older and oldest content, the user has to scroll through a large amount of intervening content, which has also been posted at some particular time in the past.

Further, content posted in conventional social media networks is displayed solely as of the time and date that the content was posted. Thus, content of a particular user's feed is only be displayed as of the time and date that the content was posted.

All of the subject matter discussed in the Background section is not necessarily prior art and should not be assumed to be prior art merely as a result of its discussion in the Background section. Along these lines, any recognition of problems in the prior art discussed in the Background section or associated with such subject matter should not be treated as prior art unless expressly stated to be prior art. Instead, the discussion of any subject matter in the Background section should be treated as part of the inventor's approach to the particular problem, which in and of itself may also be inventive.

BRIEF SUMMARY

The use of conventional social networks and methodologies to develop social network architectures has led to the discovery of a significant drawback with the conventional approach. The user experience provided by conventional social networks heretofore been an iterative and inefficient process. Each portion of user-generated content is stored by the date it is uploaded to the social network, and the ability to find or re-find previously stored content is monotonous, inefficient, and in some cases impossible. Even when a social networking user knows that certain content is stored in the social network's server architecture, it is often very difficult to search or scroll through other content to locate the material of interest.

The present disclosure, in part, addresses a desire for a more intuitive, user-friendly time-based social network application. More particularly, the present disclosure provides a time-based social media network architecture that allows users to post "stories" (*e.g.*, image, video, text, other such objects or information) that will be presented (*e.g.*, played, displayed, read, tactually delivered, or presented in other ways) to one or more users at any desired time (*e.g.*, a time in the present, past, or future). Users, via a computing device (*e.g.*, smartphone, tablet, laptop, wearable computing device, desktop computing device, kiosk, etc.), are exposed to a story "feed" that may include some or all of the

particular user's own posted stories, as well as stories posted by other users within the particular user's network (*e.g.*, friends). Each feed is arranged in at least two ways.

In a first "browsing mode," for example, users may scroll horizontally to view time periods of interest, with each time period (*e.g.*, days, weeks, months, years, etc.) represented along a horizontal timeline. As such, users may quickly and efficiently scroll to a particular time period. Then, the user may select that time period to enter the second "reading mode" to view or otherwise access all of the stories within the user's feed that are associated with that time period.

In the second reading mode, once a time period has been selected, the user's feed presents all of the stories within that particular time period along a vertically-arranged timeline. In some embodiments, the most recently created stories are displayed toward one end of the vertical timeline (*e.g.*, the top end), while the oldest stories are displayed toward the other end of the vertical timeline (*e.g.*, the bottom end). In other embodiments, the vertical ordering is arranged according to a different parameter such as proximity to a particular geographic location, topical subject matter (*e.g.*, food, travel, sports, items for sale, or any other such topic), or some other parameter.

When users create a story within the fluid timeline social network, the user may assign any past date, present date, or future date to that story. Based on the user-specified date, the story will appear in the user's feed, as well as the feed of any other user having access to the particular story, as having occurred or expecting to occur at the date, time, or date and time specified by the user.

In a first embodiment, a method organizes a time-based social network in a computing server architecture. The computing server architecture has one or more processor cores arranged to execute instructions stored in associated memory, and the instructions are directed by requests received from a plurality of remote computing devices. The method includes the acts of receiving a plurality of stories generated by users of the time-based social network, each story associated

with a user-specified date, assigning a different system-wide unique number to each of the received plurality of stories, and storing each of the received plurality of stories in memory and, based on its assigned system-wide unique number, associating each of the received plurality of stories with a user, a time-date stamp, and the user-specified date. The method also includes the acts of feeding to a first user remote computing device a plurality of stories, the plurality of stories arranged for presentation based on the user-specified date accepting input directions from the first user remote computing device, the input directions arranged to request one or more sequenced stories, each of the one or more sequenced stories associated with a same selected date, the input directions further arranged to change the selected date to a different selected date.

In at least some case of the first embodiment, storing each of the received plurality of stories in memory includes further associating each of the received plurality of stories with a geographic location, and in at least some cases, storing each of the received plurality of stories in memory includes further associating each of the received plurality of stories with a user-specified topic. In these or in other cases of the first embodiment, storing each of the received plurality of stories in memory includes further associating each of the received plurality of stories with a system-determined topic, and in some cases, the time-date stamp is an actual time and date that the created story is received by a determined node of the computing server architecture.

Sometimes, in cases of the first embodiment, the one or more sequenced stories are sequenced based on the time-date stamp and stories that are more recent in time are fed before stories that are more distant in time, and sometimes, the one or more sequenced stories are sequenced based on a current reported location of the first user remote computing device and stories that are closer in proximity to the current reported location are fed before stories that are further away from the current reported location.

In at least some cases, acts of the first embodiment also include, based on a change of the selected date to the different selected date, feeding to the first user remote computing device a second plurality of stories, the second plurality of stories arranged for presentation based on the different selected date. In at least some of the cases that act based on a change of the selected date to the different selected date, the second plurality of stories includes a second sequence of stories, each of the stories in the second sequence being associated with a different selected date that is progressively closer to the different selected date, and in at least some of these cases, upon sending a first story associated with the different selected date, the method includes feeding to the first user remote computing device a third plurality of stories, the third plurality of stories arranged for presentation based on the different selected date, wherein each of the third plurality of stories is one of a sequence of stories associated with the different selected date.

In a second embodiment, a method to interact with a time-based social network that is arranged to operate in a computing server architecture is disclosed. The method is implemented on a mobile computing device having at least one processor arranged to execute instructions stored in a non-transitory computer readable media associated with the at least one processor, and the method includes the act of forming a communicative relationship with the computing server architecture, wherein the computing server architecture is arranged to access a database architecture that stores a plurality of stories generated by users of the time-based social network, each story of the plurality of stories associated with a user-specified date. The method also includes the acts of communicating a user-selected date to the computing server architecture, and receiving at the mobile computing device a plurality of stories, the plurality of stories arranged for horizontally and vertically scrollable presentation based on the user-selected date.

In some cases of the second embodiment, the method includes presenting the plurality of stories based on the user-selected date such that stories associated with the user-selected date are vertically presented in a primary focus area of a display of the mobile computing device and stories not associated with the user-selected date are vertically presented in one or more secondary focus areas of the display of the mobile computing device, and in some of these cases, the method also includes the acts of accepting vertical scrolling information, the vertical scrolling information arranged to request a first sequence of stories, each story of the first sequence associated with a same selected date, receiving stories of the first sequence from the computing server architecture, and vertically presenting the received stories of the requested first sequence in the primary focus area of the display of the mobile computing device.

In some cases of the second embodiment, the method includes accepting horizontal scrolling information, the horizontal scrolling information arranged to request a one or more second sequences of stories, the one or more second sequences associated with sequentially incrementing dates or sequentially decrementing dates, and horizontally presenting on the display of the mobile computing device a plurality of vertically arranged columns of stories, each of the vertically arranged columns associated with a next sequential date. In some of these cases, the sequentially incrementing dates are sequentially incrementing by month or by year and wherein each sequential vertically arranged column includes stories of a next sequential month or a next sequential year, respectively.

In still some other cases of the second embodiment, the method includes presenting the plurality of stories includes outputting multimedia content, and sometimes in these cases, the multimedia content includes audio content and video content. Sometimes, in the second embodiment, the primary focus area is a first vertical column in a central column of the display of the mobile computing device, and wherein a left secondary focus area is a second vertical column arranged on a first side of the first vertical column and wherein a right secondary

focus area is a third vertical column arranged on a second side of the first vertical column, the second side opposite the first side.

In another embodiment, a time-based social network architecture includes a story database to store stories generated by users of a time-based social network, an image database to store images provided by users of the time-based social network, and a fluid timeline social network application hosted at least partially on a server computer including a processor and a computer-readable storage medium. When the fluid timeline social network application is in operation, the application is configured to receive from a user computer device a created story, the created story including at least one of textual information and image information, receive from the user computer device a user-specified date to be associated with the created story, and associate the created story with the user-specified date. The application is also configured to associate the created story with an actual time and date that the created story is received by the fluid timeline social network application, and provide the story to the story database for storage.

In some cases of this embodiment, the fluid timeline social network application is further configured to receive from the user computer device a user-selected date, and provide to the user computer device a first plurality of stories associated with the user-selected date and a second plurality of stories associated with a date sequentially later or sequentially earlier than the user-selected date, the first and second pluralities of stories arranged for horizontally and vertically scrollable presentation based on the user-selected date.

In at least one embodiment, a social network is provided that includes a story database, an image database and a fluid timeline social network application. The story database is configured to store stories generated by users of the social network. The image database is configured to store images provided by users of the social network. The fluid timeline social network application is hosted at least partially on a server computer including a processor and a computer-readable storage medium, and is configured to: receive from a user

computer device a created story, the created story including at least one of textual information and image information, receive from the user computer device a user-specified date to be associated with the created story, associate the created story with the user-specified date, associate the created story with an actual time and date that the created story is received by the fluid timeline social network application, and provide the story to the story database for storage.

These features with other objects and advantages, which will become subsequently apparent, reside in the details of construction and operation as more fully described hereafter and claimed, reference being had to the accompanying drawings forming a part hereof.

Within the social networking architectures and methods discussed in the present disclosure, the social networks are organized as time-based or as having a fluid timeline.

The innovation described in the present disclosure is new and useful, and the innovation is not well-known, routine, or conventional in the social networking industry.

The innovation described herein uses known building blocks combined in new and useful ways along with other structures and limitations to create something more than has heretofore been conventionally known. The embodiments improve on computing systems which, when un-programmed or differently programmed, cannot perform or provide the specific time-based social networking features claimed herein.

The embodiments described in the present disclosure improve upon known social networking architectures, structures, processes, and techniques.

The computerized acts described in the embodiments herein are not purely conventional and are not well understood. Instead, the acts are new to the industry. Furthermore, the combination of acts as described in conjunction with the present embodiments provides new information, motivation, and business results that are not already present when the acts are considered separately.

There is no prevailing, accepted definition for what constitutes an abstract idea. To the extent the concepts discussed in the present disclosure may be considered abstract, the claims present tangible, practical, and concrete applications of said allegedly abstract concepts.

The embodiments described herein use computerized technology to improve the technology of social networks, but other techniques and tools remain available to develop, implement, and operate social networks. Therefore, the claimed subject matter does not foreclose the whole or even substantial social networking technological area.

These features with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully described hereafter and claimed, reference being had to the accompanying drawings forming a part hereof.

This Brief Summary has been provided to introduce certain concepts in a simplified form that are further described in detail below in the Detailed Description. The Brief Summary presented here is not intended to identify key or essential features of the claimed subject matter, nor is it intended to limit the scope of the claimed subject matter.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Non-limiting and non-exhaustive embodiments are described with reference to the following drawings, wherein like labels refer to like parts throughout the various views unless otherwise specified. The sizes and relative positions of elements in the drawings are not necessarily drawn to scale. For example, the shapes of various elements are selected, enlarged, and positioned to improve drawing legibility. The particular shapes of the elements as drawn have been selected for ease of recognition in the drawings. One or more embodiments are described hereinafter with reference to the accompanying drawings in which:

FIG. 1 is a block diagram illustrating a fluid timeline social network system, in accordance with one or more embodiments of the present disclosure;

FIG. 2 includes FIGS. 2A and 2B;

FIG. 2A illustrates a graphical user interface view of a browsing mode for interacting with a user's fluid timeline social network feed, in accordance with one or more embodiments of the present disclosure;

FIG. 2B illustrates a graphical user interface view of a reading mode for interacting with a user's fluid timeline social network feed, in accordance with one or more embodiments of the present disclosure;

FIG. 3 includes FIGS. 3A to 3H;

FIGS. 3A-3H are a plurality of exemplary user interface "screen shots" of a user's computer device according to embodiments described in the present disclosure;

FIG. 4 illustrates an embodiment of a fluid timeline social network system;

FIG. 5 illustrates another embodiment of a fluid timeline social network system;

FIG. 6 illustrates yet one more embodiment of a fluid timeline social network system;

FIG. 7 illustrates a method to organize a time-based social network in a computing server architecture; and

FIG. 8 illustrates a method to interact with a time-based social network that is arranged to operate in a computing server architecture using a mobile computing device.

DETAILED DESCRIPTION

In the following description, certain specific details are set forth in order to provide a thorough understanding of various disclosed embodiments. However, one skilled in the relevant art will recognize that embodiments may be

practiced without one or more of these specific details, or with other methods, components, materials, etc. In other instances, well-known structures associated with computing systems including client and server computing systems, as well as networks have not been shown or described in detail to avoid unnecessarily obscuring descriptions of the embodiments.

Prior to setting forth the embodiments however, it may be helpful to an understanding thereof to first set forth definitions of certain terms that are used hereinafter.

In the present disclosure, a "story" is a computer based object that includes one or many storage elements organized in a consistent way such the each story may be individually recognized. In one non-limiting embodiment, a story includes at least one multimedia portion, a time and date stamp associated with acceptance of the multimedia object into the time-based social network (*e.g.*, at a determined node, circuit, module, or the like), and user-selected time information associated with a presentation of the story. The multimedia portion may optionally include any one or more of a photo, a video, an audio clip, text, a digitized block of memory that represents tactile information, a digitized block of memory that represents smell or other olfactory information, a digitized block of memory that represents electronically collected emotional, brain signal, or other physiological information, and any other like information. Stories may include, for example, an image or a video captured by a user of a smartphone or wearable device having an associated camera, and additionally or alternatively, the stories may include a text description describing an aspect of the image or video, or the story may be a purely text-based story.

In some cases, stories include additional information such as geographical information associated with the content of the story, geographical information associated with the user that is posting the story, topical information associated with the content of the story, and any other such information provided

by a user or by the time-based social network and permitted by the time-based social network.

A story in many cases is arranged as a collection of data (*e.g.*, information) stored in a transitory or non-transitory computer readable medium. The data of a story may be stored in a single location, or the data of a story may be distributed and stored in a plurality of locations. The data of a story may be stored local to a device that has generated the data or that will present the data. In some case, the data of a story is stored remotely such as in a database that is in whole or in part indexed, searchable, relational, or having other known database characteristics.

Stories, for the sake of example and not limitation, may be associated with social aspects of an individual, social aspects of a business, social aspects of another type of organization (*e.g.*, educational institution, government entity, non-profit organization, or any other such organization), an item for rent or sale or some other commercial purpose, a job or some other employment or service offering, a resume, travel, a geographic area of location, or any other like purpose. Many other types of information have been contemplated for inclusion in the data of a story, but such information has been omitted for brevity and not for limitation.

A story may be posted by a user of the time-based social network. Posting includes electronically providing some or all data of the story to the time-based social network. Posting may also include presenting some or all of the data of a story or communicating such data to a remote device for presentation. The presentation of one or more stories may be via a software application such as a web browser executing on a computing device (*e.g.*, a smartphone, a tablet, a laptop, a wearable computing device, a computing device implanted in an human, a desktop computing device, a kiosk, a ground-based or airborne vehicle, or any other such computing device).

A story may be viewed by a user of the time-based social network, wherein viewing a story may include a presentation of the story on a display or via an audio device such as a speaker, piezo device, or some other audio device. Viewing a story may also include delivery of the story's tactile information, olfactory information, physiological information, or other information.

A fluid timeline social network, which may also be referred to herein as a time-based social network is provided to allow users to view stories created by the user, as well as stories created by other users of the social network system.

When a user creates a story, the user may assign any time (*e.g.*, time of day, date, or time of day and date) in the past, in the present, or in the future to be associated with that story. As such, the story will show up in the user's time-based social network feed as having occurred or as will occur an the assigned time. For example, a first user may create a story by uploading a photo taken years in the past. The first user may add descriptive text as part of the story, and the first user may further associate the created story with the date that the photo was taken. From this information, the time-based social network will present that created story in the first user's feed, as well as the feeds of other user's associated with the first user (*i.e.*, "friends"), as of the date the photo was taken, and according to the time of day, date, or time of day and date assigned by the first user.

In some embodiments, a user feed, which may also be referred to as "a wall," can be presented in the fluid timeline social network in two modes: a browsing mode, and a reading mode. In the browsing mode, users are presented with icons or columns of stories arranged along a horizontal timeline, with each icon or column representing a particular period of time (*e.g.*, a day, a week, a month, a year, a period of days, weeks, months, or years, etc.). Users may scroll along the horizontal timeline (*e.g.*, left and right) and select any particular time period or icon of interest (*e.g.*, a particular day, week, month or year). Once the particular time period is selected, the fluid timeline social network feed is switched

to the reading mode. In the reading mode, particular stories that have been associated with that particular time period are displayed in a scrollable, vertically-arranged timeline, with each story being ordered vertically based on the actual time the story was created or based on some other criteria such as geographic location, topic, price (*e.g.*, in the case of a marketplace), and the like as opposed to the time that was assigned to story by the creating user.

FIG. 1 is a block diagram illustrating a fluid timeline social network system 10, which for brevity may be referred to hereinafter as "system 10," in accordance with one or more embodiments of the present disclosure. The system 10 includes a computing server 20 that is configured with fluid timeline social network software 22 (*e.g.*, one or more of an application, a website, an operating system, a web server, and the like), a time association module 24 and an application interface 26 arranged as part of the social network software 22, a story database 32, an image database 34, a marketplace database 36, and any number of other databases represented by additional database 38. The computing server 20 includes computing server architecture having processor cores arranged to execute instructions stored in associated memory. The instructions executed by the processor cores are directed by requests received from a plurality of remote computing devices 12a-12n.

The system 10 may further include one or more user computer devices 12a-12n, which may access the fluid timeline social network software 22 via a first communication network 14a. User computer devices 12a-12n include, for example, fixed and mobile computing devices such as smartphones, tablet computers, laptops, wearable computing devices, computing devices implanted in an human, desktop computing devices, kiosks, ground-based or airborne vehicles, or any other such computing devices. Such computing devices have at least one processor arranged to execute instructions stored in a non-transitory computer readable media associated with the at least one processor. These electronic

circuits (*i.e.*, hardware), and other circuits are expressly arranged in the user computer devices 12a-12n but not shown for brevity.

The first communication network 14a may utilize one or more protocols to communicate via one or more physical networks, including personal networks, local area networks, and wide area networks that may implement wireless networks, dedicated lines, intranets, the Internet, and the like. The user computer devices 12a-12n are often but not necessarily capable of accessing and passing data across the first communication network 14a.

In some cases, the user computer devices 12a-12n include a user interface 13 such as a display. The user interface 13 may include a touch screen capable of receiving input from a user that touches the screen. In some embodiments, the user computer devices 12a-12n may include one or more peripheral input devices, such as a keyboard, mouse, touchpad, buttons, and the like, capable of receiving input from a user of the user computer devices 12a-12n.

The fluid timeline social network software 22 may be stored, at least partially, on transitory or non-transitory computer-readable memory contained in or otherwise accessible by the computing server 20. When one or more processing cores of the computing server 20 execute the fluid timeline social network software 22, the various features and functionalities of a time-based social network are provided as described in further detail herein.

While the fluid timeline social network software 22 is shown in FIG. 1 as residing on a single computing server 20 device, it will be readily appreciated that the fluid timeline social network software 22 may be provided in a distributed computing environment such that portions of the fluid timeline social network software 22 are stored in and/or executed by a number of physically separate server computers, each having access to one or more other portions of the fluid timeline social network software 22, which may be stored in and executed by one or more other computing server devices.

Additionally, or alternatively, the user computer devices 12a-12n may further include a local fluid timeline social network application 15. The local fluid timeline social network application 15 may be, for example, a downloaded application for local execution, which may provide some or all of the features and functionality of the fluid timeline social network software 22 to a user computer device 12a-12n. At some times, the local fluid timeline social network application 15 of a particular computer device 12a-12n is communicatively coupled to fluid timeline social network software via the application interface 26. Thus, the local fluid timeline social network application 15 may provide some or all of the features of the system 10 to a user of a user computer device 12a-12n even when, for example, the user computer device 12a-12n is not communicating with the fluid timeline social network software 22 via the first communication network 14a.

A first user of the system 10 may create a story 16 using a user computer device 12a-12n. The created story 16 is an object created by the first user of the system 10 for posting and/or for sharing with other users (*e.g.*, friends or other users connected to the first user via the system 10) of the fluid timeline social network system 10. The created story 16 may be associated with the first user's profile or account within the system 10.

Each created story 16 may be associated by the time association module 24 with two determined times. First, the time association module 24 may associate the created story 16 with a time and date that the created story 16 was actually created. Second, the time association module may associate the created story 16 with a user-specified time to be assigned to the created story 16. The user-specified time may be a user-specified time of day, a user-specified date, or a user-specified time of day and a user-specified date. In this way, users of the system 10 may specify any time, past, present, or future, to be assigned to each created story 16. As such, the created stories will appear in the users' feeds, which are time-based feeds within the fluid timeline social network system 10, as of the time specified by the user. Stated differently for ease in understanding, a

user may create a story at a first particular time and date, and the user may assign a second particular time to that story that is months or even years in the past or in the future. In such a case, the story will appear in the user's feed as well as the feeds of other users having access to the particular user's stories as of that assigned date that can even be months or years in the past or future.

In this example, the time association module 24 timestamps the created story 16 with the actual time and date that the story was created (*e.g.*, received by the time association module 24). As such, the stories created in the system 10 may be catalogued and may be presented based on when the stories were actually created as well as at the time that the creating user assigns to the story.

The user interface 13 of the computer device 12a-12n is arranged to cooperate with the fluid timeline social network software 22 via the local fluid timeline social network application 15. The cooperation may include creating and posting a story. The user interface 13 may be provided, for example, as a display of a smartphone. The user interface 13 may permit a user to enter text in a description field that is accessed by the user to enter a textual description of the story that the user is creating. The user may create a text-only story, or the user may enter text describing an image or another multimedia object to be included within the story. The user interface 13 may include a variety of features for use in creating a story, including, for example, a location tool, a file or image uploading tool, a camera tool, an emoticon tool, a time entry tool, and many other tools.

The location tool of a computer device 12a-12n may be fully or partially arranged with the local fluid timeline social network application 15 and utilized to append geospatial location data (*e.g.*, address, city, state, latitude/longitude, or the like) to a created story. The location tool may, for example, access a global positioning system (GPS) device or a mapping module within or otherwise accessible to the local fluid timeline social network application 15 or the fluid timeline social network software 22.

A file or image uploading tool may also be fully or partially arranged with the local fluid timeline social network application 15. The file or image uploading tool allows a user of the computer device 12a-12n to insert a file or image already stored on the user computer device 12a-12n into the story being created. For example, a user may use the file or image uploading tool to access an image library stored on the user computer device 12a-12n. A selected file or image may then be added to the story and inserted into an image field.

A camera tool may also be fully or partially arranged with the local fluid timeline social network application 15. A user may access a camera included or associated with the user computer device 12a-12n via the local fluid timeline social network application 15, and the user may thus take a picture or video, which may then be inserted into the image field.

In some embodiments, an emoticon tool may also be fully or partially arranged with the local fluid timeline social network application 15. The emoticon tool may be utilized to insert one or more emoticons into a description field of the created story. Further, a text input tool (*e.g.*, a virtual keyboard displayed on the computer device 12a-12n) may be provided via the user interface 13, which allows the user to provide textual input into a description field.

A time tool may also be fully or partially arranged with the local fluid timeline social network application 15. The time tool allows a user to provide a user-specified time to be associated with the created story. The user-specified time may be a user-specified time of day, a user-specified date, or a user-specified time of day. For example, using the time tool, a user may specify any past, present, or future date to be associated with the created story. Then, once the created story has been posted, the story will be inserted into the user's story feed, as well as any other users' feeds having access to or otherwise including the particular user's stories, as having occurred on the past, present, or future time associated with the story.

After the story has been created, the user may post the story utilizing a post story tool, which in some cases is implemented via user click on a single icon presented via that user interface 13. Once the created story has been posted, that story may be made available to the user, to the user's time-based social network friends, or even to all users of the system 10 depending on user preferences for the particular created story. In some cases, the user interface 13 allows the user to specify a level of privacy to be associated with each created story (*e.g.*, "public," "friends," "only me," and so on).

Referring still to FIG. 1, the created story 16 is provided to the fluid timeline social network software 22 via the first communication network 14a. The fluid timeline social network software 22 accesses the time association module 24 to "timestamp" the created story with the actual time and date that the story was created and posted. As an example, the time association module 24 may timestamp the created story 16 utilizing a UNIX timestamp retrieved by a determined node of the computing server architecture. The time association module 24 may further be utilized during creation of the story 16, to assign a particular date and/or time to that story, as described above with respect to the time tool of the computer device 12a-12n. In this way, when a user specifies a time, date, or time and date for the created story 16, the time tool may access the time association module 24, which associates the created story 16 with the specified time.

The time association module 24 provides, for every created story 16 of system 10, an association with two separate timelines. First, the time association module 24 associates a created story 16 with the actual date and time that the story was created and posted (*e.g.*, the UNIX timestamp). Second, the time association module 24 associates the user-provided time data that specifies when the created story 16 occurred or will occur (*i.e.*, where the story will be displayed with respect to a timeline representation of the user feed).

Created stories 16 are provided by the fluid timeline social network application 15 and passed by the fluid timeline social network software 22 to the story database 32, the image database 34, the marketplace database 36, or the additional database 38. The created stories 16 are passed via the second communication network 14b. The second communication network 14b may utilize one or more protocols to communicate via one or more networks along the lines of the first communication network 14a. In some cases, the first communication network 14a and the second communication network 14b are the same communication network.

Created stories 16 may be stored, in whole or in part, in story database 32. Story database 32 may be any database, and may be, for example, a DYNAMODB hosted, provided or maintained by AMAZON WEB SERVICES (AWS). Further, the story database 32 may be a distributed database, residing on more than one physical storage medium accessible by the fluid timeline social network software 22. The created stories 16 may include the user-specified and user-directed time associations (*e.g.*, time of creation, and user-assigned time for the story), which may be provided by the time association module 24 when the stories are created.

Every story stored in story database 32 may be stored in a main table in story database 32 with associated time-based accessors (*e.g.*, pointers, references, etc.) which order the stories in two directions (*e.g.*, forward in time and backward in time). These accessors allow the stories to be displayed, and scrolled through, along a horizontal timeline and along a vertical timeline.

Image database 34 may store images or other multimedia that are included as part of the created stories 16, which are created by users of the system 10. That is, image database 34 may store actual image files uploaded by users of system 10 as part of created stories 16. In such a case, story database 32 may store text descriptions of the story, as well as any other details associated with the story (*e.g.*, user comments, likes/dislikes, location information, emoticons,

etc.). The image database 34 may further store one or more links to a location of the image database 34 to retrieving the image or other multimedia associated with the particular story. Thus, when a user accesses a story feed via a user computer device 12a-12n, the local fluid timeline social network application 15 and the fluid timeline social network software 22 may retrieve the story stored in the story database 32. The image or other multimedia associated with that story, for example based on a link contained within the story in the story database 32, may be retrieved directly from the image database 34 for inclusion in the story when it is presented on the user computer device 12a-12n.

Image database 34 may be, for example, a database provided by a content delivery network, such as AMAZON S3 (AMAZON SIMPLE STORAGE SERVICE). Moreover, image database 34 may be a distributed database, residing on more than one physical storage medium accessible by the fluid timeline social network software 22.

FIG. 2 includes a portion of a computer device 12, which is along the lines of computer devices 12a-n. In FIG. 2, the user interface 13 includes a display on which is presented content of a fluid timeline social network. FIGS. 2A and 2B illustrate different graphical user interface views of a user's fluid timeline social network feed. The fluid timeline social network feed is provided by cooperation of the local fluid timeline social network application 15 and the fluid timeline social network software 22. FIG. 3A illustrates a "browsing" mode, and FIG. 3B illustrates a "reading" mode.

As shown in FIG. 2A, in the browsing mode, a user may view, via the user interface 13 display of a user computer device 12a, their story feed along a horizontally-arranged timeline. The feed is shown in FIG. 2A as a daily feed; however, it will be readily appreciated that the feed may be displayed, for example, in weekly, monthly, yearly or other such increments of time (*i.e.*, a selected time period). In the browsing mode, the user may scroll horizontally in either the left or right direction. The scrolling may be implemented, for example, by utilizing a finger

swipe on a touchscreen of a smartphone, a mouse, arrows, or any other such input mechanism. In this way, a desired time period may be highlighted or otherwise brought to the center of the displayed feed.

As shown in FIG. 2A, an icon representing stories associated with today 300 may be highlighted. In such a case, the icons representing the stories associated with tomorrow 310, two days from today 320, three days from today 330, and four days from today 340 may be sequentially displayed in order to the right of the icon for today 300. Similarly, icons representing the stories associated with yesterday 290, two days ago 280, three days ago 270, and four days ago 260 may be displayed sequentially to the left of the icon for today 300.

In the representation of FIG. 2A, the time period represents a single day, but in other embodiments, different time periods (*e.g.*, by hour, by week, by month, by year, by decade, by century, by millennia, and the like) may be selected by a user. Also in the representation of FIG. 2A, various icons are illustrated to represent each time period, which representation facilitates understanding of the horizontally scrollable presentation based on the user-selected time period. In some embodiments, rather than an "icon," a vertical column of stories associated with each time period may be presented. In cases such as this, the horizontal scrolling includes horizontally scrolling a plurality of columns of user stories wherein each column is associated with a different time period.

In FIG. 2A, each created story 16 is thus associated with a browsing mode time period, such as a date. The time period is specified by the user when the user generates the created story 16, though in some embodiments, the time period for any particular story may be edited. Accordingly, the created story 16 will be provided in the user's feed and in certain other users' feeds in the browsing mode as of the time-period specified by the creating user.

In an exemplary embodiment provided to help clarify the subject matter, a user creates a story at 8:00am Pacific Standard Time on May 10, 2016. The user specifies a date of January 17, 2013 using, for example, a time tool of the

local fluid timeline social network application 15. The specified data of January 17, 2013 is associated with that story. After the created story is posted, the created story will appear in the user's feed, as well as in the feeds of other users within the user's network (*e.g.*, friends), as having occurred on January 17, 2013.

In addition to the user-specified time period, each created story 16 is associated with a time and date of creation. The time and date of creation may be an actual time and date the story was created, a time stamp associated with when the story is received by a determined node or circuit of the fluid timeline social network software 22, or some other time and date.

FIG. 2B illustrates a graphical user interface view of a reading mode for interacting with a user's fluid timeline social network feed, in accordance with one or more embodiments of the present disclosure. As shown in FIG. 2B, in the reading mode, a user may view, via a display of user interface 13 of a user computer device 12a, a story feed along a vertically-arranged timeline. The user may switch from the browsing mode to the reading mode, for example, by first scrolling horizontally through the browsing mode and by then identifying a particular day, week, month, year, or other time period of interest. When the desired time period is identified, the user may enter the reading mode simply by scrolling vertically.

For example, as shown in FIG. 2A, the user has a desire to access the stories in a feed of "Today" 300. The user may then select the time of interest (*e.g.*, Today 300), for example, stopping the horizontal scrolling when Today 300 is in a primary focus area, which is a first vertical column in a central column of the user interface 13 display of the computer device 12a. The user may stop the horizontal scrolling by tapping a touchscreen, clicking a mouse, or the like. Once selected, the user may then view then feed using the reading mode, as shown in FIG. 2B.

In FIG. 2B, a primary focus area shows a first vertical column in a central column of the user interface 13 display of the computer device 12a. A left

secondary focus area is a second vertical column arranged on a first side (*e.g.*, a left side) of the first vertical column, and a right secondary focus area is a third vertical column arranged on a second side (*e.g.*, a right side) of the first vertical column. The second side is opposite the first side.

In the reading mode, all of the stories in the user's feed (*i.e.*, all stories associated with the user, including, for example, stories created by the user, stories created by the user's friends, stories created by users that the user is following, etc.) that were associated with that particular period of time (*e.g.*, Today 300) are provided in a vertically scrollable feed.

In some cases, the stories are arranged in the reading mode in chronological order, based on the actual time and date that the stories were created (*e.g.*, as may be determined from the timestamp information appended to each created story). Thus, in the example of FIG. 2B, the first story 301 to be displayed in the user's reading mode feed may be the most recently created story having a user-specified date matching the date of the reading mode view (*e.g.*, Today 300). The second story 302 is the second most recently created story, and the third story 303 is the third most recently created story. By scrolling vertically scrolling downward, the user may be provided with additional stories associated with the relevant reading mode date (*e.g.*, Today 300). As the user scrolls downward, each story is displayed in chronological order based on the date and time the story was actually created. Thus, the further downward the user scrolls, the older (*i.e.*, created further in the past) each displayed story is.

Stories may be sequenced in any desirable order. For example, in one case, stories are sequenced based on the time-date stamp and stories that are more recent in time are fed before stories that are more distant in time. In another case, stories are sequenced based on a current reported location of the computer device 12a and stories that are closer in proximity to the current reported location are fed before stories that are further away from the current reported location. In still other cases, stories are sequenced based on a particular type of

goods or services, based on a topic of the subject matter of the feed, based on a dollar value, or based on some other reason.

Any particular story within the reading mode feed may be selected (*e.g.*, by a finger tap, click of a mouse, or the like), and further details of that story may then be displayed. For example, user comments related to the story, user "likes" or "dislikes," links to other associated stories, or the like, may further be displayed when a user selects a particular story from among the stories displayed in the reading mode.

Also shown in FIG. 2B are a plurality of other columns of story feeds. The feeds to the left of the Today 300 feed (*i.e.*, The Today 300 feed includes Story 1c, Story 2c, Story 3c.) are earlier in time and sequenced by the user selected time period. The feed immediately to the left of the Today 300 feed is the Yesterday 290 feed. In the Yesterday 290 feed, only a single story 291 is called out to avoid unnecessarily cluttering the figure. To the left of the Yesterday 290 feed is the Today minus one day (Today – 1) feed 280, which calls out only a single story 281 for simplicity. The feeds to the right of the Today 300 feed are later in time and sequenced by the user selected time period. The feeds to the right of the Today 300 feed include the Tomorrow feed 310 and the Today plus one day (Today + 1) feed 320, which also identify only a single story 311, 321 for simplicity.

FIG. 3 includes FIGS. 3A to 3H. In FIGS. 3A-3H, a plurality of exemplary user interface 113 "screen shots" of a user's computer device 112 are illustrated according to embodiments described in the present disclosure. The user's computer device 112 is along the lines of computer device 12 (FIG. 2) and computer devices 12a-n (FIG. 1), and further discussion is not provided for brevity. The user interface 113 is along the lines of user interface 13 (FIGS. 1 and 2), and further discussion is not provided for brevity. Like reference numbers and structures in FIGS. 3A-3H are shown and not expressly called out in each figure to

avoid unnecessarily cluttering the figure and thereby obscuring particular features of interest.

In FIG. 3A, a first user's computer device 112 is communicatively coupled to fluid timeline social network software 22 that is arranged organize a time-based social network in a computing server architecture. The first user's computer device 112 is executing a local fluid timeline social network application 22. The user interface 113 is arranged to display a plurality of stories that are received at the computer device 112 and arranged for horizontally and vertically scrollable presentation based on a user-selected time period. The user-selected time period may be an hour, a day, a month, a year, or some other time period. In FIG. 3A, the time period is a day.

A first column of stories 130 represents Today, a second column of stories 120 represents Yesterday, and a third column of stories 140 represents Tomorrow. The plurality of stories have been generated by users of the time-based social network, and each story has been associated with a user-specified time when the story was first posted. In some cases, the user-specified time may be edited by the original user, by a different user that has been authorized, or by the fluid timeline social network software 22. The user-specified time may be a user-specified time of day, a user-specified date, or a user-specified time and date.

Each story that has been received by the fluid timeline social network software 22 has been assigned a different system-wide unique number. The system-wide unique number permits massive storage of stories based on the assigned system-wide unique number and indexing in one or more databases for fast storage and retrieval. In this way, storage and retrieval of stories can be in real time or near real time, which is perceived by a user to be very fast and nearly if not completely instantaneous. Each story may, for example, may be associated with a particular user, a group of users, a time-date stamp, a user-specified time, a geographic location, a user-specified topic, an automatically generated system-determined topic, and many other things.

When a user operates a local fluid timeline social network application 15 executing on computer device 112, the device is fed a plurality of stories by the fluid timeline social network software 22. The plurality of stories is arranged for presentation on the user interface 113 based on a user-specified time period, and the fluid timeline social network software 22 accepts input directions from computer device 112 based on the user's interaction with the local fluid timeline social network application 15. The user's the input directions are arranged to request one or more sequenced stories, and each of the sequenced stories is associated with the same selected time period.

In FIG. 3A, a columnized plurality of stories is presented for each of Yesterday, Today, and Tomorrow. The plurality of stories are sequenced in a particular order. The particular order has a default order, and the particular order may be changed manually by the user or automatically by the local fluid timeline social network application or fluid timeline social network software 22.

In FIG. 3A, stories in the Yesterday column 120 include stories 121-126. Other stories on other columns are not expressly identified for ease in understanding the drawing, though the principles of the columns are along the lines of the Yesterday column 120.

Each story may further have a story information area 127. The story information area may present ownership information (*e.g.*, a user identifier, an icon, a thumbnail photograph, etc.), and in addition or in the alternative, the story information area may present status information regarding interaction by other users (*e.g.*, "likes," "votes," number of comments, time of last comment, requests to connect, requests to pursue a transaction, etc.). The story information area 127 is illustrated at the displayed bottom of a story, but in other embodiments, the displayed information area 127 may be in any other one or more areas associated with a particular story.

The particular order sequence of each columnized plurality of stories may, for example, be based on a context of what is being viewed by the user. In

some cases, the stories are sequenced based on the time-date stamp and stories that are more recent in time are fed before stories that are more distant in time. In some cases, the stories are sequenced based on a current reported location of the first user remote computing device and stories that are closer in proximity to the current reported location are fed before stories that are further away from the current reported location. In some cases, the stories are sequenced based on the how the social network is being used. For example, the social network may be being used to report social information and stories are sequenced based on time or a date. The social network may be being used in a commercial context (*e.g.*, to sell goods or services) and in this case, stories may be sequenced based on geographic location, price, category of goods or services, category of customer, or any other category. If the social network is being used for connecting job seekers to available jobs, the stories may be sequenced based type of job, job function, location, salary, qualifications, or any other employment related category. If the social network is being used to report on food, travel, entertainment, sports, government agency or service, academic institution or course of study, or some other broad genre, stories may be sequenced in any desirable order.

In the embodiment of FIG. 3A, when a user scrolls left or right, entire columns of stories are arranged to scroll left or right. In this way, a user can scroll through time periods very quickly. In addition, via the user interface, the user can enter a specific time period and thereby "time travel" to a column of stories associated with that time period, where the new column of stories is also surrounded by columns of other stories in close proximity to the new time period.

In the embodiment of FIG. 3A, a central column of the user interface 113 is a primary focus area of a display of computer device 112. The central column is illustrated as larger than surrounding or other columns in FIG. 3A, but in other embodiments, the primary focus area is not larger than surrounding secondary focus areas, and the primary focus area is instead emphasized in another way or even not emphasized at all. That is, the primary focus area in some

cases is identified in a central portion of the user interface 113, and the interaction by a user makes it evident to the user where the primary focus area is located.

In FIG. 3A, the plurality of stories are presented in columns based on the user-selected date such that stories associated with the user-selected date are vertically presented in a primary focus area of a display of the mobile computing device and stories not associated with the user-selected date are vertically presented in one or more secondary focus areas of the display of the mobile computing device. When the user scrolls the primary focus area vertically, the local fluid timeline social network application 15 will accept the vertical scrolling information and pass to the fluid timeline social network software 22 one or more corresponding requests for a sequence of stories; each story of the sequence associated with the same selected time period. The fluid timeline social network software 22 will retrieve sequenced stories from a database and communicate the sequenced stories to the computer device 112, where they will be vertically presented in the primary focus area. Stated differently, the user may scroll the central column up, down, or up and down to display a sequence of stories.

In the embodiment of FIG. 3A, stories are presented based on a time period of one day. For example, the central column in the primary focus area represents stories associated with Today 130. A first secondary focus area to the left of the central column represents stories associated with Yesterday 120, and a second secondary focus area to the right of the central column represents stories associated with Tomorrow 140. In other cases, each sequential time period (*i.e.*, each sequential column of stories) represents a column of stories of a next sequential week, a next sequential month, a next sequential year, a next sequential decade, a next sequential century, a next sequential millennium, or the like.

The user interface 113 includes a context information area 150. The context information area may be used to deliver information, to accept user input, or to both deliver information and accept user input associated with the local fluid

timeline social network application 15, the fluid timeline social network software 22, or both the local fluid timeline social network application 15 and the fluid timeline social network software 22.

In one embodiment, the context information area 150 indicates the context of the user's access to the social network architecture. The context information area 150 may, for example, indicate that the user is in a marketplace mode, a social network mode, a restaurant mode, a travel mode, a particular hobby mode, a sports mode, or any other such mode. In one of these or in another embodiment, the context information area 150 includes an area where a user can change the user-selected time period. The context information area 150 may be used for any one or more other purposes of the time-based social network.

In the embodiment of FIG. 3B, the user interface is illustrated with a selection ring 152, a first input icon 154, a second input icon 156, and a third input icon 158. The graphics of the first, second, and third input icons 152-156 may represent underlying actions that will be taken if a user selects the particular icon.

In one embodiment, for example, a first icon 154 represents a notifications feature. If the user selects the first icon, the user interface 113 partially or wholly transitions into an interface where the user can view, respond to, or otherwise take action based on certain notifications.

In an exemplary embodiment, the second icon 156 represents a profile feature. When the profile feature is selected, the user interface 113 partially or wholly transitions into an interface where the user can review, edit, enter, delete, or otherwise manipulate profile information. A user can connect to network "friends," disconnect friends, and take other social networking actions.

In yet another exemplary embodiment, the third icon 158 represents a conversations feature. When the conversations feature is selected, the user interface 113 partially or wholly transitions into an interface where the user can communicatively converse with one other user, with a group of users, or with all users of the social network. For example, the conversations feature may operate

as a one-to-many chat feature, a one-to-group chat feature, or a broadcast chat feature.

In some cases, a user may be horizontally scrolling various time periods and the user may be vertically scrolling a sequence of stories of a selected time period. If the user wants to comment on a particular story, the user can select the third icon 158 and enter a conversational user interface. The user can comment by entering text, entering audio, entering visual data such as video or a still image, or entering some other information. The user can "chat" one-to-one with another user in real time, or the user can chat with a group of users in real time as in a "chat room." In still other cases, the user may simply post a comment or other multimedia input that is accessible to other users of the social network.

For simplification of the drawings and ease in understanding, FIG. 3C illustrates the selection ring 152, the first icon 154, the second icon 156, and the third icon 158 with some of the underlying stories removed.

In FIG. 3D, a user has selected the selection ring 152. The selection may be via a touch screen portion of the user interface 113, a mouse pointer and associated selection action, a voice command, or some other selection action. When the selection ring 152 is selected, a selection ring siren 160 is presented. The selection ring siren 160 may present contextual information associated with manipulation of the selection ring 152. The selection ring siren 160 may include visual information as in FIG. 3D. The selection ring siren 160 may also or alternatively include audio information, tactile information, or any other information arranged to capture the attention of the user.

Manipulation of the selection ring in FIG. 3D has also caused presentation of a fourth icon 162, a fifth icon 164, and a sixth icon 166. The fourth, fifth and sixth icons 162-166 may be presented as any one or more of graphics, sounds, tactile indicators, or in some other manner. The fourth, fifth and sixth icons 162-166 may be arranged to convey particular information about one or more features associated with the particular icon. In the embodiment of FIG. 3D, the

fourth icon 162 is associated with a time travel feature, the fifth icon 164 is associated with a post-story feature, and the sixth icon is associated with a search feature.

In FIG. 3D, the selection ring 152 has been manipulated and positioned above the fourth icon 162. The selection ring siren 160 indicates that selection of the fourth icon 162 will permit the user to enter a time travel feature interface.

In FIG. 3E, the selection ring 152 has been manipulated and positioned above the fifth icon 164. The selection ring siren 160 indicates that selection of the fifth icon 164 will permit the user to post a new story to the time-based social network.

In FIG. 3F, the selection ring 152 has been manipulated and positioned above the sixth icon 162. The selection ring siren 160 indicates that selection of the sixth icon 162 will permit the user to enter a search feature interface.

FIG. 3G illustrates one embodiment of a time travel feature interface 168. The time travel interface 168 includes a user-selected time period entry interface 170, a month selector wheel 172, a day selector wheel 174, and a year selector wheel 176. Via the time travel interface 168, a user is permitted to time travel their time-based social network. For example, in the central column of the user interface 113 (FIG. 3A, for example), a sequence of stories associated with Today 130 is presented in a primary focus area. Other stories in contemporaneous time periods are vertically presented in columns shown in the secondary focus areas. A user may horizontally scroll to select a different user-selected time period, or alternatively, the user may enter a time travel feature interface 168. Using the time travel feature, the local fluid timeline social network application 15 is arranged to generate and communicate input directions to change the selected time period to a different selected time period.

In the time travel feature interface 168 of FIG. 3G, the user may innovatively manipulate vertical scroll wheels or some other type of interface in a different embodiment. The vertical scroll wheels implemented via the illustrated month selector wheel 172, day selector wheel 174, and year selector wheel 176 have been found to be very effective. For example, while a user is scrolling any of the selector wheels 172-176, information may be passed from the local fluid timeline social network application 15 to the fluid timeline social network software 22. The fluid timeline social network software 22 is arranged to use this preliminary information to being identifying and building queries to pre-look up a sequence of stories. In this way, the user gains a first benefit of quickly, intuitively, and efficiently traveling in time to create a new user-selected time period. Also in this way, the user gains a second benefit of making a selection (*e.g.*, accepting the time information in the user-selected time period interface 170) and having the user interface 113 quickly transition to columns of stories associated with the newly selected time period. The transition and population of new stories is arranged to occur in real time, and to the user, the presentation of new stories is very quick and may in some cases appear instantaneous.

In FIG. 3H, the user has just previously manipulated the selection ring 152 to position it above the fifth icon 164 (FIG. 3E). The selection ring siren 160 indicated that selection of the fifth icon 164 will permit the user to post a new story to the time-based social network, and the user has entered the post feature interface.

In the post feature interface of FIG. 3H, a multimedia function of the computer device 112 has been instantiated. In FIG. 3H, the multimedia function is a camera, but in other cases, the multimedia function may include any one or more of camera input, audio input, tactile input, physiological data (*e.g.*, brain waves, emotional data, biological material sampling data (*e.g.*, urine, saliva, phlegm, etc.), range of motion data, etc.) input, or the like.

The post feature interface of FIG. 3H illustrates a seventh icon 180, an eighth icon 182, and a ninth icon 184. The seventh, eighth and ninth icons 180-184 may be presented as any one or more of graphics, sounds, tactile indicators, or in some other manner. The seventh, eighth and ninth icons 180-184 may be arranged to convey particular information about one or more features associated with the particular icon. In the embodiment of FIG. 3H, the seventh icon 180 is associated with a feature to access locally stored multimedia, the sixth icon 182 is associated with a feature to accept new multimedia input (*e.g.*, snap a picture, record audio/video, capture a motion, etc.), and the ninth icon is associated with another user input interface such as to enter text, for example.

In the embodiment of FIG. 3H, a user may enter the post feature interface, snap a quick photograph using the eighth icon 182, and immediately post the newly captured multimedia to the time-based social network. In addition, or in the alternative, the user may select the seventh icon 180 and select previously captured multimedia, which can also be quickly posted to the time-based social network. Further in addition or in alterative, the user may select the ninth icon 184 and enter text or other multimedia input that is automatically associated with multimedia content that will be posted as a new story. For example, the user may take a picture via cooperative use of the eight icon 182, and then immediately identify the picture with descriptive text or provide some other input or comment via cooperative use of the ninth icon 184. The additional input collected by the computer device 112 may be arranged by the fluid timeline social network software 22 for presentation in the story information area 127 of FIG. 3A.

FIG. 4 illustrates an embodiment of a fluid timeline social network system 10A. In the system 10A, a client side application executing on a computing device 112 is permitted to post content to different time-based social network feeds. In FIG. 4, four particular feeds are illustrated (*i.e.*, a Social feed, a Marketplace feed, a Food feed, and an Additional feed. The Additional feed may

include any other particular contextual feed described in the present disclosure or otherwise contemplated in the time-based social network organizational architecture.

A super structure 114 is implemented to manage the plurality of individual feed subsystems. The super structure 114 manages traffic of the various feeds. Management of the feeds includes separating feed specific information and sharing overlapping feed information. For example, in some cases, story posts belonging to different feeds will share attributes such as a user identifier, a timestamp or created date, and the like. In some cases, story posts belonging to different feeds will have specific attributes such as story posts to a Marketplace feed having a "price" attribute. In some cases, the super structure 114 is implemented as a server-side web application framework that utilizes particular database structures, web service structures, and web page structures. In one case, the super structure 114 is implemented with a single RUBY ON RAILS server having a plurality of workers, services, and multiple instances.

The super structure 114 will also manage other aspects of story posting and retrieval. Posting flow, for example, will differ from one feed to another. For instance, Marketplace may be arranged to only allow "public" or group posts, and Social may be arranged to configurably allow "public" posts, "friends only" posts, "only me" private posts, and the like.

In some cases, posts to various feeds conform to a JAVA SCRIPT OBJECT NOTATION (JSON) format. In these cases, the super structure is arranged to distinguish between the JSON structure of posts belonging to Social feed and the JSON structure of posts belonging to the Marketplace feed, and so on.

In the super structure 114, application programming interface (API) requests are separated from the very beginning. Each feed managed by the super structure 114 has arranged therefore at least one and in some cases many endpoints for story creation (i.e., posting stories), and multiple endpoints to provide

data to different feeds (i.e., get or otherwise retrieve stories). In this way, the super structure 114 has at least separate endpoints both for stories creation (i.e., post) and stories retrieval (i.e., get).

Further, by separating the virtual communication paths of each feed, the super structure 114 architecture avoids storing a "type" field that identifies whether a story belongs to one feed or another. On each POST request, the super structure 114 automatically knows where to store the story based on the request path. And on the GET response, the super structure 114 cooperates with the local fluid timeline social network application 15 to knows where the client side will feed a set of stories. Along these lines, each feed supports POST, PUT, DELETE, and GET operations.

In the system 10A, the super structure 114 implements a particular data persistence policy. The super structure 114 stores stories for different feeds into separate database tables, with accessor tables designed specifically to each one of them based on the use cases. The provided API endpoints support the POST, PUT, DELETE, and GET operations of each different feed. In this way, the time-based social network is architected with a specific organization that permits fast, easy, and intuitive extensibility. No other known social network architectures are organized in this manner. When specific commercial, social, educational, governmental, charitable, or other circumstances arise to create new feeds or to delete unused feeds, the super structure 114 can be easily adapted. What's more, the architecture of the fluid timeline social network software 22 allows for easy up-scaling, easy down-scaling, and traffic load balancing of computing hardware resources.

The super structure 114 includes a plurality of a API endpoints for each feed post operation. The various endpoints may are illustrated serially for understanding of the structure, but individual instances operate in parallel for scalability.

A database server architecture 120 works in cooperation with the super structure 114. The database server architecture 120 may include or otherwise have communicative access to the story database 32, image database 34, marketplace database 36, and additional database 38 (FIG. 1). A plurality of accessors 1-n cooperate with a plurality of associated feature and attribute modules 118a-n to properly store and retrieve stories in the appropriate database structures.

FIG. 5 illustrates another embodiment of a fluid timeline social network system 10B. In the system 10B, a plurality of accessors and services cooperate in individual feeds of a second super structure 114b embodiment that is communicatively coupled to a second database server architecture 116b.

In the system 10B, each feed is organized as a virtual pipe having dedicated services for past stories, present stories, and future stories. In addition, each feed virtual pipe has dedicated services for time-based POST operations and time-based GET operations. In some embodiments having such specifically targeted services, the time travel feature (FIG. 3G) is arranged to perform pre-lookup database procedures that increase the speed of posting stories and retrieving stories.

FIG. 6 illustrates yet one more embodiment of a fluid timeline social network system 10C. The system 10C is arranged to include a plurality of engine modules including a horizontal scrolling engine 202, a vertical scrolling engine 204, a time-based posting engine 206, and a time-based fetching engine 208. The scrolling, posting, and fetching engines are associated and cooperative with a grouping engine 210. The system 10C is also arranged to include a screen transformation engine 212, a selection ring engine 214, a time-based chat engine 216, a timeline engine 218, a virtual escrow engine 220, and a handshake engine 222. Several social network services are provided in another module 224. The social network services include a standard search function, a login engine, a security module, a “friends” module, a friend networks module, a standard private

module, a standard public chat module, a data compression module, a data conversion module, and a ratings/comments module. Other social network services are omitted for brevity.

The horizontal and vertical scrolling engines 202, 204 are arranged for an infinite flow architecture. That is, when a limiting boundary is reached, rather than stopping scrolling, the horizontal and vertical scrolling engines 202, 204 begin again at a terminal point as if the timeline "rolled over." In one example, a story may have several multimedia images. When a user enters the story to view or otherwise consume the content, the user may horizontally scroll through the content, which can be displayed based on time, proximity or in another way. When the scrolling approaches the "last" image, the scrolling engine automatically rolls the view over to re-start at the first image.

The grouping engine 210 is arranged to facilitate user-selection of a time period. For example, a user may want to view stories by day, by week, by month, etc. The grouping engine 210 facilitates the grouping such that a selected time period "group" will seamlessly operate with the horizontal and vertical scrolling engines 202, 204.

The screen transformation engine 212 is arranged to smoothly transition one screen to another screen of presented multimedia content. The appearance on a display is such that one new image gently moves and transforms into an existing image.

The selection ring engine 214 controls the selection ring that is presented via a user interface. The selection ring engine 214 may operate to illuminate hidden icons, shade primary content into a background, and the like. The selection ring engine 214 permits most or all operations of the fluid timeline social network to be operated on a smartphone with one hand, and in particular, with one thumb. That is, the selection ring is positioned on a display such that it may be dragged, dropped, tapped, or otherwise manipulated to generate stories, post stories, scroll, edit user parameters, and the like.

The time-based chat engine 216 facilitates chat features based on a user's timeline. Chat features may be one-to-one, one-to-many, or one-to-all in some embodiments.

A timeline engine 218 is arranged to deliver stories in a sequence selected by a user. In some cases, a sequence of stories is presented based on time such that the most recently posted stories are presented first, and stories posted longer ago are not posted first. In other cases, the timeline engine 218 sequences stories based on geographic location relative to the current location of the mobile device or some other user-selected location. In still other cases, the timeline engine 218 permits the fluid timeline social network software 22 to determine a sequence for the presentation of stories.

A virtual escrow engine 220 and a handshake engine 222 facilitate commercialization opportunities of a time-based social network. For example, selected feeds of the time-based social network may be used to buy and sell merchandise or services between individual users or other entities. In these cases, the virtual escrow engine 220 may permit each party to a transaction to upload the item of value or a representation of the item of value. The item of value may be money, a barcode to a concert ticket, a representation of a title to goods, or any other such representation. The virtual escrow engine 220 may then generate unique computer readable codes (*e.g.*, bar codes, QR codes, or the like). Subsequently, when the parties meet to consummate the transaction, the virtual handshake engine 222 is employed to let each party scan the other parties generated code. When both parties have scanned their respective codes, the items of value are exchanged or otherwise released. Alternatively, if either party does not pursue consummation of the transaction, then each party's item of value is returned to its original owner.

FIG. 7 illustrates a method to organize a time-based social network in a computing server architecture 700. The computing server architecture has processor cores arranged to execute instructions stored in an associated memory,

and the instructions are directed by requests received from a plurality of remote computing devices.

At 704, a plurality of stories are generated by users of the time-based social network. Each story is associated with a user-specified date. At 706, a different system-wide unique number is assigned to each of the received plurality of stories. Processing passes to 708 wherein each of the received plurality of stories is stored in memory and, based on its assigned system-wide unique number, each of the received plurality of stories is associated with a user, a time-date stamp, and the user-specified date.

At module 710, a plurality of stories are fed to a first user remote computing device. The plurality of stories are arranged for presentation based on the user-specified date. At 712, input directions are accepted from the first user remote computing device. The input directions are arranged to request one or more sequenced stories, each of the one or more sequenced stories associated with a same selected date. The input directions are further arranged to change the selected date to a different selected date.

At 714, optional processing is performed. In some cases, each of the received plurality of stories is stored in memory and further associated with a geographic location. In some cases, each of the received plurality of stories is stored in memory and further associated with a user-specified topic. In some cases, each of the received plurality of stories is stored in memory and further associated with a system-determined topic. In some cases, the sequenced stories are sequenced based on the time-date stamp and stories that are more recent in time are fed before stories that are more distant in time. In some cases, the sequenced stories are sequenced based on a current reported location of the first user remote computing device and stories that are closer in proximity to the current reported location are fed before stories that are further away from the current reported location.

Processing of the method to organize a time-based social network in a computing server architecture may end at 716. In some cases, processing begins again at 702 or 704. In some cases, processing of the method to organize a time-based social network in a computing server architecture does not end.

FIG. 8 illustrates a method to interact with a time-based social network that is arranged to operate in a computing server architecture using a mobile computing device 800. The mobile computing device has at least one processor arranged to execute instructions stored in a non-transitory computer readable media associated with the at least one processor.

Processing begins at 802.

At 804, a communicative relationship is formed with a computing server architecture. The computing server architecture is arranged to access a database architecture that stores a plurality of stories generated by users of the time-based social network. Each story of the plurality of stories is associated with a user-specified date. At 806, a user-selected date is communicated to the computing server architecture, and at 808, the mobile computing device receives a plurality of stories. The plurality of stories is arranged for horizontally and vertically scrollable presentation based on the user-selected date.

Optional processing is performed at module 810. In some cases, the plurality of stories is presented based on the user-selected date such that stories associated with the user-selected date are vertically presented in a primary focus area of a display of the mobile computing device and stories not associated with the user-selected date are vertically presented in one or more secondary focus areas of the display of the mobile computing device. In some cases, vertical scrolling information is accepted, and the vertical scrolling information is arranged to request a first sequence of stories. Here, each story of the first sequence is associated with a same selected date, and received stories of the first sequence are vertically presented in the primary focus area of the display of the mobile computing device.

In some cases of the optional processing at 810, horizontal scrolling information is accepted. The horizontal scrolling information is arranged to request one or more second sequences of stories. The one or more second sequences is associated with sequentially incrementing dates or sequentially decrementing dates. In this case, a plurality of vertically arranged columns of stories is horizontally presented on the display of the mobile computing device. Each of the vertically arranged columns is associated with a next sequential date. In some of these cases, the sequentially incrementing dates are sequentially incrementing by month or by year such that each sequential vertically arranged column includes stories of a next sequential month or a next sequential year, respectively.

In still some other cases of the optional processing at 810, the plurality of stories are presented in the primary focus area as a first vertical column in a central column of the display of the mobile computing device. Here, a left secondary focus area is a second vertical column arranged on a first side of the first vertical column and a right secondary focus area is a third vertical column arranged on a second side of the first vertical column. The second side is opposite the first side.

Processing of the method to interact with a time-based social network that is arranged to operate in a computing server architecture using a mobile computing device may end at 816. In some cases, processing begins again at 802 or 804. In some cases, processing of the method to interact with a time-based social network that is arranged to operate in a computing server architecture using a mobile computing device does not end.

As used in the present disclosure, the term "module" refers to an application specific integrated circuit (ASIC), an electronic circuit, a processor and a memory operative to execute one or more software or firmware programs, combinational logic circuitry, or other suitable components (hardware, software, or hardware and software) that provide the functionality described with respect to the module.

A processing core, or a processor (*i.e.*, a processing unit), as used in the present disclosure, refers to one or more processing units individually, shared, or in a group, having one or more execution units, and such processing cores and processors include central processing units (CPUs), digital signal processors (DSPs), microprocessors, micro controllers, state machines, and the like that execute instructions.

In the present disclosure, memory may be used in one configuration or another. The memory may be configured to store data. In the alternative or in addition, the memory may be a non-transitory computer readable medium (CRM) wherein the CRM is configured to store instructions executable by a processor. The instructions may be stored individually or as groups of instructions in files. The files may include functions, services, libraries, and the like. The files may include one or more computer programs or may be part of a larger computer program. Alternatively or in addition, each file may include data or other computational support material useful to carry out the computing functions of the systems, methods, and apparatus described in the present disclosure.

As known by one skilled in the art, a computing device such as computing server 20 (FIG. 1) has one or more memories, and each memory comprises any combination of transitory and non-transitory, volatile and non-volatile computer-readable media for reading and writing. Volatile computer-readable media includes, for example, random access memory (RAM). Non-volatile computer-readable media includes, for example, read only memory (ROM), magnetic media such as a hard-disk, an optical disk drive, a flash memory device, a CD-ROM, and/or the like. In some cases, a particular memory is separated virtually or physically into separate areas, such as a first memory, a second memory, a third memory, etc. In these cases, it is understood that the different divisions of memory may be in different devices or embodied in a single memory. Some or all of the stored contents of a memory may include software instructions executable by a processing device to carry out one or more particular acts.

A computing device such as computing server 20 (FIG. 1) and computer devices 12, 12a-n, 112 may further include operative software found in a conventional computing devices such as an operating system, software drivers to direct operations through input/output (I/O) circuitry, networking circuitry, and other peripheral component circuitry. In addition, a computing server may include operative application software such as network software for communicating with other computing devices, database software for building and maintaining databases, and task management software for distributing the communication and/or operational workload amongst various processing units. These computing devices further include fluid timeline social network software and a local fluid timeline social network application, respectively. When so arranged as described herein with the particular software that implements some or all of the time-based social network described herein, each computing device is transformed from a generic and unspecific computing device to a tangible, non-abstract combination device comprising hardware and software configured for a specific and particular purpose.

Certain figures presented herein are flowcharts illustrating processes that may be used by embodiments of the local fluid timeline social network application 15 and the fluid timeline social network software 22. In this regard, each described process may represent a module, segment, or portion of code, which comprises one or more executable instructions for implementing the specified logical function(s). It should also be noted that in some implementations, the functions noted in the process may occur in a different order, may include additional functions, may occur concurrently, and/or may be omitted.

In some cases, computing devices embodied herein are a single hardware machine having the hardware and software listed herein, and in other cases, the computing devices are a networked collection of hardware and software machines working together in a server farm to execute the functions of the time-

based social network. The conventional hardware and software is not shown in the present figures for simplicity.

In some cases, computing server 20 is a production computing server. The production computing server 20 is deployed in a real world environment to communicate website pages over the Internet. The computing server 20 can read and write data from associated databases 32, 34, 36, 38 as directed by the program code of the fluid timeline social network software 22 and the operations directed by a user of a computer device 12, 12a-n, 112.

Figures herein illustrate software components loaded into memory of a computing device. Each software component may include one or more computer programs or may be part of a larger computer program. Alternatively or in addition, each software component may include data or other computational support material for the fluid timeline social network software 22 or the local fluid timeline social network application 15.

Memory of the computing devices may store an operating system. The operating system typically provides program and device management services for the computing device. Examples of operating systems include any one or more of various versions of LINUX, MICROSOFT WINDOWS, UNIX, and others.

Memory may store web page management and administration tools. For example, memory may optionally store one or more web server modules, database server interface modules, script processor modules, and web browser modules. Examples of web server modules include APACHE, MICROSOFT INTERNET INFORMATION SERVICES (IIS), NGINX, and GOOGLE WEB SERVER (GWS). Web servers typically deliver web pages to client devices. Often, the requests are made using Hypertext Transfer Protocol (HTTP), and the web pages are delivered as Hypertext Markup Language (HTML) documents or JAVA SCRIPT documents along with any additional content that is called out by the document (e.g., images, style sheets, scripts, functions, and the like).

Examples of database server interface modules include ORACLE/SUN MICROSYSTEM MYSQL, MICROSOFT SQL SERVER, and APACHE DERBY. A database server interface module typically implements a structured query language (SQL) that performs input and output functions on a relational database. In some cases, a database server interface module implements a data storage repository (e.g., a relational database) in the same hardware that implements the database server (e.g., story database 32, image database 34, marketplace database 36, additional database 38), and in other cases, the repository is distributed between several different machines. In some cases, the data repository is implemented in a single database computing server.

A script processor is a computing module that interprets and executes instructions of a scripting language. PHP is one example of a scripting language. MICROSOFT ACTIVE SERVER PAGES (ASP) is another example. In some cases, the scripting language is embedded into the HTML source code of a web page, and interpreted by the script processor module.

Web browser examples include MICROSOFT INTERNET EXPLORER, GOOGLE CHROME, MOZILLA FIREFOX, and APPLE SAFARI.

The terms, "real-time" or "real time," as used herein and in the claims that follow, are not intended to expressly imply instantaneous processing, transmission, reception, or otherwise as the case may be. Instead, the terms, "real-time" and "real time" imply that the activity occurs over an acceptably short period of time (*e.g.*, over a period of microseconds or milliseconds), and that the activity may be performed on an ongoing basis (*e.g.*, identification and retrieval of story data being triggered during the middle of a user-selected time period operation (FIG. 3G)). An example of an activity that is not real-time is one that occurs over an extended period of time (*e.g.*, hours or days) or that occurs only after intervention or direction by a person or other activity.

In the foregoing description, certain specific details are set forth to provide a thorough understanding of various disclosed embodiments. However,

one skilled in the relevant art will recognize that embodiments may be practiced without one or more of these specific details, or with other methods, components, materials, etc. In other instances, well-known structures associated with electronic and computing systems including client and server computing systems, as well as networks have not been shown or described in detail to avoid unnecessarily obscuring descriptions of the embodiments.

Unless the context requires otherwise, throughout the specification and claims which follow, the word "comprise" and variations thereof, such as, "comprises" and "comprising" are to be construed in an open, inclusive sense, *e.g.*, "including, but not limited to."

Reference throughout this specification to "one embodiment" or "an embodiment" and variations thereof means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment. Thus, the appearances of the phrases "in one embodiment" or "in an embodiment" in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures, or characteristics may be combined in any suitable manner in one or more embodiments.

As used in this specification and the appended claims, the singular forms "a," "an," and "the" include plural referents unless the content and context clearly dictates otherwise. It should also be noted that the conjunctive terms, "and" and "or" are generally employed in the broadest sense to include "and/or" unless the content and context clearly dictates inclusivity or exclusivity as the case may be. In addition, the composition of "and" and "or" when recited herein as "and/or" is intended to encompass an embodiment that includes all of the associated items or ideas and one or more other alternative embodiments that include fewer than all of the associated items or ideas.

The headings and Abstract of the Disclosure provided herein are for convenience only and do not limit or interpret the scope or meaning of the embodiments.

The present invention may be understood more readily by reference to the disclosed detailed description of the preferred embodiments of the invention. It is to be understood that the terminology used herein is for the purpose of describing specific embodiments only and is not intended to be limiting. It is further to be understood that unless specifically defined herein, the terminology used herein is to be given its traditional meaning as known in the relevant art.

As may be appreciated by persons having ordinary skill in the art, aspects of the various embodiments described above can be combined to provide further embodiments. These and other changes can be made to the embodiments in light of the above-detailed description. In general, in the following claims, the terms used should not be construed to limit the claims to the specific embodiments disclosed in the specification and the claims, but should be construed to include all possible embodiments along with the full scope of equivalents to which such claims are entitled. Accordingly, the claims are not limited by the disclosure.

The various embodiments described above can be combined to provide further embodiments. All of the U.S. patents, U.S. patent application publications, U.S. patent applications, foreign patents, foreign patent applications and non-patent publications referred to in this specification and/or listed in the Application Data Sheet, including but not limited to U.S. Provisional Application Serial No. 62/334,318 filed May 10, 2016, are incorporated herein by reference, in their entirety. Aspects of the embodiments can be modified, if necessary to employ concepts of the various patents, applications and publications to provide yet further embodiments. These and other changes can be made to the embodiments in light of the above-detailed description. In general, in the following

claims, the terms used should not be construed to limit the claims to the specific embodiments disclosed in the specification and the claims, but should be construed to include all possible embodiments along with the full scope of equivalents to which such claims are entitled. Accordingly, the claims are not limited by the disclosure.

CLAIMS

1. A method, comprising;

presenting, by a processor of a computing device, a selection ring to a user in a first graphical user interface;

receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

presenting, by the processor, a plurality of icons to the user in the first graphical user interface based on the selection of the selection ring;

receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface;

receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

presenting, by the processor, a second graphical user interface to the user based on the selected icon.

2. The method of claim 1, wherein the plurality of icons were previously hidden prior to selection of the selection ring.

3. The method of claim 1, further comprising:

presenting, by the processor, a selection siren to the user in the first graphical user interface based on the user manipulation.

4. The method of claim 3, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

5. The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring.

6. The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the second graphical user interface.

7. The method of claim 6, further comprising:

receiving, by the processor, a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

8. An interactive user interface control system, comprising:

a display device;

a memory that stores computer instructions; and

at least one processor that executes computer instructions to:

present, on the display device, a selection ring to a user in a first graphical user interface;

receive a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

present, on the display device, a plurality of icons to the user in the first graphical user interface based on the selection of the selection ring;

receive a user manipulation of positioning of the selection ring within the first graphical user interface;

receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

present, on the display device, a second graphical user interface to the user based on the selected icon.

9. The computer device of claim 8, wherein the plurality of icons were previously hidden prior to selection of the selection ring.

10. The computer device of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a selection siren to the user in the first graphical user interface based on the user manipulation.

11. The computer device of claim 10, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

12. The computer device of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring.

13. The computer device of claim 12, further comprising:

receive a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

14. A non-transitory computer readable medium that stores computer instructions that, when executed by at least one processor, cause the at least one processor to perform operations, the operations comprising:

presenting a selection ring to a user in a first graphical user interface;

receiving a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

receiving a user manipulation of positioning of the selection ring within the first graphical user interface;

receiving a selection of an icon from a plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

presenting a second graphical user interface to the user based on the selected icon.

15. The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting the plurality of icons to the user in the first graphical user interface based on the selection of the selection ring;

16. The non-transitory computer readable medium of claim 14, wherein the plurality of icons were previously hidden prior to selection of the selection ring.

17. The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a selection siren to the user in the first graphical user interface based on the user manipulation.

18. The non-transitory computer readable medium of claim 17, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

19. The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring.

20. The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the second graphical user interface.

21. The non-transitory computer readable medium of claim 14, wherein the operations are performed by an operating system.

ABSTRACT OF THE DISCLOSURE

A fluid timeline social network is provided herein. The fluid timeline social network includes a story database, an image database and a fluid timeline social network application, hosted at least partially on a server computer including a processor and a computer-readable storage medium. The fluid timeline social network application is configured to receive from a user computer device a created story, the created story including at least one of textual information and image information; receive from the user computer device a user-specified date to be associated with the created story; associate the created story with the user-specified date; associate the created story with an actual time and date that the created story is received by the fluid timeline social network application; and provide the story to the story database for storage.

6947580_1

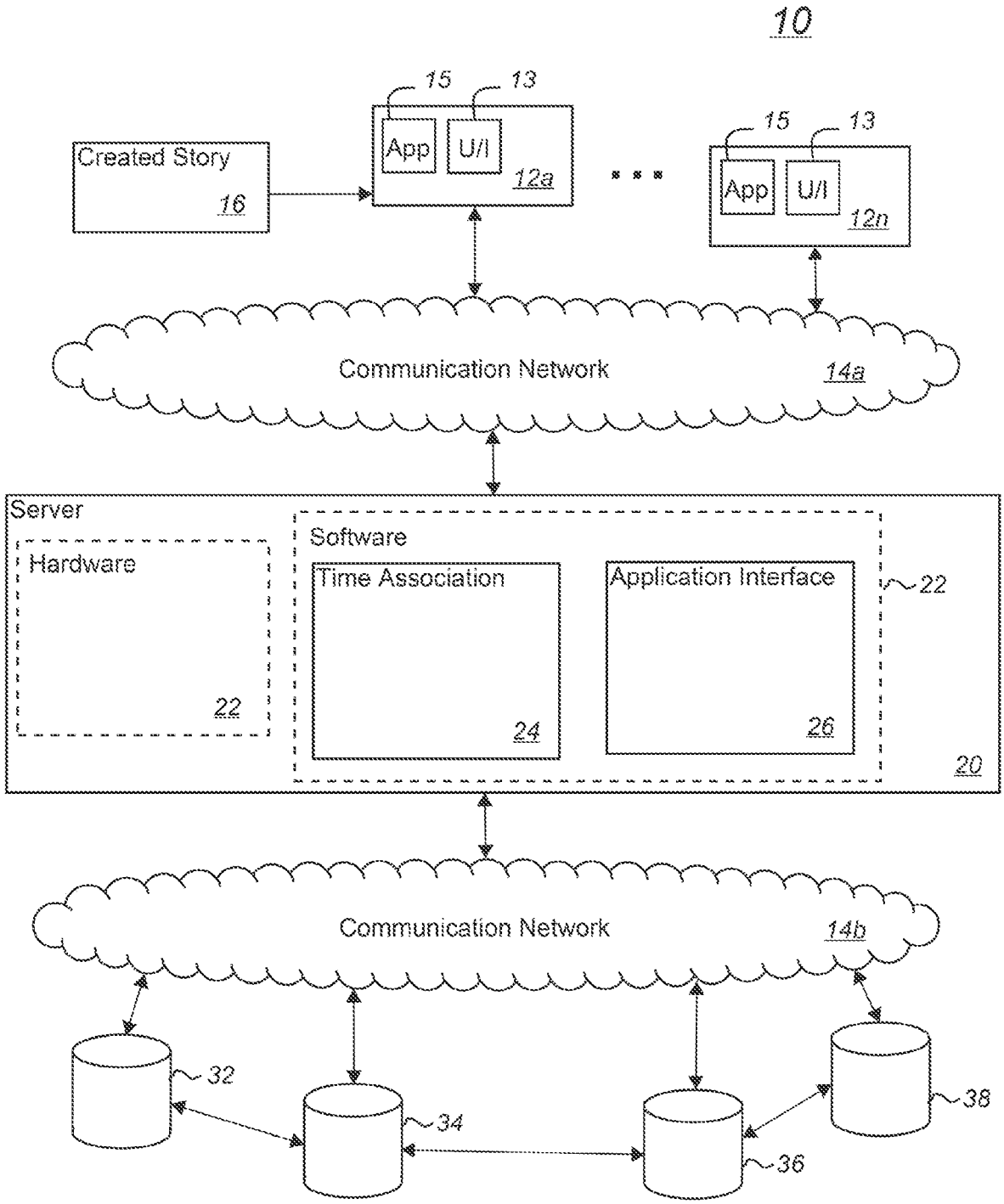

10
15
13
App
U/I
12a
Created Story
16
15
13
App
U/I
12n
Communication Network
14a
Server
Hardware
22
Software
Time Association
24
Application Interface
26
22
20
Communication Network
14b
32
34
36
38

FIG. 1

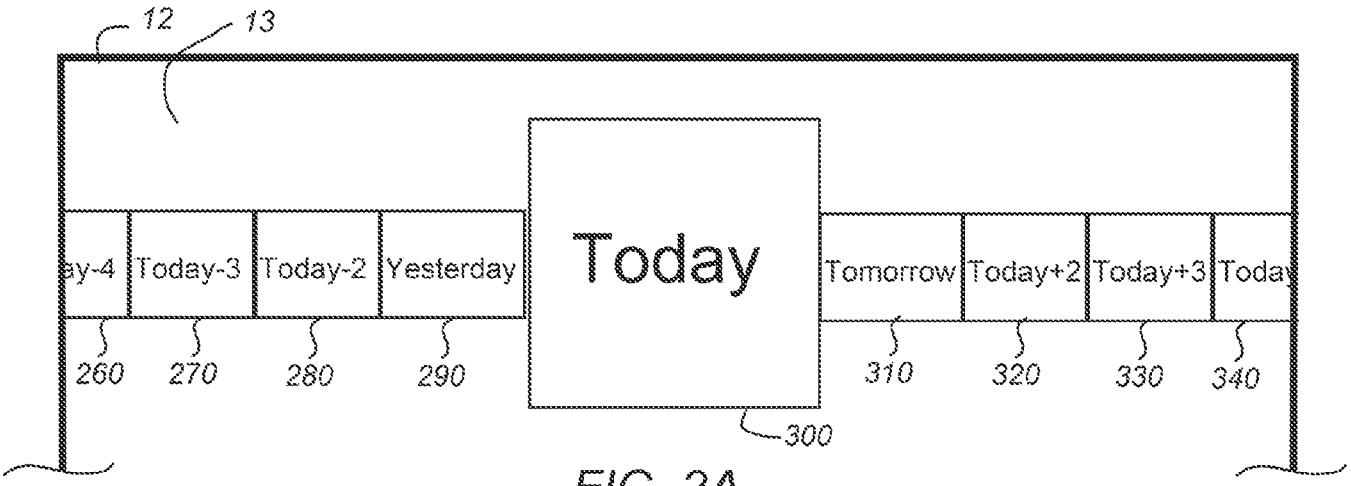

12
13
ay-4
Today-3
Today-2
Yesterday
Today
Tomorrow
Today+2
Today+3
Toda
260
270
280
290
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320
330
340
300

FIG. 2A

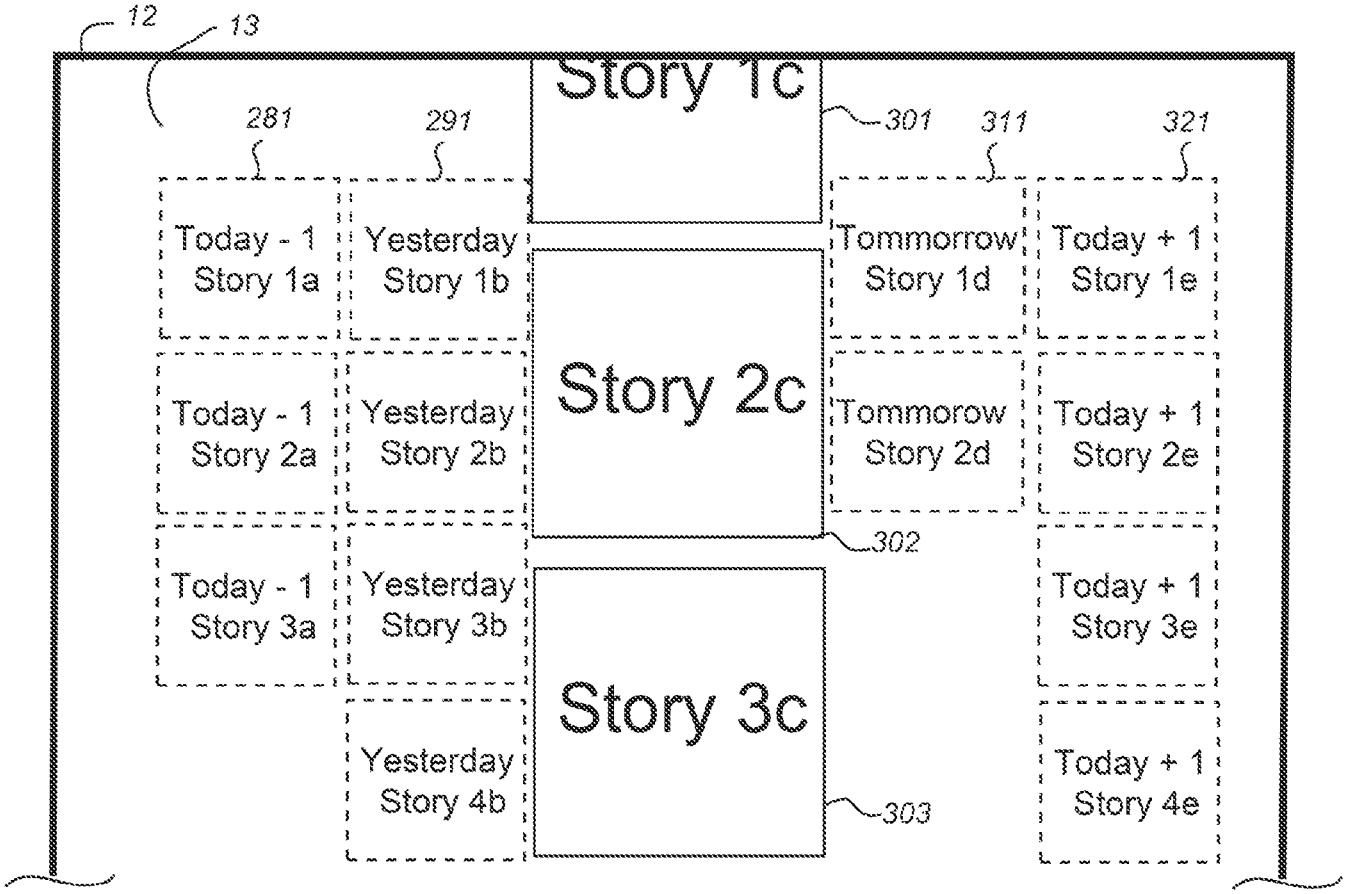

12
13
281
291
Story 1c
301
311
321
Today - 1
Story 1a
Yesterday
Story 1b
Tommorrow
Story 1d
Today + 1
Story 1e
Today - 1
Story 2a
Yesterday
Story 2b
Story 2c
Tommorow
Story 2d
Today + 1
Story 2e
302
Today - 1
Story 3a
Yesterday
Story 3b
Today + 1
Story 3e
Yesterday
Story 4b
Story 3c
Today + 1
Story 4e
303

FIG. 2B

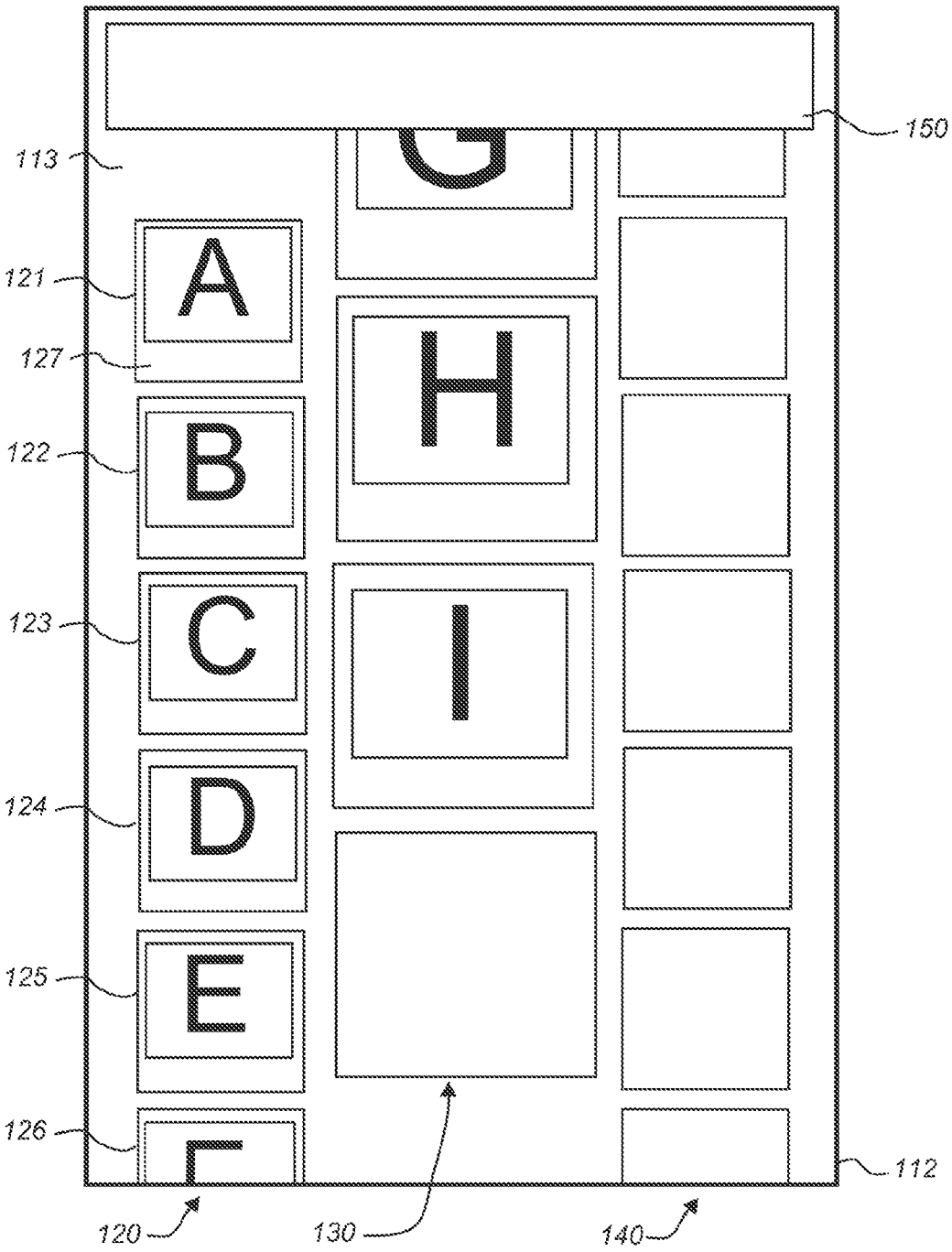


FIG. 3A

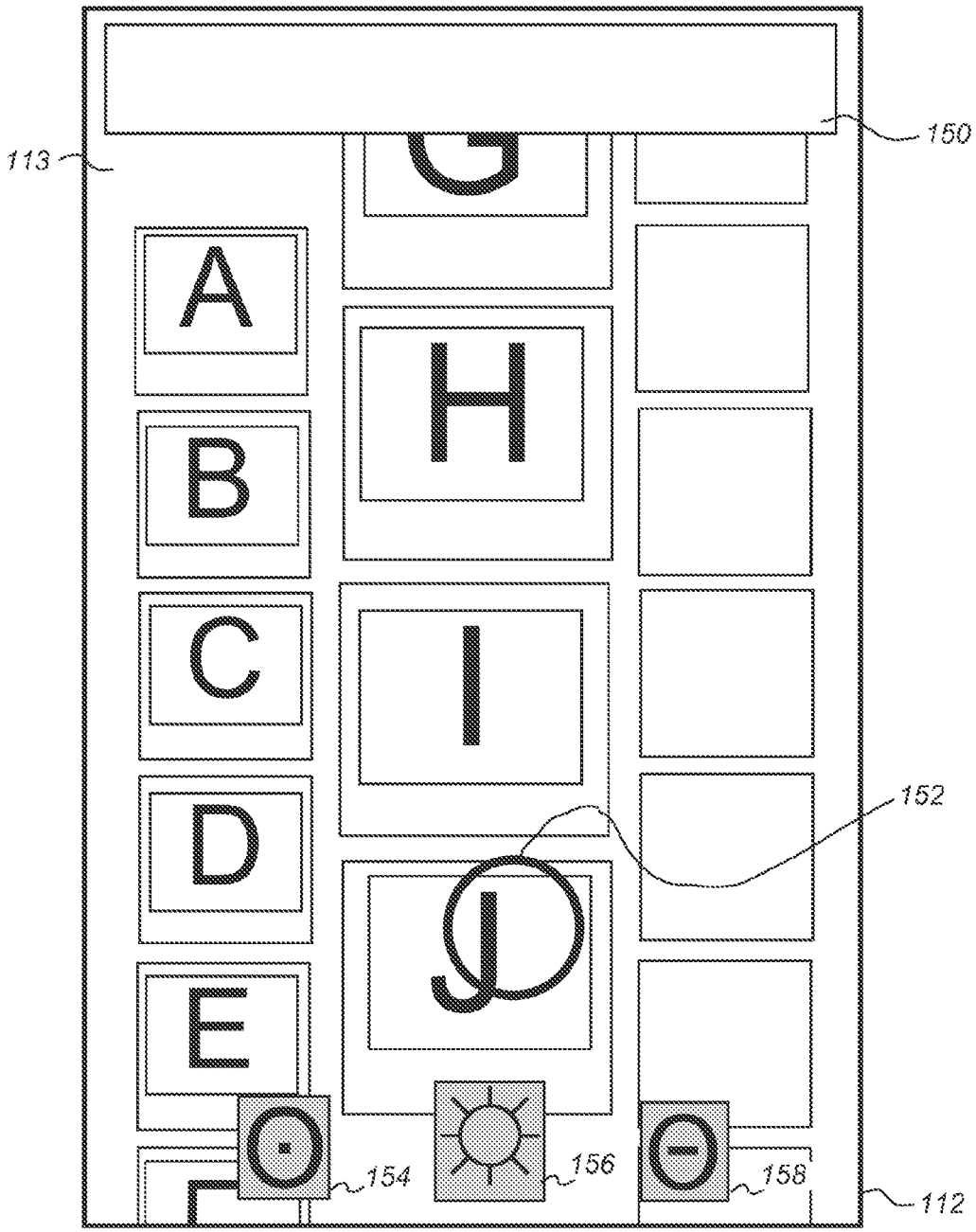


FIG. 3B

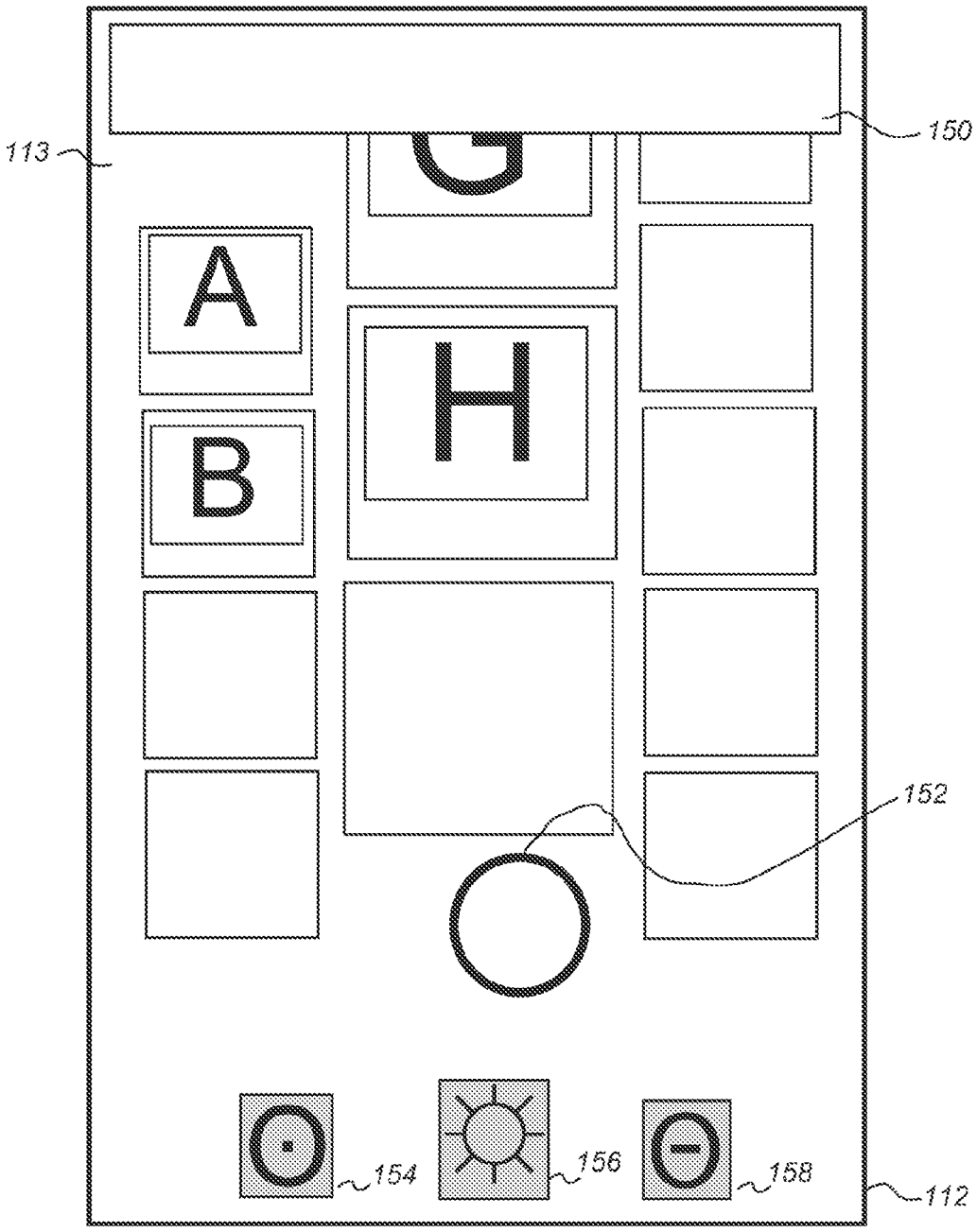


FIG. 3C

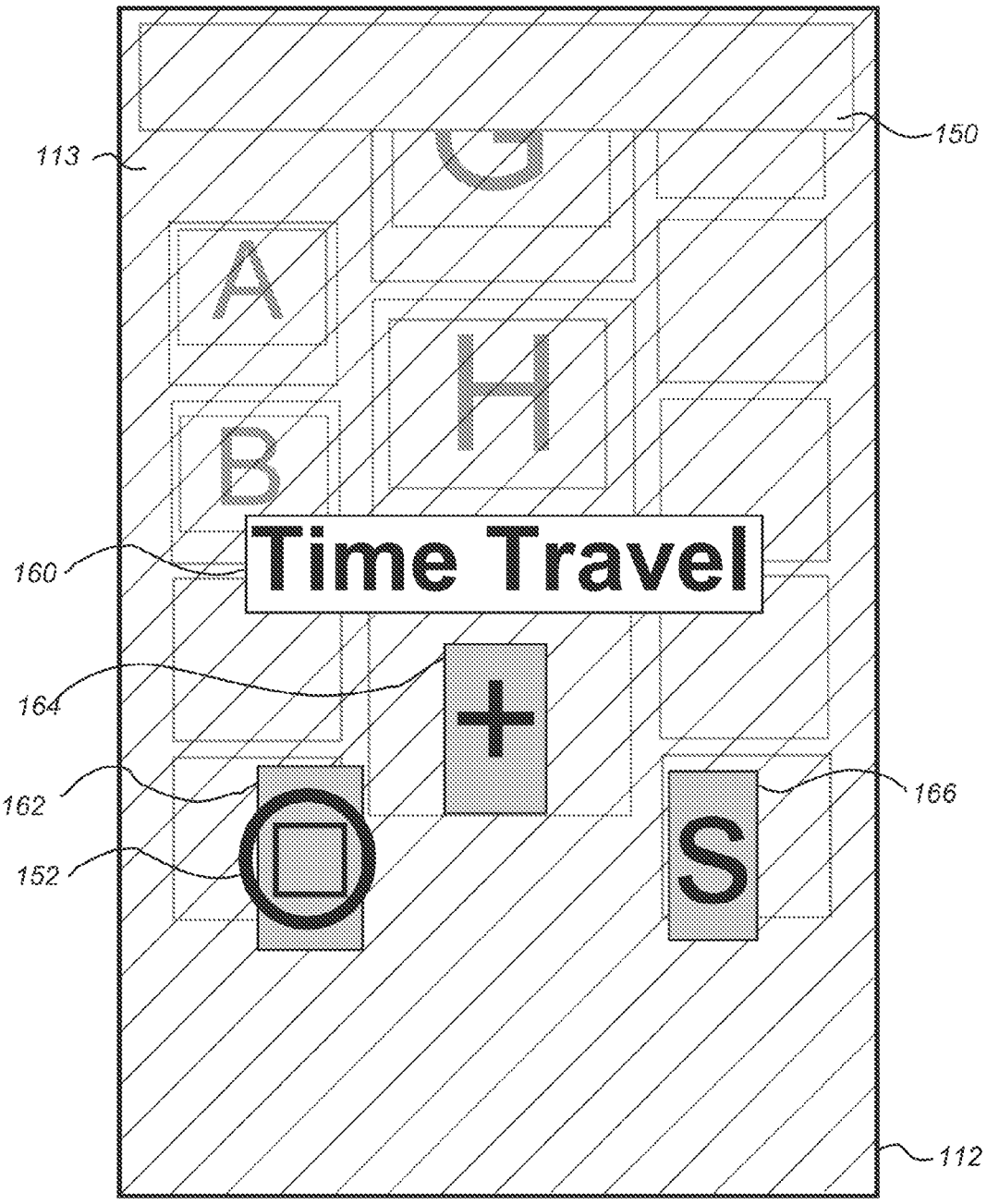


FIG. 3D

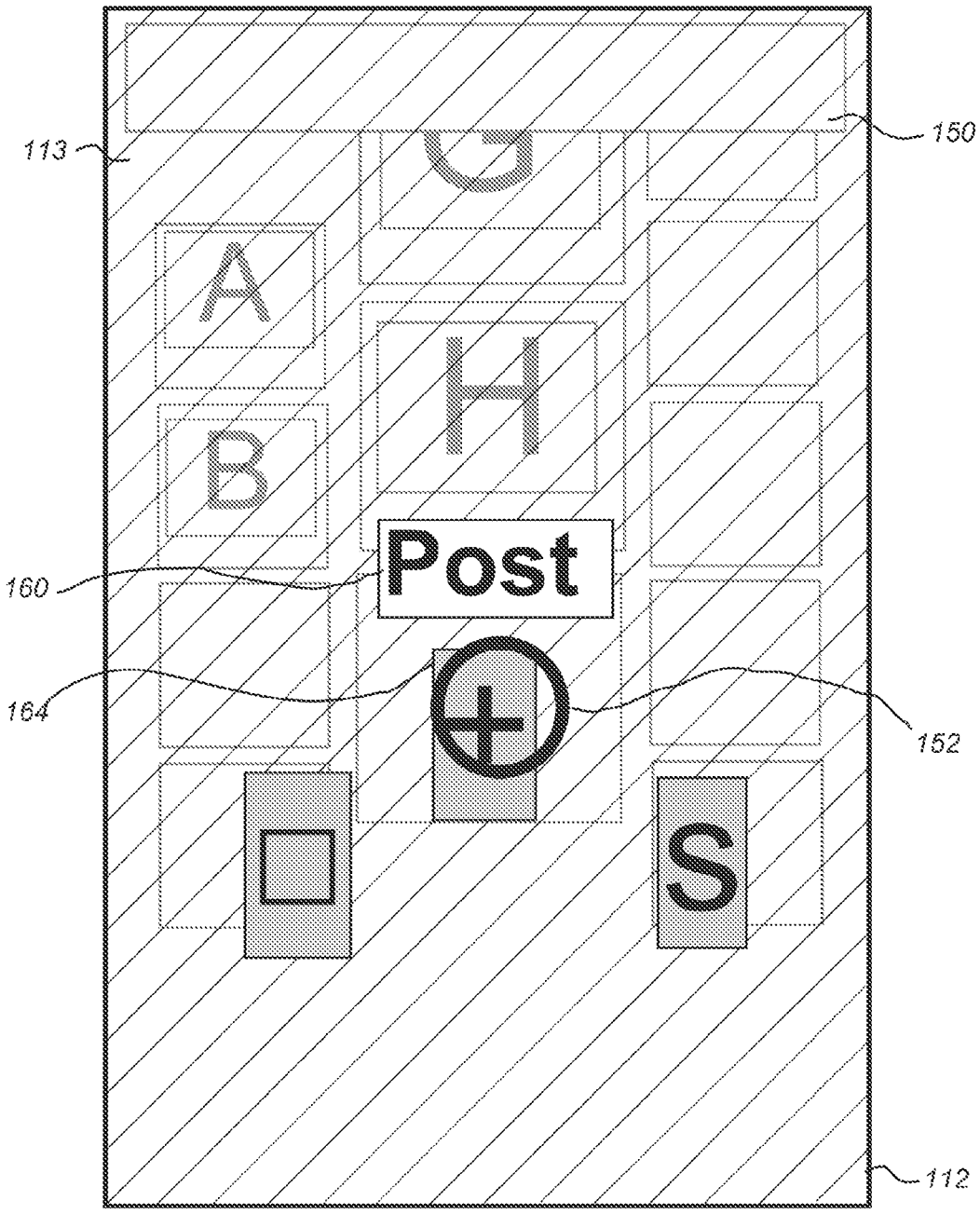


FIG. 3E

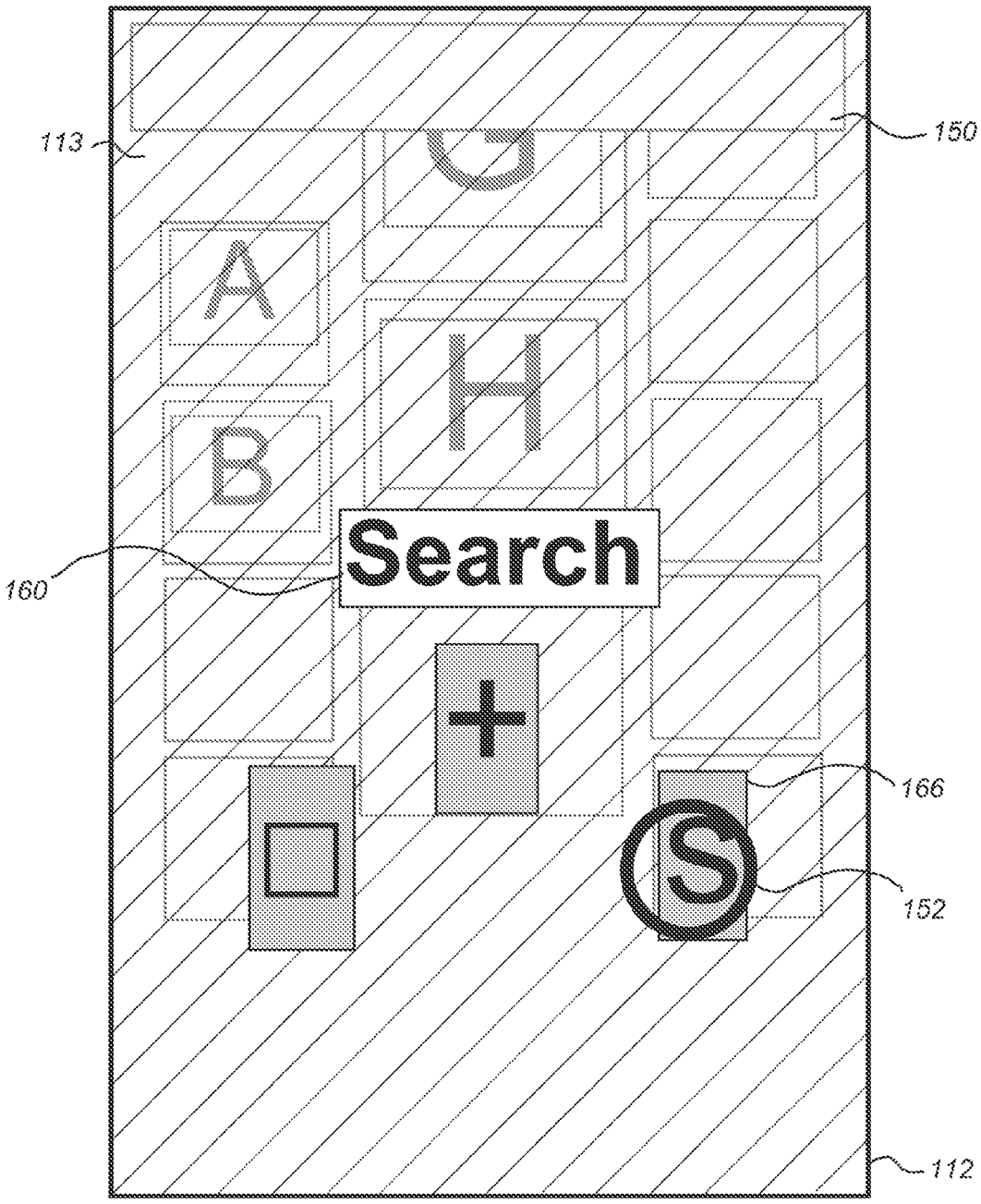


FIG. 3F

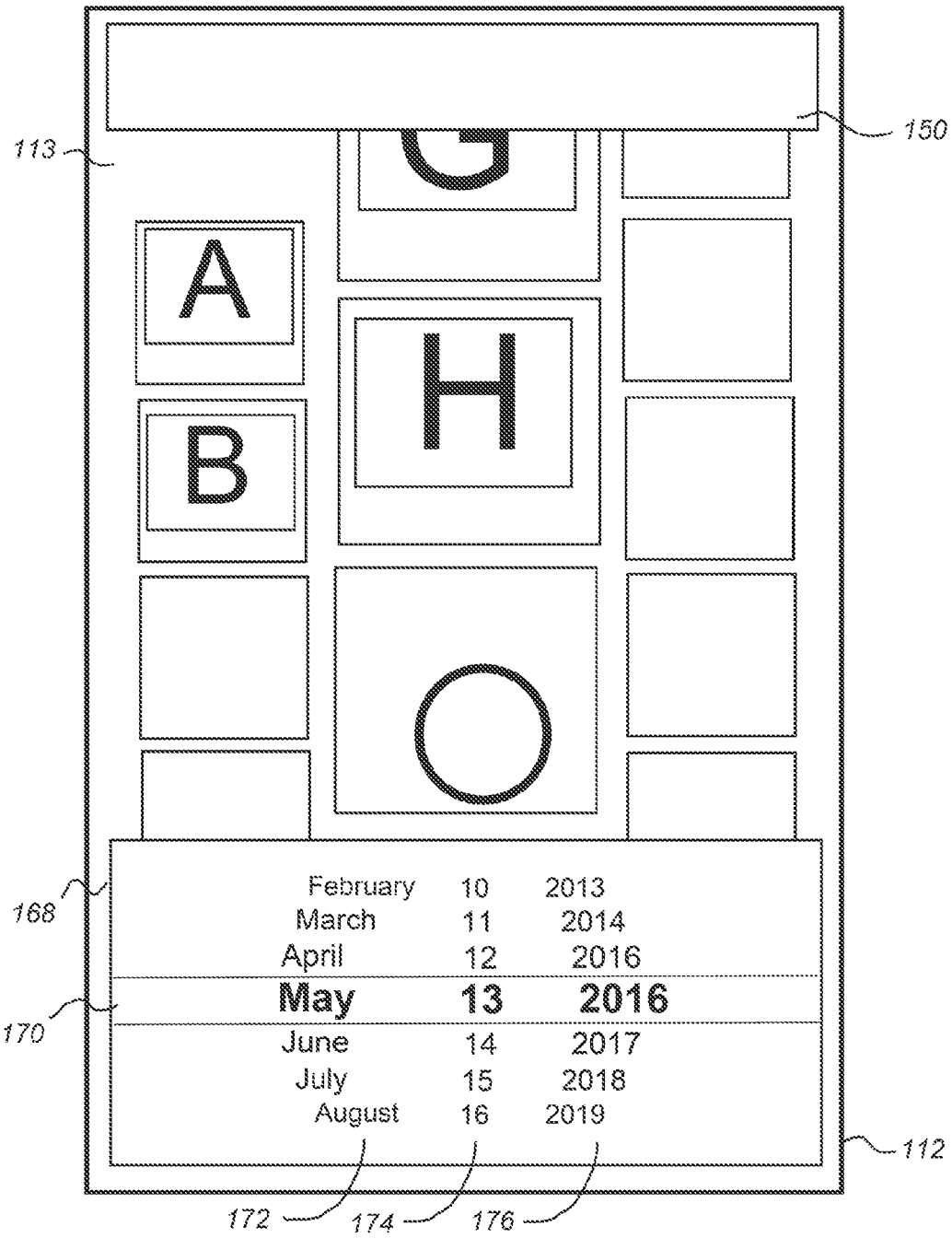

113
150
A
H
B
168
170
February 10 2013
March 11 2014
April 12 2016
May 13 2016
June 14 2017
July 15 2018
August 16 2019
112
172
174
176

FIG. 3G

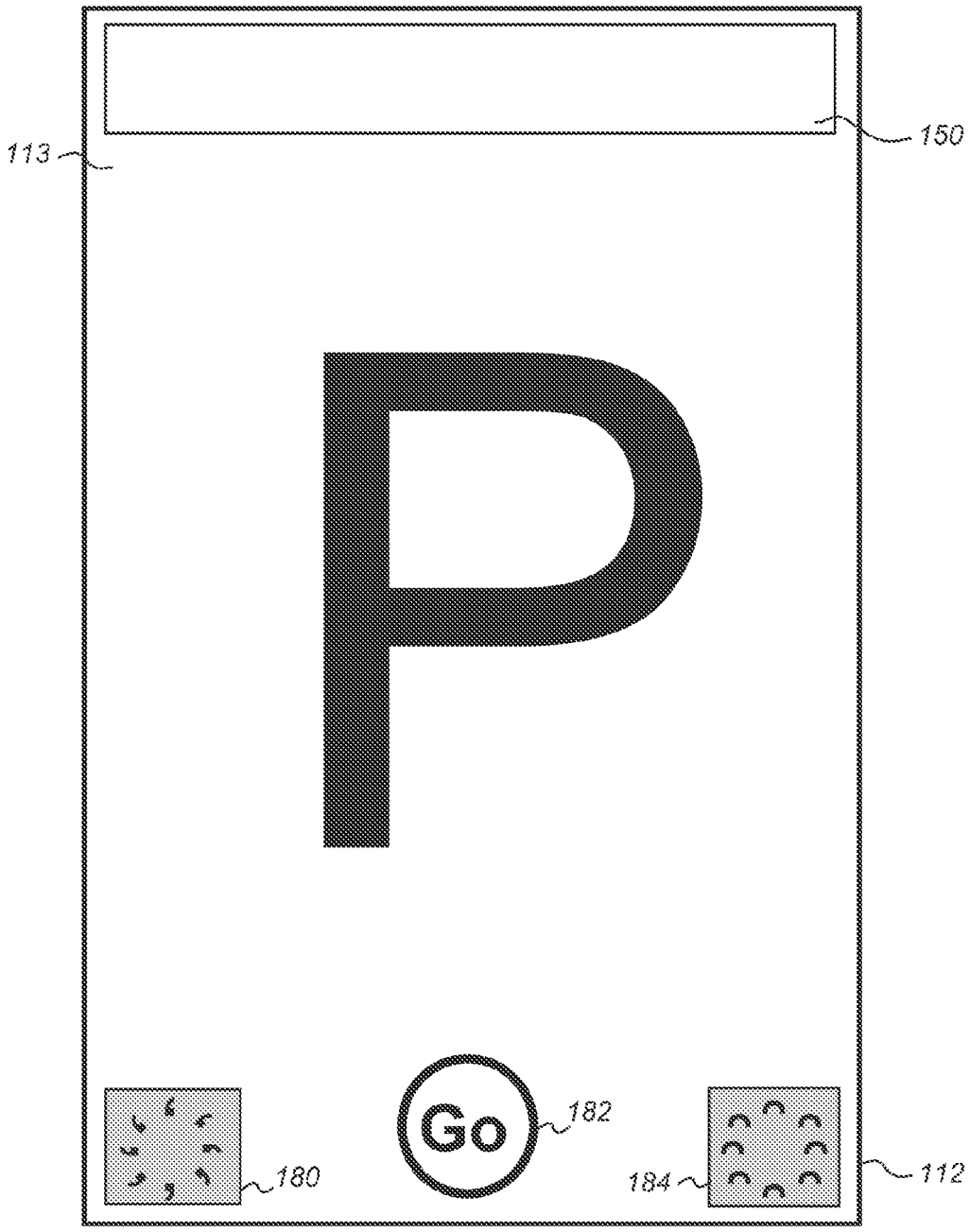


FIG. 3H

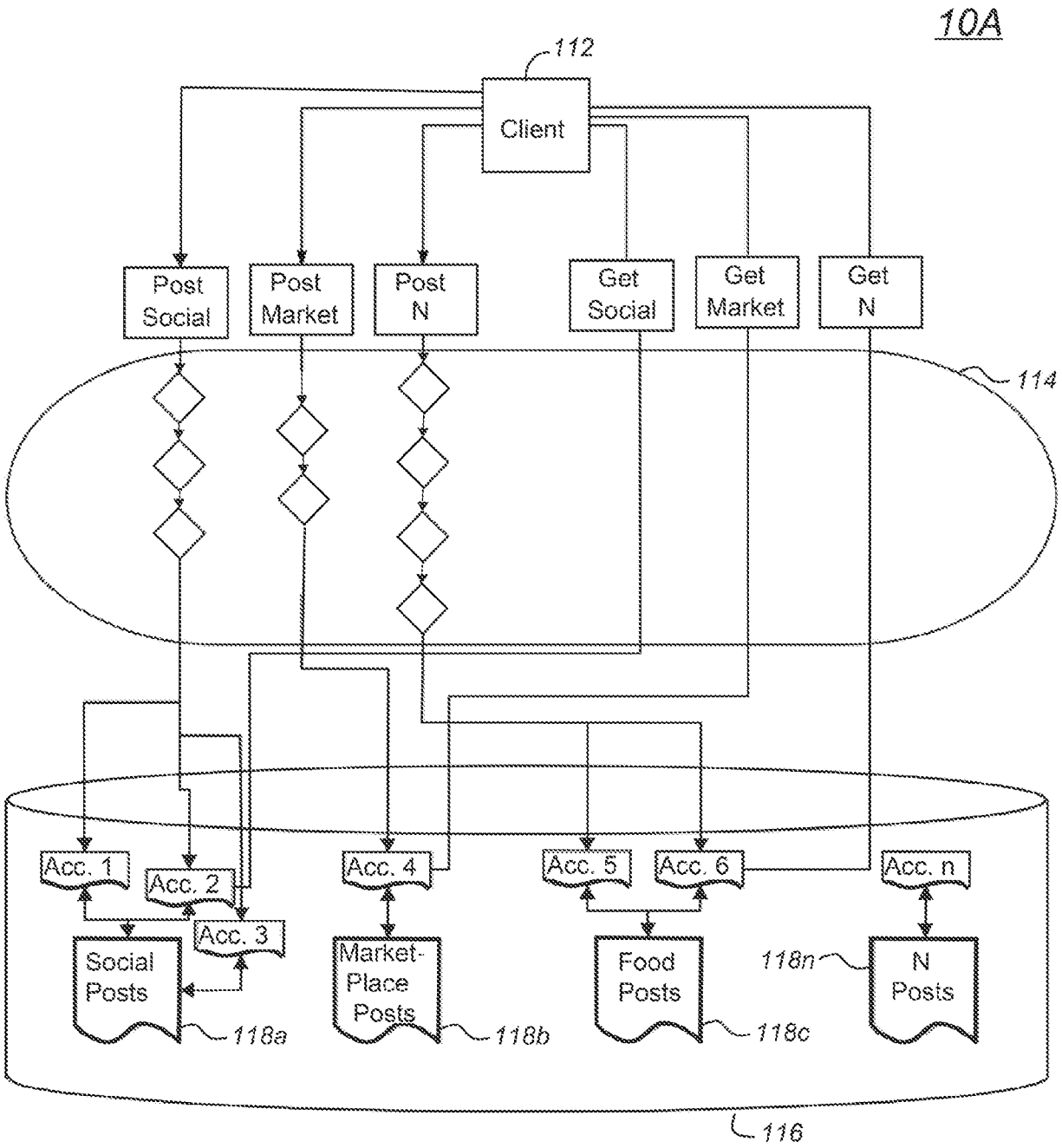

10A
112
Client
Post Social
Post Market
Post N
Get Social
Get Market
Get N
114
Acc. 1
Acc. 2
Acc. 3
Acc. 4
Acc. 5
Acc. 6
Acc. n
Social Posts
118a
Market-Place Posts
118b
Food Posts
118c
118n
N Posts
116

FIG. 4

10B

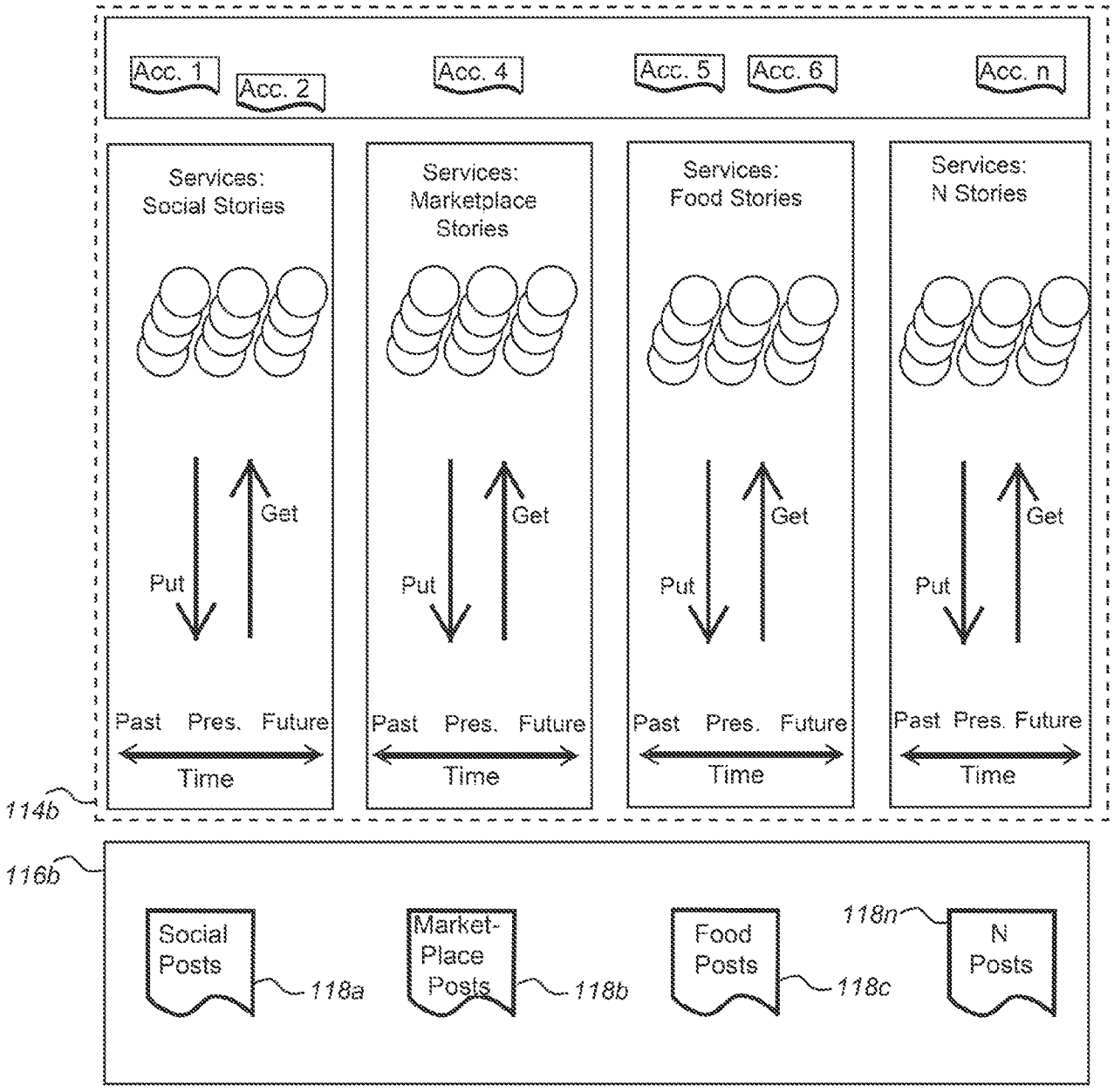

Acc. 1
Acc. 2
Acc. 4
Acc. 5
Acc. 6
Acc. n
Services: Social Stories
Services: Marketplace Stories
Services: Food Stories
Services: N Stories
Get
Put
Past
Pres.
Future
Time
114b
116b
Social Posts
118a
Market-Place Posts
118b
Food Posts
118c
118n
N Posts

FIG. 5

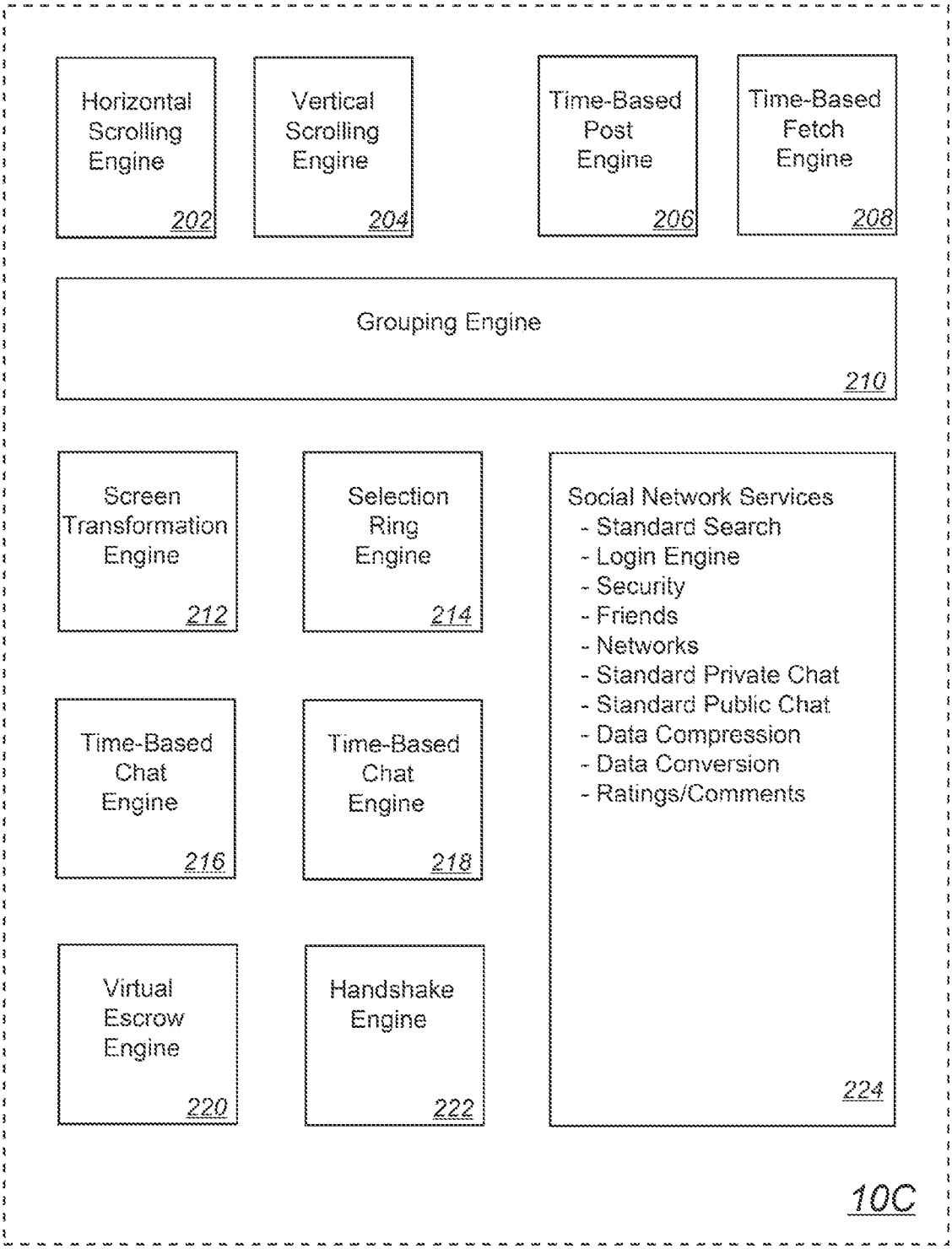

Horizontal Scrolling Engine
202
Vertical Scrolling Engine
204
Time-Based Post Engine
206
Time-Based Fetch Engine
208
Grouping Engine
210
Screen Transformation Engine
212
Selection Ring Engine
214
Social Network Services
- Standard Search
- Login Engine
- Security
- Friends
- Networks
- Standard Private Chat
- Standard Public Chat
- Data Compression
- Data Conversion
- Ratings/Comments
224
Time-Based Chat Engine
216
Time-Based Chat Engine
218
Virtual Escrow Engine
220
Handshake Engine
222
10C

FIG. 6

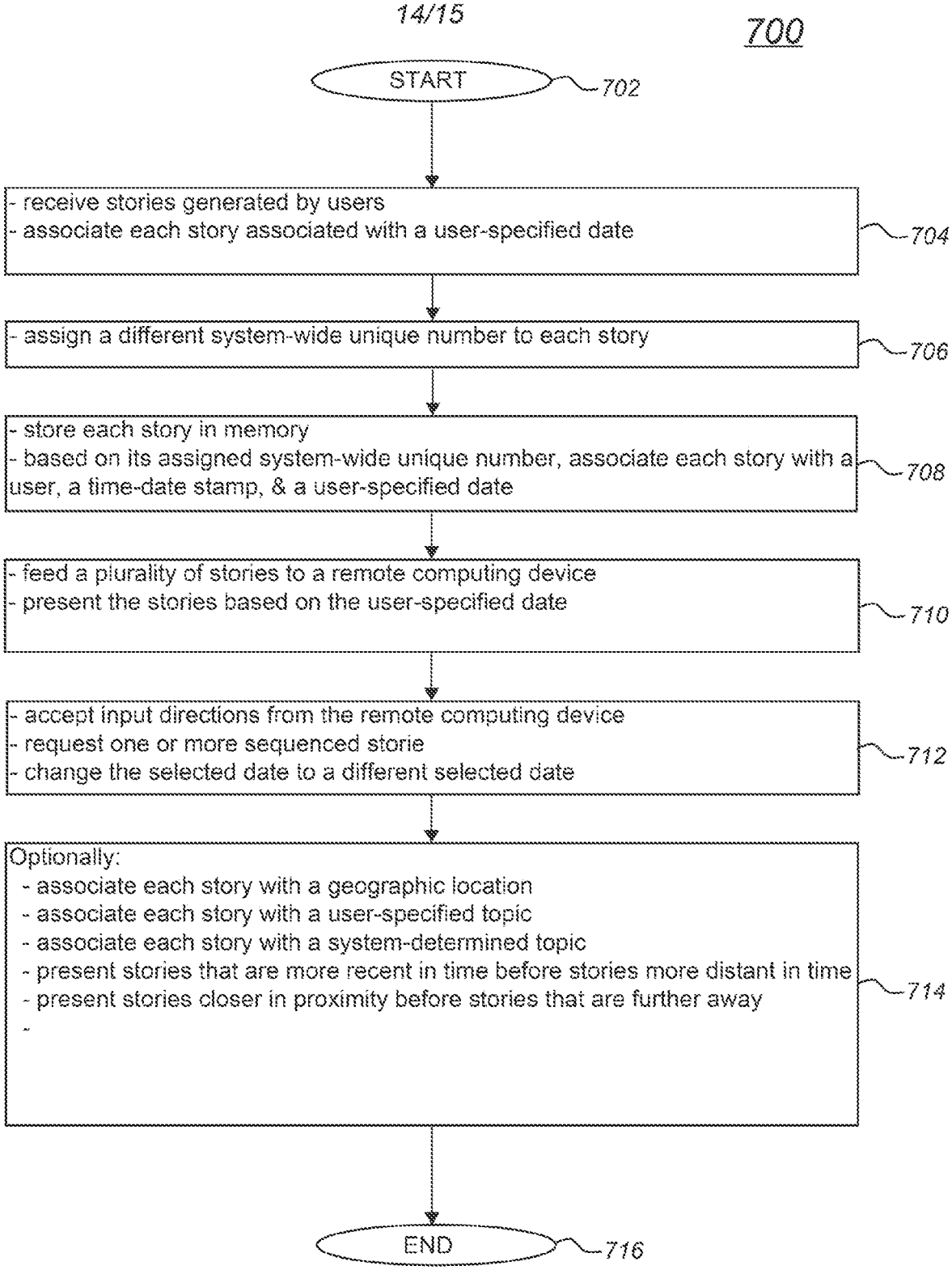

700
START
702
- receive stories generated by users
- associate each story associated with a user-specified date
704
- assign a different system-wide unique number to each story
706
- store each story in memory
- based on its assigned system-wide unique number, associate each story with a user, a time-date stamp, & a user-specified date
708
- feed a plurality of stories to a remote computing device
- present the stories based on the user-specified date
710
- accept input directions from the remote computing device
- request one or more sequenced storie
- change the selected date to a different selected date
712
Optionally:
- associate each story with a geographic location
- associate each story with a user-specified topic
- associate each story with a system-determined topic
- present stories that are more recent in time before stories more distant in time
- present stories closer in proximity before stories that are further away
-
714
END
716

FIG. 7

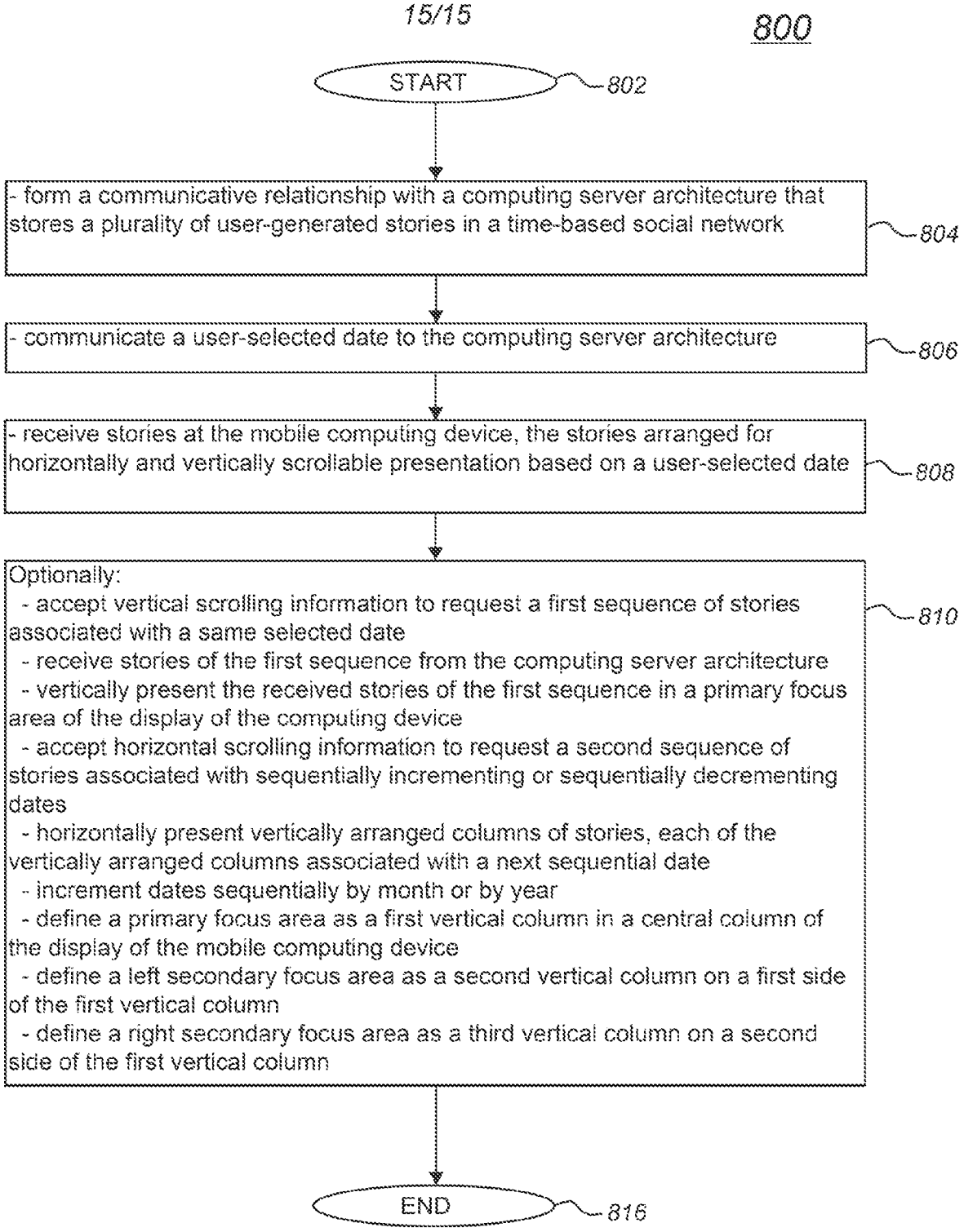

800
START
802
- form a communicative relationship with a computing server architecture that stores a plurality of user-generated stories in a time-based social network
804
- communicate a user-selected date to the computing server architecture
806
- receive stories at the mobile computing device, the stories arranged for horizontally and vertically scrollable presentation based on a user-selected date
808
Optionally:
- accept vertical scrolling information to request a first sequence of stories associated with a same selected date
- receive stories of the first sequence from the computing server architecture
- vertically present the received stories of the first sequence in a primary focus area of the display of the computing device
- accept horizontal scrolling information to request a second sequence of stories associated with sequentially incrementing or sequentially decrementing dates
- horizontally present vertically arranged columns of stories, each of the vertically arranged columns associated with a next sequential date
- increment dates sequentially by month or by year
- define a primary focus area as a first vertical column in a central column of the display of the mobile computing device
- define a left secondary focus area as a second vertical column on a first side of the first vertical column
- define a right secondary focus area as a third vertical column on a second side of the first vertical column
810
END
816

FIG. 8

PTO/AIA/01 (06-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	FLUID TIMELINE SOCIAL NETWORK

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number PCT/US2017/032037 filed on May 10, 2017.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Thinh Tran Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1.11 and 1.14. This collection is estimated to take 1 minute 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.

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.

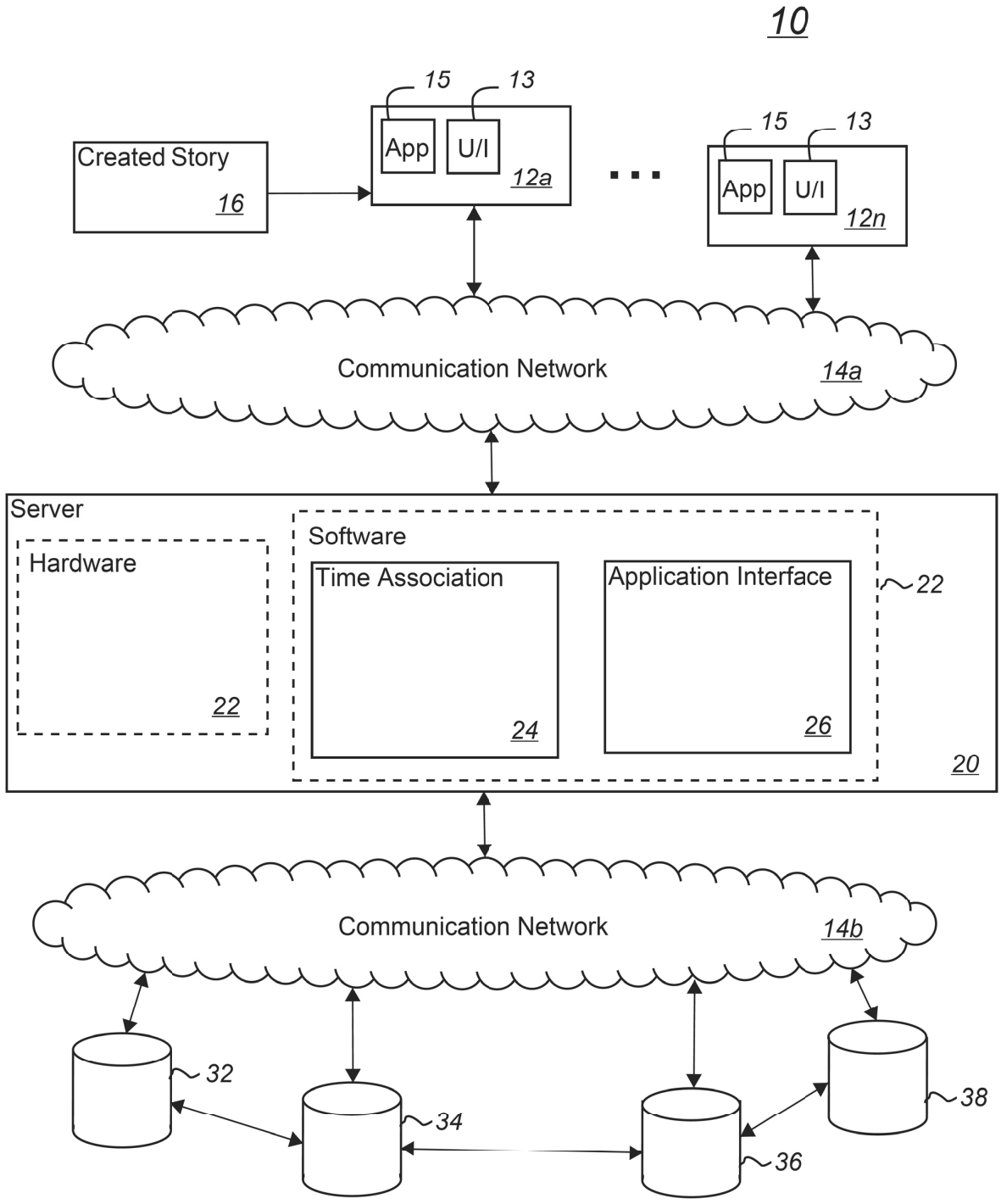

10
15
13
App
U/I
12a
15
13
App
U/I
12n
Created Story
16
Communication Network
14a
Server
Hardware
22
Software
Time Association
24
Application Interface
26
22
20
Communication Network
14b
32
34
36
38

FIG. 1

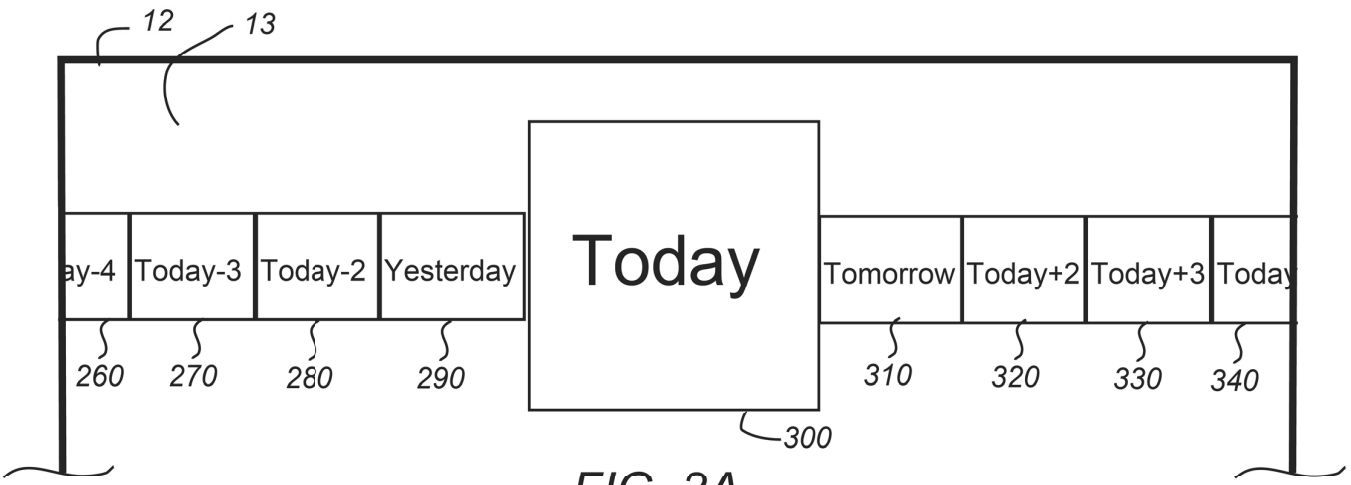

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13
ay-4
Today-3
Today-2
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Tomorrow
Today+2
Today+3
Today
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340

FIG. 2A

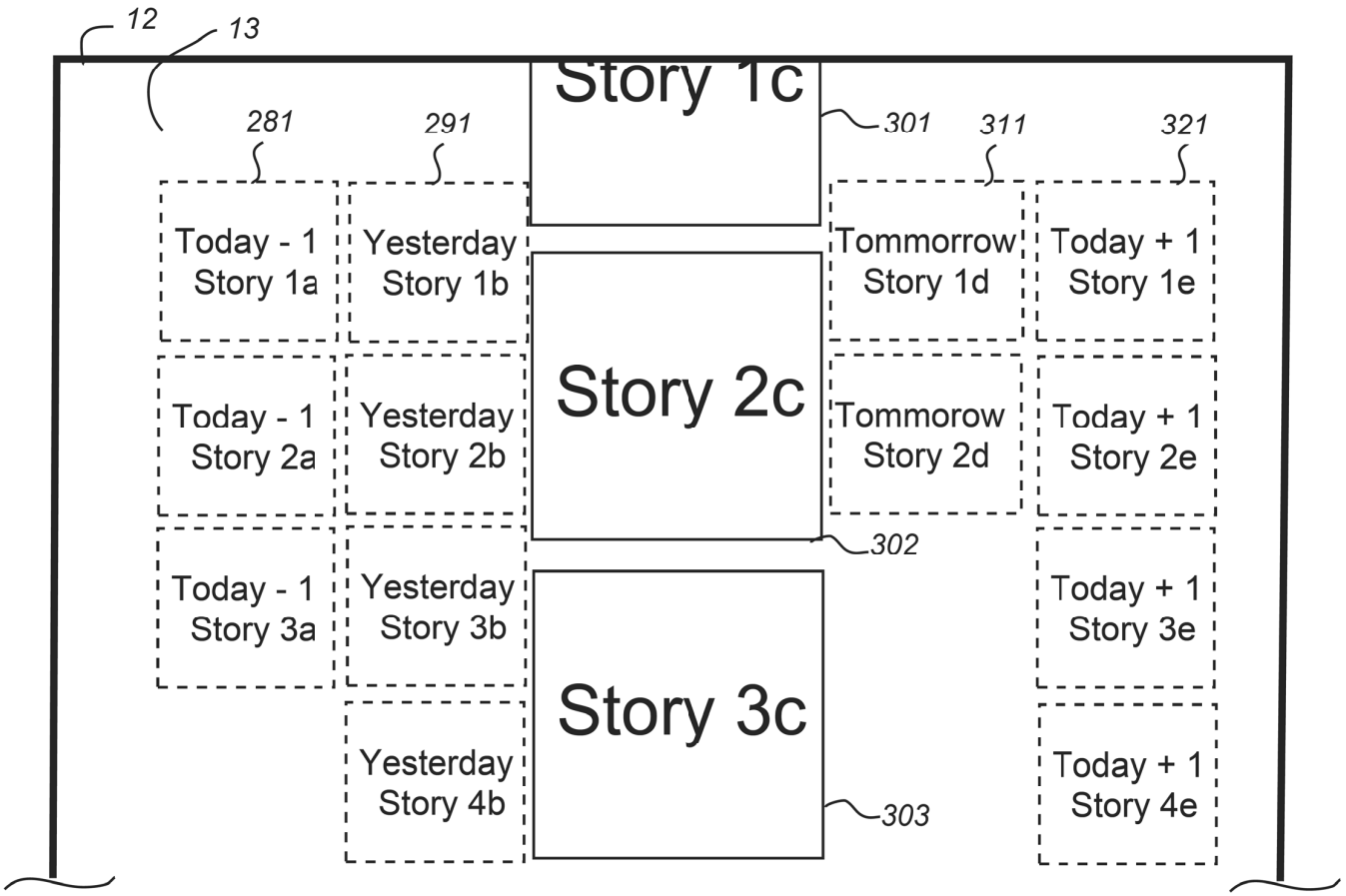

12
13
281
291
Story 1c
301
311
321
Today - 1
Story 1a
Yesterday
Story 1b
Tommorrow
Story 1d
Today + 1
Story 1e
Today - 1
Story 2a
Yesterday
Story 2b
Story 2c
Tommorow
Story 2d
Today + 1
Story 2e
302
Today - 1
Story 3a
Yesterday
Story 3b
Story 3c
Today + 1
Story 3e
Yesterday
Story 4b
303
Today + 1
Story 4e

FIG. 2B

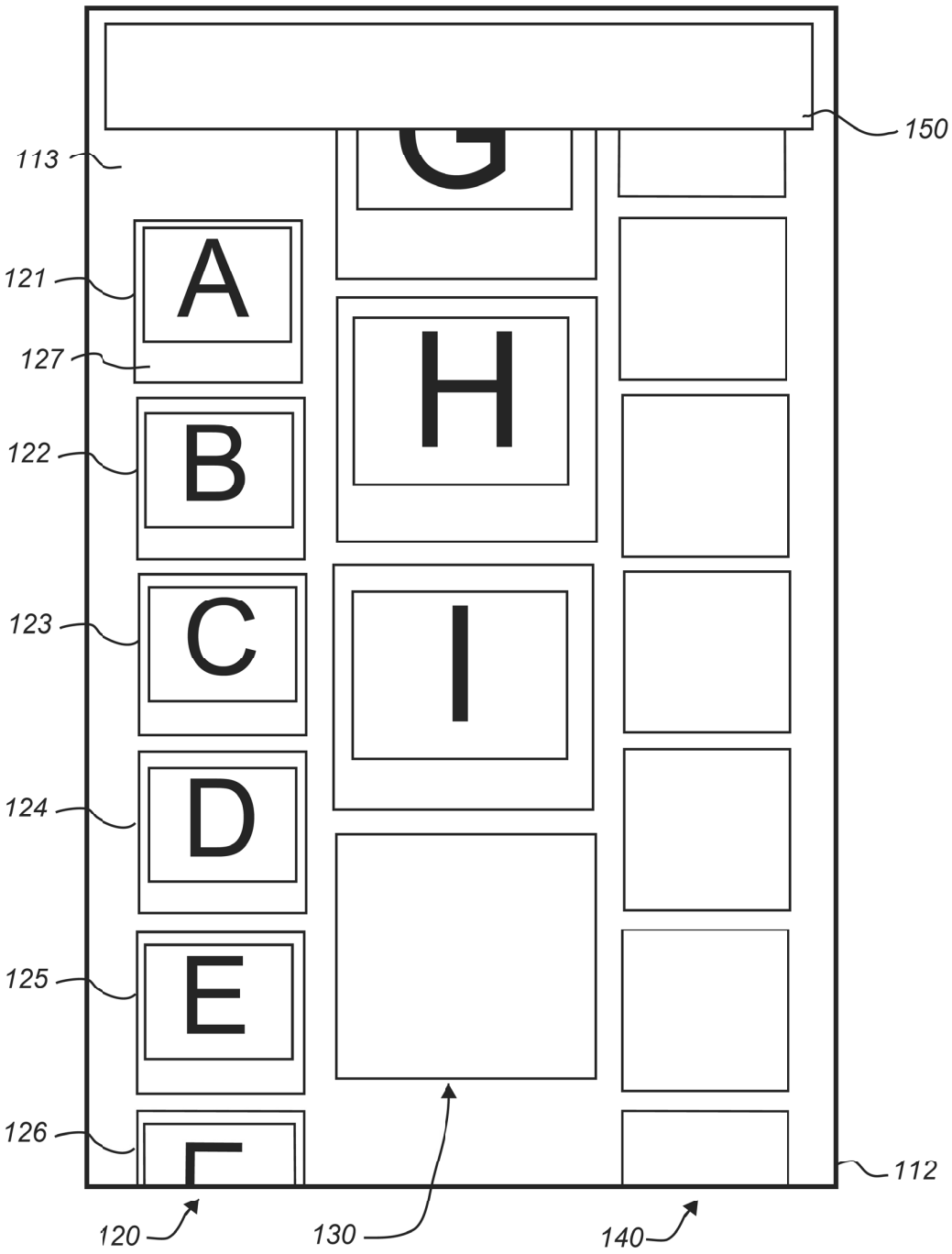


FIG. 3A

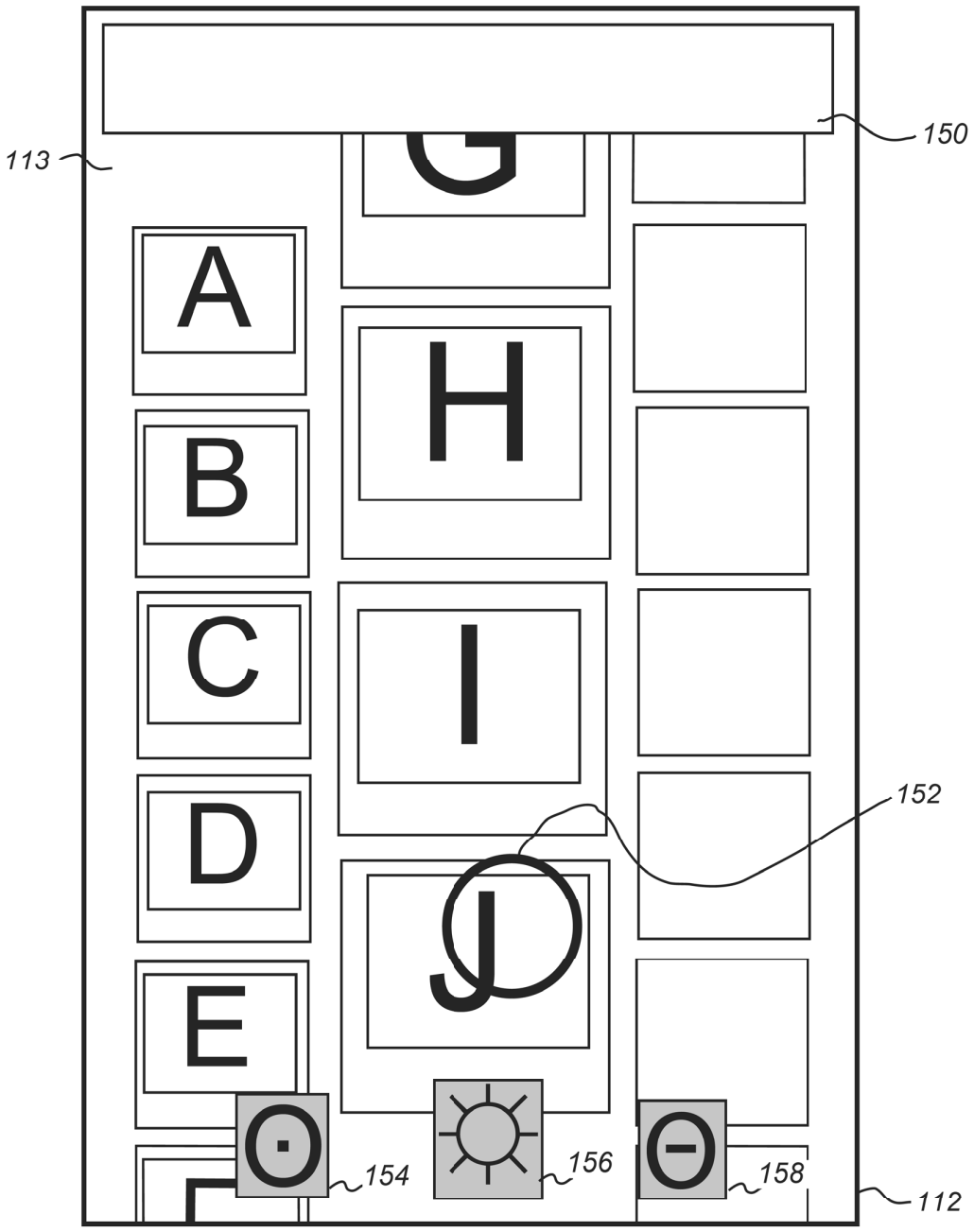


FIG. 3B

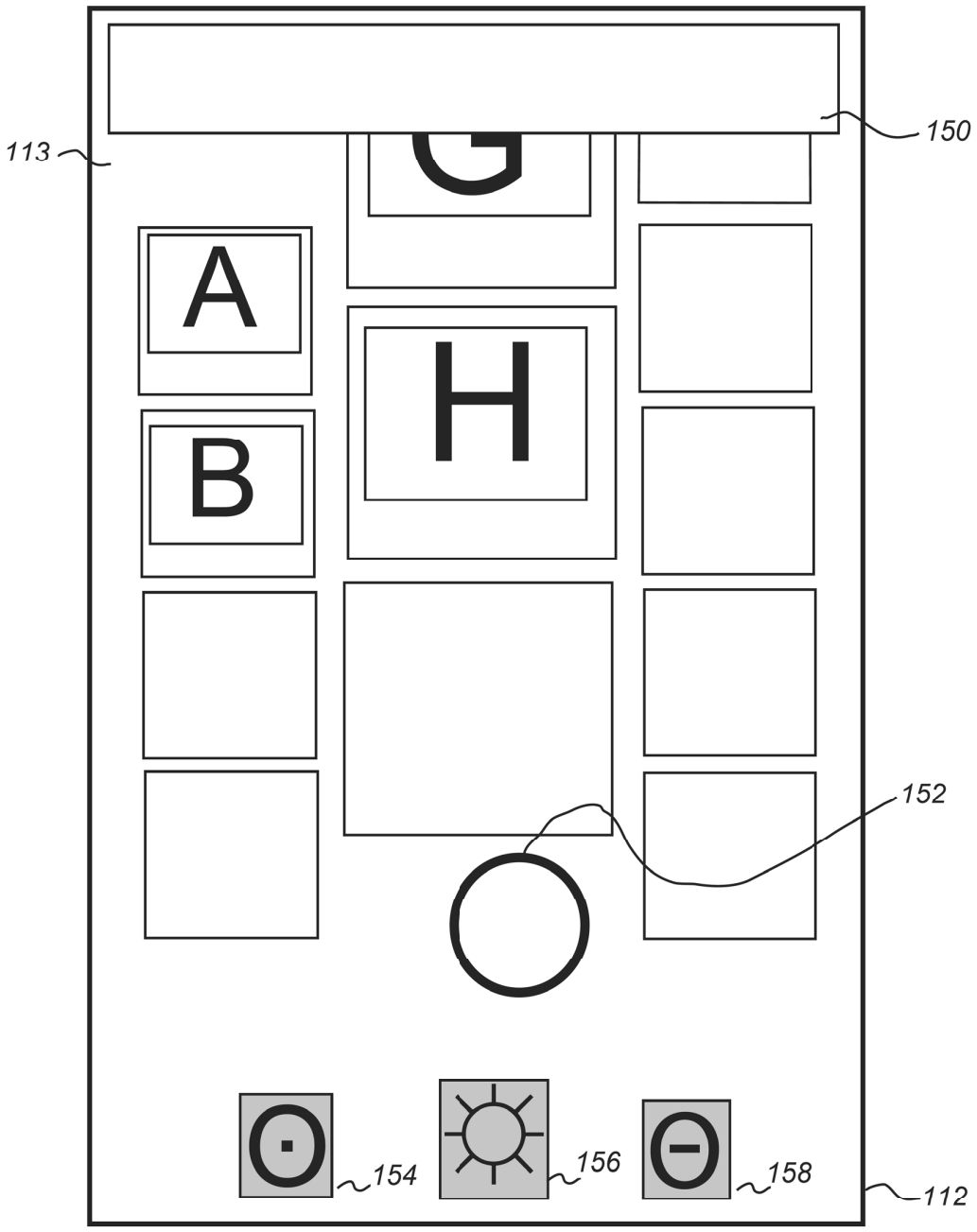


FIG. 3C

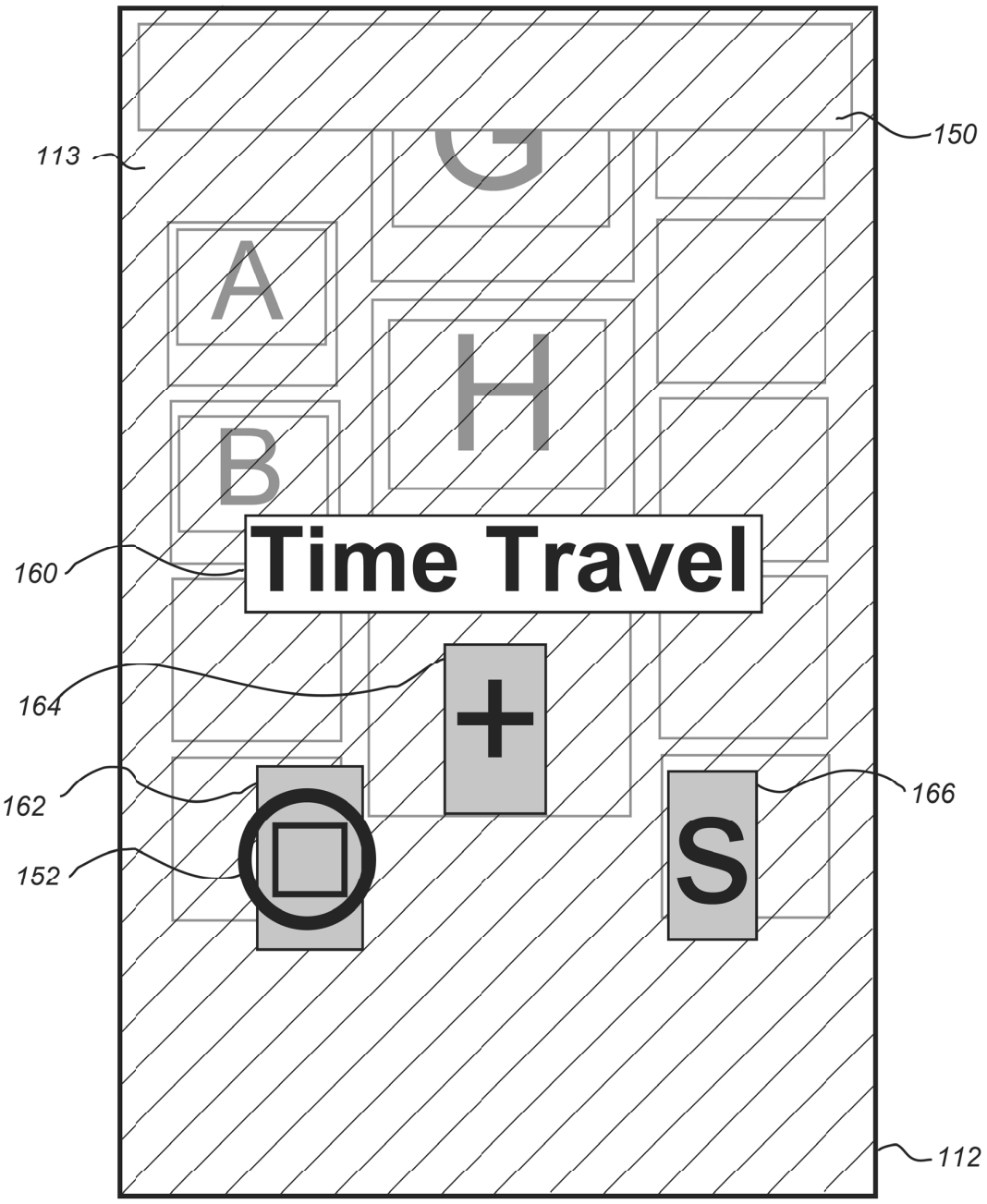


FIG. 3D

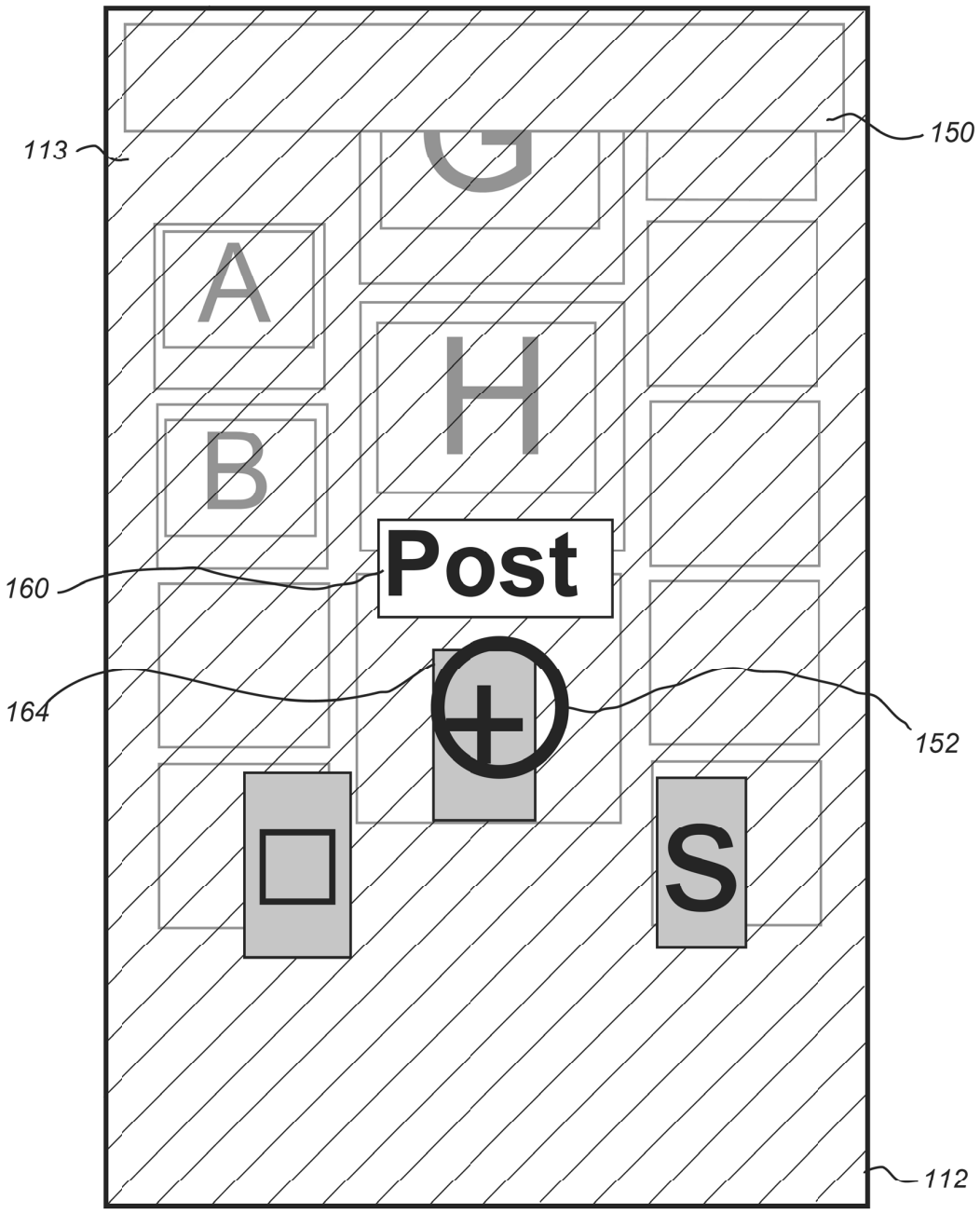


FIG. 3E

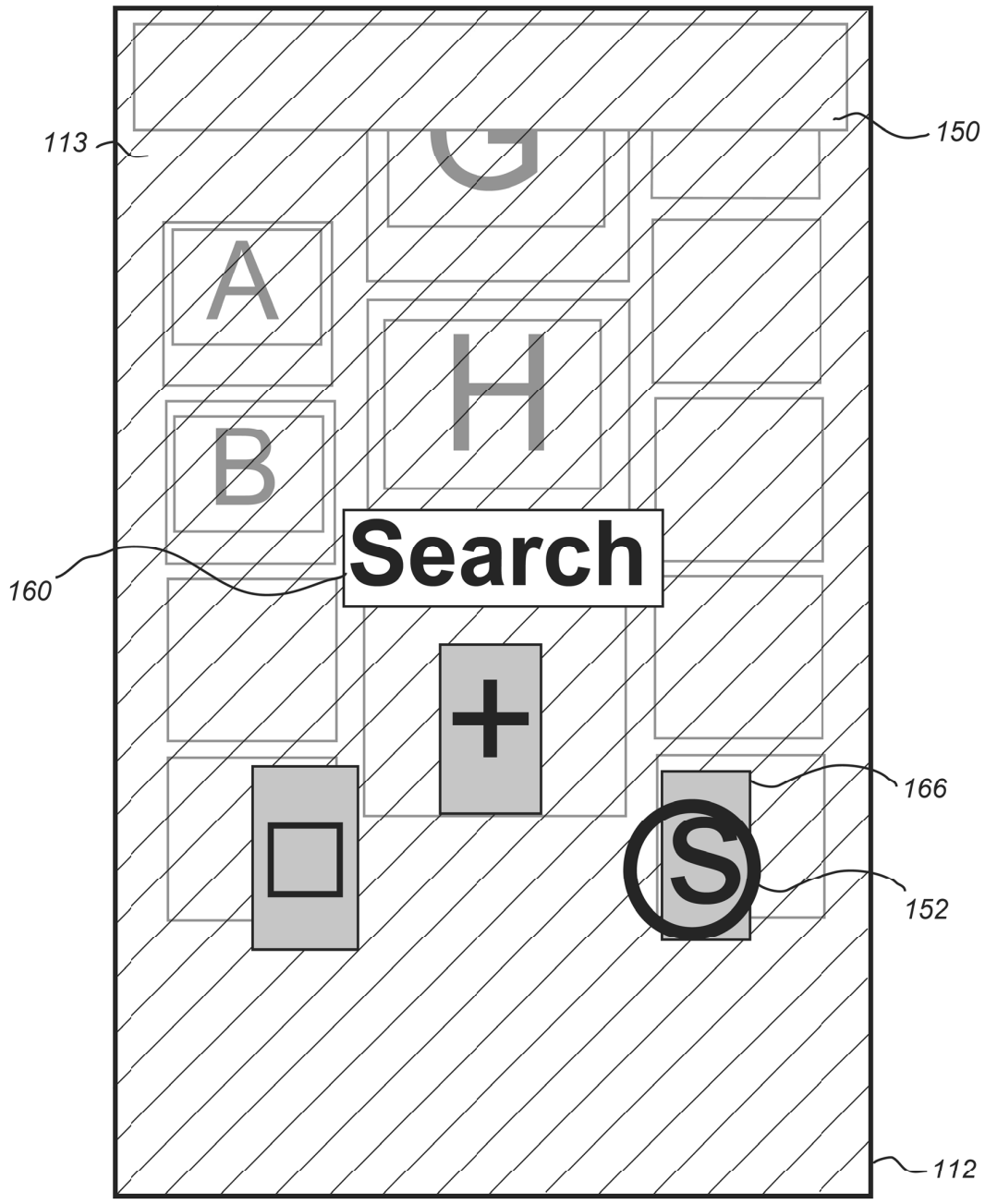


FIG. 3F

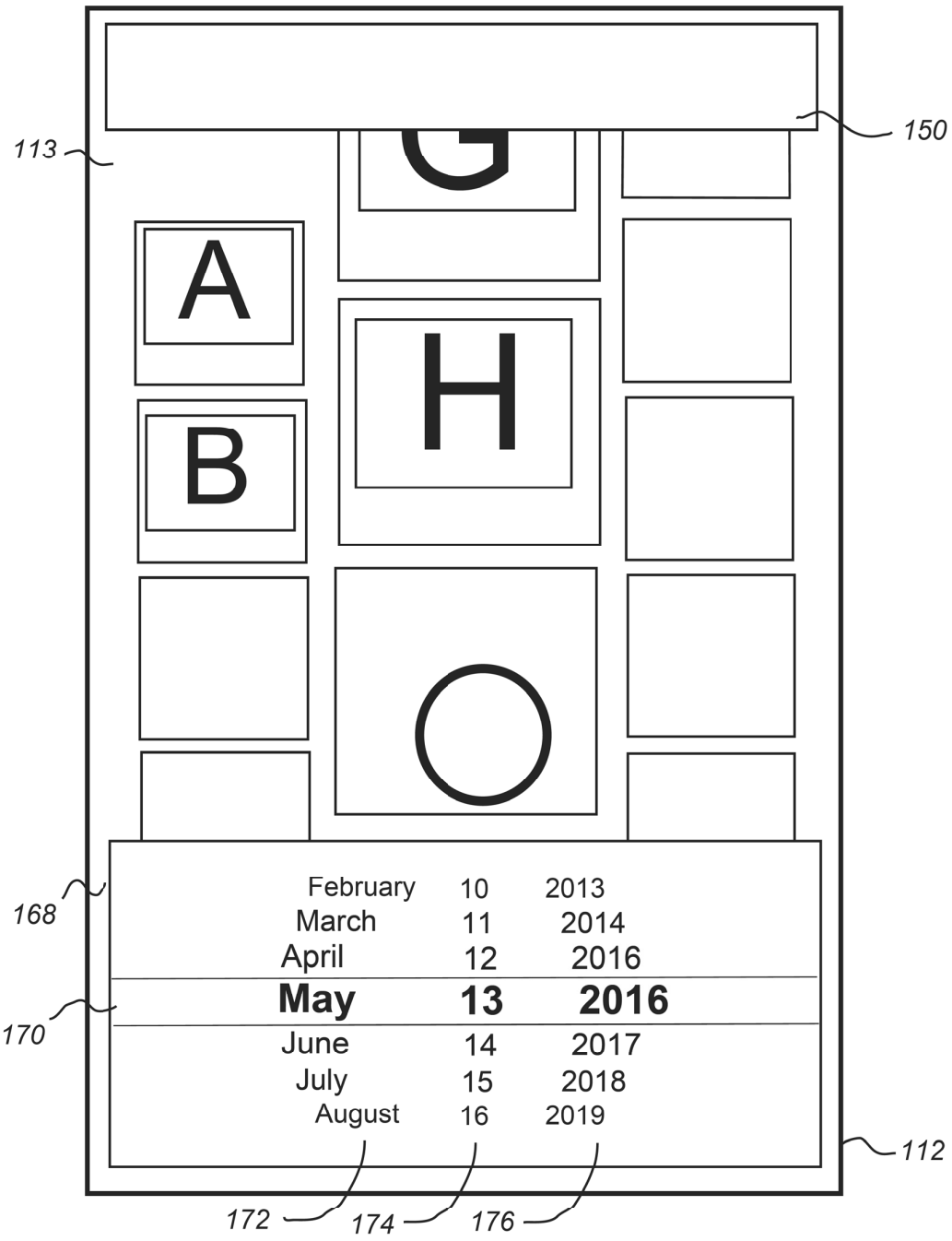

113
150
A
H
B
168
170
February 10 2013
March 11 2014
April 12 2016
May 13 2016
June 14 2017
July 15 2018
August 16 2019
112
172
174
176

FIG. 3G

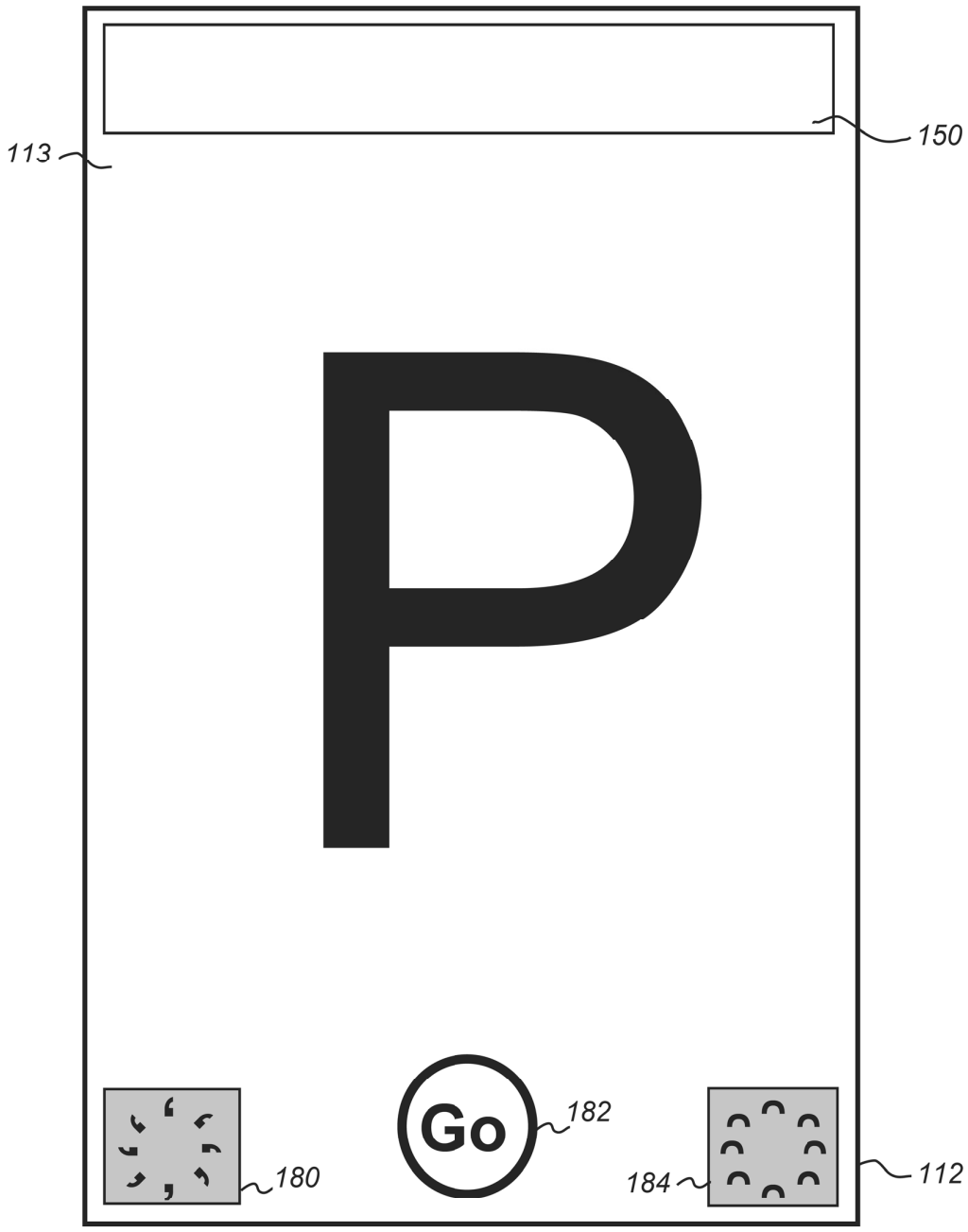


FIG. 3H

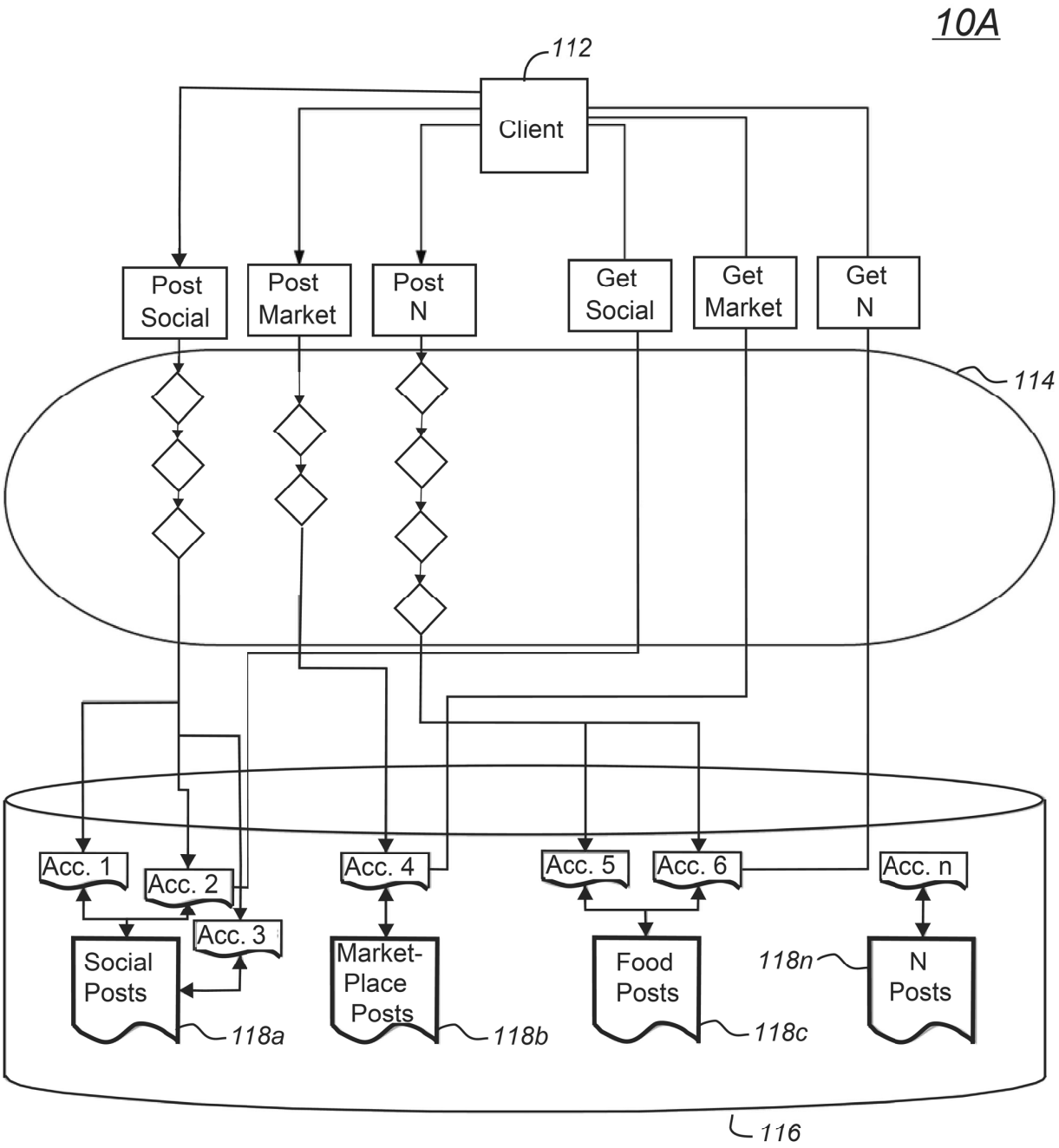

10A
112
Client
Post Social
Post Market
Post N
Get Social
Get Market
Get N
114
Acc. 1
Acc. 2
Acc. 3
Acc. 4
Acc. 5
Acc. 6
Acc. n
Social Posts
118a
Market-Place Posts
118b
Food Posts
118c
118n
N Posts
116

FIG. 4

10B

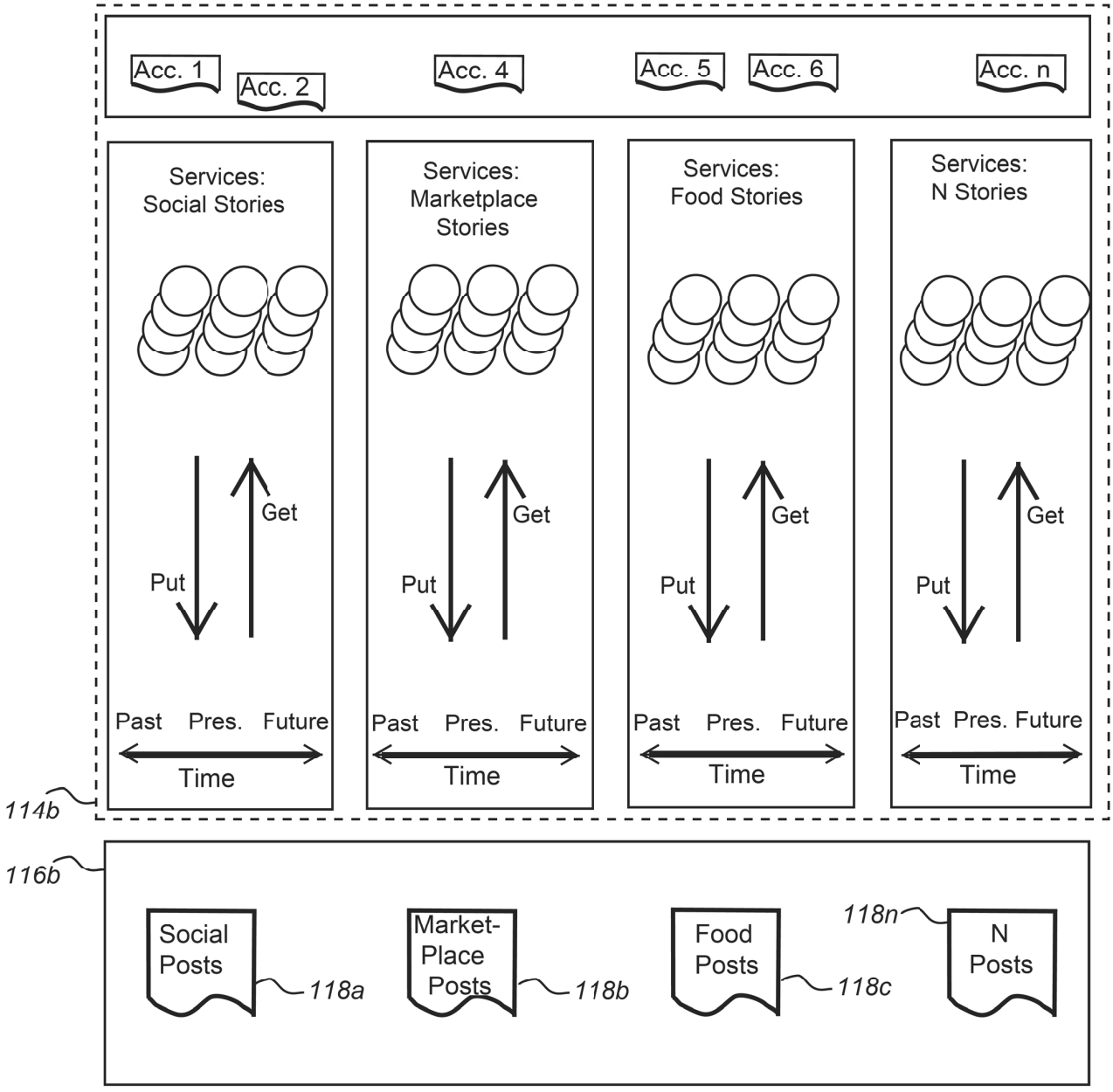

Acc. 1
Acc. 2
Acc. 4
Acc. 5
Acc. 6
Acc. n
Services: Social Stories
Services: Marketplace Stories
Services: Food Stories
Services: N Stories
Get
Put
Past
Pres.
Future
Time
114b
116b
Social Posts
118a
Market-Place Posts
118b
Food Posts
118c
118n
N Posts

FIG. 5

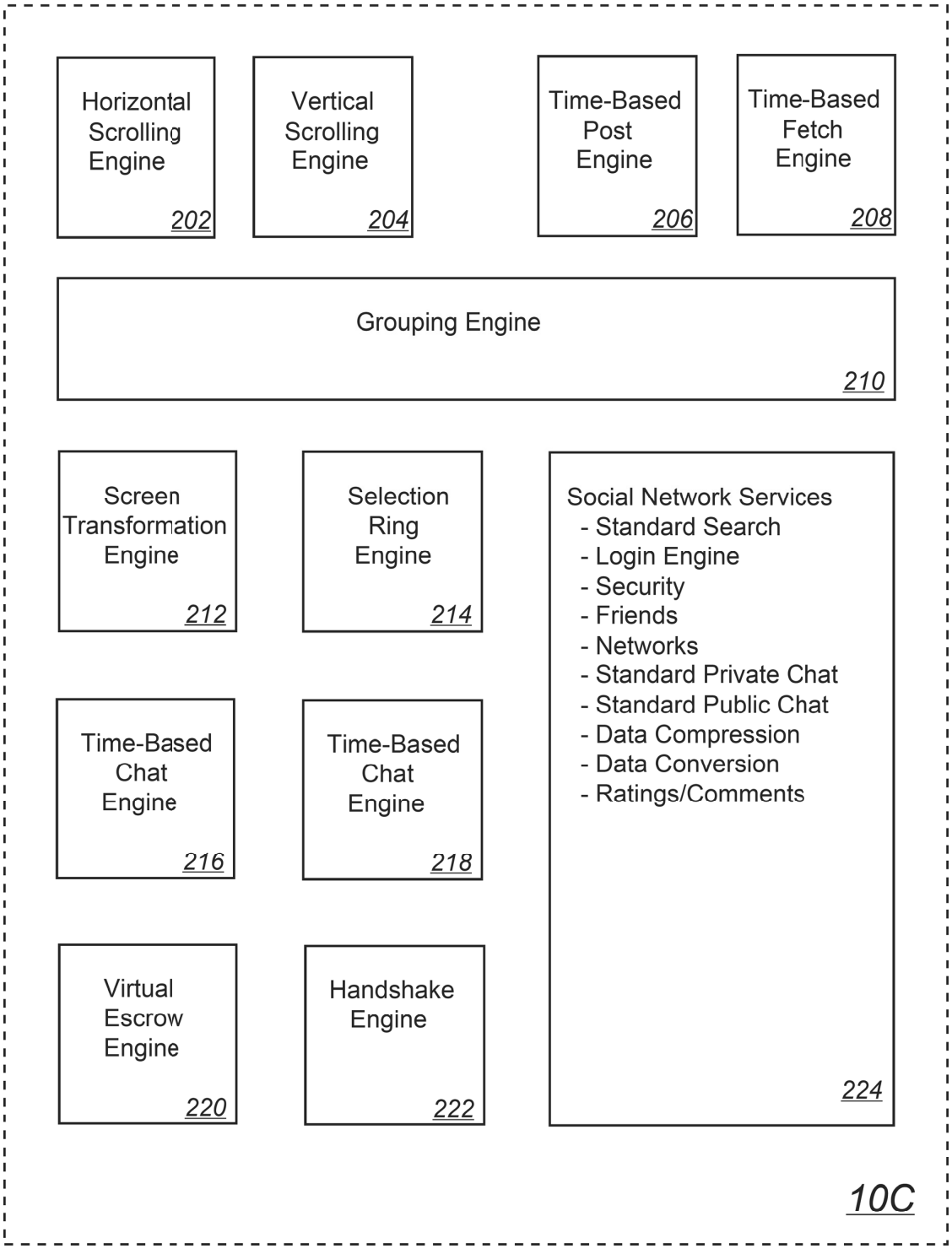

Horizontal Scrolling Engine
202
Vertical Scrolling Engine
204
Time-Based Post Engine
206
Time-Based Fetch Engine
208
Grouping Engine
210
Screen Transformation Engine
212
Selection Ring Engine
214
Social Network Services
- Standard Search
- Login Engine
- Security
- Friends
- Networks
- Standard Private Chat
- Standard Public Chat
- Data Compression
- Data Conversion
- Ratings/Comments
224
Time-Based Chat Engine
216
Time-Based Chat Engine
218
Virtual Escrow Engine
220
Handshake Engine
222
10C

FIG. 6

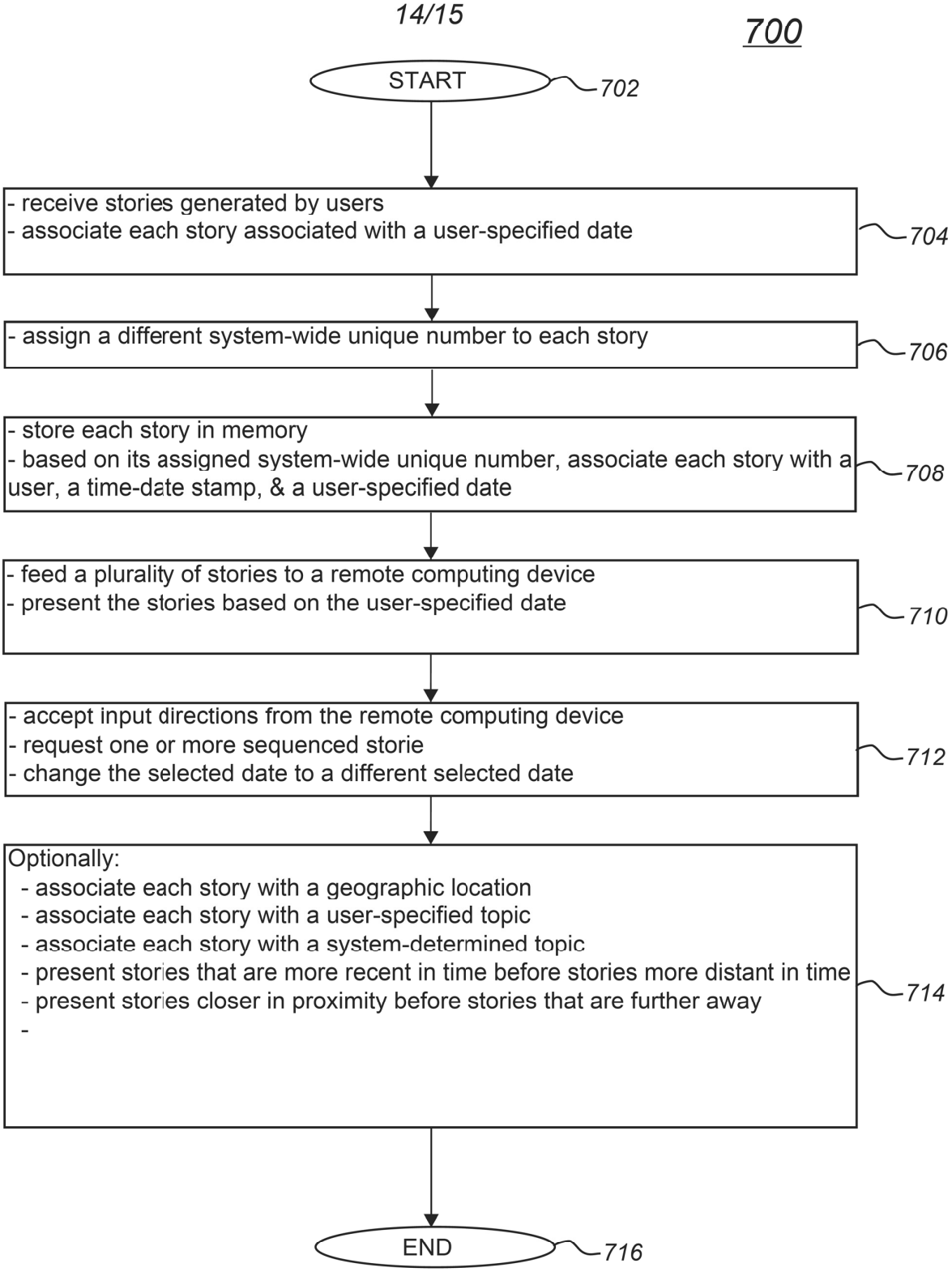

700
START
702
- receive stories generated by users
- associate each story associated with a user-specified date
704
- assign a different system-wide unique number to each story
706
- store each story in memory
- based on its assigned system-wide unique number, associate each story with a user, a time-date stamp, & a user-specified date
708
- feed a plurality of stories to a remote computing device
- present the stories based on the user-specified date
710
- accept input directions from the remote computing device
- request one or more sequenced storie
- change the selected date to a different selected date
712
Optionally:
- associate each story with a geographic location
- associate each story with a user-specified topic
- associate each story with a system-determined topic
- present stories that are more recent in time before stories more distant in time
- present stories closer in proximity before stories that are further away
-
714
END
716

FIG. 7

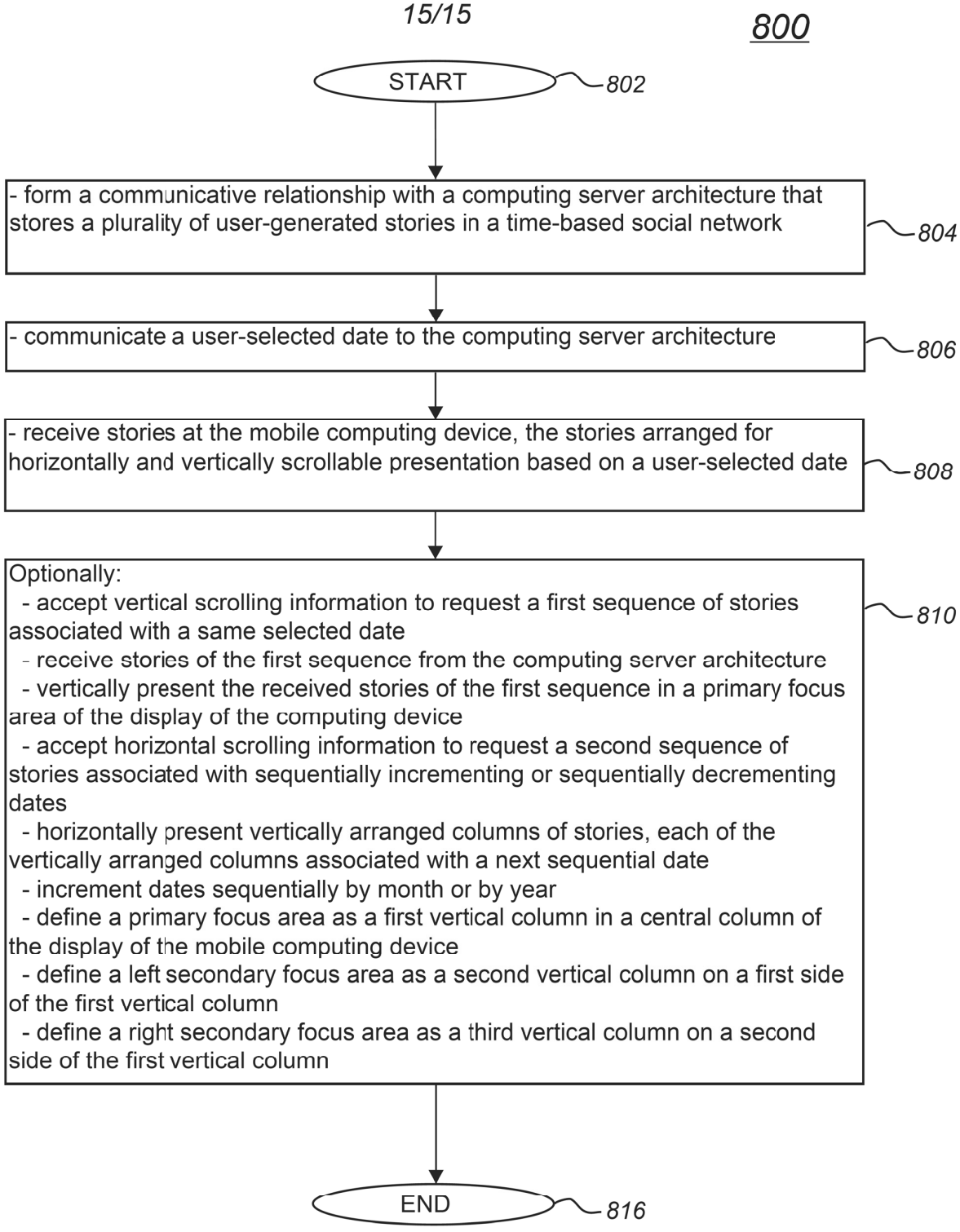

800
START
802
- form a communicative relationship with a computing server architecture that stores a plurality of user-generated stories in a time-based social network
804
- communicate a user-selected date to the computing server architecture
806
- receive stories at the mobile computing device, the stories arranged for horizontally and vertically scrollable presentation based on a user-selected date
808
Optionally:
- accept vertical scrolling information to request a first sequence of stories associated with a same selected date
- receive stories of the first sequence from the computing server architecture
- vertically present the received stories of the first sequence in a primary focus area of the display of the computing device
- accept horizontal scrolling information to request a second sequence of stories associated with sequentially incrementing or sequentially decrementing dates
- horizontally present vertically arranged columns of stories, each of the vertically arranged columns associated with a next sequential date
- increment dates sequentially by month or by year
- define a primary focus area as a first vertical column in a central column of the display of the mobile computing device
- define a left secondary focus area as a second vertical column on a first side of the first vertical column
- define a right secondary focus area as a third vertical column on a second side of the first vertical column
810
END
816

FIG. 8

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/988,413

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	21 minus 20 =	* 1	x 50 =	50	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 230 =	0.00			
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).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	835		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** 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 found in the appropriate box in column 1.

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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/988,413	08/07/2020	3634	835	870288.401C2	21	3

CONFIRMATION NO. 9294

FILING RECEIPT

500
SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

OC000000119227847

Date Mailed: 08/17/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Thinh Tran, Kirkland, WA;

Applicant(s)

Thinh Tran, Kirkland, WA;

Power of Attorney: The patent practitioners associated with Customer Number 00500

Domestic Priority data as claimed by applicant

This application is a CON of 16/549,859 08/23/2019 PAT 10747415
which is a CON of 16/300,028 11/08/2018 PAT 10747414
which is a 371 of PCT/US2017/032037 05/10/2017
which claims benefit of 62/334,318 05/10/2016

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 08/13/2020

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/988,413**

Projected Publication Date: 11/26/2020

Non-Publication Request: No

Early Publication Request: No

** **SMALL ENTITY** **

Title

FLUID TIMELINE SOCIAL NETWORK

Preliminary Class

182

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/988,413	08/07/2020	Thinh Tran	870288.401C2	9294

500 7590 08/20/2020

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

EXAMINER	

ART UNIT	PAPER NUMBER
2145	

NOTIFICATION DATE	DELIVERY MODE
08/20/2020	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOeAction@SeedIP.com
pairlinkdktg@seedip.com

Decision Granting Request for Prioritized Examination (Track I)	**Application No.** 16/988,413	**Applicant(s)** Tran, Thinh	
	Examiner CHERYL P GIBSON BAYLOR	**Art Unit** OPET	**AIA (FITF) Status** Yes

1. THE REQUEST FILED 07 August 2020 IS **GRANTED** .

The above-identified application has met the requirements for prioritized examination
- A. ☑ for an original nonprovisional application (Track I).
- B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination**. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:
   - A. filing a **petition for extension of time** to extend the time period for filing a reply;
   - B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims** , or a multiple dependent claim;
   - C. filing a **request for continued examination** ;
   - D. filing a notice of appeal;
   - E. filing a request for suspension of action;
   - F. mailing of a notice of allowance;
   - G. mailing of a final Office action;
   - H. completion of examination as defined in 37 CFR 41.102; or
   - I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to CHERYL GIBSON BAYLOR at (571)272-3213. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.

/CHERYL GIBSON BAYLOR/ Paralegal Specialist, OPET	

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/988,413	08/07/2020	Thinh Tran	870288.401C2	9294

500 7590 09/11/2020

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

EXAMINER	
BARRETT, RYAN S	

ART UNIT	PAPER NUMBER
2145	

NOTIFICATION DATE	DELIVERY MODE
09/11/2020	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOeAction@SeedIP.com
pairlinkdktg@seedip.com

Office Action Summary	Application No. 16/988,413	Applicant(s) Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	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 8/7/2020.

☐ 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) 1-21 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) 1-21 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 8/7/2020 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 _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

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

This action is responsive to the Application filed on 8/7/2020. Claims 1-21 are pending in the case. Claims 1, 8, and 14 are independent claims.

Claim Objections

Claims 9-13 and 15 are objected to because of the following informalities:

- Claims 9-13 recite the limitation "The computer device." There is insufficient antecedent basis for this limitation. For the purpose of prior art analysis Examiner assumes this is a reference to "An interactive user interface control system" of parent claim 8.
- Claim 13 recites "further comprising" where "wherein the at least one processor further executes the computer instructions to" was apparently intended.
- Claim 15 ends with a semicolon rather than a period.

Appropriate correction is required.

Claim Rejections - 35 U.S.C. § 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 of this title, 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.

Claims 1-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone ("Windows 7 for Dummies," 2009, Wiley Publishing, Inc.) in view of sixλxis ("CircleSpin Cursors," 31 January 2010, http://www.rw-designer.com/cursor-set/circlespin).

As to independent **claim 1**, Rathbone teaches a method, comprising:

- presenting, by a processor of a computing device, a selection cursor to a user in a first graphical user interface ("mouse pointer," page 9 paragraph 1 line 2);
- receiving, by the processor, a selection of the selection cursor by the user to enable the user to manipulate a position of the selection cursor within the first graphical user interface ("mouse pointer," page 9 paragraph 1 line 2);
- presenting, by the processor, a plurality of icons to the user in the first graphical user interface based on the selection of the selection cursor

("Double-click a hard drive, for example, and Windows 7 promptly opens the drive to show you the folders packed inside," page 75 paragraph 3 lines 2-4);

- receiving, by the processor, a user manipulation of positioning of the selection cursor within the first graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5);
- receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection cursor in the first graphical user interface relative to the icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5); and
- presenting, by the processor, a second graphical user interface to the user based on the selected icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's

inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5).

Rathbone does not appear to expressly teach a method wherein the selection cursor is a selection ring.

sixλxis teaches a method wherein the selection cursor is a selection ring ("An ambidextrous cursor that utilizes the natural flow of a circle," page 1 line 1, see also figures).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the selection cursor of Rathbone to comprise the selection ring of sixλxis. One would have been motivated to make such a combination to allow aesthetic customization of the selection cursor.

As to dependent **claim 2**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method wherein the plurality of icons were previously hidden prior to selection of the selection ring ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 3**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method comprising presenting, by the processor, a selection siren to the user in the first graphical user interface based on the user

manipulation ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 4**, the rejection of claim 3 is incorporated. Rathbone/sixλxis further teaches a method wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 5**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method comprising presenting, by the processor, a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 6**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method comprising presenting, by the processor, a

second plurality of icons to the user in the second graphical user interface ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 7**, the rejection of claim 6 is incorporated. Rathbone/sixλxis further teaches a method comprising receiving, by the processor, a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to independent **claim 8**, Rathbone teaches an interactive user interface control system, comprising:

- a display device ("computer," page 9 paragraph 1 line 3);
- a memory that stores computer instructions ("computer," page 9 paragraph 1 line 3); and

- at least one processor that executes computer instructions ("computer," page 9 paragraph 1 line 3) to:
    - present, on the display device, a selection cursor to a user in a first graphical user interface ("mouse pointer," page 9 paragraph 1 line 2);
    - receive a selection of the selection cursor by the user to enable the user to manipulate a position of the selection cursor within the first graphical user interface ("mouse pointer," page 9 paragraph 1 line 2);
    - present, on the display device, a plurality of icons to the user in the first graphical user interface based on the selection of the selection cursor ("Double-click a hard drive, for example, and Windows 7 promptly opens the drive to show you the folders packed inside," page 75 paragraph 3 lines 2-4);
    - receive a user manipulation of positioning of the selection cursor within the first graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5);

- receive a selection of an icon from the plurality of icons based on a position of the selection cursor in the first graphical user interface relative to the icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5); and
- present, on the display device, a second graphical user interface to the user based on the selected icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5).

Rathbone does not appear to expressly teach a system wherein the selection cursor is a selection ring.

sixλxis teaches a system wherein the selection cursor is a selection ring ("An ambidextrous cursor that utilizes the natural flow of a circle," page 1 line 1, see also figures).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the selection cursor of

Rathbone to comprise the selection ring of sixλxis. One would have been motivated to make such a combination to allow aesthetic customization of the selection cursor.

As to dependent **claim 9**, the rejection of claim 8 is incorporated. Rathbone/sixλxis further teaches a system wherein the plurality of icons were previously hidden prior to selection of the selection ring ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 10**, the rejection of claim 8 is incorporated. Rathbone/sixλxis further teaches a system wherein the at least one processor further executes the computer instructions to: present, on the display device, a selection siren to the user in the first graphical user interface based on the user manipulation ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 11**, the rejection of claim 10 is incorporated. Rathbone/sixλxis further teaches a system wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the

first graphical user interface ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 12**, the rejection of claim 8 is incorporated. Rathbone/sixλxis further teaches a system wherein the at least one processor further executes the computer instructions to: present, on the display device, a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 13**, the rejection of claim 12 is incorporated. Rathbone/sixλxis further teaches a system comprising receive a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to independent **claim 14**, Rathbone teaches a non-transitory computer readable medium that stores computer instructions ("computer," page 9 paragraph 1 line 3) that, when executed by at least one processor, cause the at least one processor to perform operations, the operations comprising:

- presenting a selection cursor to a user in a first graphical user interface ("mouse pointer," page 9 paragraph 1 line 2);
- receiving a selection of the selection cursor by the user to enable the user to manipulate a position of the selection cursor within the first graphical user interface ("mouse pointer," page 9 paragraph 1 line 2);
- receiving a user manipulation of positioning of the selection cursor within the first graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5);
- receiving a selection of an icon from a plurality of icons ("Double-click a hard drive, for example, and Windows 7 promptly opens the drive to show you the folders packed inside," page 75 paragraph 3 lines 2-4) based on a position of the selection cursor in the first graphical user interface relative to the icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that

folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5); and

- presenting a second graphical user interface to the user based on the selected icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5).

Rathbone does not appear to expressly teach a medium wherein the selection cursor is a selection ring.

sixλxis teaches a medium wherein the selection cursor is a selection ring ("An ambidextrous cursor that utilizes the natural flow of a circle," page 1 line 1, see also figures).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the selection cursor of Rathbone to comprise the selection ring of sixλxis. One would have been motivated to make such a combination to allow aesthetic customization of the selection cursor.

As to dependent **claim 15**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting the plurality of icons to

the user in the first graphical user interface based on the selection of the selection ring ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 16**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein the plurality of icons were previously hidden prior to selection of the selection ring ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 17**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a selection siren to the user in the first graphical user interface based on the user manipulation ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or

does. … This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 18**, the rejection of claim 17 is incorporated. Rathbone/sixλxis further teaches a medium wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. … This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 19**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 20**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer

instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a second plurality of icons to the user in the second graphical user interface ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 21**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein the operations are performed by an operating system ("Windows is an operating system, meaning it controls the way you work with your computer," Rathbone page 9 paragraph 3 lines 3-4).

Conclusion

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action.

It is noted that any citation to specific pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. *In re Heck*, 699 F.2d 1331, 1332-33, 216 U.S.P.Q. 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 U.S.P.Q. 275, 277 (C.C.P.A. 1968)).

In the interests of compact prosecution, Applicant is invited to contact the examiner via electronic media pursuant to USPTO policy outlined MPEP § 502.03. All electronic communication must be authorized in writing. Applicant may wish to file an Internet Communications Authorization Form PTO/SB/439. Applicant may wish to request an interview using the Interview Practice website: http://www.uspto.gov/patent/laws-and-regulations/interview-practice.

Applicant is reminded Internet e-mail may not be used for communication for matters under 35 U.S.C. § 132 or which otherwise require a signature. A reply to an Office action may NOT be communicated by Applicant to the USPTO via Internet e-mail. If such a reply is submitted by Applicant via Internet e-mail, a paper copy will be placed in the appropriate patent application file with an indication that the reply is NOT ENTERED. See MPEP § 502.03(II).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Barrett whose telephone number is 571 270 3311. The examiner can normally be reached 9:00am to 5:30pm.

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 Arpan Savla can be reached at 571 272 1077. The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866 217 9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800 786 9199 (IN USA OR CANADA) or 571 272 1000.

/Ryan Barrett/

Primary Examiner, Art Unit 2145

Notice of References Cited	Application/Control No. 16/988,413	Applicant(s)/Patent Under Reexamination Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	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-20190377778-A1	12-2019	Tran; Thinh	G06Q10/00	1/1
*	B	US-20080148191-A1	06-2008	Weinlander; Markus	G06F3/0482	715/854
*	C	US-20140108139-A1	04-2014	Weinstein; David M.	G06Q30/02	705/14.53
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Rathbone, "Windows 7 for Dummies," 2009, Wiley Publishing, Inc.
	V	sixλxis, "CircleSpin Cursors," 31 January 2010, http://www.rw-designer.com/cursor-set/circlespin
	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.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

CPC - Searched*		
Symbol	Date	Examiner
G06F 3/0485, 40/106 limited by keyword	09/05/2020	RB

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
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Search Notes		
Search Notes	Date	Examiner
Inventor name search	09/05/2020	RB
EAST text search	09/07/2020	RB
NPL text search: Google	09/07/2020	RB

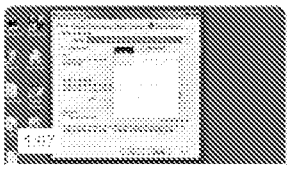
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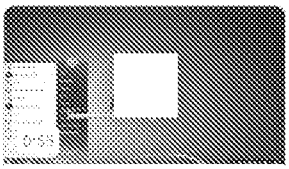
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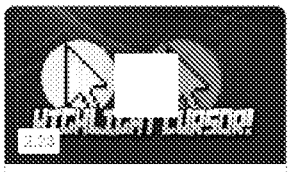
How to Make Your Mouse Pointer Have a Circle Trail When ...

eHowTech
YouTube - Jul 28, 2014



How to Highlight Cursor

HOWTECH
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www.freepik.com › free-icon › cursor-circle_695498

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Aug 8, 2013 - Cursor in a circle Free Icon. 7 years ago. You may also like. World wide web. flaticon. 20k 92. Like. Collect. Save. Pin for geolocalization. flaticon. 8k 42. Like.

anilevergreentech.wordpress.com › 2015/08/30 › how-t...

How to get a Yellow Circle Around Your Cursor? | Tips And ...

Aug 30, 2015 - if you asked how I get the yellow circle around my cursor (pointer) now see this post. ... Step 4: Click to New Mouse Cursor Step 5: Go to Make Arrow Shape.

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Aug 7, 2010 - Step 4: Click to New **Mouse Cursor** Step 5: Go to Make Arrow **Shape**. The iPad **cursor** doesn't look like an arrow pointer, as you would expect from a PC or Mac, ...

www.ghacks.net › Tutorials

Highlight the mouse cursor to locate it on the screen - gHacks ...

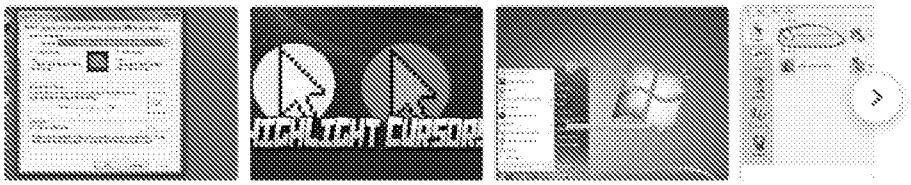
Aug 7, 2012 - Windows creates a large **circle** around the **mouse cursor** for a moment that is closing in on the **mouse cursor**. The **circle's** color differs wit the background color of ...

github.com › critiqjo › key-mon › issues

Add an option to have a circle around mouse's cursor · Issue ...

Apr 9, 2015 - To get to the point, I would **like** to propose a new feature for Key-mon. More precisely, the option to highlight the **mouse's cursor** with a **Circle**. It is very handy for ...

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INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)	FIRST NAMED INVENTOR Thinh Tran	
	FILING DATE	GROUP ART UNIT

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	NAME	FILING DATE IF APPROPRIATE
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EXAMINER	DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

7452279_1 August 7, 2020

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RB/

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE **INFORMATION DISCLOSURE STATEMENT** (Use several sheets if necessary)	ATTY. DOCKET NO. 870288.401C2	APPLICATION NO.
	FIRST NAMED INVENTOR Thinh Tran	
	FILING DATE	GROUP ART UNIT

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	NAME	FILING DATE IF APPROPRIATE
	27	2017/0169800	A1	06-15-2017	Greco et al.	
	28	2019/0147017	A1	05-16-2019	Tran	
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EXAMINER /Ryan Barrett/	DATE CONSIDERED 09/05/2020
* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

7452279_1 August 7, 2020

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S28	30	(("20030095149") or ("20040021673") or ("20040125150") or ("20050091596") or ("20050114781") or ("20050154988") or ("20050210410") or ("20070061748") or ("20080294663") or ("20090150822") or ("20100077355") or ("20100095238") or ("20110004662") or ("20130024803") or ("20130073984") or ("20130157234") or ("20130290430") or ("20140013243") or ("20140040379") or ("20140089816") or ("20140324797") or ("20150120766") or ("20150220264") or ("20150378556") or ("20160274785") or ("20160364085") or ("20170169800") or ("20190147017") or ("8793579") or ("8990255")).PN.	US-PGPUB; USPAT	OR	OFF	2020/09/05 18:09
S29	68	((("TRAN") near3 ("Thinh"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 18:18
S30	17,940	G06F3/0485.cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 21:07
S31	5,310	G06F40/106.cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 21:07
S32	36	(S30 S31) and (tooltip (tool adj tip) hovertext) with icon	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 21:07
S33	26	folder same (tooltip (tool adj tip) hovertext) with icon	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:03
S34	9,865	folder near5 (open enter (double adj click))	US-PGPUB; USPAT; USOCR;	OR	ON	2020/09/07 17:10

			EPO; JPO; DERWENT			
S35	2,046	(tooltip (tool adj tip) hovertext) with icon	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:10
S36	32	S34 and S35	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:10
S37	18,698	(ring circle circular) near3 (mouse pointer cursor)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:27
S38	27	S35 and S37	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:27

EAST Search History (Interference)

<This search history is empty>

9/8/2020 9:09:05 PM
C:\Users\rbarrett\Documents\Ryan\Cases\16988413- Fluid Timeline Social Network\16988413 EAST Workspace.wsp

Google

folder icon tooltip

All Images Videos News Shopping More Settings Tools

Before May 9, 2016 All results Clear

winaero.com › Home › Windows 10

How to Customize Shortcut Tooltips in Windows 10 - Winaero

Jan 18, 2016 - In this article, we will see how to customize shortcut tooltips and make them display ... A shortcut is merely a link to another file or folder on your hard drive's file ... shortcut hotkey, target type, icon, info on whether to run the shortcut as admin ...

www.techsupportalert.com › freeware-forum › 13104-...

Display folder content when "Hover" over a folder icon ...

When you mouse *hover* over a desktop Folder icon, it automatically shows its ... Update ... the media preview tooltip in the latest QTTB does work now without ...
Jan 28, 2014 - 7 posts - 5 authors

www.ghacks.net › Windows

Customize Windows Explorer Tooltips - gHacks Tech News

Feb 10, 2008 - Whenever you hover your mouse cursor over a file or folder in Windows Explorer or the Desktop you will notice that a tooltip appears that lists some details about ...
Missing: icon | Must include: icon

techterms.com › definition › tooltip

Tooltip Definition - TechTerms.com

Sep 21, 2006 - Tooltip. As computer users, we have become accustomed to icons that represent files, folders, programs, and other objects on the computer ...

steamcommunity.com › app › discussions

How do you add icons and tooltips to assets? :: Cities ...

May 26, 2015 - . here but i cant find a way to make it work, i keep getting a default icon and tooltip. ... click on the folder icon next to the thumb icon. delete the pic named ...

answers.microsoft.com › forum › windows8_1-desktop

disable preview thumbnails and tooltip hover on taskbar items ...

Dec 11, 2016 - Change the 'View by' option on the top right to "large icons'. Click on "folder options' and then click on the 'View' tab. Uncheck the box against 'show pop-up ...

how to remove **tooltips** from windows 7 taskbar like " start ... Oct 6, 2018
Turn off 'mouse-over' details for files? - Microsoft Community Oct 6, 2018
More results from answers.microsoft.com

stackoverflow.com › questions › use-of-icons-on-toolti...

use of icons on ToolTipText - Stack Overflow

Mar 4, 2014 - Basically, i need an image/icon to show up when i hover over a swing component ... //use an imported icon on a tool tip text and also add some texts label. ... the internet by links to pictures in a folder on my computer, iv tried everything i know ...
1 answer

www.folderico.com › download

Download FolderIco - software to change folder colors in a click

Sep 21, 2014 - Download FolderIco - the easy way to change windows folder colour. ... image and folder overlay); Added dialog to easily select folder icon; Added folder tooltip ...

community.flexera.com › ... › InstallShield Forum

How to use icon for folder shortcut ? - Community

Mar 10, 2008 - You have to place the file in the folder you want to display the changed icon. ... Also do you any idea how to have tooltip for shortcute for installshield 11.5 .

askubuntu.com › questions › how-can-i-edit-tooltips-fo...

How can i edit tooltips for unity launcher icons - Ask Ubuntu

Dec 30, 2011 - To change the tooltip on a per user basis, copy the desktop file to your local applications folder i.e. mkdir -p ~/.local/share/applications cp /usr/share/applications/ .
1 answer

1 2 3 4 5 6 7 8 9 10 Next

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/988,413	08/07/2020	Thinh Tran	870288.401C2

CONFIRMATION NO. 9294

500
SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

PUBLICATION NOTICE

OC000000121621661

Title:FLUID TIMELINE SOCIAL NETWORK

Publication No.US-2020-0371654-A1
Publication Date:11/26/2020

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/988,413	Filing Date 08/07/2020	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (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	12/10/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 21	Minus	** 21	= 0		x $100 =	0
	Independent (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 (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (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".	/LAVINIA D JOHNSON/
*** 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.**

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	16/988,413	Examiner :	Ryan S. Barrett
Filed	:	August 7, 2020	Art Unit :	2145
Confirmation No.	:	9294		
Docket No.	:	110306.401C2		
First Named Inventor	:	Thinh Tran		
Title	:	FLUID TIMELINE SOCIAL NETWORK		

Date : December 10, 2020

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

REPLY TO OFFICE ACTION UNDER 37 CFR §1.111

Commissioner for Patents:

In response to the Office Action dated September 11, 2020, Applicant respectfully requests consideration of the present reply in the above-identified application. Please amend the above-identified application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims beginning on page 3 of this paper.

Remarks begin on page 8 of this paper.

The Director is authorized to charge any additional fees due by way of this filing, or credit any overpayment, to our Deposit Account No. 19-1090.

AMENDMENTS TO THE SPECIFICATION

Please replace the Title beginning at page 1, line 1, of the specification as filed on August 11, 2020 with the following Title:

SELECTION RING USER INTERFACE

AMENDMENTS TO THE CLAIMS

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

Listing of Claims:

1. (Original) A method, comprising;

presenting, by a processor of a computing device, a selection ring to a user in a first graphical user interface;

receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

presenting, by the processor, a plurality of icons to the user in the first graphical user interface based on the selection of the selection ring;

receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface;

receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

presenting, by the processor, a second graphical user interface to the user based on the selected icon.

2. (Currently Amended) The method of claim 1, wherein the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring.

3. (Original) The method of claim 1, further comprising:

presenting, by the processor, a selection siren to the user in the first graphical user interface based on the user manipulation.

4. (Original) The method of claim 3, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

5. (Currently Amended) The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the ~~first~~ second graphical user interface based on manipulation of the selection ring.

6. (Original) The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the second graphical user interface.

7. (Original) The method of claim 6, further comprising:

receiving, by the processor, a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

8. (Currently Amended) An interactive user interface control system, comprising:

a display device;

a memory that stores computer instructions; and

at least one processor that executes computer instructions to:

present, on the display device, a selection ring to a user in a first graphical user interface;

receive a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

present, on the display device, a plurality of icons to the user in the first graphical user interface based on the selection of the selection ring;

receive a user manipulation that drags ~~of~~ positioning of the selection ring within the first graphical user interface;

receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

~~present~~transition the first graphical user interface into ~~, on the display device,~~ a second graphical user interface ~~to the user based on~~ in response to the selected icon.

9. (Currently Amended) The interactive user interface control system ~~computer device~~ of claim 8, wherein the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring.

10. (Currently Amended) The interactive user interface control system ~~computer device~~ of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a selection siren to the user in the first graphical user interface based on the user manipulation.

11. (Currently Amended) The interactive user interface control system ~~computer device~~ of claim 10, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

12. (Currently Amended) The interactive user interface control system ~~computer device~~ of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a second plurality of icons to the user in the ~~first~~ second graphical user interface based on manipulation of the selection ring.

13. (Currently Amended) The interactive user interface control system ~~computer device~~ of claim 12, wherein the at least one processor further executes the computer instructions to~~further comprising~~:

receive a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

14. (Original) A non-transitory computer readable medium that stores computer instructions that, when executed by at least one processor, cause the at least one processor to perform operations, the operations comprising:

presenting a selection ring to a user in a first graphical user interface;

receiving a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

receiving a user manipulation of positioning of the selection ring within the first graphical user interface;

receiving a selection of an icon from a plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

presenting a second graphical user interface to the user based on the selected icon.

15. (Currently Amended) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting the plurality of icons to the user in the first graphical user interface based on the selection of the selection ring.;

16. (Original) The non-transitory computer readable medium of claim 14, wherein the plurality of icons were previously hidden prior to selection of the selection ring.

17. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a selection siren to the user in the first graphical user interface based on the user manipulation.

18. (Original) The non-transitory computer readable medium of claim 17, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

19. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring.

20. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the second graphical user interface.

21. (Original) The non-transitory computer readable medium of claim 14, wherein the operations are performed by an operating system.

REMARKS

Prior to this paper, 1-21 were pending. A Non-final Office Action dated September 11, 2020 rejected claims 1-21. In this paper, claims 2, 5, 8-13, and 15 are amended; no claims are canceled; and no claims are added. Accordingly, claims 1-21 are currently pending. No new matter is added by way of this clarifying amendment. The Applicant respectfully requests reconsideration of this application. For at least the following reasons, the Applicant respectfully submits that each of the presently pending claims is now in condition for allowance.

Applicant respectfully requests that the title on page 1, line 1 be replaced with the following title: SELECTION RING USER INTERFACE.

Objections to the Claims

Claims 9-13 and 15 are objected to for informalities. In response, these claims have been amended to correct previously presented typographical errors. Therefore, these objections are now moot and should be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 1-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone, "Windows 7 for Dummies" (hereinafter "Rathbone") and "CircleSpin Cursors," http://www.rw-designer.com/cursor-set/circlespin (hereinafter "CircleSpin").

The Applicant respectfully disagrees that the cited references, whether alone or in combination, disclose each and every feature recited in the pending claims. For example, independent claim 1 recites, with emphasis added:

> presenting, by a processor of a computing device, a selection ring to a user in a first graphical user interface;
> receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;
> presenting, by the processor, a plurality of icons to the user in the first graphical user interface based on the selection of the selection ring;
> receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface;

> receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and
>
> presenting, by the processor, a second graphical user interface to the user based on the selected icon.

It is respectfully noted that the selection and manipulation of the selection ring and the selection of an icon are performed within a first graphical user interface. The second graphical user interface is not presented to the user until the icon is selected. Moreover, there are two distinctly claimed selections, one of the selection ring and the other of an icon based on a position of the selection ring.

The following is a brief example of how the selection ring is selected and manipulated, which is demonstrated in Figures 3D-3G of the application as filed. First, a selection right is presented to a user in a first graphical user interface. Second, the user selects the selection ring, such as by pressing on the selection ring, so that the user can manipulate the position of the selection ring within the first graphical user interface. Third, a plurality of icons are then presented to the user in the first graphical user interface based on the selection of the section ring. Fourth, the user manipulates the position of the selection ring within the first graphical user interface, such as by dragging the selection ring towards an icon. Fifth, the user selects an icon based on the position of the selection ring in the first graphical user interface, such as if the user releases the selection ring. Sixth, a second graphical user interface is now presented to the user based on the selected icon. As shown from this example, each step, except the last one, is within the first graphical user interface. (Emphasis added).

Rathbone fails to describe a first selection of a selection ring and a second selection of an icon within a same graphical user interface. Rather, Rathbone discusses the process of a user clicking on a folder's picture to see the contents of that folder. Rathbone, pg. 76. For example, Rathbone states that "To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside" Rathbone, pg. 76. Therefore, Rathbone is displaying the contents of a folder in a new user interface when the user double-clicks on a particular folder's picture – the user can then click on a folder in the new user interface to have yet another interface pop up. However, clicking on a

folder to display its content in a new pop up window does not describe or suggest the claimed features of a user selecting a selection ring and selecting an icon in a same graphical user interface, as recited in claim 1.

Moreover, the Office Action states that this double-clicking to see the contents of a folder teaches the claimed presentation of a plurality of icons in the first graphical user interface based on the selection of the selection ring. See Office Action, pg. 3-4. However, the contents of the folder in Rathbone are displayed in a pop up window, which is a new graphical user interface. Therefore, clicking on a folder to have a new window pop up does not describe or suggest the claimed features of presenting a plurality of icons in the same graphical user interface in which the selection ring was presented and selected, nor does it describe or suggest selecting one of those icon based on a position of the selection ring within that same graphical user interface. Therefore, Rathbone fails to disclose or suggest the above-recited claim features.

CircleSpin fails to cure these deficiencies of Rathbone. At most, CircleSpin states "An ambidextrous cursor that utilizes the natural flow of a circle for smooth animation effects. Covers all cursor roles except Help and Alternate. All cursors but Normal are Animated. Please Rate and Comment!" CircleSpin, pg. 1. This brief statement, whether alone or in combination with Rathbone, provides no description of receiving a selection of a selection ring, presenting a plurality of icons, receiving a user manipulation of the position of the selection ring, and receiving a selection of an icon – all within a first graphical user interface – as recited in claim 1. Therefore, independent claim 1 is not obvious in light of the combination of Rathbone and CircleSpin.

Additionally, independent claims 8 and 14 recite similar features to independent claim 1. Thus, independent claims 8 and 14 are at least allowable for the same reasons as posited herein for independent claim 1.

Amended independent claim 8 is also allowable for reason in addition to those described above. For example, amended independent claim 8 recites, in part:

> receive a user manipulation that drags positioning of the selection ring within the first graphical user interface;

> receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and
>
> transition the first graphical user interface into a second graphical user interface in response to the selected icon.

As discussed above, Rathbone discusses the process of a user clicking on a folder's picture to see the contents of that folder, which pops up a new window with that content. However, nothing in Rathbone discusses a user manipulating a selection ring by dragging the position of the selection ring within a first graphical user interface. Nor does Rathbone describe this dragging manipulation as occurring within the same graphical user interface as the selection of the selection ring, presentation of the plurality of icons, and selection of an icon, let alone transitioning the first graphical user interface into the second graphical user interface in response to selection of the icon, as recited in amended claim 8. CircleSpin also fails to describe these claimed features. Therefore, amended independent claim 8 is not obvious in light of the combination of Rathbone and CircleSpin for additional reasons to those discussed above.

Dependent claims 2, 5, and 9-13 are amended herein for conformity or to correct typographical errors. Because dependent claims 2-7, 9-13, and 15-21 depend from one of independent amended claims 1, 8, or 14, each of these dependent claims is novel and non-obvious and allowable for at least the same reasons as the respective independent amended claims upon which they depend. Also, because the separate rejections of these dependent claims are now moot in view of the reasons presented for the respective independent amended claims upon which they depend, a further refutation of those rejections is not provided here in the interest of brevity and expediting the allowance of these claims.

The dependent claims are also allowable for further reasons in addition to those discussed above. For example, dependent claim 2 states that "the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring." The Office Action relies on Rathbone's description of double-clicking a folder's picture to open a new pop up window to see that folder's contents. However, as described above, the contents of the folder are displayed in a new window, which is a new interface. Therefore, Rathbone fails to describe presenting the plurality of icons in the first graphical user interface where the icons were

previously hidden in the first graphical user interface prior to selection of the selection ring, as recited in amended claim 2. Accordingly, amended dependent claim is allowable for additional reasons to those discussed above.

For at least the reasons discussed above, the rejections of the pending claims under 35 U.S.C. § 103 should be withdrawn, and the pending claims be allowed to issue.

Conclusion

For at least these reasons, the Applicant respectfully requests allowance of the pending claims. Favorable consideration and a Notice of Allowance are earnestly solicited. Any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Any remarks referring to only a portion of a claim should not be understood to base patentability on that portion; rather, patentability must rest on each claim taken as a whole. The Applicant does not acquiesce to each of the Examiner's rejections and to each of the Examiner's assertions regarding what the cited references show or teach, even if not expressly discussed herein. In the event the Examiner finds minor informalities that can be resolved by telephone conference or if the Examiner believes a telephone conference would facilitate prosecution of this application, the Examiner is urged to contact the Applicant's undersigned representative by telephone at (206) 622-4900 in order to expeditiously resolve prosecution of this application.

Respectfully submitted,

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Electronic Acknowledgement Receipt

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First Named Inventor/Applicant Name:	Thinh Tran
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		110306401C2_Response.pdf	117122 56af7532fefec0aba04e5e8da7a2aa663ab5861d	yes	12

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Specification	2	2
	Claims	3	7
	Applicant Arguments/Remarks Made in an Amendment	8	12
Warnings:			
Information:			
	Total Files Size (in bytes):	117122	

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.

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SEED INTELLECTUAL PROPERTY LAW GROUP LLP
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EXAMINER	
BARRETT, RYAN S	

ART UNIT	PAPER NUMBER
2145	

NOTIFICATION DATE	DELIVERY MODE
12/24/2020	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOeAction@SeedIP.com
pairlinkdktg@seedip.com

Office Action Summary	Application No. 16/988,413	Applicant(s) Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	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 12/10/2020.

☐ 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) 1-21 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) 1-21 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 _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

DETAILED ACTION

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

This action is responsive to the Amendment filed on 12/10/2020. Claims 1-21 are pending in the case. Claims 1, 8, and 14 are independent claims.

Response to Arguments

Applicant's amendments regarding the objections to claims 9-13 and 15 are persuasive. These objections are respectfully withdrawn.

Applicant argues that "Rathbone fails to describe a first selection of a selection ring and a second selection of an icon within a same graphical user interface" (page 9). Examiner respectfully disagrees. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 U.S.P.Q.2d 1827, 1834 (Fed. Cir. 2004). Applicant's specification primarily describes the selection ring as a touchscreen cursor that the user selects by touching the screen. However, the claims do not require a touchscreen and the specification expressly contemplates alternative embodiments. Accordingly, the claims also encompass a mouse cursor that the user selects by moving a mouse. Rathbone teaches a mouse cursor.

Applicant argues that "the contents of the folder in Rathbone are displayed in a pop up window, which is a new graphical user interface. Therefore, clicking on a folder

to have a new window pop up does not describe or suggest the claimed features of presenting a plurality of icons in the same graphical user interface in which the selection ring was presented and selected, nor does it describe or suggest selecting one of those icon based on a position of the selection ring within that same graphical user interface" (page 10). Examiner respectfully disagrees. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 U.S.P.Q.2d 1827, 1834 (Fed. Cir. 2004). The imprecise term "graphical user interface" may refer to (1) a specific window, (2) a specific mode of a specific window, (3) multiple related modes of a specific window, (4) multiple related windows of a specific application, (5) all windows of a specific application, (6) multiple related windows of multiple applications, (7) all windows of multiple applications in a specific display device, (8) all windows of multiple applications in multiple display devices attached to a specific computer, etc. Accordingly, the first pop up window of Rathbone may be considered a same graphical user interface.

Applicant's remaining prior art arguments have been considered but are moot because the new grounds of rejection presented below do not rely on any reference applied in the prior rejection of record for any teaching or matter specifically challenged in the arguments.

Claim Rejections - 35 U.S.C. § 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 of this title, 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.

Claims 1-7 and 14-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone ("Windows 7 for Dummies," 2009, Wiley Publishing, Inc.) in view of sixλxis ("CircleSpin Cursors," 31 January 2010, http://www.rw-designer.com/cursor-set/circlespin).

As to independent **claim 1**, Rathbone teaches a method, comprising:

- presenting, by a processor of a computing device, a selection cursor to a user in a first graphical user interface ("mouse pointer," chapter 1 page 1 paragraph 1 line 2);
- receiving, by the processor, a selection of the selection cursor by the user to enable the user to manipulate a position of the selection cursor within the first graphical user interface ("mouse pointer," chapter 1 page 1 paragraph 1 line 2);

- presenting, by the processor, a plurality of icons to the user in the first graphical user interface based on the selection of the selection cursor ("Double-click a hard drive, for example, and Windows 7 promptly opens the drive to show you the folders packed inside," page 75 paragraph 3 lines 2-4);
- receiving, by the processor, a user manipulation of positioning of the selection cursor within the first graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5);
- receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection cursor in the first graphical user interface relative to the icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5); and
- presenting, by the processor, a second graphical user interface to the user based on the selected icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's

picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5).

Rathbone does not appear to expressly teach a method wherein the selection cursor is a selection ring.

sixλxis teaches a method wherein the selection cursor is a selection ring ("An ambidextrous cursor that utilizes the natural flow of a circle," page 1 line 1, see also figures).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the selection cursor of Rathbone to comprise the selection ring of sixλxis. One would have been motivated to make such a combination to allow aesthetic customization of the selection cursor.

As to dependent **claim 2**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method wherein the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 3**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method comprising presenting, by the processor, a selection siren to the user in the first graphical user interface based on the user manipulation ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 4**, the rejection of claim 3 is incorporated. Rathbone/sixλxis further teaches a method wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 5**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method comprising presenting, by the processor, a second plurality of icons to the user in the second graphical user interface based on manipulation of the selection ring ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 6**, the rejection of claim 1 is incorporated. Rathbone/sixλxis further teaches a method comprising presenting, by the processor, a second plurality of icons to the user in the second graphical user interface ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 7**, the rejection of claim 6 is incorporated. Rathbone/sixλxis further teaches a method comprising receiving, by the processor, a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to independent **claim 14**, Rathbone teaches a non-transitory computer readable medium that stores computer instructions ("computer," chapter 1 page 1

paragraph 1 line 3) that, when executed by at least one processor, cause the at least one processor to perform operations, the operations comprising:

- presenting a selection cursor to a user in a first graphical user interface ("mouse pointer," chapter 1 page 1 paragraph 1 line 2);
- receiving a selection of the selection cursor by the user to enable the user to manipulate a position of the selection cursor within the first graphical user interface ("mouse pointer," chapter 1 page 1 paragraph 1 line 2);
- receiving a user manipulation of positioning of the selection cursor within the first graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5);
- receiving a selection of an icon from a plurality of icons ("Double-click a hard drive, for example, and Windows 7 promptly opens the drive to show you the folders packed inside," page 75 paragraph 3 lines 2-4) based on a position of the selection cursor in the first graphical user interface relative to the icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you

find what you want or reach a dead end," page 76 paragraph 1 lines 1-5); and

- presenting a second graphical user interface to the user based on the selected icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5).

Rathbone does not appear to expressly teach a medium wherein the selection cursor is a selection ring.

sixλxis teaches a medium wherein the selection cursor is a selection ring ("An ambidextrous cursor that utilizes the natural flow of a circle," page 1 line 1, see also figures).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the selection cursor of Rathbone to comprise the selection ring of sixλxis. One would have been motivated to make such a combination to allow aesthetic customization of the selection cursor.

As to dependent **claim 15**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting the plurality of icons to the user in the first graphical user interface based on the selection of the selection ring

("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 16**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein the plurality of icons were previously hidden prior to selection of the selection ring ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 17**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a selection siren to the user in the first graphical user interface based on the user manipulation ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 18**, the rejection of claim 17 is incorporated. Rathbone/sixλxis further teaches a medium wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 19**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 20**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising: presenting a second plurality of

icons to the user in the second graphical user interface ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 21**, the rejection of claim 14 is incorporated. Rathbone/sixλxis further teaches a medium wherein the operations are performed by an operating system ("Windows is an operating system, meaning it controls the way you work with your computer," Rathbone chapter 1 page 1 paragraph 3 lines 3-4).

Claims 8-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone in view of TouchMousePointer (6 May 2015, https://web.archive.org/web/20150506014333/https://www.lovesummertrue.com/touchmousepointer/en-us/) and sixλxis.

As to independent **claim 8**, Rathbone teaches an interactive user interface control system, comprising:

- a display device ("computer," chapter 1 page 1 paragraph 1 line 3);
- a memory that stores computer instructions ("computer," chapter 1 page 1 paragraph 1 line 3); and

- at least one processor that executes computer instructions ("computer," chapter 1 page 1 paragraph 1 line 3) to:
    - present, on the display device, a selection cursor to a user in a first graphical user interface ("mouse pointer," chapter 1 page 1 paragraph 1 line 2);
    - receive a selection of the selection cursor by the user to enable the user to manipulate a position of the selection cursor within the first graphical user interface ("mouse pointer," chapter 1 page 1 paragraph 1 line 2);
    - present, on the display device, a plurality of icons to the user in the first graphical user interface based on the selection of the selection cursor ("Double-click a hard drive, for example, and Windows 7 promptly opens the drive to show you the folders packed inside," page 75 paragraph 3 lines 2-4);
    - receive a user manipulation of positioning of the selection cursor within the first graphical user interface ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5);

- receive a selection of an icon from the plurality of icons based on a position of the selection cursor in the first graphical user interface relative to the icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5); and
- present, on the display device, a second graphical user interface to the user based on the selected icon ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," page 76 paragraph 1 lines 1-5).

Rathbone does not appear to expressly teach a system wherein the user manipulation of positioning of the selection cursor is a drag manipulation.

TouchMousePointer teaches a system wherein the user manipulation of positioning of the selection cursor is a drag manipulation ("TouchMousePointer solves all these problems by making your touch screen into a track-pad that controls a standard cursor," page 1 paragraph 3 lines 1-2).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the user manipulation

of Rathbone to comprise the drag manipulation of TouchMousePointer. One would have been motivated to make such a combination to extend the benefits of the selection ring to support touchscreen interfaces (see TouchMousePointer page 1 paragraph 2).

Rathbone/TouchMousePointer does not appear to expressly teach a system wherein the selection cursor is a selection ring.

sixλxis teaches a system wherein the selection cursor is a selection ring ("An ambidextrous cursor that utilizes the natural flow of a circle," page 1 line 1, see also figures).

Accordingly, it would have been obvious to a person of ordinary skill in the art before the effective filing date of the claimed invention to modify the selection cursor of Rathbone/TouchMousePointer to comprise the selection ring of sixλxis. One would have been motivated to make such a combination to allow aesthetic customization of the selection cursor.

As to dependent **claim 9**, the rejection of claim 8 is incorporated. Rathbone/TouchMousePointer/sixλxis further teaches a system wherein the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring ("To see what's inside a folder, either in Computer or on the Windows 7 desktop, just double-click that folder's picture. A new window pops up, showing that folder's contents. Spot another folder inside that folder? Double-click that one to see what's inside. Keep clicking until you find what you want or reach a dead end," Rathbone page 76 paragraph 1 lines 1-5).

As to dependent **claim 10**, the rejection of claim 8 is incorporated. Rathbone/TouchMousePointer/sixλxis further teaches a system wherein the at least one processor further executes the computer instructions to: present, on the display device, a selection siren to the user in the first graphical user interface based on the user manipulation ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 11**, the rejection of claim 10 is incorporated. Rathbone/TouchMousePointer/sixλxis further teaches a system wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface ("Are you befuddled about some object's reason for being? Timidly rest the pointer over the mysterious doodad, and Windows pops up a little box explaining what that thing is or does. ... This trick works on most icons found on your desktop and throughout your programs," Rathbone page 26 paragraph 9 lines 1-6)

As to dependent **claim 12**, the rejection of claim 8 is incorporated. Rathbone/TouchMousePointer/sixλxis further teaches a system wherein the at least one processor further executes the computer instructions to: present, on the display device, a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring ("Clicking in the shaft above the elevator shifts your

view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

As to dependent **claim 13**, the rejection of claim 12 is incorporated. Rathbone/TouchMousePointer/sixλxis further teaches a system wherein the at least one processor further executes the computer instructions to: receive a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface ("Clicking in the shaft above the elevator shifts your view up one page, just as if you'd pressed the Page Up key. Similarly, clicking below the elevator shifts the view down one page. The larger your monitor, the more information you can see on each page," Rathbone page 58 paragraph 3 lines 1-4).

Conclusion

The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure:

- US 20150220264 A1 disclosing multi-column content display

Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action.

Applicant's amendments necessitated the new grounds of rejection presented in this Office action. **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 C.F.R. § 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

In the interests of compact prosecution, Applicant is invited to contact the examiner via electronic media pursuant to USPTO policy outlined MPEP § 502.03. All electronic communication must be authorized in writing. Applicant may wish to file an Internet Communications Authorization Form PTO/SB/439. Applicant may wish to request an interview using the Interview Practice website: http://www.uspto.gov/patent/laws-and-regulations/interview-practice.

Applicant is reminded Internet e-mail may not be used for communication for matters under 35 U.S.C. § 132 or which otherwise require a signature. A reply to an Office action may NOT be communicated by Applicant to the USPTO via Internet e-mail. If such a reply is submitted by Applicant via Internet e-mail, a paper copy will be placed in the appropriate patent application file with an indication that the reply is NOT ENTERED. See MPEP § 502.03(II).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Barrett whose telephone number is 571 270 3311. The examiner can normally be reached 9:00am to 5:30pm.

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 Arpan Savla can be reached at 571 272 1077. The fax phone number for the organization where this application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866 217 9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800 786 9199 (IN USA OR CANADA) or 571 272 1000.

/Ryan Barrett/

Primary Examiner, Art Unit 2145

Notice of References Cited	Application/Control No. 16/988,413	Applicant(s)/Patent Under Reexamination Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	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-20150220264-A1	08-2015	Lewis; Justin	H04N21/4314	715/716
	B					
	C					
	D					
	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					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	TouchMousePointer, 6 May 2015, https://web.archive.org/web/20150506014333/https://www.lovesummertrue.com/touchmousepointer/en-us/
	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.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

CPC - Searched*		
Symbol	Date	Examiner
G06F 3/0485, 40/106 limited by keyword	09/05/2020	RB

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
Inventor name search	09/05/2020	RB
EAST text search	09/07/2020	RB
NPL text search: Google	09/07/2020	RB
Inventor/assignee name search	12/19/2020	RB
NPL text search: Google	12/19/2020	RB

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

touchscreen cursor

All | Images | Shopping | Videos | News | More | Settings | Tools

Before May 9, 2016 | All results | Clear

www.dummies.com › computers › pcs › how-to-chang...

How to Change the Cursor and Make Your Touch Visible on ...

Nov 20, 2015 -- Are you having trouble touching the correct check box on your touch-screen monitor? You can enable a visual feedback feature that shows where you touched ...

answers.microsoft.com › forum › windows_8-hardware

Mouse cursor disappears after using touchscreen on laptop ...

Dec 6, 2016 -- 3) I can make my cursor disappear by pressing the touchscreen (not touchpad) on my laptop. Un- and re-plugging the USB connection for my wireless mouse ...

Turn off **cursor** pointer for touch use - Microsoft Community	Dec 1, 2016
[SOLVED] Windows 10 **Touch Screen** acts as mouse, doesn't ...	Sep 8, 2017
Touchscreen - removing pointers when using **touch screen** ...	Sep 8, 2017
Touching the **touchscreen** monitor causes the **cursor** to ...	Dec 2, 2016

More results from answers.microsoft.com

People also ask

- How do I turn on my touchscreen cursor?
- How do I disable the touchscreen cursor?
- How do I get the cursor back on my touchscreen laptop?
- How do I get rid of the 4 arrow cursor?

Feedback

www.lovesummertrue.com › touchmousepointer › en-us

TouchMousePointer - virtual touchpad (on-screen mouse)

Dec 26, 2014 — ... by making your touch screen into a track-pad that controls a standard cursor. At last your Windows tablet has a cursor and you can position it exactly where ...

stackoverflow.com › questions › touch-screen-hide-cur...

Touch screen hide cursor - Stack Overflow

Jan 11, 2011 — Windows XP doesn't have native support for touch screens (because at the time it was written there were almost no touch devices), so the touch events that ...

1 answer

support.lenovo.com › solutions › ht117142-mouse-curs...

Mouse cursor stuck on Touchscreen and surrounded with a ...

Mar 10, 2016 — Mouse cursor stuck on Touchscreen and surrounded with a small box or shadowy circle - ThinkPad Helix.

www.ifixit.com › Answers › View › My+pointer+is+stu...

My pointer is stuck to a specific point. - Asus Laptop - iFixit

Jan 17, 2016 — ASUS Touch Screen I'm having issues with my touch screen this started yesterday and I haven't been able to fix it. I use a mouse with my touch screen and have

1 answer

link.springer.com › chapter

Virtual Touchpad for Cursor Control of Touchscreen Thumb ...

Jul 21, 2015 -- This study formulated existing virtual pointing techniques for cursor control in the mobile context of touchscreen thumb operation. Three virtual pointing models ...

by YR Lai · 2015 · Cited by 5 · Related articles

www.eightforums.com › ... › Drivers & Hardware

Touchscreen moves cursor away from other monitors ...

Jul 5, 2015 — I am using a multi-monitor setup and one of the monitors is a Touch screen monitor. Whenever I press on it, it moves the cursor to that monitor, working as...

www.itprotoday.com › compute-engines › touchscreen-...

Touchscreen, extended desktops, and cursor on wrong monitor

Sep 10, 2010 -- When I first got the touchscreen, the touch cursor would appear on the non-touchscreen monitor. This frustrated the heck out of me as instead of acting like a ...

www.dell.com › community › Monitors › td-p

S2340T touch screen problem. stuck on a spot and keeps ...

Mar 20, 2016 -- Not sure how to describe this, but my S2340T will spontaneously have a cursor jump to the bottom central screen and start firing on one of the task.

22150, Springfield, VA - From your Internet address - Use precise location - Learn more

Help Send feedback Privacy Terms

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S39	0	((("Alfa") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/12/19 20:20
S40	70	((("TRAN") near3 ("Thinh"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/12/19 20:20

EAST Search History (Interference)

<This search history is empty>

12/19/2020 10:05:47 PM
C:\Users\rbarrett\Documents\Ryan\Cases\16988413 Fluid Timeline Social Network\16988413 EAST Workspace.wsp

UNITED STATES PATENT AND TRADEMARK OFFICE

USPTO Automated Interview Request (AIR)

Jan 15 2021

This paper requesting to schedule and/or conduct an interview is appropriate because:

This submission is requested to be accepted as an authorization for this interview to communicate via the internet. Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with the undersigned concerning scheduling of the interview via video conference, instant messaging, or electronic mail, and to conduct the interview in accordance with office practice including video conferencing.

Name(s):
Karl Hefter

S-signature:
/Karl Hefter/

Registration Number:
65851

U.S. Application Number:
16988413

Confirmation Number:
9294

E-mail Address:
karlhefter@seedip.com

Phone Number:
+1 2068595610

Proposed Time of Interview:
1-21-2021 12:30 PM ET

Alternative Proposed Time(s) of Interview:
1-22-2021 11:30 AM ET

Prefered Interview Type:
Telephonic

I am the applicant or applicant's representative for this application.

Topic for Discussion:
Sec. 103 rejection of independent claim 1 with respect to the teachings in the Rathbone reference.

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.
16/988,413	08/07/2020	Thinh Tran	110306.401C2	9294

500 7590 01/27/2021

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

EXAMINER	
BARRETT, RYAN S	

ART UNIT	PAPER NUMBER
2145	

NOTIFICATION DATE	DELIVERY MODE
01/27/2021	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOeAction@SeedIP.com
pairlinkdktg@seedip.com

Applicant-Initiated Interview Summary	**Application No.** 16/988,413	**Applicant(s)** Tran, Thinh		
	Examiner RYAN BARRETT	**Art Unit** 2145	**AIA (First Inventor to File) Status** Yes	**Page** 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
RYAN BARRETT	Primary Examiner	Telephonic
Karl Hefter	Attorney of Record	

Date of Interview: 21 January 2021

Issues Discussed:

35 U.S.C. 103

Discussed the breadth of the claims and how they relate to the cited prior art. Discussed possible strategies to advance prosecution. No agreement was reached.

/Ryan Barrett/ Primary Examiner, Art Unit 2145	

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.

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 Substitute for Form PTO-875	Application or Docket Number 16/988,413	Filing Date 08/07/2020	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (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	02/24/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 21	= 0		x $100 =	0
	Independent (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 (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (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".	/LAVINIA D JOHNSON/
*** 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.

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
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/988,413	Filing Date 08/07/2020	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (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	02/24/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 21	= 0		x $100 =	0
	Independent (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 (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (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".	/LAVINIA D JOHNSON/
*** 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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	16/988,413	Examiner :	BARRETT, RYAN S
Filed	:	August 7, 2020	Art Unit :	2145
Confirmation No.	:	9294		
Docket No.	:	110306.401C2		
First Named Inventor	:	Thinh Tran		
Title	:	SELECTION RING USER INTERFACE (as amended)		

Date : February 24, 2021

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

REPLY TO OFFICE ACTION UNDER 37 CFR §1.116

Commissioner for Patents:

In response to the Office Action dated December 24, 2020, Applicant respectfully requests consideration of the present reply in the above-identified application. An After Final Consideration Pilot 2.0 request is filed herewith. Please amend the above-identified application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims beginning on page 3 of this paper.

Remarks begin on page 8 of this paper.

The Director is authorized to charge any additional fees due by way of this filing, or credit any overpayment, to our Deposit Account No. 19-1090.

Doc Code: A.NE.AFCP
Document Description: After Final Consideration Pilot Program Request

PTO/SB/434 (05-13)

CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0

Practitioner Docket No.:	Application No.:	Filing Date:
110306.401C2	16/988,413	August 7, 2020
First Named Inventor:	**Title:**	
Thinh Tran	SELECTION RING USER INTERFACE (as amended)	

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116.

1. The above-identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) [a continuing application (*e.g.*, a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)], or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).
2. The above-identified application contains an outstanding final rejection.
3. Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect.
4. This certification and request for consideration under AFCP 2.0 is the only AFCP 2.0 certification and request filed in response to the outstanding final rejection.
5. Applicant is willing and available to participate in any interview requested by the examiner concerning the present response.
6. This certification and request is being filed electronically using the Office's electronic filing system (EFS-Web).
7. Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, *e.g.*, extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCP 2.0.]
8. By filing this certification and request, applicant acknowledges the following:
   - Reissue applications and reexamination proceedings are not eligible to participate in AFCP 2.0.
   - The examiner will verify that the AFCP 2.0 submission is compliant, *i.e.*, that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions:
     - The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, *e.g.*, by mailing an advisory action.
     - If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview.
       - The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate.
       - If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116.

Signature	Date
/Karl A. Hefter/	February 24, 2021
Name (Print/Typed)	**Practitioner Registration No.**
Karl A. Hefter	65,851

***Note**: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.*

☐ * Total of _____ forms are submitted.

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:	42008235
Application Number:	16988413
International Application Number:	
Confirmation Number:	9294
Title of Invention:	FLUID TIMELINE SOCIAL NETWORK
First Named Inventor/Applicant Name:	Thinh Tran
Customer Number:	500
Filer:	Karl Anthony Hefter/Erika Taylor
Filer Authorized By:	Karl Anthony Hefter
Attorney Docket Number:	110306.401C2
Receipt Date:	24-FEB-2021
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Time Stamp:	18:28:07
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		110306401C2_Response.pdf	109522 9025512e9a9c5320eede7bd06e4c9c870713a97b	yes	13

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	8	13
	Claims	3	7
	Specification	2	2
	Response After Final Action	1	1

Warnings:					
Information:					
2	After Final Consideration Program Request	110306401C2_AFCP.pdf	608115 ca14baf6f7b1962e108b680b800a6444f1e2c8c4	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	717637		

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

Prior to this paper, claims 1-21 were pending. A Final Office Action dated December 24, 2020 rejected claims 1-21. In this paper, claims 1, 8, and 14 are amended; claims 9, 15, and 16 are canceled; and no claims are added. Accordingly, claims 1-8, 10-14, and 17-21 are currently pending. No new matter is added by way of this clarifying amendment. The Applicant respectfully requests reconsideration of this application. For at least the following reasons, the Applicant respectfully submits that each of the presently pending claims is now in condition for allowance.

Amendment to the Specification

Applicant respectfully requests that the title on page 1, line 1 be replaced with the following title: SELECTION RING USER INTERFACE.

Examiner Interview

The Applicant thanks Examiner Barrett for having a telephone call with Applicant's representative, Karl A Hefter (65,851), to discuss this application. The Applicant's representative thanks the Examiner for being well prepared and engaging with the Applicant's representative's in a very fruitful discussion. During the telephone call, the Applicant's representative and the Examiner discussed the claims and the Rathbone reference. The Applicant's representative and the Examiner also discussed different possible approaches for amending the claims to improve their clarity and distinctness from the cited reference. While no agreement as to allowability was reached, the phone call was very informative and helpful in advancing prosecution.

Rejections under 35 U.S.C. § 103

Claims 1-7 and 14-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone, "Windows 7 for Dummies" (hereinafter "Rathbone") and "CircleSpin Cursors," http://www.rw-designer.com/cursor-set/circlespin (hereinafter "CircleSpin").

Claims 8-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone; CircleSpin; and "TouchMousePointer," (https://web.archive.org/web/20150506014333/https://www.lovesummertrue.com/touchmousepointer/en-us/ (hereinafter "TouchMousePointer").

The Applicant respectfully disagrees that the cited references, whether alone or in combination, disclose each and every feature recited in the pending claims.

First, claim 1 recites:

> …receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface; … [and]
>
> receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface; ….

Thus, claim 1 recites two distinct receiving steps: 1) receiving a selection of the selection ring and 2) receiving user manipulation of the position of the selection ring. Rathbone fails to describe both of these receiving steps. Instead, Rathbone generically mentions a "mouse pointer." Rathbone, chapter 1, page 1, para. 1. However, a generalized statement of a mouse pointer fails to disclose or suggest the two receiving steps, as claimed. Therefore, Rathbone fails to disclose or suggest the above-recited claim limitations. The CircleSpin reference fails to cure this deficiency of Rathbone. Thus, Claim 1 is novel and non-obvious over Rathbone in view of CircleSpin.

To expedite allowance, the independent claim 1 is amended to improve clarity. For example amended independent claim 1 recites, with emphasis added:

> …receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;
>
> presenting, by the processor, a plurality of icons to the user in the first graphical user interface in response to the selection of the selection ring; ….

It is respectfully noted that the icons are presented in the first graphical user interface in response to the selection ring being selected. (emphasis added). Therefore, the selection ring must first be selected in the first graphical user interface to cause the icons to be shown in the first graphical user interface.

In contrast to that which is claimed, Rathbone describes the contents of a folder being displayed in a pop up window in response to the user double-clicking on an icon in the foler. In particular, Rathbone discusses clicking on a folder to have a new window pop up showing that folder's contents. See e.g., Rathbone, pg. 76. Therefore, the window pops up in response to

selection of the icon. Opening a pop up window in response to selecting an icon, however, does not disclose or suggest receiving a user selection of a selection ring to enable the user to manipulate a position of the selection ring, which, in response, causes a plurality of icons to be presented to the user, as claimed. Therefore, Rathbone fails to disclose or suggest the claimed functionality of presenting icons in response to selection of a selection ring. The CircleSpin reference fails to cure this deficiency of Rathbone. Thus, in addition to the reasons discussed above, Claim 1 is novel and non-obvious over Rathbone in view of CircleSpin.

Additionally, independent claims 8 and 14 recite similar features to independent claim 1. Thus, independent claims 8 and 14 are at least allowable for the same reasons as posited herein for independent claim 1.

To further expedite allowance, claim 8 is amended to recite:

...prior to selection of the selection ring by the user, hide a plurality of icons from the first graphical user interface;

receive a selection of the selection ring by the user;

in response to the selection of the selection ring by the user:

activate the selection ring to enable the user to manipulate a position of the selection ring within the first graphical user interface; and

un-hide and present, on the display device, the plurality of icons to the user in the first graphical user interface;

while the selection ring is selected:

receive a user manipulation that drags positioning of the selection ring within the first graphical user interface; and

receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; ....

As amended, claim 8 recites that the plurality of icons are hidden prior to selection of the selection ring. In response to the user selecting the selection ring, the selection ring is activated to enable the user to manipulate the position of the selection ring and the icons are un-hidden and presented to the user.

In addition to the reasons discussed above, the combination of Rathbone and CircleSpin fails to disclose or suggest each and every element recited in amended claim 8. Nothing in Rathbone or CircleSpin, whether considered alone or in combination, discusses the claimed feature of hiding icons in a first graphical user interface prior to selection of a selection ring, such that the icons are un-hidden and presented to the user in the first graphical user interface in response to the selection of the selection ring, as recited in amended claim 8.

Moreover, the combination of Rathbone and CircleSpin fails to describe or suggest the activation of the selection ring in response to selection of the selection ring. As discussed above, Rathbone generically mentions a "mouse pointer." Rathbone, chapter 1, page 1, para. 1. However, a generalized statement of a mouse pointer fails to disclose or suggest the activation of a selection ring in response to selection of the selection ring, where the activation of the selection ring enables the user to manipulate a position of the selection ring within the first graphical user interface. Therefore, the combination of Rathbone and CircleSpin fails to disclose or suggest the above-recited claim limitations. Thus, Claim 8 is novel and non-obvious over Rathbone in view of CircleSpin.

Independent claim 14 is also amended herein to expedite allowance. Amended claim 14, recites, in part:

> displaying a first graphical user interface on a display device;
>
> displaying a plurality of information within the first graphical user interface;
>
> enabling a user to control display of the plurality of information within the first graphical user interface;
>
> displaying a selection ring over the plurality of information in the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface;
>
> receiving a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring over the plurality of information within the first graphical user interface;
>
> displaying, in response to selection of the selection ring, a plurality of icons over the plurality of information in the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user

> interface, wherein the plurality of icons were previously hidden prior to selection of the selection ring;
>
> receiving a user manipulation of positioning of the selection ring over the plurality of information within the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface; ....

In addition to the reasons discussed above, the combination of Rathbone and CircleSpin fails to disclose or suggest each and every element recited in amended claim 14. Nothing in Rathbone or CircleSpin, whether considered alone or in combination, discusses the claimed features of displaying icons over a plurality of information in response to selection of a selection ring without altering the underlying display of the plurality of information. Therefore, the combination of Rathbone and CircleSpin fails to disclose or suggest the above-recited claim limitations. Thus, Claim 14 is novel and non-obvious over Rathbone in view of CircleSpin.

Dependent claims 9, 15, and 16 are canceled herein. Because dependent claims 2-8, 10-13, and 17-21 depend from one of independent amended claims 1, 8, or 14, each of these dependent claims is novel and non-obvious and allowable for at least the same reasons as the respective independent amended claims upon which they depend. Also, because the separate rejections of these dependent claims are now moot in view of the reasons presented for the respective independent amended claims upon which they depend, a further refutation of those rejections is not provided here in the interest of brevity and expediting the allowance of these claims.

Therefore, the rejections of the pending claims under 35 U.S.C. § 103 should be withdrawn, and the pending claims be allowed to issue.

Conclusion

For at least these reasons, the Applicant respectfully requests allowance of the pending claims. Favorable consideration and a Notice of Allowance are earnestly solicited. Any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Any remarks referring to only a portion of a claim should not be understood to base patentability on that portion; rather, patentability must rest on each claim taken as a whole. The Applicant does not acquiesce to each of the Examiner's rejections and to each of the Examiner's assertions regarding what the cited references show or teach, even if not expressly discussed herein. In the event the Examiner finds minor informalities that can be resolved by telephone conference or if the Examiner believes a telephone conference would facilitate prosecution of this application, the Examiner is urged to contact the Applicant's undersigned representative by telephone at (206) 622-4900 in order to expeditiously resolve prosecution of this application.

Respectfully submitted,

Seed Intellectual Property Law Group LLP

/Karl A. Hefter/
Karl A. Hefter
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KAH:est
7736572_1

AMENDMENTS TO THE CLAIMS

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

Listing of Claims:

1. (Currently Amended) A method, comprising;

presenting, by a processor of a computing device, a selection ring to a user in a first graphical user interface;

receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

presenting, by the processor, a plurality of icons to the user in the first graphical user interface ~~based on~~ in response to the selection of the selection ring;

receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface;

receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

presenting, by the processor, a second graphical user interface to the user based on the selected icon.

2. (Previously Presented) The method of claim 1, wherein the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring.

3. (Original) The method of claim 1, further comprising:

presenting, by the processor, a selection siren to the user in the first graphical user interface based on the user manipulation.

4. (Original) The method of claim 3, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

5. (Previously Presented) The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the second graphical user interface based on manipulation of the selection ring.

6. (Original) The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the second graphical user interface.

7. (Original) The method of claim 6, further comprising:

receiving, by the processor, a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

8. (Currently Amended) An interactive user interface control system, comprising:

a display device;

a memory that stores computer instructions; and

at least one processor that executes computer instructions to:

present, on the display device, a selection ring to a user in a first graphical user interface;

prior to selection of the selection ring by the user, hide a plurality of icons from the first graphical user interface;

receive a selection of the selection ring by the user;

in response to the selection of the selection ring by the user:

activate the selection ring to enable the user to manipulate a position of the selection ring within the first graphical user interface; and

un-hide and present, on the display device, ~~a~~ the plurality of icons to the user in the first graphical user interface ~~based on the selection of the selection ring~~;

while the selection ring is selected:

receive a user manipulation that drags positioning of the selection ring within the first graphical user interface; and

receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

transition the first graphical user interface into a second graphical user interface in response to the selected icon.

9. (Canceled)

10. (Previously Presented) The interactive user interface control system of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a selection siren to the user in the first graphical user interface based on the user manipulation.

11. (Previously Presented) The interactive user interface control system of claim 10, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

12. (Previously Presented) The interactive user interface control system of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a second plurality of icons to the user in the second graphical user interface based on manipulation of the selection ring.

13. (Previously Presented) The interactive user interface control system of claim 12, wherein the at least one processor further executes the computer instructions to:

receive a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

14. (Currently Amended) A non-transitory computer readable medium that stores computer instructions that, when executed by at least one processor, cause the at least one processor to perform operations, the operations comprising:

displaying a first graphical user interface on a display device;

displaying a plurality of information within the first graphical user interface;

enabling a user to control display of the plurality of information within the first graphical user interface;

~~presenting~~ displaying a selection ring ~~to a user~~ over the plurality of information in ~~a~~ the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface;

receiving a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring over the plurality of information within the first graphical user interface;

displaying, in response to selection of the selection ring, a plurality of icons over the plurality of information in the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface, wherein the plurality of icons were previously hidden prior to selection of the selection ring;

receiving a user manipulation of positioning of the selection ring over the plurality of information within the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface;

receiving a selection of an icon from ~~a~~the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon; and

~~presenting~~ displaying a second graphical user interface to the user based on the selected icon.

15. (Canceled)

16. (Canceled)

17. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a selection siren to the user in the first graphical user interface based on the user manipulation.

18. (Original) The non-transitory computer readable medium of claim 17, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

19. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring.

20. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the second graphical user interface.

21. (Original) The non-transitory computer readable medium of claim 14, wherein the operations are performed by an operating system.

AMENDMENTS TO THE SPECIFICATION

Please replace the Title beginning at page 1, line 1, of the specification as filed on August 7, 2020 with the following Title:

SELECTION RING USER INTERFACE

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.
16/988,413	08/07/2020	Thinh Tran	110306.401C2	9294

500 7590 03/08/2021

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
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EXAMINER	
BARRETT, RYAN S	

ART UNIT	PAPER NUMBER
2145	

NOTIFICATION DATE	DELIVERY MODE
03/08/2021	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOeAction@SeedIP.com
pairlinkdktg@seedip.com

Advisory Action Before the Filing of an Appeal Brief	Application No. 16/988,413	Applicant(s) Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	AIA (FITF) Status Yes

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

THE REPLY FILED 24 February 2021 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☑ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires ____ months from the mailing date of the final rejection.
   b) ☑ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection.The current period for reply expires ____ months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.
   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANTS FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37CFR 41.37(a).

AMENDMENTS

3. ☑ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☑ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: _____ (See 37CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicants reply has overcome the following rejection(s): _____
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☑ For purposes of appeal, the proposed amendment(s):(a) ☑ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____
9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☑ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See interview summary.
13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
14. ☑ Other: PTO-413, PTO-892, and PTO-2323 are attached.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
    Claim(s) allowed:none.
    Claim(s) objected to:_____.
    Claim(s) rejected:_____.
    Claim(s) withdrawn from consideration:_____.

/Ryan Barrett/ Primary Examiner, Art Unit 2145	

Applicant-Initiated Interview Summary	**Application No.** 16/988,413	**Applicant(s)** Tran, Thinh		
	Examiner RYAN BARRETT	**Art Unit** 2145	**AIA (First Inventor to File) Status** Yes	**Page** 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
RYAN BARRETT	Primary Examiner	Telephonic
Karl Hefter	Attorney of Record	

Date of Interview: 02 March 2021

Issues Discussed:

35 U.S.C. 102

US 2008/0163119 A1 appears to anticipate claims 1, 8, and 14.

35 U.S.C. 103

Combinations of other references (attached) can reject proposed claim 1, likely proposed claim 8, possibly proposed claim 14.

Other

The title of the application has been updated in PALM according to the 12/10/2020 specification amendment.

/Ryan Barrett/ Primary Examiner, Art Unit 2145	

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.

Notice of References Cited	Application/Control No. 16/988,413	Applicant(s)/Patent Under Reexamination Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	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-20080309626-A1	12-2008	Westerman; Wayne Carl	G06F3/04883	345/173
*	B	US-20110285636-A1	11-2011	Howard; John W.	A63F13/2145	345/173
*	C	US-20170220215-A1	08-2017	Wu; Wayne Kong	G06F3/0482	1/1
*	D	US-9262067-B1	02-2016	Bell; Matthew Paul	G06F3/017	1/1
*	E	US-20090077504-A1	03-2009	Bell; Matthew	G06F3/04812	715/863
*	F	US-20110179368-A1	07-2011	King; Nicholas V.	G06F3/0482	715/769
*	G	US-20080163119-A1	07-2008	KIM; Hyun-chung	G11B19/025	715/840
*	H	US-20060284852-A1	12-2006	Hofmeister; Nicholas M.	G06F3/0483	345/173
*	I	US-5581670-A	12-1996	Bier; Eric A.	G06F3/0481	345/629
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	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.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

CPC - Searched*		
Symbol	Date	Examiner
G06F 3/0485, 40/106 limited by keyword	09/05/2020	RB

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
Inventor name search	09/05/2020	RB
EAST text search	09/07/2020	RB
NPL text search: Google	09/07/2020	RB
Inventor/assignee name search	12/19/2020	RB
NPL text search: Google	12/19/2020	RB
Inventor/assignee name search	03/01/2021	RB
Consult with Amy Levy	03/01/2021	RB
EAST text search	03/01/2021	RB

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

AFCP 2.0 Decision	Application No.	Applicant(s)	
	16/988,413	Tran, Thinh	
	Examiner	Art Unit	AIA (FITF) Status
	RYAN BARRETT	2145	Yes

This is in response to the After Final Consideration Pilot request filed 24 February 2021.

1. **Improper Request** – The AFCP 2.0 request is improper for the following reason(s) and the after final amendment submitted with the request will be treated under pre-pilot procedure.

   ☐ An AFCP 2.0 request form PTO/SB/434 (or equivalent document) was not submitted.

   ☐ A non-broadening amendment to at least one independent claim was not submitted.

   ☐ The request is not the first proper AFCP 2.0 request submitted in response to the most recent final rejection.

   ☐ Other: _____

2. **Proper Request**

   A. After final amendment submitted with the request will not be treated under AFCP 2.0.
   The after final amendment cannot be reviewed and a search conducted within the guidelines of the pilot program.

   ☐ The after final amendment will be treated under pre-pilot procedure.

   B. Updated search and/or completed additional consideration.
   The examiner performed an updated search and/or completed additional consideration of the after final amendment within the time authorized for the pilot program. The result(s) of the updated search and/or completed additional consideration are:

   ☐ 1. All of the rejections in the most recent final Office action are overcome and a Notice of Allowance is issued herewith.

   ☐ 2. The after final amendment would not overcome all of the rejections in the most recent final Office action . See attached interview summary for further details.

   ☐ 3. The after final amendment was reviewed, and it raises a new issue(s). See attached interview summary for further details.

   ☑ 4. The after final amendment raises new issues, but would overcome all of the rejections in the most recent final Office action. A decision on determining allowability could not be made within the guidelines of the pilot. See attached interview summary for further details, including any newly discovered prior art.

   ☐ 5. Other: _____

   Examiner Note: Please attach an interview summary when necessary as described above.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S41	0	((("Alfa") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/03/01 17:45
S42	70	((("TRAN") near3 ("Thinh"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/03/01 17:45
S43	835	virtual adj joystick	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 18:59
S44	257	S43 with touch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 19:00
S45	128	S44 and g06f3/$.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 19:00
S46	4	(("20080309626") or ("20110285636")).PN. or (15/010687).APP.	US-PGPUB; USPAT	OR	OFF	2021/03/01 19:54
S47	5	(("9262067") or ("20110179368") or ("20090077504") or ("20060284852") or ("5581670")).PN.	US-PGPUB; USPAT	OR	OFF	2021/03/01 21:55
S48	672	(invisible transparent) near3 icon same (reveal$3 show$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 21:55
S49	220	S48 and drag$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 21:55
S50	157	S49 and g06f3/$.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 21:55

EAST Search History (Interference)

<This search history is empty>

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 Substitute for Form PTO-875	Application or Docket Number 16/988,413	Filing Date 08/07/2020	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ 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	03/24/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 18	Minus	** 20	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $240 =	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 (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (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.	SLIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/KIMBERLY D WILLIAMS/
*** 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.

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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 contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	16/988,413	Filing Date	2020-08-07	Docket Number (if applicable)	110306.401C2	Art Unit	2145
First Named Inventor	Thinh Tran			Examiner Name	BARRETT, RYAN S		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the orde in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 191090

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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 contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Karl A. Hefter/	Date (YYYY-MM-DD)	2021-03-24
Name	Karl A. Hefter	Registration Number	65851

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is t file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Tim will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions fo 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.

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 informatio 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 the Freedom of Information Act requires disclosure of these records.

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 ma 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 inspections 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 Patent Application Fee Transmittal

Application Number:	16988413
Filing Date:	07-Aug-2020
Title of Invention:	SELECTION RING USER INTERFACE
First Named Inventor/Applicant Name:	Thinh Tran
Filer:	Karl Anthony Hefter/Erika Taylor
Attorney Docket Number:	110306.401C2

Filed as Small 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($)
Miscellaneous:				
RCE- 1ST REQUEST	2801	1	680	680
		Total in USD ($)		**680**

Electronic Acknowledgement Receipt

EFS ID:	42275255
Application Number:	16988413
International Application Number:	
Confirmation Number:	9294
Title of Invention:	SELECTION RING USER INTERFACE
First Named Inventor/Applicant Name:	Thinh Tran
Customer Number:	500
Filer:	Karl Anthony Hefter/Erika Taylor
Filer Authorized By:	Karl Anthony Hefter
Attorney Docket Number:	110306.401C2
Receipt Date:	24-MAR-2021
Filing Date:	07-AUG-2020
Time Stamp:	20:13:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$680
RAM confirmation Number	E20213NK14032675
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		110306401C2_Response.pdf	129590 cae8cd0258c2d637e38587e4b5e40a7bd1989d4b	yes	15
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	7	
	Applicant Arguments/Remarks Made in an Amendment		8	15	
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	110306401C2_RCE.pdf	1349939 7278ca74009390032e01720b7f14131443dc6121	no	3
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30263 251caf8d635c4bc50e2dfe52efd99f869c7eded7	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1509792		

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	16/988,413	Examiner :	BARRETT, RYAN S
Filed	:	August 7, 2020	Art Unit :	2145
Confirmation No.	:	9294		
Docket No.	:	110306.401C2		
First Named Inventor	:	Thinh Tran		
Title	:	SELECTION RING USER INTERFACE		

Date : March 24, 2021

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

REPLY TO OFFICE ACTION UNDER 37 CFR §1.114

Commissioner for Patents:

In response to the Office Action dated December 24, 2020 and the Advisory Action dated March 8, 2021, Applicant respectfully requests consideration of this reply in the above-identified application. Please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims beginning on page 2 of this paper.

Remarks begin on page 8 of this paper.

The Director is authorized to charge any additional fees due by way of this filing, or credit any overpayment, to our Deposit Account No. 19-1090.

AMENDMENTS TO THE CLAIMS

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

Listing of Claims:

1. (Currently Amended) A method, comprising;

presenting, by a processor of a computing device, a first graphical user interface;

enabling, by the processor, a user to control presentation of information within the first graphical user interface;

presenting, by ~~a~~ the processor ~~of a computing device~~, a selection ring to ~~a~~ the user in ~~a~~ the first graphical user interface without altering the presentation of information within the first graphical user interface;

receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;

presenting, by the processor, a plurality of icons to the user in the first graphical user interface ~~based on~~ in response to the selection of the selection ring;

receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface without altering the information being presented within the first graphical user interface and without altering a location of the plurality of icons in the first graphical user interface;

receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation of the positioning of the selection ring; and

presenting, by the processor, a second graphical user interface to the user based on the selected icon.

2. (Previously Presented) The method of claim 1, wherein the plurality of icons were previously hidden in the first graphical user interface prior to selection of the selection ring.

3. (Original) The method of claim 1, further comprising:

presenting, by the processor, a selection siren to the user in the first graphical user interface based on the user manipulation.

4. (Original) The method of claim 3, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

5. (Previously Presented) The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the second graphical user interface based on manipulation of the selection ring.

6. (Original) The method of claim 1, further comprising:

presenting, by the processor, a second plurality of icons to the user in the second graphical user interface.

7. (Original) The method of claim 6, further comprising:

receiving, by the processor, a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

8. (Currently Amended) An interactive user interface control system, comprising:

a display device;

a memory that stores computer instructions; and

at least one processor that executes computer instructions to:

present, on the display device, a selection ring to a user in a first graphical user interface;

prior to selection of the selection ring by the user, hide a plurality of icons from the first graphical user interface;

receive a selection of the selection ring by the user;

in response to the selection of the selection ring by the user:

activate the selection ring to enable the user to manipulate a position of the selection ring within the first graphical user interface; and

un-hide and present, on the display device, ~~a~~ the plurality of icons to the user in the first graphical user interface ~~based on the selection of the selection ring~~;

while the selection ring is selected:

receive a user manipulation that drags positioning of the selection ring within the first graphical user interface without altering a location of the plurality of icons within the first graphical user interface; and

receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation; and

transition the first graphical user interface into a second graphical user interface in response to the selected icon.

9. (Canceled)

10. (Previously Presented) The interactive user interface control system of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a selection siren to the user in the first graphical user interface based on the user manipulation.

11. (Previously Presented) The interactive user interface control system of claim 10, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

12. (Previously Presented) The interactive user interface control system of claim 8, wherein the at least one processor further executes the computer instructions to:

present, on the display device, a second plurality of icons to the user in the second graphical user interface based on manipulation of the selection ring.

13. (Previously Presented) The interactive user interface control system of claim 12, wherein the at least one processor further executes the computer instructions to:

receive a selection of an icon from the second plurality of icons based on a position of the selection ring in the second graphical user interface.

14. (Currently Amended) A non-transitory computer readable medium that stores computer instructions that, when executed by at least one processor, cause the at least one processor to perform operations, the operations comprising:

displaying a first graphical user interface on a display device;

displaying a plurality of information within the first graphical user interface;

enabling a user to control display of the plurality of information within the first graphical user interface;

~~presenting~~ displaying a selection ring ~~to a user~~ over the plurality of information in ~~a~~ the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface;

receiving a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring over the plurality of information within the first graphical user interface;

displaying, in response to selection of the selection ring, a plurality of icons over the plurality of information in the first graphical user interface without altering the underlying

display of the plurality of information within the first graphical user interface, wherein the plurality of icons were previously hidden prior to selection of the selection ring;

receiving a user manipulation of positioning of the selection ring over the plurality of information within the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface and without altering a location of the plurality of icons within the first graphical user interface;

receiving a selection of an icon from ~~a~~the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation of the positioning of the selection ring; and

~~presenting~~ displaying a second graphical user interface to the user based on the selected icon.

15. (Canceled)

16. (Canceled)

17. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a selection siren to the user in the first graphical user interface based on the user manipulation.

18. (Original) The non-transitory computer readable medium of claim 17, wherein the selection siren includes information regarding an icon associated with the position of the selection ring in the first graphical user interface.

19. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the first graphical user interface based on manipulation of the selection ring.

20. (Original) The non-transitory computer readable medium of claim 14, wherein execution of the computer instructions by the at least one processor, cause the at least one processor to perform further operations, the further operations comprising:

presenting a second plurality of icons to the user in the second graphical user interface.

21. (Original) The non-transitory computer readable medium of claim 14, wherein the operations are performed by an operating system.

REMARKS

Prior to this paper, claims 1-21 were pending. A Final Office Action dated December 24, 2020 rejected claims 1-21 and an Advisory Action dated March 8, 2021 indicated that the claims remain rejected. In this paper, claims 1, 8, and 14 are amended; claims 9, 15, and 16 are canceled; and no claims are added. Accordingly, claims 1-8, 10-14, and 17-21 are currently pending. No new matter is added by way of this clarifying amendment. The Applicant respectfully requests reconsideration of this application. For at least the following reasons, the Applicant respectfully submits that each of the presently pending claims is now in condition for allowance.

Final Office Action Rejections under 35 U.S.C. § 103

Claims 1-7 and 14-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone, "Windows 7 for Dummies" (hereinafter "Rathbone") and "CircleSpin Cursors," http://www.rw-designer.com/cursor-set/circlespin (hereinafter "CircleSpin").

Claims 8-13 are rejected under 35 U.S.C. § 103 as being unpatentable over Rathbone; CircleSpin; and "TouchMousePointer," (https://web.archive.org/web/20150506014333/https://www.lovesummertrue.com/touchmousepointer/en-us/ (hereinafter "TouchMousePointer").

The Applicant respectfully disagrees that the cited references, whether alone or in combination, disclose each and every feature recited in the pending claims.

First, claim 1 recites:

> …receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface; … [and]
>
> receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface …; ….

Thus, claim 1 recites two distinct receiving steps: 1) receiving a selection of the selection ring and 2) receiving user manipulation of the position of the selection ring. Rathbone fails to describe both of these receiving steps. Instead, Rathbone generically mentions a "mouse pointer." Rathbone, chapter 1, page 1, para. 1. However, a generalized statement of a mouse

pointer fails to disclose or suggest the two receiving steps, as claimed. Therefore, Rathbone fails to disclose or suggest the above-recited claim limitations. The CircleSpin reference fails to cure this deficiency of Rathbone. Thus, Claim 1 is novel and non-obvious over Rathbone in view of CircleSpin.

To expedite allowance, the independent claim 1 is amended to improve clarity. For example amended independent claim 1 recites, with emphasis added:

> ...receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;
>
> presenting, by the processor, a plurality of icons to the user in the first graphical user interface in response to the selection of the selection ring; ....

It is respectfully noted that the icons are presented in the first graphical user interface in response to the selection ring being selected. (emphasis added). Therefore, the selection ring must first be selected in the first graphical user interface to cause the icons to be shown in the first graphical user interface.

In contrast to that which is claimed, Rathbone describes the contents of a folder being displayed in a pop up window in response to the user double-clicking on an icon in the folder. In particular, Rathbone discusses clicking on a folder to have a new window pop up showing that folder's contents. See e.g., Rathbone, pg. 76. Therefore, the window pops up in response to selection of the icon. Opening a pop up window in response to selecting an icon, however, does not disclose or suggest receiving a user selection of a selection ring to enable the user to manipulate a position of the selection ring, which, in response, causes a plurality of icons to be presented to the user, as claimed. Therefore, Rathbone fails to disclose or suggest the claimed functionality of presenting icons in response to selection of a selection ring. The CircleSpin reference fails to cure this deficiency of Rathbone. Thus, in addition to the reasons discussed above, Claim 1 is novel and non-obvious over Rathbone in view of CircleSpin.

Additionally, amended independent claims 8 and 14 recite similar features to amended independent claim 1. Thus, amended independent claims 8 and 14 are at least allowable for the same reasons as posited herein for amended independent amended claim 1.

To further expedite allowance, claim 8 is amended to recite:

…prior to selection of the selection ring by the user, hide a plurality of icons from the first graphical user interface;

receive a selection of the selection ring by the user;

in response to the selection of the selection ring by the user:

activate the selection ring to enable the user to manipulate a position of the selection ring within the first graphical user interface; and

un-hide and present, on the display device, the plurality of icons to the user in the first graphical user interface;

while the selection ring is selected:

receive a user manipulation that drags positioning of the selection ring within the first graphical user interface without altering a location of the plurality of icons within the first graphical user interface; and

receive a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation; ….

As amended, claim 8 recites that the plurality of icons are hidden prior to selection of the selection ring. In response to the user selecting the selection ring, the selection ring is activated to enable the user to manipulate the position of the selection ring and the icons are un-hidden and presented to the user.

In addition to the reasons discussed above, the combination of Rathbone and CircleSpin fails to disclose or suggest each and every element recited in amended claim 8. Nothing in Rathbone or CircleSpin, whether considered alone or in combination, discusses the claimed feature of hiding icons in a first graphical user interface prior to selection of a selection ring, such that the icons are un-hidden and presented to the user in the first graphical user interface in response to the selection of the selection ring, as recited in amended claim 8.

Moreover, the combination of Rathbone and CircleSpin fails to describe or suggest the activation of the selection ring in response to selection of the selection ring. As discussed above, Rathbone generically mentions a "mouse pointer." Rathbone, chapter 1, page 1, para. 1. However, a generalized statement of a mouse pointer fails to disclose or suggest the activation of a selection ring in response to selection of the selection ring, where the activation of the selection ring enables the user to manipulate a position of the selection ring within the first graphical user

interface. Therefore, the combination of Rathbone and CircleSpin fails to disclose or suggest the above-recited claim limitations. Thus, Claim 8 is novel and non-obvious over Rathbone in view of CircleSpin.

Independent claim 14 is also amended herein to expedite allowance. Amended claim 14, recites, in part:

> displaying a first graphical user interface on a display device;
>
> displaying a plurality of information within the first graphical user interface;
>
> enabling a user to control display of the plurality of information within the first graphical user interface;
>
> displaying a selection ring over the plurality of information in the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface;
>
> receiving a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring over the plurality of information within the first graphical user interface;
>
> displaying, in response to selection of the selection ring, a plurality of icons over the plurality of information in the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface, wherein the plurality of icons were previously hidden prior to selection of the selection ring;
>
> receiving a user manipulation of positioning of the selection ring over the plurality of information within the first graphical user interface without altering the underlying display of the plurality of information within the first graphical user interface and without altering a location of the plurality of icons within the first graphical user interface; ....

In addition to the reasons discussed above, the combination of Rathbone and CircleSpin fails to disclose or suggest each and every element recited in amended claim 14. Nothing in Rathbone or CircleSpin, whether considered alone or in combination, discusses the claimed features of displaying icons over a plurality of information in response to selection of a selection ring without altering the underlying display of the plurality of information. Therefore, the

combination of Rathbone and CircleSpin fails to disclose or suggest the above-recited claim limitations. Thus, Claim 14 is novel and non-obvious over Rathbone in view of CircleSpin.

Dependent claims 9, 15, and 16 are canceled herein. Because dependent claims 2-8, 10-13, and 17-21 depend from one of independent amended claims 1, 8, or 14, each of these dependent claims is novel and non-obvious and allowable for at least the same reasons as the respective independent amended claims upon which they depend. Also, because the separate rejections of these dependent claims are now moot in view of the reasons presented for the respective independent amended claims upon which they depend, a further refutation of those rejections is not provided here in the interest of brevity and expediting the allowance of these claims.

Therefore, the rejections of the pending claims under 35 U.S.C. § 103 should be withdrawn, and the pending claims be allowed to issue.

Advisory Action Statements on Rejections

The Applicant-Initiated Interview Summary that accompanied the Advisory Action suggests that claims 1, 8, and 14 would be anticipated under 35 U.S.C. § 102 by U.S. Pre-grant Publication 2008/0163119 (hereinafter "Kim").

The Applicant-Initiated Interview Summary also suggests that claims 1, 8, and 14 could potentially be rejected under 35 U.S.C. § 103 by combinations of the other references identified in the Advisory Action. Because the Advisory Action did not provide more specific details as to these references or possible rejections, each of these additional references are not specifically discussed herein. The Applicant's representative would be happy to discuss these references and their deficiencies with the Examiner during the Examiner's examination of the currently amended claims.

The Applicant respectfully disagrees that these newly identified references, whether alone or in combination, disclose each and every feature recited in the pending claims, especially as amended herein. For example, amended independent claim 1 recites, in part:

> …presenting, by the processor, a selection ring to the user in the first graphical user interface without altering the presentation of information within the first graphical user interface;
>
> receiving, by the processor, a selection of the selection ring by the user to enable the user to manipulate a position of the selection ring within the first graphical user interface;
>
> presenting, by the processor, a plurality of icons to the user in the first graphical user interface in response to the selection of the selection ring;
>
> receiving, by the processor, a user manipulation of positioning of the selection ring within the first graphical user interface without altering the information being presented within the first graphical user interface and without altering a location of the plurality of icons in the first graphical user interface; [and]
>
> receiving, by the processor, a selection of an icon from the plurality of icons based on a position of the selection ring in the first graphical user interface relative to the icon in response to the user manipulation of the positioning of the selection ring; ….

Support for this clarifying amendment can be found throughout the application, including page 20, line 12 through page 32, line 15 and page 33, lines 18-22 of the specification and Figures 3B-3H.

As amended, a plurality of icons are presented in the first graphical user interface in response to the selection of the selection ring and the user manipulation of the positioning of the selection ring is received without altering the information being presented within the first graphical user interface and without altering a location of the plurality of icons. Furthermore, an icon is selected based on a position of the selection ring relative to the icon in response to the user manipulation of the selection ring.

In contrast to that which is claimed, Kim describes a menu set that is moveable. Kim, para. [0037]. In particular, the menu set may be moved by a user performing a drag operation on a moveable control icon of the menu set. Kim, para. [0037]. Accordingly, each of the icons in the menu set is moved depending on, and along with, movement of the moveable control icon.

However, moving an entire menu set with a drag operation fails to disclose or suggest a user's manipulation of a selection ring without altering the location of the plurality of icons, as claimed.

Moreover, Figure 3C of Kim explicitly shows this movable control icon as being a central icon in the menu set. Figure 4B of Kim then shows a user clicking on a separate icon to select that icon – with the central icon still positioned in the center of the menu set. Thus, Kim fails to disclose or suggest receiving a user manipulation of a selection ring and selecting an icon based on a position of the selection ring relative to the icon in response to the user manipulation, as recited in amended claim 1. Therefore, Kim fails to disclose or suggest each and every limitation recited in amended independent claim 1. Thus, amended claim 1 is novel and non-obvious in light of Kim.

Moreover, the other references identified in the Advisory Action, whether considered alone or in combination with Kim, fail to cure the deficiencies of Kim.

Additionally, amended independent claims 8 and 14 recite similar features to amended independent claim 1. Thus, amended independent claims 8 and 14 are at least allowable for the same reasons as posited herein for amended independent amended claim 1.

For at least the reasons discussed above, the pending claims are now in condition for allowance.

Conclusion

For at least these reasons, the Applicant respectfully requests allowance of the pending claims. Favorable consideration and a Notice of Allowance are earnestly solicited. Any remarks in support of patentability of one claim should not be imputed to any other claim, even if similar terminology is used. Any remarks referring to only a portion of a claim should not be understood to base patentability on that portion; rather, patentability must rest on each claim taken as a whole. The Applicant does not acquiesce to each of the Examiner's rejections and to each of the Examiner's assertions regarding what the cited references show or teach, even if not expressly discussed herein. In the event the Examiner finds minor informalities that can be resolved by telephone conference or if the Examiner believes a telephone conference would facilitate prosecution of this application, the Examiner is urged to contact the Applicant's undersigned representative by telephone at (206) 622-4900 in order to expeditiously resolve prosecution of this application.

Respectfully submitted,

Seed Intellectual Property Law Group LLP

/Karl A. Hefter/
Karl A. Hefter
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NOTICE OF ALLOWANCE AND FEE(S) DUE

500 7590 04/21/2021

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

EXAMINER
BARRETT, RYAN S

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 04/21/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/988,413	08/07/2020	Thinh Tran	110306.401C2	9294

TITLE OF INVENTION: SELECTION RING USER INTERFACE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	07/21/2021

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.

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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)".

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/988,413	08/07/2020	Thinh Tran	110306.401C2	9294

TITLE OF INVENTION: SELECTION RING USER INTERFACE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	07/21/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
BARRETT, RYAN S	2145	715-720000

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/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
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(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

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

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❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

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16/988,413	08/07/2020	Thinh Tran	110306.401C2	9294

500 7590 04/21/2021

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EXAMINER	
BARRETT, RYAN S	
ART UNIT	**PAPER NUMBER**
2145	

DATE MAILED: 04/21/2021

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.

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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. 16/988,413	Applicant(s) Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	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 3/24/2021.
   ☐ 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 1-8,10-14 and 17-21 . 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. ☐ 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 _____.

/Ryan Barrett/
Primary Examiner, Art Unit 2145

Notice of References Cited	Application/Control No. 16/988,413	Applicant(s)/Patent Under Reexamination Tran, Thinh	
	Examiner RYAN BARRETT	Art Unit 2145	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-8990255-B2	03-2015	Metsatahti; Vesa	G06F16/907	707/791
*	B	US-20150378556-A1	12-2015	Ramanathan; Jairam	G06F3/04842	715/765
*	C	US-20100095238-A1	04-2010	Baudet; Gilles	G06F3/0485	715/784
*	D	US-20090150822-A1	06-2009	Miller; Steven M.	G06F3/0485	715/784
*	E	US-20130024803-A1	01-2013	Workman; Dan	G06F3/04886	715/781
	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					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	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.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

CPC - Searched*		
Symbol	Date	Examiner
G06F 3/0485, 40/106 limited by keyword	09/05/2020	RB
G06F 3/04817, 3/0485, 9/44, 16/9537, 40/106; G06Q 10/00, 10/10, 10/109, 50/01, 50/30; H04L 51/32 limited by keyword	04/14/2021	RB

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

Search Notes		
Search Notes	**Date**	**Examiner**
Inventor name search	09/05/2020	RB
EAST text search	09/07/2020	RB
NPL text search: Google	09/07/2020	RB
Inventor/assignee name search	12/19/2020	RB
NPL text search: Google	12/19/2020	RB
Inventor/assignee name search	03/01/2021	RB
Consult with Amy Levy	03/01/2021	RB
EAST text search	03/01/2021	RB
Inventor/assignee name search	04/14/2021	RB
EAST text search	04/14/2021	RB
NPL text search: Google	04/15/2021	RB

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
	EAST .CLM. search	04/15/2021	RB

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

CPC						
Symbol					Type	Version
G06F	/	3	/	04817	F	2013-01-01
G06Q	/	50	/	01	I	2013-01-01
G06F	/	16	/	9537	I	2019-01-01
G06F	/	3	/	0485	I	2013-01-01
H04L	/	51	/	32	A	2013-01-01

CPC Combination Sets								
Symbol					Type	Set	Ranking	Version
	/		/					

NONE (Assistant Examiner)	(Date)	Total Claims Allowed: 18	
/Ryan Barrett/ Primary Examiner, Art Unit 2145 (Primary Examiner)	15 April 2021 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 3E

U.S. Patent and Trademark Office — Part of Paper No.: 20210415

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

INTERNATIONAL CLASSIFICATION				
CLAIMED				
G06F3/0481	/	3	/	0481

NON-CLAIMED				
G06Q50/00	/	50	/	00
G06F16/9537	/	16	/	9537
G06F3/0485	/	3	/	0485
H04L12/58	/	12	/	58

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE (Assistant Examiner)	(Date)	Total Claims Allowed: 18	
/Ryan Barrett/ Primary Examiner, Art Unit 2145 (Primary Examiner)	15 April 2021 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 3E

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/988,413	Tran, Thinh
	Examiner	Art Unit
	RYAN BARRETT	2145

☑ 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)	18	
/Ryan Barrett/ Primary Examiner, Art Unit 2145	15 April 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3E

U.S. Patent and Trademark Office — Part of Paper No.: 20210415

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S28	30	(("20030095149") or ("20040021673") or ("20040125150") or ("20050091596") or ("20050114781") or ("20050154988") or ("20050210410") or ("20070061748") or ("20080294663") or ("20090150822") or ("20100077355") or ("20100095238") or ("20110004662") or ("20130024803") or ("20130073984") or ("20130157234") or ("20130290430") or ("20140013243") or ("20140040379") or ("20140089816") or ("20140324797") or ("20150120766") or ("20150220264") or ("20150378556") or ("20160274785") or ("20160364085") or ("20170169800") or ("20190147017") or ("8793579") or ("8990255")).PN.	US-PGPUB; USPAT	OR	OFF	2020/09/05 18:09
S29	68	((("TRAN") near3 ("Thinh"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 18:18
S30	17,940	G06F3/0485.cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 21:07
S31	5,310	G06F40/106.cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 21:07
S32	36	(S30 S31) and (tooltip (tool adj tip) hovertext) with icon	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/05 21:07
S33	26	folder same (tooltip (tool adj tip) hovertext) with icon	US-PGPUB; USPAT; USOCR; EPO;	OR	ON	2020/09/07 17:03

			JPO; DERWENT			
S34	9,865	folder near5 (open enter (double adj click))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:10
S35	2,046	(tooltip (tool adj tip) hovertext) with icon	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:10
S36	32	S34 and S35	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:10
S37	18,698	(ring circle circular) near3 (mouse pointer cursor)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:27
S38	27	S35 and S37	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/09/07 17:27
S39	0	((("Alfa") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/12/19 20:20
S40	70	((("TRAN") near3 ("Thinh"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2020/12/19 20:20
S41	0	((("Alfa") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/03/01 17:45
S42	70	((("TRAN") near3 ("Thinh"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/03/01 17:45

S43	835	virtual adj joystick	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 18:59
S44	257	S43 with touch	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 19:00
S45	128	S44 and g06f3/$.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 19:00
S46	4	(("20080309626") or ("20110285636")).PN. or (15/010687).APP.	US-PGPUB; USPAT	OR	OFF	2021/03/01 19:54
S47	5	(("9262067") or ("20110179368") or ("20090077504") or ("20060284852") or ("5581670")).PN.	US-PGPUB; USPAT	OR	OFF	2021/03/01 21:55
S48	672	(invisible transparent) near3 icon same (reveal$3 show$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 21:55
S49	220	S48 and drag$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 21:55
S50	157	S49 and g06f3/$.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/01 21:55

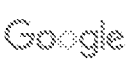
S51	0	((("Alfa") near3 ("Technologies") near3 ("Inc"))).AS,AANM.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/04/14 20:01
S52	70	((("TRAN") near3 ("Thinh"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/04/14 20:01
S53	226,373	(G06F3/04817 or G06F40/106 or G06F16/9537 or G06F3/0485 or G06Q50/01 or H04L51/32 or G06Q10/00 or G06Q10/10 or G06Q10/109 or G06F9/44 or G06Q50/30).cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/04/14 20:36
S54	160	S53 and (tooltip (tool adj tip) hovertext) near3 icon	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/04/14 20:37
S55	175	S53 and (ring circle circular) near3 (mouse pointer cursor touch) with select$3	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/04/14 20:57
S56	11	(invisible transparent) near3 icon near5 select$3 with (reveal$3 show$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/04/14 22:01
S57	94	(invisible transparent) near3 overlay with select$3 with (reveal$3 show$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/04/14 22:03

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S58	0	((invisible transparent) near3 icon near5 select$3 with (reveal$3 show$3)).clm.	US-PGPUB; USPAT	OR	ON	2021/04/15 18:44

S59	4	((invisible transparent) near3 overlay with select$3 with (reveal$3 show$3)).clm.	US-PGPUB; USPAT	OR	ON	2021/04/15 18:44

4/15/2021 6:50:25 PM
C:\Users\rbarrett\Documents\Ryan\Cases\16988413 Selection Ring User Interface\16988413 EAST Workspace.wsp



(invisible|transparent) overlay reveal

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Before May 9, 2016 All results Clear

Videos

How to Create a Transparent Overlay on an Image with the ...

YouTube · Elegant Marketplace
Oct 5, 2015

Adjustment Layer or Transparent Video - which one do I use?

YouTube · VideoRevealed
Sep 26, 2015

5 key moments in this video

Cut a Custom Shape from a Photo in Photoshop - make ...

YouTube · Helen Bradley
Jun 30, 2015

Feedback

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https://www.etsy.com › market › transparent_overlays

Transparent overlays | Etsy

Mar 13, 2014 — Check out our transparent overlays selection for the very best in unique or custom, ... PNG, Transparent background, blowing, photography effect, gender reveal, ...

https://stackoverflow.com › questions › show-a-caption...

Show a caption with a semi-transparent color overlay when ...

4 answers

May 22, 2017 — instead of giving opacity 0.3 to all the div, you can set background: rgba(255,0,0, 0.3);. and then opacity: 1;. in the div. like this: http://jsfiddle.net/EUUMX/.

img **overlay** fade, text visible after img fade - Stack Overflow	May 30, 2017
How do you create a **transparent** demo screen for an Android ...	Nov 12, 2014
Make element underneath part of **overlay** clickable but not all ...	May 31, 2017
How do I make a **transparent** canvas in html5? - Stack Overflow	Nov 7, 2011

More results from stackoverflow.com

https://tex.stackexchange.com › questions › how-to-cre...

How to create invisible item in Beamer Overlays case by case ...

Sep 28, 2016 — I like \setbeamercovered{transparent} so I don't want to set to invisible . I just want the last item to show up after the answer, without a grey transparent item ...

1 answer · Top answer: \invisible is your new friend \documentclass{beamer} \setbeamercover...

Re-cover Beamer **overlays**, while keeping a subphrase ...	Dec 8, 2015
beamer to **show** nested-subitem when all (non-nested) items ...	Sep 28, 2016
Transparency in itemizing - TeX - LaTeX Stack Exchange	Jan 14, 2016
How to make **overlay** still work inside lstlisting environment ...	Dec 13, 2011

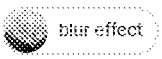
More results from tex.stackexchange.com

https://smallbusiness.chron.com › create-overlay-power...

How Do I Create an Overlay in PowerPoint?

Aug 20, 2012 — ... you can make transparent and translucent shapes appear on top of other objects in your business PowerPoint presentations. These shapes, called **overlays**, ...

Images for (invisible|transparent) overlay reveal



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https://www.limelightonline.co.nz › blog › image-overl...

Image Overlay Hover Effects with CSS - Limelight Online

Feb 10, 2016 — Today I will show you how to create a very simple hover effect as well as a more ... Rather than just displaying a transparent overlay I want to slide the overlay up ...

https://www.brusheezy.com › free › transparent-overlays

Transparent Overlays Free Brushes - (400 Free Downloads)

Feb 9, 2016 — 400 Best Transparent Overlays Free Brush Downloads from the Brusheezy community. Transparent Overlays Free Brushes licensed under creative commons, ...

People also ask

What is a transparent overlay?

How do I overlay transparent images?

How do you make a transparent overlay in PowerPoint?

What is overlay effect?

Feedback

https://tympanus.net › codrops › 2013/11/07 › css-over...

CSS Overlay Techniques - Codrops

Nov 7, 2013 — There are several techniques for creating overlays: from using an absolutely ... features, indicating progress, giving instructions, or revealing information. ... get a transparent background-color (same color as the overlay-Outline) without any ...

https://www.overleaf.com › learn › latex › Beamer_Presen...

A Tutorial for Beginners (Part 4)—Overlay Specifications ...

Often when when doing a presentation we'll want to reveal parts of a frame one ... transparent on .

Aug 21, 2013 · Uploaded by ShareLaTeX

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Bibliographic Data

Application No: 16/988,413

Foreign Priority claimed: ○ Yes ◉ No

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

Verified and Acknowledged: _____ _____

Examiner's Signature | Initials

Title: SELECTION RING USER INTERFACE

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
08/07/2020	715	2145	110306.401C2
RULE			

APPLICANTS

INVENTORS

Thinh Tran, Kirkland, WA, UNITED STATES

CONTINUING DATA

This application is a CON of 16549859 08/23/2019 PAT 10747415

16549859 is a CON of 16300028 11/08/2018 PAT 10747414

16300028 is a 371 of PCT/US2017/032037 05/10/2017

PCT/US2017/032037 has PRO of 62334318 05/10/2016

FOREIGN APPLICATIONS

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$2,905

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)

500 7590 04/21/2021

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

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.

Erika S. Taylor	(Typed or printed name)
/Erika S. Taylor/	(Signature)
July 20, 2021	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/988,413	08/07/2020	Thinh Tran	110306.401C2	9294

TITLE OF INVENTION: SELECTION RING USER INTERFACE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	07/21/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
BARRETT, RYAN S	2145	715-720000

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/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 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 Seed IP Law Group 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: ALFA TECHNOLOGIES, INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): RENTON, WASHINGTON 98056

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. 19-1090

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 /Karl A. Hefter/ Date July 20, 2021

Typed or printed name Karl A. Hefter Registration No. 65,851

Electronic Patent Application Fee Transmittal

Application Number:	16988413
Filing Date:	07-Aug-2020
Title of Invention:	SELECTION RING USER INTERFACE
First Named Inventor/Applicant Name:	Thinh Tran
Filer:	Karl Anthony Hefter/Erika Taylor
Attorney Docket Number:	110306.401C2

Filed as Small 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	2501	1	600	600

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**600**

Electronic Acknowledgement Receipt

EFS ID:	43301413
Application Number:	16988413
International Application Number:	
Confirmation Number:	9294
Title of Invention:	SELECTION RING USER INTERFACE
First Named Inventor/Applicant Name:	Thinh Tran
Customer Number:	500
Filer:	Karl Anthony Hefter/Erika Taylor
Filer Authorized By:	Karl Anthony Hefter
Attorney Docket Number:	110306.401C2
Receipt Date:	20-JUL-2021
Filing Date:	07-AUG-2020
Time Stamp:	18:50:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$600
RAM confirmation Number	E20217JI51160689
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	Issue Fee Payment (PTO-85B)	110306401C2_IssueFee.pdf	205121 553334eaed30c6c32eca96da55466aa69d63c2c7	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30258 af8ff314a1b5cda1780a1f9f0c695016a0729a79	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	235379		

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.

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.
16/988,413	08/24/2021	11099713	110306.401C2	9294

500 7590 08/04/2021

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

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 0 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 Data Management (ODM) at (571)-272-4200.

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

Thinh Tran, Kirkland, WA;

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.

SPECIAL PROCEDURES SUBMISSION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	16/988,413	Examiner :	BARRETT, RYAN S
Filed	:	August 7, 2020	Art Unit :	2145
Confirmation No.	:	9294		
Docket No.	:	110306.401C2		
First Named Inventor	:	Thinh Tran		
Title	:	SELECTION RING USER INTERFACE		

Date : August 4, 2021

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

PETITION FOR REMOVAL FROM ISSUE – ISSUE FEE PAID
(37 CFR 1.313(c))

Commissioner for Patents:

Applicant hereby petitions to withdraw the above-noted patent application from issuance. The issue fee for this application was paid on July 20, 2021. This application is scheduled to issue on August 24, 2021 as patent number 11,099,713.

This withdrawal is voluntary in order to permit the Patent Office to consider an Information Disclosure Statement under 37 CFR 1.97 (see 37 CFR 1.313(c)(2)) and Request for Continued Examination filed herewith per Patent Office procedures.

Fees in the amount of $70 and Request for Continued Examination fee of $1000 are remitted herewith. The Director is authorized to charge any deficiencies or credit any overpayment in fees due by way of the enclosed papers only to Deposit Account No. 19-1090.

Should the Examiner have any additional questions, he is respectfully encouraged to contact the undersigned attorney at (206) 622-4900.

Respectfully submitted,
Seed Intellectual Property Law Group LLP

/Karl A. Hefter/
Karl A. Hefter
Registration No. 65,851

KAH:est

Attachments:
Copy of this Petition
Request for Continued Examination
Information Disclosure Statement
Form PTO-1449
Cited References (6)

701 Fifth Avenue, Suite 5400
Seattle, Washington 98104
Phone: (206) 622-4900 | Fax: (206) 682-6031

KAH:est
8119012_1

Electronic Patent Application Fee Transmittal

Application Number:	16988413
Filing Date:	07-Aug-2020
Title of Invention:	SELECTION RING USER INTERFACE
First Named Inventor/Applicant Name:	Thinh Tran
Filer:	Karl Anthony Hefter/Erika Taylor
Attorney Docket Number:	110306.401C2

Filed as Small 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:				
PETITION FEE-37CFR 1.17(H) (GROUP II)	2464	1	70	70
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	2820	1	1000	1000
		Total in USD ($)		**1070**

Electronic Acknowledgement Receipt

EFS ID:	43428228
Application Number:	16988413
International Application Number:	
Confirmation Number:	9294
Title of Invention:	SELECTION RING USER INTERFACE
First Named Inventor/Applicant Name:	Thinh Tran
Customer Number:	500
Filer:	Karl Anthony Hefter/Erika Taylor
Filer Authorized By:	Karl Anthony Hefter
Attorney Docket Number:	110306.401C2
Receipt Date:	04-AUG-2021
Filing Date:	07-AUG-2020
Time Stamp:	20:51:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1070
RAM confirmation Number	E202184K53233197
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	Miscellaneous Incoming Letter	110306401C2_QPIDS.pdf	178557 67065b98946e5dbdbe334b7562f2e6436165b332	no	2
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	110306401C2_RCE.pdf	1350001 8bf6354dc80d96bcb76121a93c7603bf50675497	no	3
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	110306401C2_1449.pdf	108285 fcfdce7b5cb1b9525163e2b2f92214090b213129	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
4	Foreign Reference	CN1252573A.pdf	1248291 e72509bc8817485236b15d4a7b8b5eb85fa02b65	no	37
Warnings:					
Information:					
5	Foreign Reference	CN102339202A.pdf	584495 26d4ec3d1527298f54840c4d048c476b277ad1f1	no	14
Warnings:					
Information:					
6	Foreign Reference	CN103220396A.pdf	721364 803a25e75f6d14e0e8b52ba678a56a8c5a8ff524	no	15
Warnings:					

Information:					
7	Foreign Reference	CN103677415A.pdf	469822 65ef3e022362ab2718e0aa13ba7d1bd9208bb7e8	no	8
Warnings:					
Information:					
8	Foreign Reference	CN104216651A.pdf	1278066 f648589ccac6307a0abb9a4ec834b7f69126dbd5	no	21
Warnings:					
Information:					
9	Foreign Reference	CN1892880B_Part1.pdf	25813682 47ab96398736977cda77f71e86914412803 8c174	no	17
Warnings:					
Information:					
10	Foreign Reference	CN1892880B_Part2.pdf	24548940 cc82eefe0dadccf68c8e539c7e957db9240f3907	no	14
Warnings:					
Information:					
11	Foreign Reference	CN1892880B_Part3.pdf	26034937 51c2678c3bc080c5d30106a7ca6432b5b87a6578	no	31
Warnings:					
Information:					
12	Foreign Reference	CN1892880B_Part4.pdf	3441435 0bbf11e1f520c9f52fc704ff02aec5deef014eb6	no	6
Warnings:					
Information:					
13	Petition to Withdraw from Issue	110306401C2_Petition.pdf	75924 e576ce508f6fe51fc39659c5d1d4e9f79b2a1c0e	no	2
Warnings:					
Information:					

14	Fee Worksheet (SB06)	fee-info.pdf	40234 6a7a9abb8dd08fef9472a8b90cd5b6d235f681bc	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	85894033

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.

CERTIFICATION AND REQUEST FOR CONSIDERATION OF AN INFORMATION DISCLOSURE STATEMENT FILED AFTER PAYMENT OF THE ISSUE FEE UNDER THE QPIDS PROGRAM

Non-Provisional Application Number: 16/988,413	Filing Date: August 7, 2020
First Named Inventor: Thinh Tran	Title of Invention: SELECTION RING USER INTERFACE

THE UNDERSIGNED HEREBY CERTIFIES AND REQUESTS THE FOLLOWING FOR THE ABOVE-IDENTIFIED APPLICATION.

1. Consideration is requested of the information disclosure statement (IDS) submitted herewith, which is being filed after payment of the issue fee.
2. Check the box next to the appropriate selection:

   ☑ Each item of information contained in the IDS 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 the IDS. See 37 CFR 1.97(e)(1).

   OR

   ☐ No item of information contained in the IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the IDS. See 37 CFR 1.97(e)(2).

   OR

   ☐ See attached certification statement in compliance with 37 CFR 1.97(e).
3. Please charge the IDS fee set forth in 37 CFR 1.17(p) to Deposit Account No. 19-1090.
4. A Petition to Withdraw from Issue After Payment of the Issue Fee (37 CFR 1.313(c)(2)), including the petition fee set forth in 37 CFR 1.17(h), is submitted herewith as a **Web-based ePetition**. **WARNING:** Do not submit the petition as a follow-on paper via EFS-Web. Submit the petition as a Web-based ePetition by signing on to EFS-Web as a registered user, selecting the radio button next to "Existing application/patent," and then selecting the radio button next to "ePetition (for automatic processing and immediate grant, if all petitions requirements are met)." Failure to use the Web-based ePetition interface will result in automatic entry of the RCE.
5. A request for continued examination (RCE) under 37 CFR 1.114 and the RCE fee under 37 CFR 1.17(e) are submitted herewith.
6. The RCE will be treated as a "conditional" RCE. In the event the examiner determines that any item of information contained in the IDS necessitates the reopening of prosecution in the application, the undersigned understands that (i) the RCE will be processed and treated as an RCE under 37 CFR 1.114 and therefore (ii) the IDS fee under 37 CFR 1.17(p) will be returned in accordance with 37 CFR 1.97(b)(4). In the event that no item of information in the IDS necessitates reopening prosecution, the undersigned understands that the RCE will not be processed and the RCE fee under 37 CFR 1.17(e) will be returned.
7. This certification and request is being filed as a **Web-based ePetition** and is not accompanied by an amendment to the application. Inclusion of an amendment will result in automatic entry of the RCE.

Signature /Karl A. Hefter/	Date August 4, 2021
Name (Print/Typed) Karl A. Hefter	Practitioner Registration Number (If applicable) 65,851

Note: *Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below.**

☐ *Total of _____ forms are submitted.

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.

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE **INFORMATION DISCLOSURE STATEMENT** (Use several sheets if necessary)	ATTY. DOCKET NO. 110306.401C2	APPLICATION NO. 16/988,413
	FIRST NAMED INVENTOR Thinh Tran	
	FILING DATE August 7, 2020	GROUP ART UNIT 2145

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	NAME	FILING DATE IF APPROPRIATE
	1	2012/0209902	A1	8/16/2012	Outerbridge	

FOREIGN PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	1	1252573	A	5/10/2000	CN (with English abstract)		X
	2	1892880	B	6/16/2010	CN (with English abstract)		X
	3	102339202	A	2/1/2012	CN (with English abstract)		X
	4	103220396	A	7/24/2013	CN (with English abstract)		X
	5	103677415	A	3/26/2014	CN (with English abstract)		X
	6	104216651	A	12/17/2014	CN (with English abstract)		X

NON-PATENT LITERATURE DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	1		

EXAMINER	DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Patents cn1252573

Method and device for schedule display

Abstract

A method and an apparatus for displaying schedule wherein a schedule display table recording schedule display information is constructed in a memory of computer system, the schedule events of one day are shown by a schedule display area divided into a primary schedule display area and a secondary display area, each having an adjustable time axis for displaying the time period of every schedule event so that a user can edit and browse the schedule promptly and conveniently by a computer system.

CN1252573A

China

Download PDF Find Prior Art Similar

Other languages: Chinese

Inventor: 侯沛豪

Worldwide applications

1998 JP 1999 SG TW CN

Application CN 99121889 events

1998-10-23	Priority to JP30207498A
1998-10-23	Priority to JP302074/1998
1999-10-22	Application filed by 松下电器产业株式会社
2000-05-10	Publication of CN1252573A
2004-06-02	Application granted
2004-06-02	Publication of CN1152332C
2019-10-22	Anticipated expiration
Status	Expired - Fee Related

Info: Patent citations (3), Cited by (19), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (4)

Hide Dependent

1. schedule display packing, it can is characterized in that by utilizing the computing system editor and showing individual calendar information, comprising:

First step, be used for M row of storer structure and the capable schedule indicator gauge of N at computing machine, wherein one day schedule data is recorded in the cell of schedule indicator gauge, and the pointer of the temporary address of one day schedule data of an expression of each cell record, one are at the calendar events number before the working time, calendar events number after the working time and starting position, end position and the height value of each calendar events;

Second step is used for by judging from user's editor or browsing behavior management schedule indicator gauge so that upgrade this schedule indicator gauge;

Third step is used for checking the modification part of this schedule indicator gauge, and it can be according to judging whether that from user's the editor or the behavior of browsing needs upgrade this schedule indicator gauge;

The 4th step is used for partly drawing a time shaft with schedule time attribute according to the modification of this schedule indicator gauge, two display switches of regulating button and secondary schedule indicator gauge of drawing time; And

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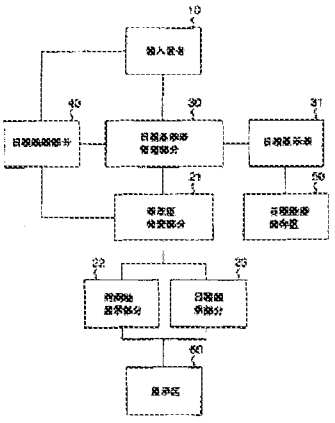
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[54]发明名称 日程显示方法和装置

[57]摘要

一种用于显示日程的方法和装置，其中记录日程显示信息的日程显示表被在计算机系统的存储器中构造，一日的日程事件由一日程显示区所示出，该日程显示区被分为主日程显示区和副日程显示区，每个日程显示区具有用于显示每个日程事件的时间段的可调节时间轴，使得用户可以通过计算机系统迅速和方便地编辑和浏览日程。



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权 利 要 求 书

1. 一种日程显示方法，其可以通过利用计算系统编辑和显示个人日程信息，其特征在于，包括:

第一步骤，用于在计算机的存储器中构造一个 M 列和 N 行的日程显示表，其中一日的日程数据被记录在日程显示表的单元格内，每个单元格记录一个表示一日的日程数据的暂存地址的指针、一个在工作时间之前的日程事件数、在工作时间之后的日程事件数、以及每个日程事件的开始位置、结束位置和高度值;

第二步骤，用于通过判断来自用户的编辑或浏览行为管理日程显示表以便更新该日程显示表;

第三步骤，用于检查该日程显示表中的修改部分，其可以根据来自用户的编辑或浏览行为来判断是否需要更新该日程显示表;

第四步骤，用于根据该日程显示表中的修改部分绘制一条具有日程时间属性的时间轴，绘制工作时间的两个调节按键以及副日程显示表的显示开关；以及

第五步骤，用于根据更新的日程显示表制备列出所有在工作时间内的日程数据的主日程显示区，以及列出所有在工作时间之前和之后的所有日程数据的副日程显示区。

2. 一种日程显示装置，其适用于通过利用计算机系统编辑和显示个人日程信息，其特征在于，包括:

一个在计算机的存储器中构造的 M 列和 N 行的日程显示表，其中每个单元格存储一日的显示记录和一日的日程显示表，该日的显示记录包括一个表示该日的日程显示表的地址的指针、在工作时间之前和之后的日程事件数、以及一个表示日程数据的暂存位置的指针，并且该日的日程显示表存储每个日程事件的开始位置、结束位置和高度值的数据;

一个日程显示表管理部分，用于通过经输入设备的输入内容判断来自用户的行为的类型属于编辑、浏览或修改，并且用于执行日程显示表

的相应插入、修改、删除、和重新加载操作;

一个修改区检查部分，用于通过经输入设备的输入内容根据特定显示模式和来自用户的行为搜索日程显示表和计算在显示区中的修改部分，以判断时间轴以及主和副时间显示区是否需要通过编辑和浏览该日程显示表或修改工作时间而改变;

一个日程显示部分，用于根据特定的显示模式和搜索的日程显示位置表获得要被显示的日期的日程数据的指针，通过利用该指针从一个日程日期存储部分读取日程数据，判断该日程事件是否在工作时间之内，检测日程事件是否有任何重叠，并且分别在主和副日程显示区中显示日程事件的内容; 以及

一个时间轴显示部分，用于根据由用户所设置的工作时间绘制时间轴，检查修改的日程事件是否有任何重叠，以绘制一日程时间属性，并且绘制两个工作时间的调节按键和副日程显示区的显示开关。

3. 根据权利要求 2 所述的日程显示装置，其特征在于，还包括可以由用户选择垂直或水平显示模式的模式选择开关。

4. 根据权利要求 2 所述的日程显示装置，其特征在于，还包括一个用于副日程显示区的显示开关，以控制是否应当显示副日程显示区。

说　　明　　书

日程显示方法和装置

本发明涉及通过利用计算机系统编辑和显示个人日程信息。用户可以通过电子笔记本取代普通笔记本来记录他的日程安排。

常规电子笔记本通过时间轴显示该日程。例如，在由微软公司所开发的“Schedule+”软件中，一种日程显示屏在图 2 中示出，其中时间轴和日程显示区被用于显示日程属性和日程内容。日程显示区与时间轴平行，并且日程内容显示在日程显示区中与日程事件的开始和结束时间点相对应的位置处。

上述现有技术提供一种对于记录日程事件来说可取的功能，但是存在如下几个问题:

(A)在写入记录时，大多数用户通常以连续方式记录日程事件，将时间写在该记录之前。时间轴被用于作为在计划日程安排过程中的参考。显示在计算机中的常规日程对于通常习惯来说是不方便的。整个日程时间分配可以在时间轴上显示出，在两个日程事件之间的空闲时间间隔仍然占用日程显示中的一定显示区。这导致过长的显示屏，使得该日程需要通过时时卷动该屏幕而浏览。所有日程事件数据不能被连续显示。该显示空间不能够有效地用于更多的信息。

(B)没有设计为用于区分日程事件而作出的特殊显示器。所有日程事件都显示在一个日程显示区中，这使得用户方便地了解日程事件的属性。

为了解决上述问题，本发明提供一种日程显示方法，其可以通过利用计算机系统编辑和显示个人日程信息，该方法包括:

第一步骤，用于在计算机的存储器中构造一个 M 列和 N 行的日程显示表，其中一日的日程数据被记录在日程显示表的单元格内，每个单元格记录一个表示一日的日程数据的暂存地址的指针、一个在工作时间之前的日程事件数、在工作时间之后的日程事件数、以及每个日程事件的

开始位置、结束位置和高度值;

第二步骤，用于通过判断来自用户的编辑或浏览行为以更新该日程显示表，从而管理日程显示表;

第三步骤，用于检查该日程显示表中的修改部分，其可以根据来自用户的编辑或浏览行为来判断是否需要更新该日程显示表;

第四步骤，用于根据该日程显示表中的修改部分绘制一条具有日程时间属性的时间轴，绘制工作时间的两个调节按键以及副日程显示表的显示开关；以及

第五步骤，用于根据更新的日程显示表制备列出所有在工作时间内的日程数据的主日程显示区，以及列出所有在工作时间之前和之后的所有日程数据的副日程显示区。

相应地，本发明提供一种日程显示装置，其可以通过利用计算机系统编辑和显示个人日程信息，其中包括:

一个在计算机的存储器中构造的 M 列和 N 行的日程显示表，其中每个单元格存储一日的显示记录和一日的日程显示表，该日的显示记录包括一个表示该日的日程显示表的地址的指针、在工作时间之前和之后的日程事件数、以及一个表示日程数据的暂存位置的指针，并且该日的日程显示表存储每个日程事件的开始位置、结束位置和高度值的数据。

一个日程显示表管理部分，用于通过经输入设备的输入内容判断来自用户的行为的类型属于编辑、浏览或修改，并且用于执行日程显示表的相应插入、修改、删除、和重新加载操作;

一个修改区检查部分，用于通过经输入设备的输入内容根据特定显示模式和来自用户的行为搜索日程显示表和计算在显示区中的修改部分，以判断时间轴以及主和副时间显示区是否需要通过编辑和浏览该日程显示表或修改工作时间而改变;

一个日程显示部分，用于根据特定的显示模式和搜索的日程显示位置表，获得要被显示的日期的日程数据的指针，通过利用该指针从一个日程日期存储部分读取日程数据，判断该日程事件是否在工作时间之内，检测日程事件是否有任何重叠，并且分别在主和副日程显示区中显示日程事件的内容；以及

一个时间轴显示部分，用于根据由用户所设置的工作时间绘制时间轴，检查修改的日程事件是否有任何重叠，以绘制一日程时间属性，并且绘制两个工作时间的调节按键和副日程显示区的显示开关。

根据本发明的日程显示装置可以提供两种显示模式，即，垂直模式和水平模式。在由用户所指定的模式下，一个相应的日程显示表构造在一存储器中，以管理和显示必要信息。在用户编辑、浏览或修改该日程显示表之后，该日程显示表管理部分将更新一个新的日程显示表，并且该修改区检查分将检查显示区中的修改部分。具有两个工作时间的调节按键的时间轴以及主和副日程显示区被显示，使得用户可以浏览和编辑日程显示表。

在参考如下描述和附图之后，本发明的上述和其他目的、特点和优点将变得更加清楚，其中：

图 1 为示出根据本发明一个实施例的日程显示装置的方框图；

图 2 为示出常规日程显示屏的示图；

图 3 为示出根据本发明一个实施例的日程显示表的数据结构的示图；

图 4 为示出根据本发明一个实施例的日程显示表管理部分的示意流程图；

图 5 为示出根据本发明一个实施例的修改区检查部分的处理步骤的示意流程图，其中具有分别在图 5A 至图 5C 中示出的不同程序模块 A、B 和 C；

图 6 为示出根据本发明一个实施例的时间轴显示部分的处理步骤的示意流程图；

图 7 为示出根据本发明一个实施例的日程显示部分的处理步骤的示意流程图；

图 8 示出本发明的一个实施例，其中以垂直模式显示 1996 年 8 月 15 日的日程显示位置表；

图 9 为图 8 的相应日程记录和日程显示位置表；

图 10 为示出在用户把工作时间设为从 08: 00AM 至 17: 00PM 之后图 8 的主日程显示区的示图；

图 11 为示出图 10 的主和副日程显示区的示图；

图 12 为以水平模式示出图 11 的日程显示表的示图；

图 13 为示出图 12 的缩小的日程显示表的示图；

图 14 为图 13 的一个示图，其中副日程显示区的卷动轴被向下卷动；

图 15 为图 14 的一个示图，其中主日程显示区的卷动轴被向下卷动；

图 16 为图 15 中当用户把鼠标移到日程事件 10:00-12:00 的位置并敲击左键以编辑该日程事件 10:00-12:00 时的一个示图；以及

图 17 为图 16 中当日程事件 10:00-12:00 被删除时的一个示图。

根据本发明的日程显示装置的目的是通过在一个存储器中构造日程显示位置表来处理计算机系统中的日程数据，以管理和显示日程信息。根据本发明的日程显示装置可以提供垂直和水平显示模式，使得用户可以快速和方便地编辑和浏览该日程。在垂直显示模式中，一时间轴垂直排列并与主日程显示区相平行。在水平显示模式中，一时间轴水平置于主日程显示区的上方。在垂直显示模式中，在主日程显示区中的日程数据被显示在对应于日程事件的时间的部位。在水平显示模式中，在主显示区中的日程数据被按次序连续显示。在垂直和水平模式中，在副日程显示区中的日程数据被按次序连续显示。根据由用户所设置的工作时间，在工作时间内的日程事件被显示在主日程显示区中，而在工作时间之外的日程事件被显示在副日程显示区中。另外，在显示屏中有两个工作时间调节按键和一个副日程显示区的显示开关。工作时间的一个调节按键被用于调节工作时间的开始时间点、而工作时间的另一个调节按键被用于调节工作时间的结束时间表。副日程显示区的显示开关被用于控制是否显示该副日程显示区。

图 1 为示出根据本发明一个实施例的日程显示装置的方框图。在图 1 中，参考标号 10 表示由一键盘和一鼠标所构成的输入设备，其中该键盘被用于输入日程数据，而该鼠标被用于调节工作时间的开始和结束时间点、指示要被修改的日程事件以及移动该日程事件。参考标号 40 表示一个日程编辑部分，其具有编辑日程事件的内容的日程编辑器。通过利用该日程编辑器，用户可以改变日程事件的时间段、确认该日程事件、删除日程事件、设置响铃提醒、选择一组预定的日程内容(例如，会议和

旅游等)、输入或改变该日程内容。参考标号 31 表示一个日程显示表。该日程显示表是一个 M 列和 N 行的阵列。在一个典型实例中，M 为 7，并且 N 为 6。在该实例中，日程显示表总共具有 42 个单元格。用于一日的一日显示记录和一日的日程显示表被存储在每个单元格中。该日的显示记录包括一个指示存储日程数据的存储器的暂存位置的指针，以及一个指示存储所有日程事件数据的该日的日程显示表。参考标号 50 表示存储日程数据的日程数据存储区。该日的显示记录还包括两个数字 cLeft 和 cRight，分别表示工作时间之前和之后的日程事件的数目。该日的日程显示表为每个日程事件存储日程显示区的开始时间点、结束时间点和高度值。参考标号 30 表示用于根据鼠标敲击的位置判断行为的类型的日程显示表管理部分。如果该鼠标移到浏览键或滚动条并敲击其左键，则该行为被判断为日程浏览行为。如果鼠标移到没有日程事件的日程显示区并敲击其左键，则该行为被判断为日程添加行为。另一方面，如果鼠标移到具有一个日程事件的日程显示区并敲击其左键，则该行为被判断为一个日程修改行为或日程移动行为。如果释放鼠标的位置不同于敲击鼠标的位置，则该行为被判断为一个日程移动行为。否则，该行为被判断为一个日程修改行为。日程编辑部分 40 的日程编辑器被启动以编辑日程事件的内容。在编辑结束后，日程显示表管理部分 30 更新该日程显示表 31。当日程事件被移动或编辑，这个显示区将相应地改变。修改区检查部分 21 检查显示区中的修改部分。接着时间轴显示部分 22 和日程显示部分 23 分别示出该时间轴和日程数据，通过搜索在工作时间之前和之后的日程事件的数目，日程显示区的开始时间点、结束时间点和高度值用于修改日程事件。

日程显示表管理部分 30 是本发明的基本控制部分。如图 1 中所示，日程显示表管理部分 30 管理存储在日程数据存储区 50 中的日程显示表 31。在日程显示表 31 中，记录每个日程事件的开始时间点、结束时间点和高度值，使得日程的修改部分可以易于检测并且该日程数据可以被直接显示。

图 3 为示出根据本发明一个实施例的日程显示表 31 的数据结构的示图。M 列和 N 行的日程显示表被构成在计算机的存储器中。一日的显示

记录和一日的日程显示表被存储在日程显示表 31 的每个单元格中。该日的显示记录包括一个指示其中存储一日的所有日程数据的表格的指针(ptToDayTable)、指示日程数据的暂存部位的指针(ptToDayStorage)、表示在工作时间之前的日程事件的项目数的数字(cLeft)、以及表示在工作时间之后的日程事件的项目数的数字(cRight)。该日的日程显示表包括每个日程事件的开始时间点、结束时间点和高度值。

在一个典型实例中，该日程显示表 31 具有 7 列和 6 行。在该日程显示表 31 中总共有 42 个单元格用于存储 42 天的日程数据。

图 4 为示出根据本发明一个实施例的日程显示表管理部分 30 的处理部分示意图流程图。步骤 S71 判断是否有日程浏览行为，如果判断结果为“否”，则该过程转到步骤 S72 用于确定日程编辑行为的类型。在步骤 S72 中，确定日程编辑行为的类型。如果该日程编辑行为是添加，则该过程转到步骤 S73 和 S74 用于分别在该日程显示中搜索一个适当的位置并插入一个新的日程事件。如果该日程编辑行为是删除，则该过程转到步骤 S75。如果该日程编辑行为是修改，则该过程转到步骤 S76。在步骤 S76 中，显示范围的高度被改变。如果该日程编辑行为是移动，则该过程转到步骤 S77。步骤 S77 用于移动一个日程事件，其中一个旧的日程事件首先被删除，然后添加一个新的日程事件。如果该行为不属于添加、删除、修改和移动中的一种，则该过程转到“结束”。如果步骤 S71 中的结果为“是”，则该过程转到步骤 S78 用于判断要被浏览的数据是否在可显示范围中。如果要被浏览数据不在可显示范围中，则该过程转到步骤 S80 用于计算一个新的可显示范围。在新的可显示范围被计算之后，该过程转到步骤 S80 用于搜索每个日程数据并计算一个显示记录。接着该过程转到步骤 S82，所有日程显示位置表被加载在每月日程显示表中。接着该过程到达“结束”。如果要被浏览的数据在可显示范围内，则该过程转到步骤 S79 用于判断工作时间是否被改变。如果判断结果为“否”，则该过程到达“结束”。如果判断结果为“是”，则该过程转到步骤 S83 用于计算在一时间轴上的工作时间的开始和结束时间点。接着该过程转到步骤 S84 用于计算在新的工作时间之前和之后的日程事件的数目，并修改显示记录。

图 5 为示出根据本发明一个实施例的修改区检查部分 21 的处理步骤的示意流程图。当在工作时间内的日程事件占用比显示区域更大的区域，则需要利用滚动条来查看主日程显示区中的日程。在垂直模式中，时间轴被垂直设置，并且日程事件的高度值对应于时间段。因此，当在垂直模式中移动滚动条时，时间轴和显示区被同时移动。在水平模式中，时间轴被水平设置于显示区的上方，因此当滚动条被移动时，仅仅日程显示列表被移动。在工作时间之前和之后日程数据被连续地显示在副日程显示区中。在副日程显示区中，该日程数据被以水平模式显示。

现在参见图 5，下面将描述根据本发明一个实施例的修改区检查部分 21 的流程图。步骤 S90 检查是否存在修改部分。如果从日程编辑而产生修改部分，则该过程转到步骤 S100 以执行步骤 S101-S114。如果从卷动主日程显示区而产生修改部分，则该过程转到步骤 S120 以执行步骤 S121-S128 用于搜索该时间轴和主日程显示区中的修改部分。如果从卷动副日程显示区而产生修改部分，则该过程转到步骤 S140 以执行步骤 S141-S147 用于搜索该副日程显示区中的修改部分。另外，如果不存在修改部分，则该过程转到步骤 S150 以执行其他行为。

步骤 S101 把日程编辑行为分为五类：在垂直模式中的日程删除/添加、在垂直模式中的日程移动、在水平模式中的日程删除、在水平模式中的日程添加、以及在水平模式中的日程移动等等。步骤 S102-S105 检查在垂直模式中的主日程显示区的修改部分，并且步骤 S106-S113 检查在水平模式中的主日程显示区的修改部分。在水平模式中，需要执行步骤 S113 用于检查在时间轴中的修改部分。在垂直模式中，对于日程添加或删除的修改部分被限制在一个日程事件的开始和结束位置之间。步骤 S102 用于为一个目标日程事件计算在时间轴中的开始位置“s”和结束位置“e”。当一个日程事件被移动时，步骤 S103 检查该目标日程事件和源日程事件是否在同一屏幕上。如果结果为“是”，则该过程转到步骤 S104 用于计算一目标日程事件和一源日程事件的合并的开始位置“s”和结束位置“e”。如果结果为“否”，则该过程转到步骤 S102。步骤 S105 把位置“s”和“e”变换为坐标“sy”和“ey”。显示区的左上角被设为原点，其坐标为(0，0)。步骤 S114 计算在垂直模式中主日程显示区的修改部分

的坐标范围(0，sy，x，ey)，其中“x”是主日程显示区的宽度，并且计算在时间轴中修改部分的坐标范围(0，sy，x1，ey)，其中“x1”是时间轴的宽度。

另外，在水平模式中，当一个日程事件被删除时，该被删除的日程事件之后的日程事件将受到影响。通过搜索日程显示表 31，步骤 S106 和 S107 分别计算在显示区中目标日程事件的开始位置的高度“sy”，以及目标日程事件的结束位置的高度“ey”。该日程添加是由用户在日程显示列表的空白区中输入日程数据而完成的。在水平模式下，空白区在所有的日程事件之下。因此，在水平模式中添加一个日程事件时，通过搜索该显示位置表，步骤 S108 计算在显示区中目标日程事件的开始位置的高度“sy”。步骤 S109 计算在显示区中目标日程事件的结束位置的高度“ey”。另外，当一个日程事件被移动时，步骤 S110 判断源日程事件和目标日程事件是否都在相同的显示屏上。如果结果为“是”，则该过程转到步骤 S111 以计算由源日程事件和目标日程事件所占用的联合显示区。如果结果为“否”，与日程删除类似，计算“sy”和“ey”。响应用于日程事件的时间段的修改，在水平模式中的时间轴被修改。因此，在水平模式下检测主日程显示区中的修改部分后，步骤 S113 执行类似于垂直模式的相应编辑并检测在时间轴中的修改部分。在水平模式下，对于主日程显示区和时间轴中的修改，步骤 S114 计算主日程显示区的修改部分的坐标范围(0，sy，x，ey)，以及时间轴中的修改部分的坐标范围(sy1，0，ey1，y)，其中 x 是主日程显示区的宽度；y 是对应于时间轴中的时间段的高度；sy1 和 ey1 对应于由步骤 S113 所计算的“sy”和“ey”值。

当主日程显示区被卷动时，步骤 S121-S128 处理对于修改的检查。在搜索日程显示位置表 31 之后，步骤 S121 获得在主日程显示区中的第一日程事件的一个显示记录“i”。步骤 S122 判断该显示记录“i”在工作时间之内，以判断是否可以执行卷动。如果判断可以执行卷动，则该过程转到步骤 S123 用于判断卷动的类型。对于在水平模式中的卷动，步骤 S124 判断其是否为向下卷动。如果结果为“是”，则该过程转到步骤 S125，从“i”减 1，这意味着前一个记录。步骤 S126 把“n”设为由第 i 个显示记录所占用的高度。对于在垂直模式中的卷动，该显示区由一

个日程事件所卷动。步骤 S127 把“n”设为对应于时间轴中时间段的高度。步骤 S128 获得主日程显示区和时间轴中的修改部分。主日程显示区中的修改部分在该日程显示被向下卷动时的坐标范围是(0，0，x，n)，并且在该日程显示被向上卷动时的坐标范围是(0，y-n，x，y)，而时间轴中的修改部分在该日程显示被在垂直模式中向下卷动时的坐标范围是(0，0，x1，n)，并且在该日程显示被在垂直模式中向上卷动时的坐标范围是(0，y1-n，x1，y1)，其中“x”是主日程显示区的宽度；“y”是主日程显示区的高度；并且“y1”是对应于时间轴中的时间段的高度。

接着，关于卷动副日程显示区的过程，由于副日程显示区仅能够在垂直模式中连续显示，因此没有用于副日程显示区的垂直模式卷动。参见图 5C，在搜索日程显示表之后，步骤 S131 获得副日程显示区中所示的第一日程事件的记录“i”。步骤 S132 检查该记录“i”是第一还是最后的显示记录，以判断是否可以执行卷动，并且检查显示区中的修改部分。步骤 S133 确定副日程显示区的卷动类型。对于向下卷动，步骤 S134 判断该记录“i”是否为工作时间之后的第一个显示记录。如果结果为“是”，则向下卷动需要跳过该工作时间段。如果在工作时间之前的日程事件的数目是“cLeft”，则步骤 S135 把该记录“i”设为 cLeft，其表示工作时间之前的最后的日程事件。如果结果为“否”，步骤 S136 从“i”减 1，这表示前一个记录。步骤 S137 把“n”设为由第 i 个显示记录所占用的高度，并且检查副日程显示区中的修改部分在该日程显示被向下卷动时的坐标范围是(0，0，x，n)，并且在该日程显示被向上卷动时的坐标范围是(0，y-n，x，y)，其中“x”是副日程显示区的宽度，并且“y”是副日程显示区的高度。

图 6 示出说明根据本发明一个实施例的时间轴显示部分 22 的处理步骤的示意流程图。在该实施例中，时间轴是在显示屏上的长条，表示一日的时间段，其中该时间段可以根据用户指定按 5、10、15、20、30 或 50 分钟来划分。时间轴的长度由 L 个像素显示，对应于 0 至 L-1 的坐标，使得可以示出从 1 至 1440 分钟的时间段。对于时间“t”(按照分钟)，它可以位于 t1 = t×L/1440 的位置。为了更详细地显示该日程，通常像素数目 L 大于可以由屏幕在垂直模式或水平模式中显示的像素数，因此需

要卷动屏幕。在垂直模式下，有“y”个像素的屏幕被用作为一个视区，并且时间单位“u”由“n”个像素绘出。如果在时间轴中，“ls”是工作时间的开始坐标，并且“rs”是工作时间的结束坐标，则 ls = l×L/1440，并且 rs = r×L/1440。在这种情况下，如果具有坐标“rs”的点可以被卷动到视区的末端，这使得可以卷动范围 rs-ls。如果我们把左上角设为屏幕的原点，具有坐标(0，0)，并且该原点由“yo”表示，则 yo 位于 rs 和 ls 之间，并且对于任何时间“t”在时间轴中的坐标由(tl-ys)×n/u 表达。另外，对于任何在视区中的“yi”点，其相应时间“yt”由 yt=(yo+yi×u/n)×1440/L 表达。当时间轴显示部分绘出一条时间轴时，时间“ti”由对于视区的左上角的时间轴中的坐标所计算。如果时间段每次卷动一个时间单位，则 ti 对应于特定的时间段。因此，时间轴可以被绘制为从视区的原点到视区的底部，一个时间单位由 n/4 个像素示出。

图 6 为说明根据本发明一个实施例的时间轴显示部分 22 的处理步骤的示意流程图。首先步骤 S141 分别获得时间轴中的位置“tl”和“tr”，其表示一日的工作时间。步骤 S142 绘出一条时间轴并把“tl”和“tr”移到一个适当的位置。步骤 S143 绘出时间段单位的标度，并表示该时间值。另外，步骤 S144 查找具有末端位置数值大于“tl”的第一显示记录“i”。步骤 S145 确定该显示记录“i”的开始位置“s”是否在“tl”之前。如果其结果为“是”，则该过程转到步骤 S146 把“s”的值设为“tl”。如果其结果为“否”，则该过程转到步骤 S147 确定显示记录“i”的结束位置“e”是否在“tr”之后。如果其结果为“是”，则步骤 S148 把“e”的数值设为“tr”。如果其结果为“否”，则步骤 S149 计算日程事件“i”的显示长度为“e-s”。在该显示长度的计算完成后，该过程转到步骤 S150 在时间轴上绘出对应于该显示长度的时间分配。步骤 S151 检查是否有下一个日程事件“i”。如果其结果为“是”，则步骤 S152 检查显示记录“i”的开始位置“s”是否在“tl”之前，如果其结果为“是”，则该过程转到步骤 S153。如果步骤 S152 的结果为“否”，则重复执行步骤 S147-S151。如果步骤 S151 的结果为“否”，则这意味着没有下一个日程事件，或者下一个日程事件的开始位置在“tr”之后，并且该过程转到步骤 S153 检查时间轴的两端是否被“tl”和“tr”所覆盖。如果其结果为“否”，则

时间轴的绘制完成。如果其结果为“是”，则该过程转到步骤 S154 在时间轴的两端绘制时间结束点符号和副日程显示区开关符号。另外，在水平模式下，该时间轴被横向绘制，并且水平和垂直坐标互换。

图 7 示出说明根据本发明一个实施例的日程显示部分 23 的处理步骤的示意流程图。通过搜索日程显示表 31，步骤 S162 在主日程显示区中获得第一日程显示记录“i”，其具有与修改部分相重叠的开始位置。接着，步骤 S163 判断是否处于水平模式。如果该显示处于垂直模式，则该过程转到步骤 S176 执行图 6 中所示的步骤 S144-S152。如果该显示处于水平模式下，则步骤 S164-S167 显示主日程显示区的日程数据。首先，步骤 S164 判断显示记录“i”的开始位置是否与修改部分相重叠。如果其结果为“是”，则该过程转到步骤 S165 示出第 i 个显示记录的日程事件数据。接着，该过程转到步骤 S166 设置 i = i+1。此后，该过程转到步骤 S167 判断记录“i”是否为工作时间的右端点之前的最后的显示记录。如果其结果为“否”，则该过程转到步骤 S164 重复绘制程序，直到显示记录“i”的开始位置与修改部分相重叠，或者显示记录“i”的工作时间的右端点之后。通过搜索日程显示表 31，步骤 S169 在副日程显示区获得第一日程显示记录“i”，其具有与修改部分相重叠的开始位置。接着，步骤 S170 判断显示记录“i”的开始位置与修改部分相重叠。如果其结果为“是”，则该过程转到步骤 S171 在副日程显示区示出该显示记录的日程事件数据。接着，该过程转到步骤 S172 设置 i=i+1。此后，该过程转到步骤 S177 判断记录“i”是否为工作时间的左端点之前的最后一个显示记录。如果其结果为“是”，则该过程转到步骤 S174 把该记录调整为在工作时间的左端点之后的第一日程记录。接着，步骤 S175 判断该记录“i”是否为最后的显示记录。如果其结果为“否”，则步骤 S170-S175 重复执行直到显示记录“i”的开始位置与修改部分相重叠，或者显示记录“i”是最后的显示记录。

在下文中，用一个实例说明根据本发明的日程显示表。图 8 示出根据该应用的一个实例，其中欧阳先生在 1996 年 8 月 15 日的日程显示于垂直模式中，而不设置工作时间的左和右端时间点，时间轴的长度 L 被设为 1440 个像素，并且日程表示区的宽度被设为 300 个像素。图 9 示出

根据图 6 的一日的日程显示表和显示数据。在工作时间被设在从 08: 00AM 到 17: 00PM 的时间段内，通过日程显示表管理部分 30 的流程图的程序，步骤 S79 判断工作时间的左和右端点是否改变，如图 4 中所示。步骤 S83 计算工作时间的开始点(左时间点)的坐标为 s=480，并计算工作时间的结束点(右时间点)的坐标为 e=1020。步骤 S84 计算在新的工作时间之前和之后的日程事件。在这种情况下，CLeft 和 CRight 都为 1。当工作时间的时间段被改变时，在显示区中的修改部分不被删除。因此，日程显示表包括一主日程显示区、一副日程显示区和一时间轴显示区。通过图 6 和 7 中所示的流程图，时间轴显示区 22 和日程显示区 23 修改主日程显示区，如图 10 中所示。当用户选择工作时间之前和之后的日程事件来显示时，通过图 7 中所示的流程图，副日程显示区在图 11 中示出，并且主日程显示区保持不变。当用户把垂直模式变为水平模式时，通过图 7 中所示的流程图，日程显示列表被显示出来，如图 12 中所示。当用户通过选择来减小显示屏时，日程显示列表被按照图 13 所示显示，其中主日程显示区的高度值从 133 变为 106 像素，并且副日程显示区的高度值从 76 变为 24 像素。如果用户向上卷动副日程显示区，根据图 5 中所示的流程图，步骤 S131 获得副日程显示区的第一显示记录(i=0)的。由于在副日程显示区中有两个显示记录，步骤 S132 判断该副日程显示区被向上卷动。通过搜索日程显示表 31，步骤 S137 把显示记录“i”的显示高度设为 n=24。相应地，修改部分的坐标范围由(0，y-n，x，y)=(0，52，300，76)表示，其中副日程显示区的宽度由 x=300 所表示。响应于该修改部分，通过图 7 中所示的流程图中的程序，步骤 S169 和 S170 判断没有显示记录与该修改部分相重叠，并且不执行绘制行为。向上卷动副日程显示区的结果在图 14 中示出。当用户要向上卷动主日程显示区时，通过图 5 中所示的流程图中的程序，步骤 S121 获得主日程显示区的第一显示记录(i=0)。步骤 S122 判断可执行的卷动。步骤 S123 和 S124 判断该卷动的类型为水平向上。通过搜索日程显示表，步骤 S126 获得记录“i”的显示高度，其由 n=24 所表示。步骤 S127 在垂直显示模式中执行卷动，步骤 S128 在主日程显示区中获得修改部分。修改部分的坐标范围由(0，y-n，x，y)=(0，82，300，106)所表示。响应该修改部分，通过图 7 中所

示的流程图，向上卷动主日程显示区的结果在图 15 中示出。如果用户要删除 10:00-12:00AM 的日程事件，通过在所需日程事件的位置敲击鼠标指针，他就可以访问日程编辑装置以执行删除。其结果在图 16 中示出。在所期望的日程事件被删除之后，通过日程显示表管理部分 30 的流程图，在图 4 中示出步骤 S71 和 S72 判断该编辑的类型是垂直模式中的日程删除。步骤 S75 删除在主日程显示区的第三日程记录。在删除之后，步骤 S101 检测该编辑的类型是水平模式中日程删除，并且该过程转到步骤 S106。由于要被删除的日程事件是显示屏上的第一日程事件，因此步骤 S106 计算目标日程事件的显示高度，其由 sy=0 所表示，并且步骤 S107 计算在显示区中目标日程事件的结束位置的高度，其由 ey=106 所表示。同时，需要在时间轴中执行修改部分的检测。步骤 S113 执行与垂直模式相类似的删除，以检测该修改部分。换句话说，类似于步骤 S102，在时间轴中目标日程事件的开始和结束位置被计算，其中 s=600 和 e=720。此后，步骤 S114 计算主日程显示区的修改部分的坐标范围，其由(0，sy，x，ey)=(0，0，300，106)所表示，并且计算时间轴(600，0，720，y)的修改部分的坐标范围，其中“y”是时间轴的显示高度。在该优选实施例中，时间轴的显示高度由 24 个像素示出，并且单位时间段(60 分钟)由 48 个像素示出。在计算之后，时间的修改部分的坐标范围是(96，0，192，24)。通过图 6 和 7 中所示的流程图，主日程显示区和时间轴的最终结果在图 17 中示出。

如上文所述，在日程显示表中，其中在时间轴中记录开始和结束时间点以及在日程显示区中每个日程事件所占用的高度。利用该日程显示表，修改区删除部分不需要执行重复计算，并且在时间轴中的修改部分、主日程显示区和副日程显示区可以按照更快和更简单的方式删除。因此，时间轴显示部分可以非常快和容易地根据日程显示表绘制具有日程时间分配的时间轴。对于一日的所有日程事件被分别显示在主日程显示区和副日程显示区中。通过工作时间的开始和结束时间点，可以区分日程事件的分布。该日程事件数据可以按照能够明确和有效地浏览和编辑每个日程事件的方式管理。

说 明 书 附 图

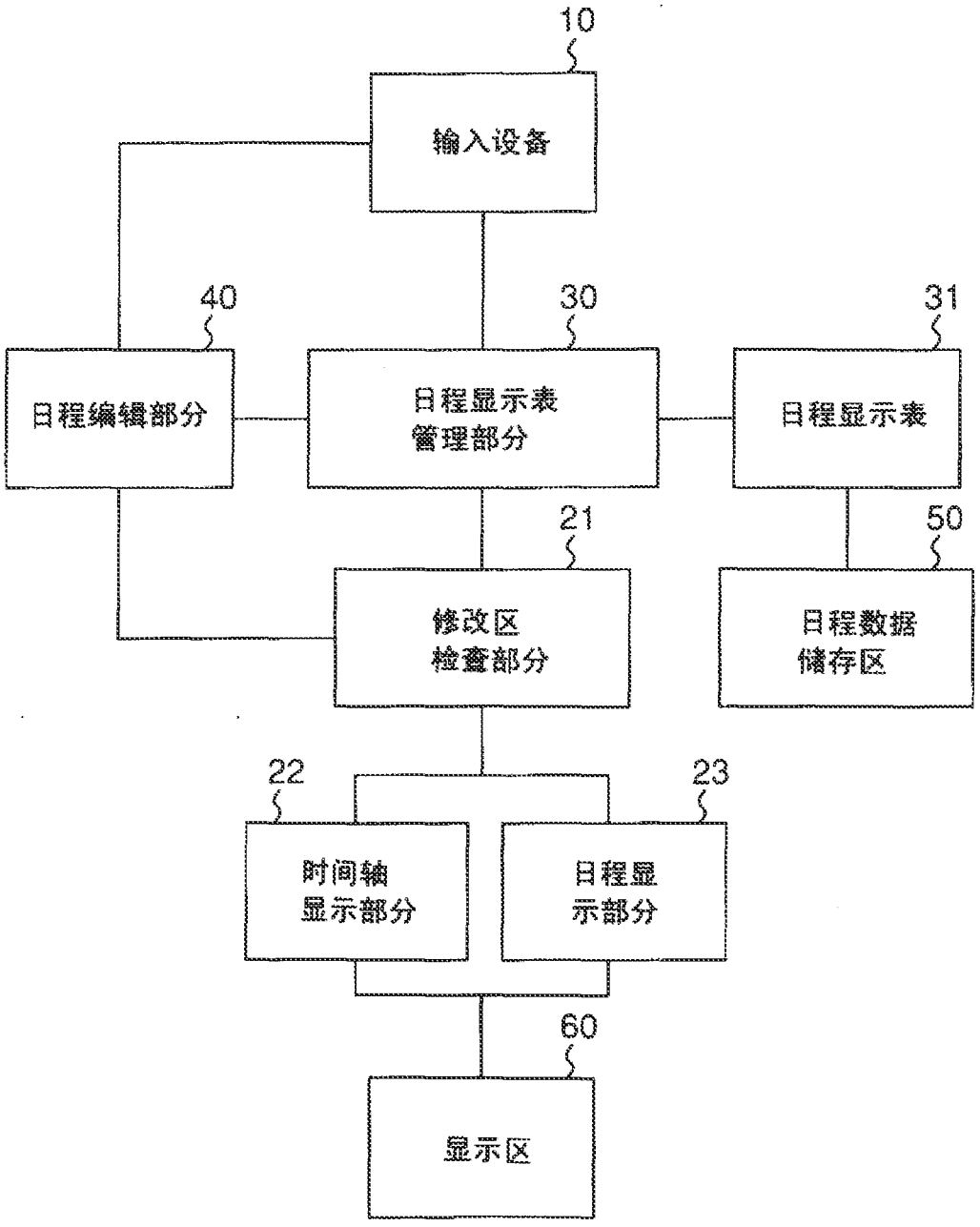

10
输入设备
40
30
31
日程编辑部分
日程显示表
管理部分
日程显示表
21
50
修改区
检查部分
日程数据
储存区
22
23
时间轴
显示部分
日程显
示部分
60
显示区

图 1

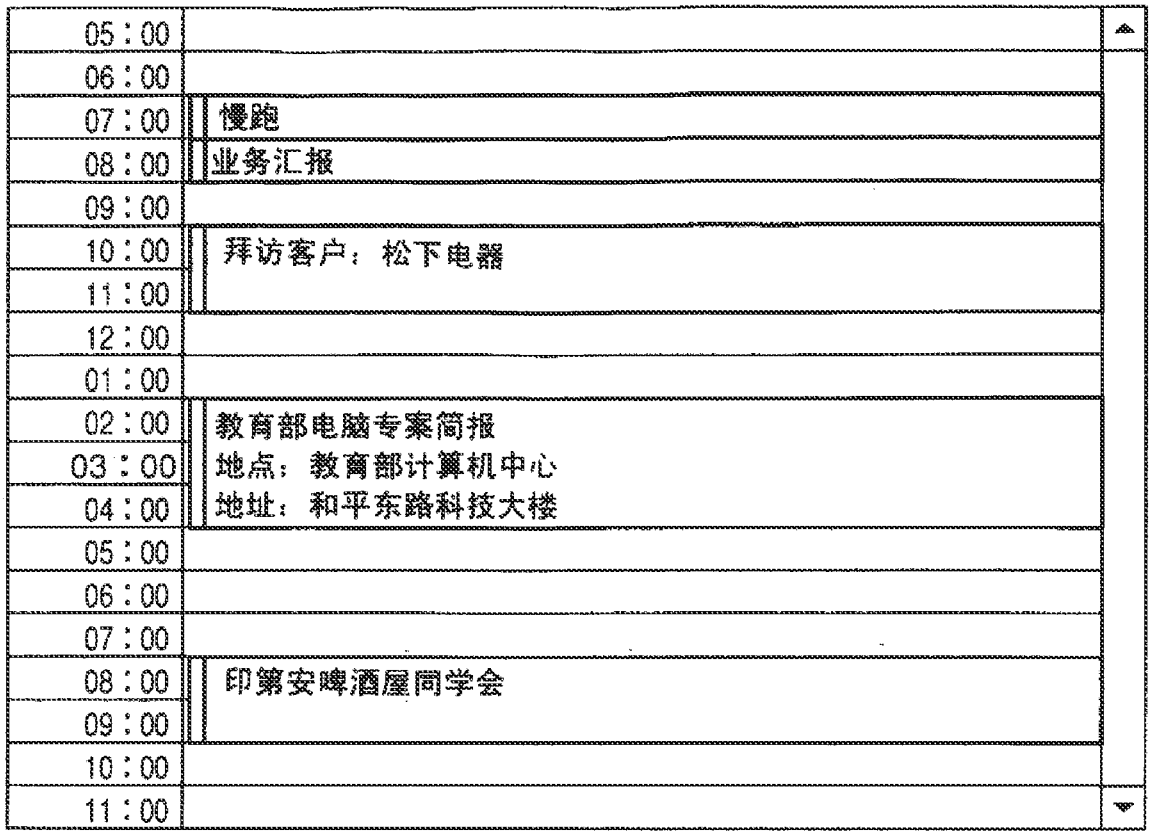
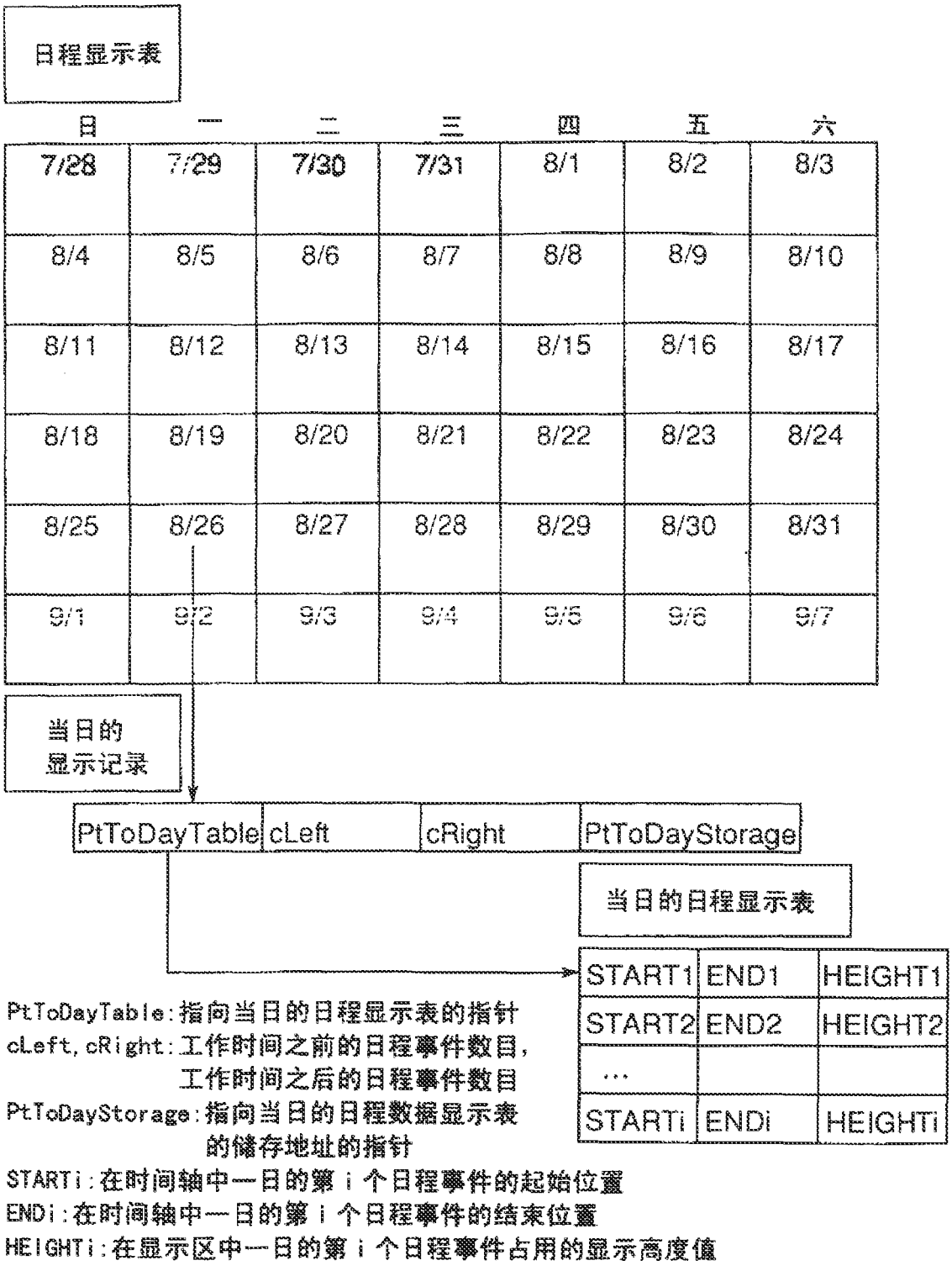

05：00
06：00
07：00
慢跑
08：00
业务汇报
09：00
10：00
拜访客户：松下电器
11：00
12：00
01：00
02：00
教育部电脑专案简报
03：00
地点：教育部计算机中心
04：00
地址：和平东路科技大楼
05：00
06：00
07：00
08：00
印第安啤酒屋同学会
09：00
10：00
11：00

图 2



11 PtToDayTable:指向当日的日程显示表的指针
12 cLeft,cRight:工作时间之前的日程事件数目，
工作时间之后的日程事件数目
13 PtToDayStorage:指向当日的日程数据显示表
的储存地址的指针
14 STARTi:在时间轴中一日的第 i 个日程事件的起始位置
15 ENDi:在时间轴中一日的第 i 个日程事件的结束位置
14 HEIGHTi:在显示区中一日的第 i 个日程事件占用的显示高度值

图 3

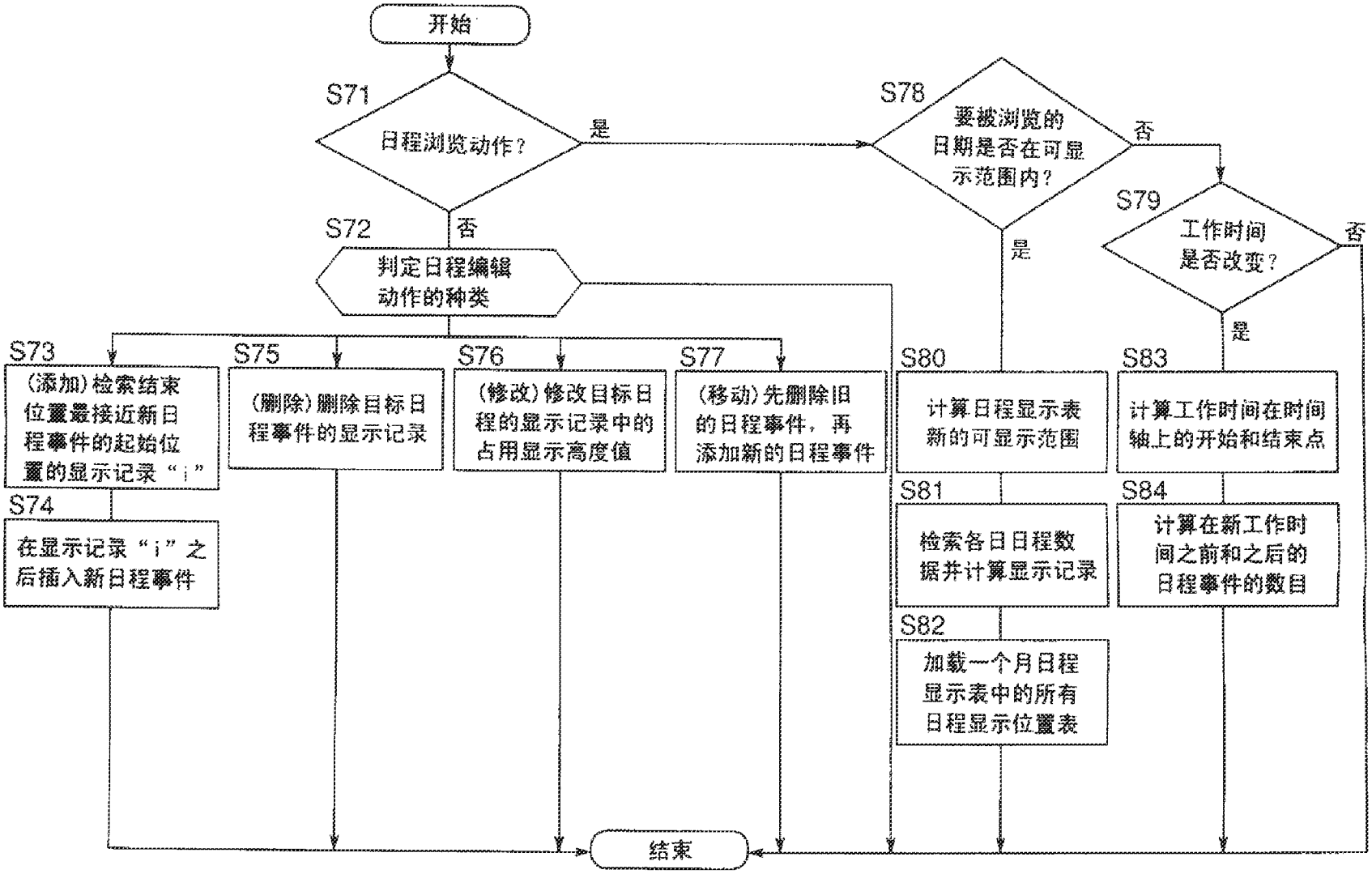

开始
S71
日程浏览动作？
是
否
S72
判定日程编辑动作的种类
S73
(添加)检索结束位置最接近新日程事件的起始位置的显示记录“i”
S74
在显示记录“i”之后插入新日程事件
S75
(删除)删除目标日程事件的显示记录
S76
(修改)修改目标日程的显示记录中的占用显示高度值
S77
(移动)先删除旧的日程事件，再添加新的日程事件
S78
要被浏览的日期是否在可显示范围内？
是
否
S80
计算日程显示表新的可显示范围
S81
检索各日日程数据并计算显示记录
S82
加载一个月日程显示表中的所有日程显示位置表
S79
工作时间是否改变？
是
否
S83
计算工作时间在时间轴上的开始和结束点
S84
计算在新工作时间之前和之后的日程事件的数目
结束

图 4

开始
检查是否存在修改部分
S90
编辑主日程显示区
卷动主日程显示区
卷动副日程显示区
其他
对于其它动作修改显示区
S100
S120
S140
S150
A
B
C
结束

图 5

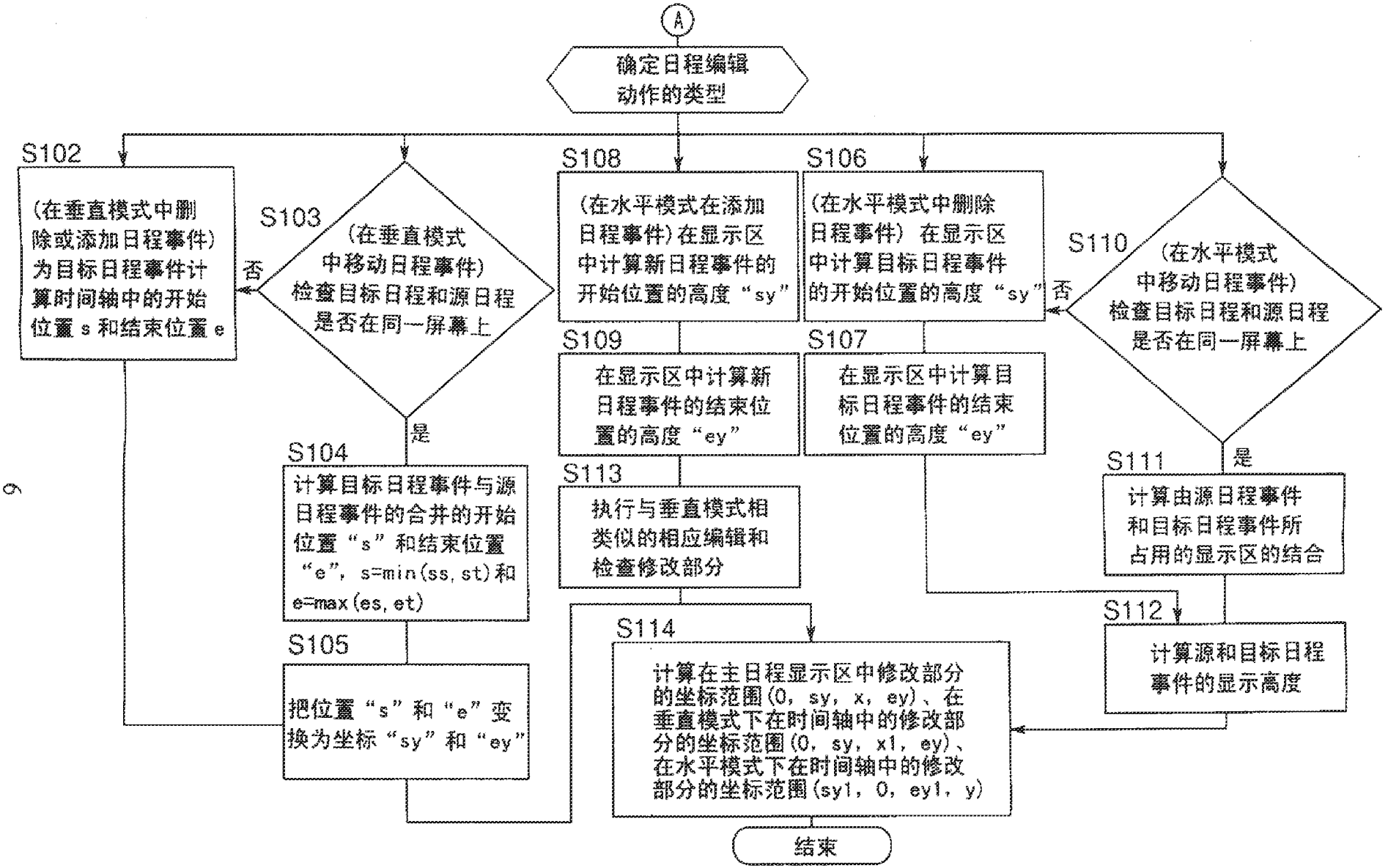

A
确定日程编辑动作的类型
S102
(在垂直模式中删除或添加日程事件)为目标日程事件计算时间轴中的开始位置 s 和结束位置 e
S103
(在垂直模式中移动日程事件)检查目标日程和源日程是否在同一屏幕上
否
是
S104
计算目标日程事件与源日程事件的合并的开始位置“s”和结束位置“e”，s=min(ss, st)和e=max(es, et)
S105
把位置“s”和“e”变换为坐标“sy”和“ey”
S108
(在水平模式在添加日程事件)在显示区中计算新日程事件的开始位置的高度“sy”
S109
在显示区中计算新日程事件的结束位置的高度“ey”
S113
执行与垂直模式相类似的相应编辑和检查修改部分
S106
(在水平模式中删除日程事件)在显示区中计算目标日程事件的开始位置的高度“sy”
S107
在显示区中计算目标日程事件的结束位置的高度“ey”
S110
(在水平模式中移动日程事件)检查目标日程和源日程是否在同一屏幕上
否
是
S111
计算由源日程事件和目标日程事件所占用的显示区的结合
S112
计算源和目标日程事件的显示高度
S114
计算在主日程显示区中修改部分的坐标范围(0, sy, x, ey)、在垂直模式下在时间轴中的修改部分的坐标范围(0, sy, x1, ey)、在水平模式下在时间轴中的修改部分的坐标范围(sy1, 0, ey1, y)
结束

图 5A

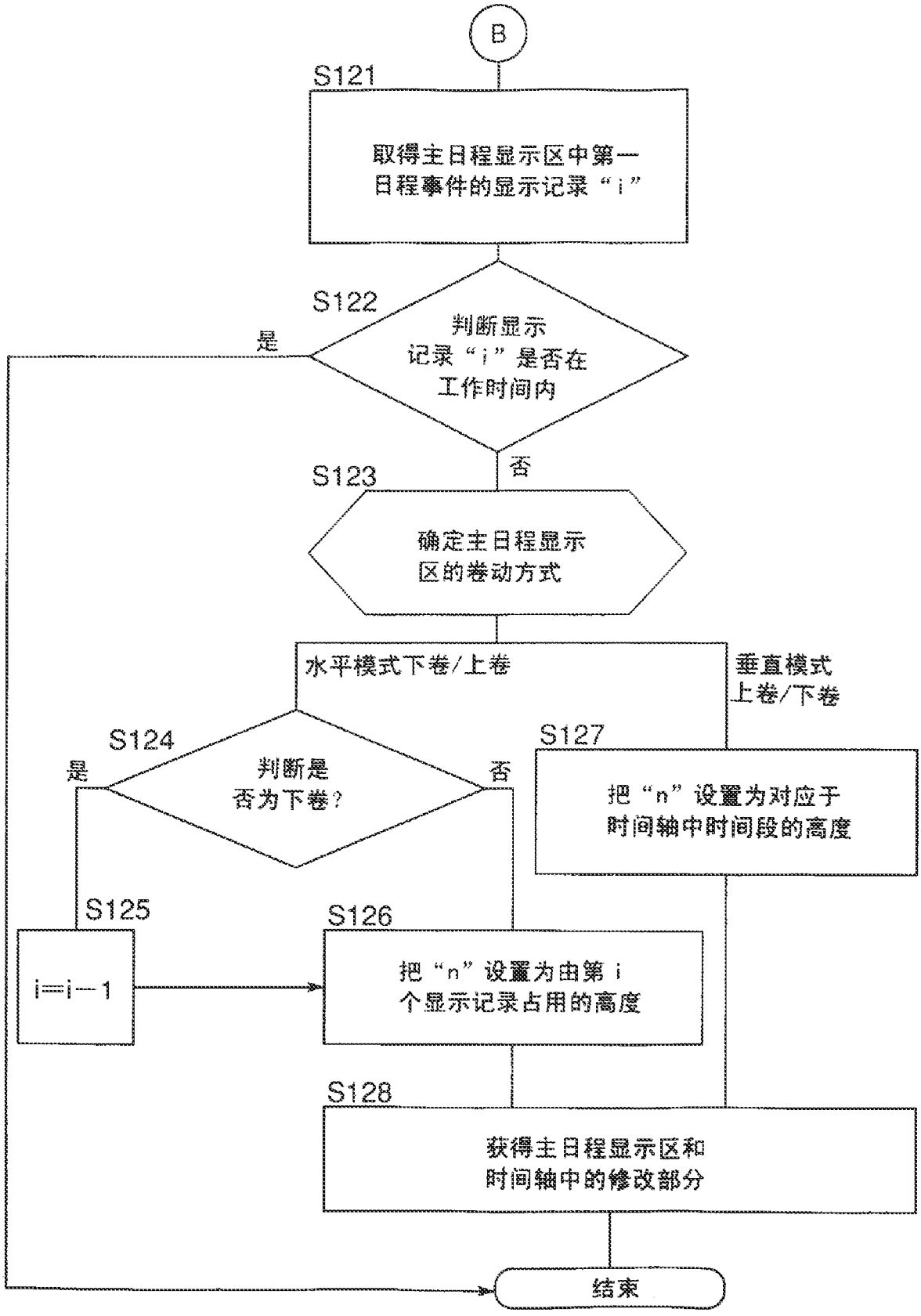

B
S121
取得主日程显示区中第一日程事件的显示记录“i”
S122
判断显示记录“i”是否在工作时间内
是
否
S123
确定主日程显示区的卷动方式
水平模式下卷/上卷
垂直模式上卷/下卷
S124
判断是否为下卷?
是
否
S127
把“n”设置为对应于时间轴中时间段的高度
S125
i=i—1
S126
把“n”设置为由第i个显示记录占用的高度
S128
获得主日程显示区和时间轴中的修改部分
结束

图 5B

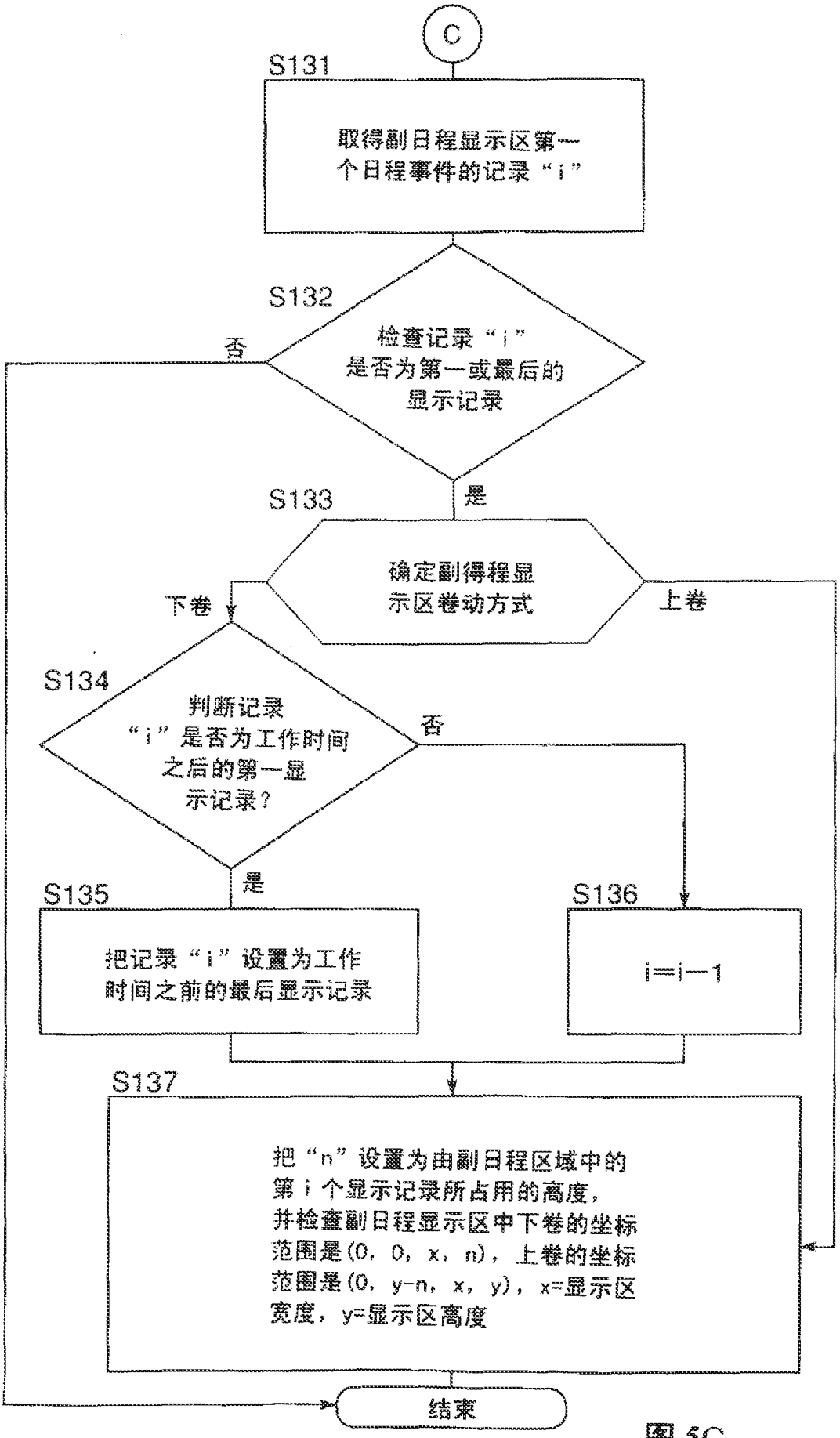

C
S131
取得副日程显示区第一个日程事件的记录“i”
S132
检查记录“i”是否为第一或最后的显示记录
否
是
S133
确定副得程显示区卷动方式
下卷
上卷
S134
判断记录“i”是否为工作时间之后的第一显示记录？
否
是
S135
把记录“i”设置为工作时间之前的最后显示记录
S136
i=i—1
S137
把“n”设置为由副日程区域中的第i个显示记录所占用的高度，并检查副日程显示区中下卷的坐标范围是(0，0，x，n)，上卷的坐标范围是(0，y-n，x，y)，x=显示区宽度，y=显示区高度
结束

图 5C

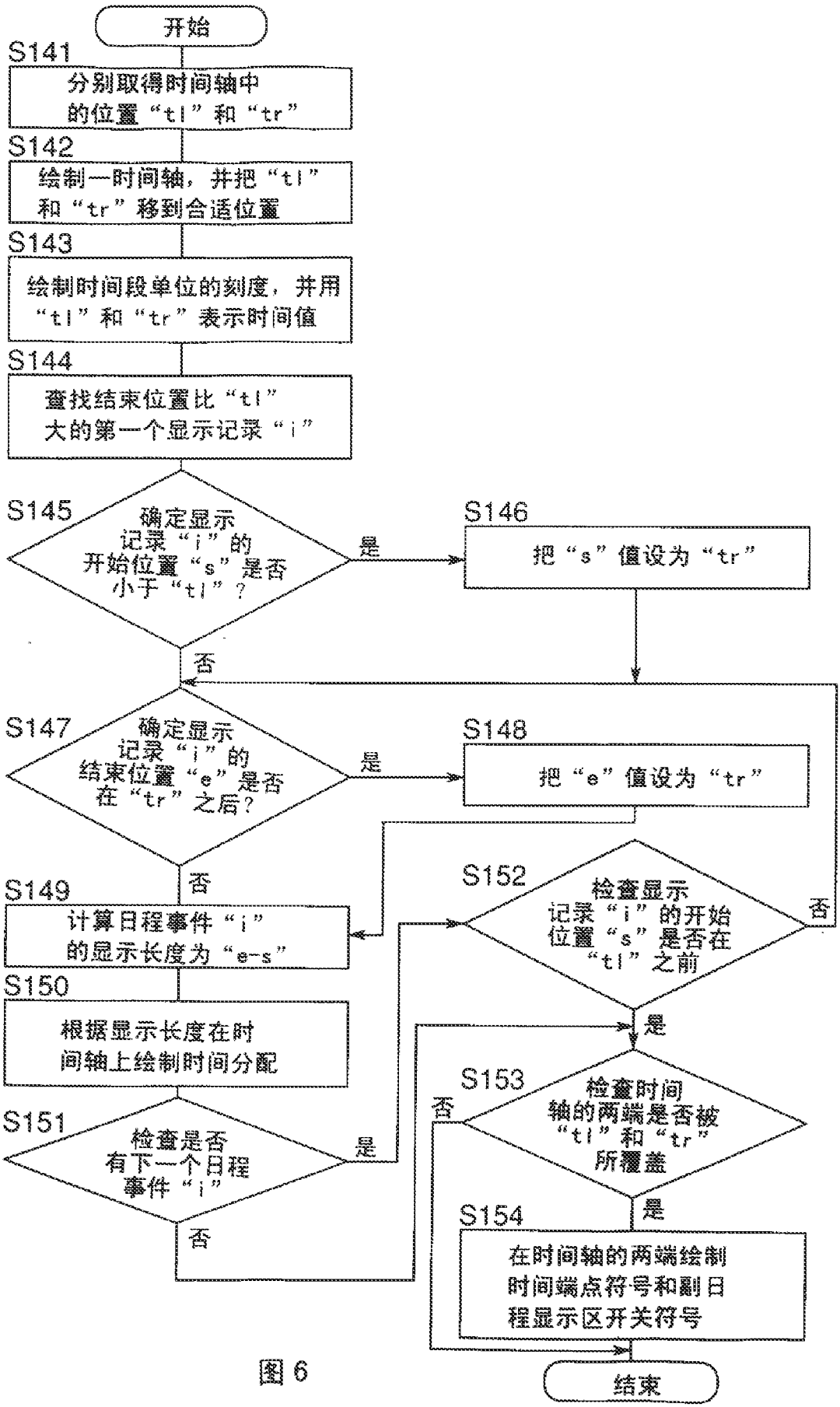

开始
S141
分别取得时间轴中的位置“tl”和“tr”
S142
绘制一时间轴，并把“tl”和“tr”移到合适位置
S143
绘制时间段单位的刻度，并用“tl”和“tr”表示时间值
S144
查找结束位置比“tl”大的第一个显示记录“i”
S145
确定显示记录“i”的开始位置“s”是否小于“tl”？
是
S146
把“s”值设为“tr”
否
S147
确定显示记录“i”的结束位置“e”是否在“tr”之后？
是
S148
把“e”值设为“tr”
否
S149
计算日程事件“i”的显示长度为“e-s”
S150
根据显示长度在时间轴上绘制时间分配
S151
检查是否有下一个日程事件“i”
是
否
S152
检查显示记录“i”的开始位置“s”是否在“tl”之前
否
是
S153
检查时间轴的两端是否被“tl”和“tr”所覆盖
否
是
S154
在时间轴的两端绘制时间端点符号和副日程显示区开关符号
结束

图 6

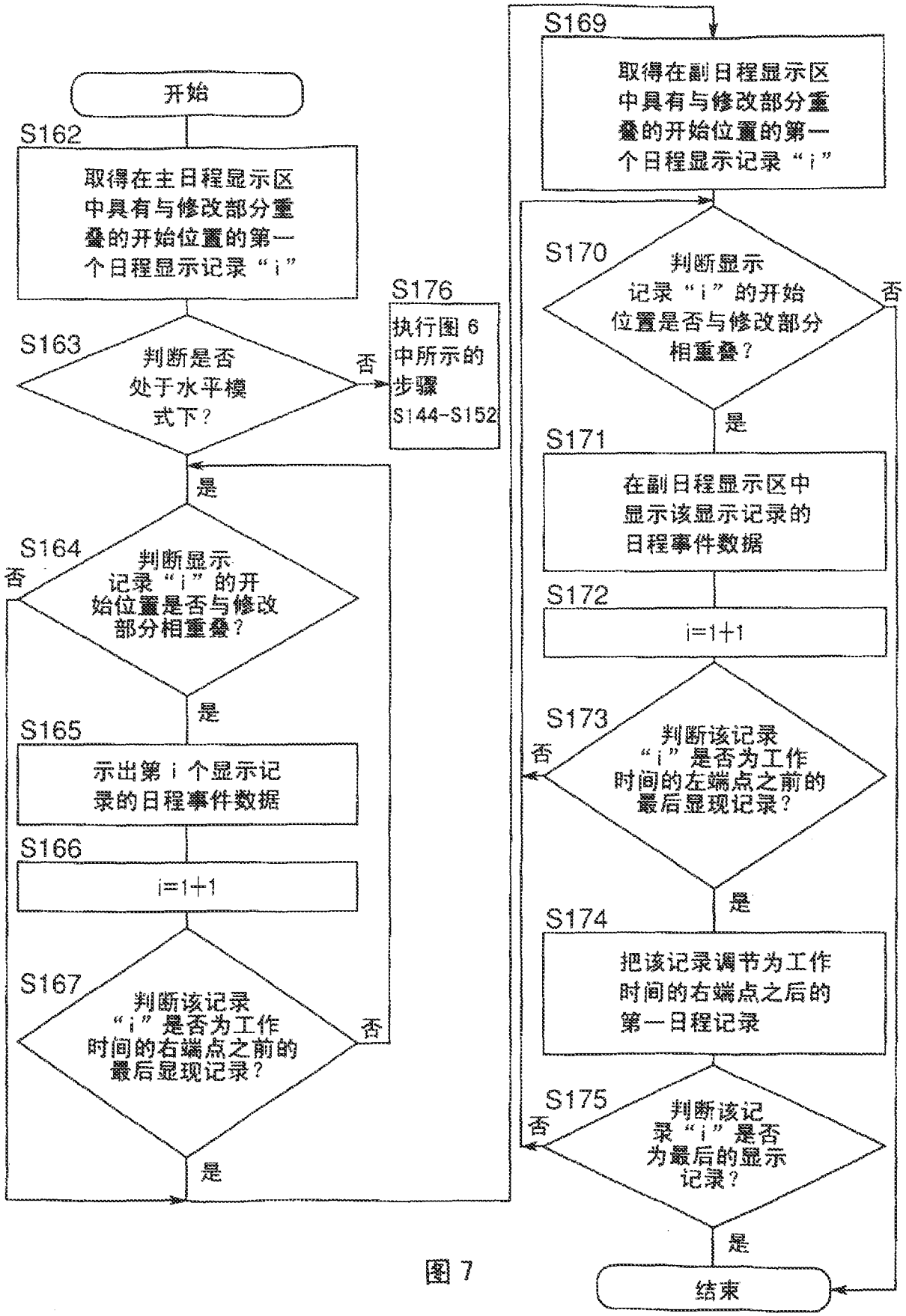

开始
S162
取得在主日程显示区中具有与修改部分重叠的开始位置的第一个日程显示记录“i”
S163
判断是否处于水平模式下？
否
S176
执行图 6 中所示的步骤 S144-S152
是
S164
判断显示记录“i”的开始位置是否与修改部分相重叠？
否
是
S165
示出第 i 个显示记录的日程事件数据
S166
i=1+1
S167
判断该记录“i”是否为工作时间的右端点之前的最后显现记录？
否
是
S169
取得在副日程显示区中具有与修改部分重叠的开始位置的第一个日程显示记录“i”
S170
判断显示记录“i”的开始位置是否与修改部分相重叠？
否
是
S171
在副日程显示区中显示该显示记录的日程事件数据
S172
i=1+1
S173
判断该记录“i”是否为工作时间的左端点之前的最后显现记录？
否
是
S174
把该记录调节为工作时间的右端点之后的第一日程记录
S175
判断该记录“i”是否为最后的显示记录？
否
是
结束

图 7


79101：欧阳先生
本日日程安排
今天
1996 年 8 月 15 日(星期四)
06：00
07：00
07：00~08：00☞ 慢跑
08：00
08：00~09：00☞ 业务汇报
09：00
10：00
10：00~12：00☞ 拜访客户：松下电器
11：00
12：00
13：00
14：00
14：00~17：00☞ 教育部电脑专案简报
15：00
地点：教育部计算机中心
16：00
地址：和平东路科技大楼
17：00
18：00
19：00
20：00
20：00~22：00☞ 印第安啤酒屋同学会
21：00
22：00
23：00

图 8

当日记录			
0x3d1f:0x8098	0	0	0x3cff:0000

当日的日程显示表		
420	480	24
480	540	24
600	720	24
840	1020	72
1200	1320	24

图 9

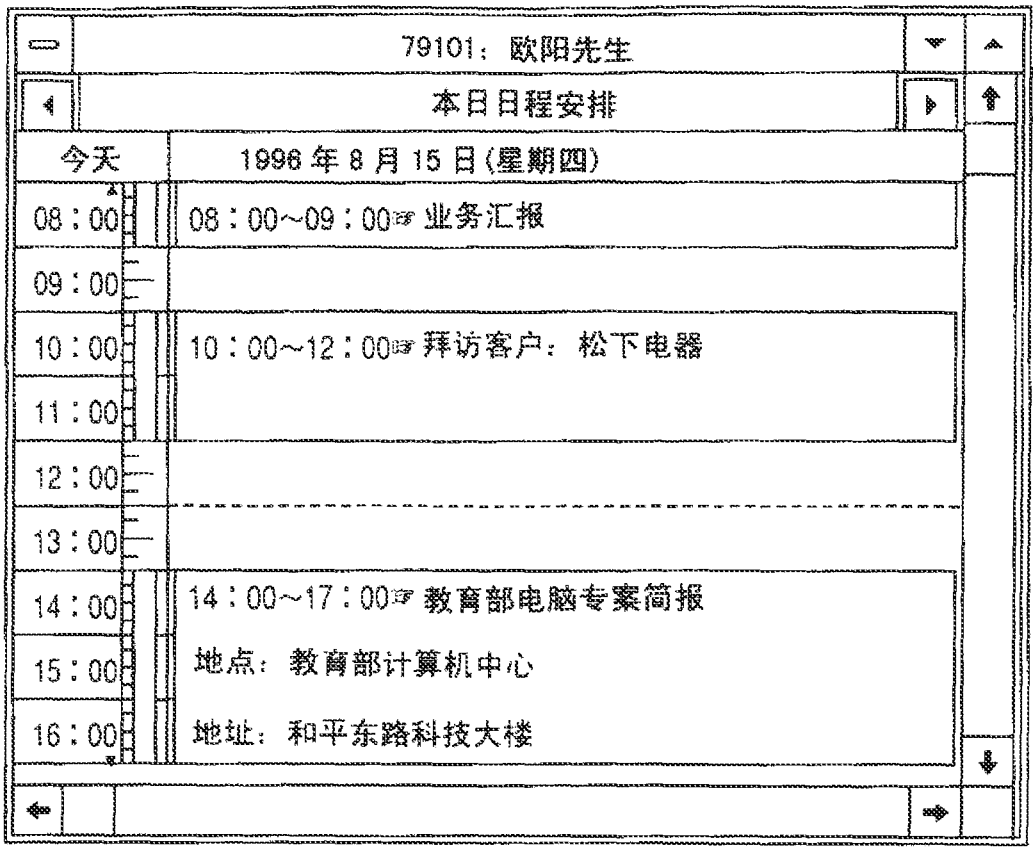

79101：欧阳先生
本日日程安排
今天
1996 年 8 月 15 日(星期四)
08：00
09：00
10：00
11：00
12：00
13：00
14：00
15：00
16：00
08：00~09：00☞业务汇报
10：00~12：00☞拜访客户：松下电器
14：00~17：00☞教育部电脑专案简报
地点：教育部计算机中心
地址：和平东路科技大楼

图 10

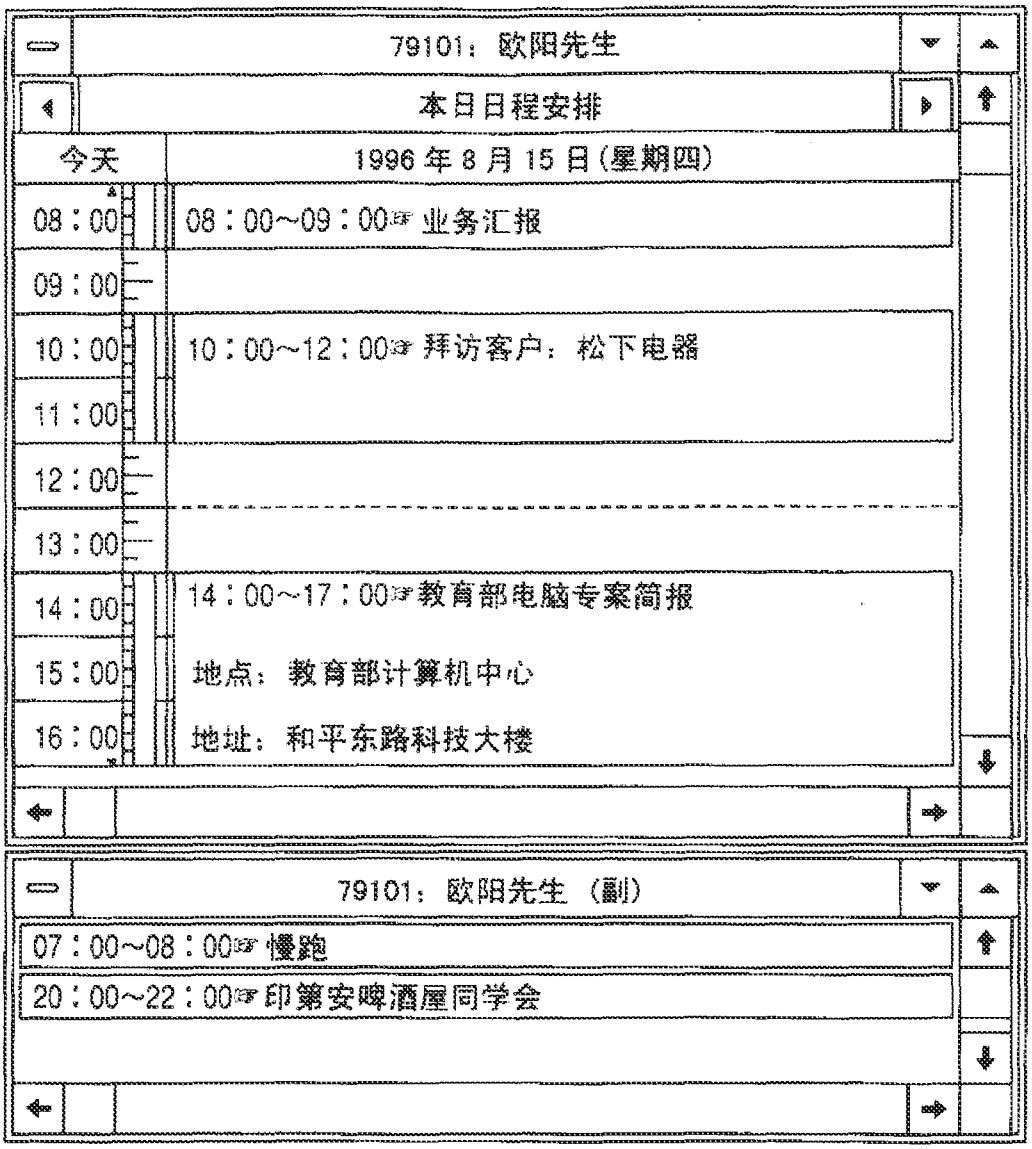

79101：欧阳先生
本日日程安排
今天
1996 年 8 月 15 日(星期四)
08：00
08：00～09：00☞业务汇报
09：00
10：00
10：00～12：00☞拜访客户：松下电器
11：00
12：00
13：00
14：00
14：00～17：00☞教育部电脑专案简报
15：00
地点：教育部计算机中心
16：00
地址：和平东路科技大楼
79101：欧阳先生 (副)
07：00～08：00☞慢跑
20：00～22：00☞印第安啤酒屋同学会

图 11

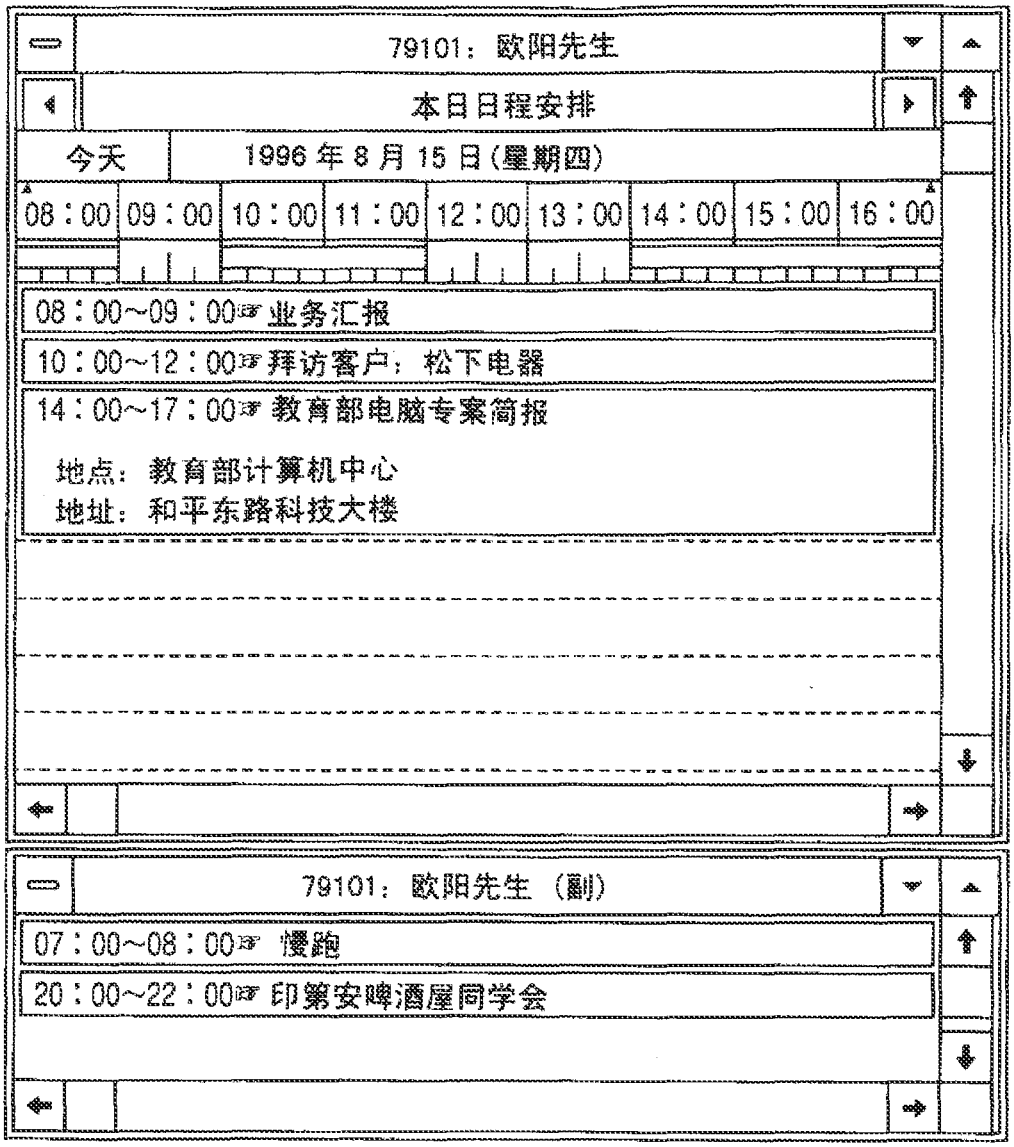

79101：欧阳先生
本日日程安排
今天
1996 年 8 月 15 日(星期四)
08：00
09：00
10：00
11：00
12：00
13：00
14：00
15：00
16：00
08：00~09：00 业务汇报
10：00~12：00 拜访客户：松下电器
14：00~17：00 教育部电脑专案简报
地点：教育部计算机中心
地址：和平东路科技大楼
79101：欧阳先生 (副)
07：00~08：00 慢跑
20：00~22：00 印第安啤酒屋同学会

图 12

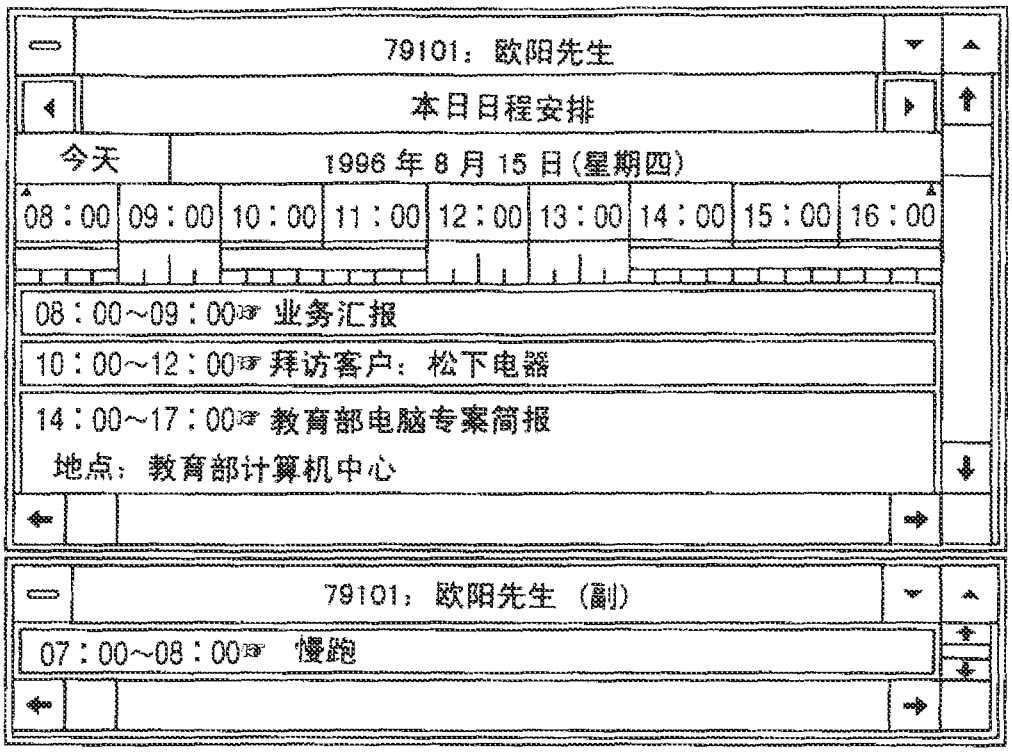

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地点：教育部计算机中心
79101：欧阳先生（副）
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图 13

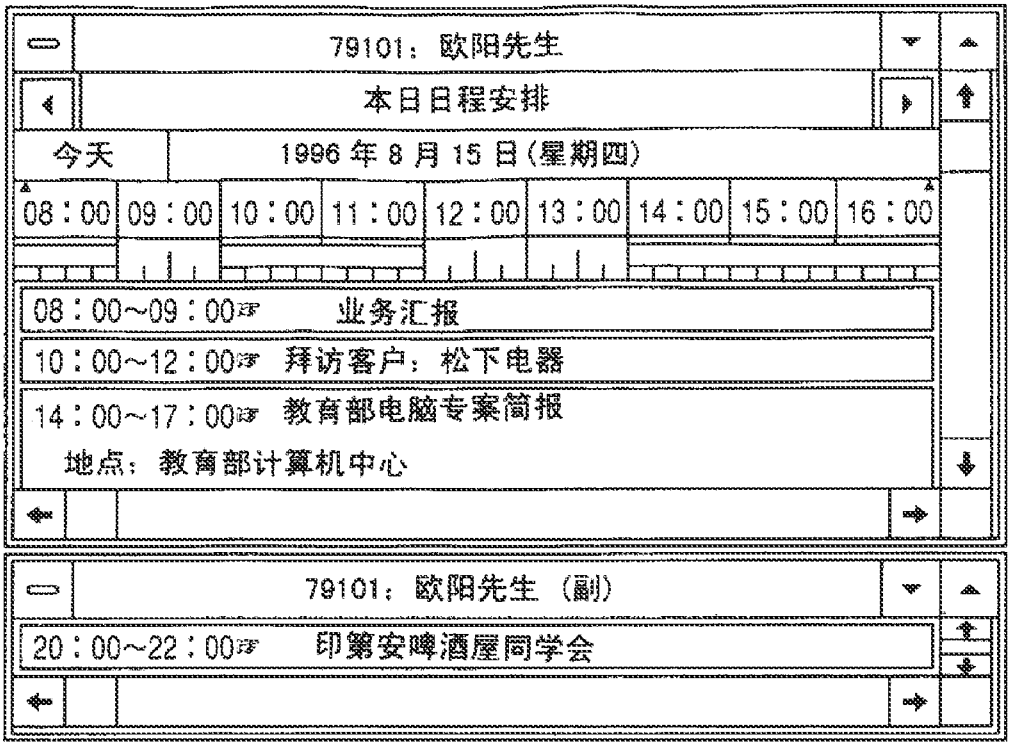

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地点：教育部计算机中心
79101：欧阳先生（副）
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图 14

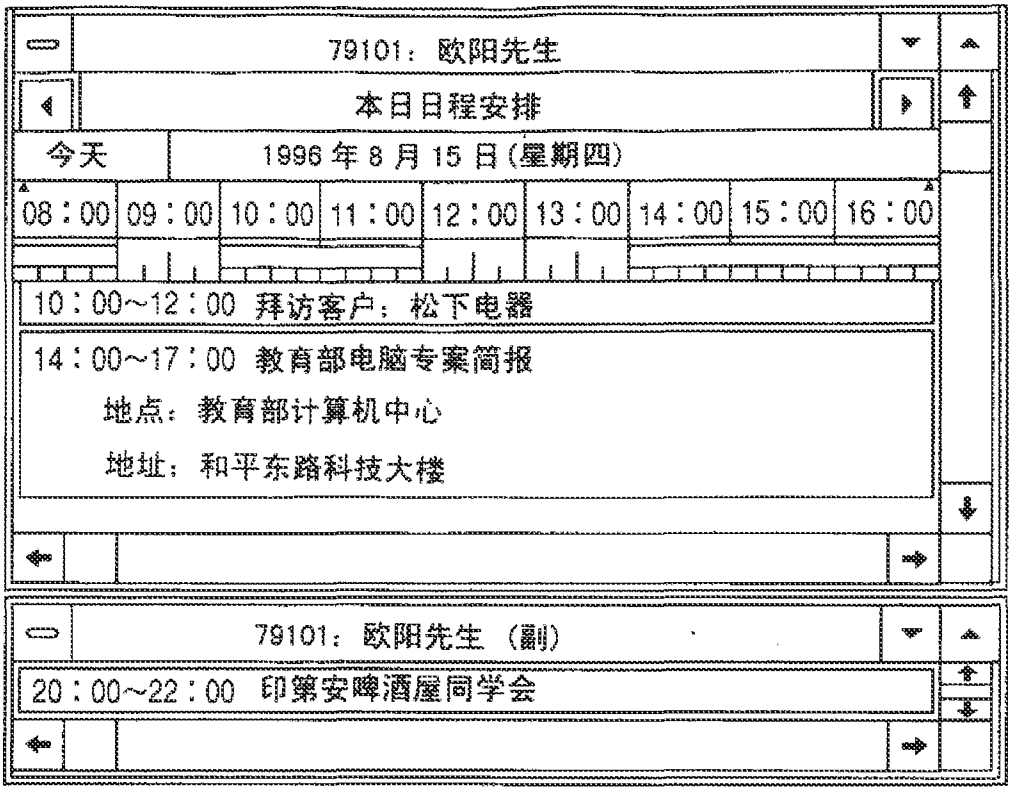

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地址：和平东路科技大楼
79101：欧阳先生 (副)
20：00~22：00 印第安啤酒屋同学会

图 15

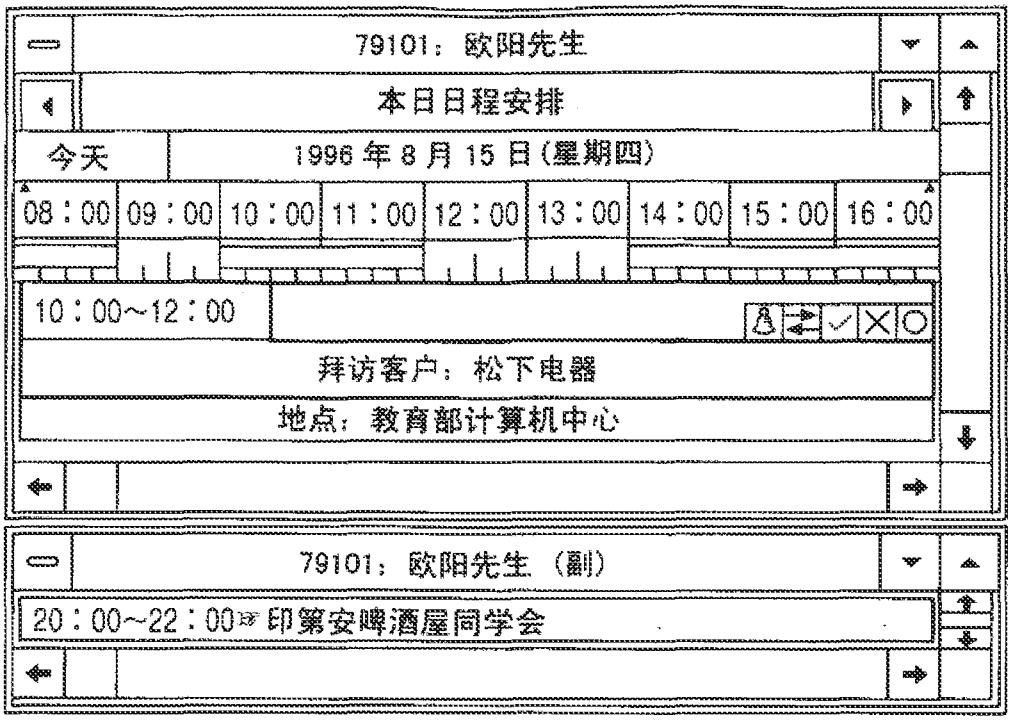

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拜访客户：松下电器
地点：教育部计算机中心
79101：欧阳先生 (副)
20：00~22：00 印第安啤酒屋同学会

图 16

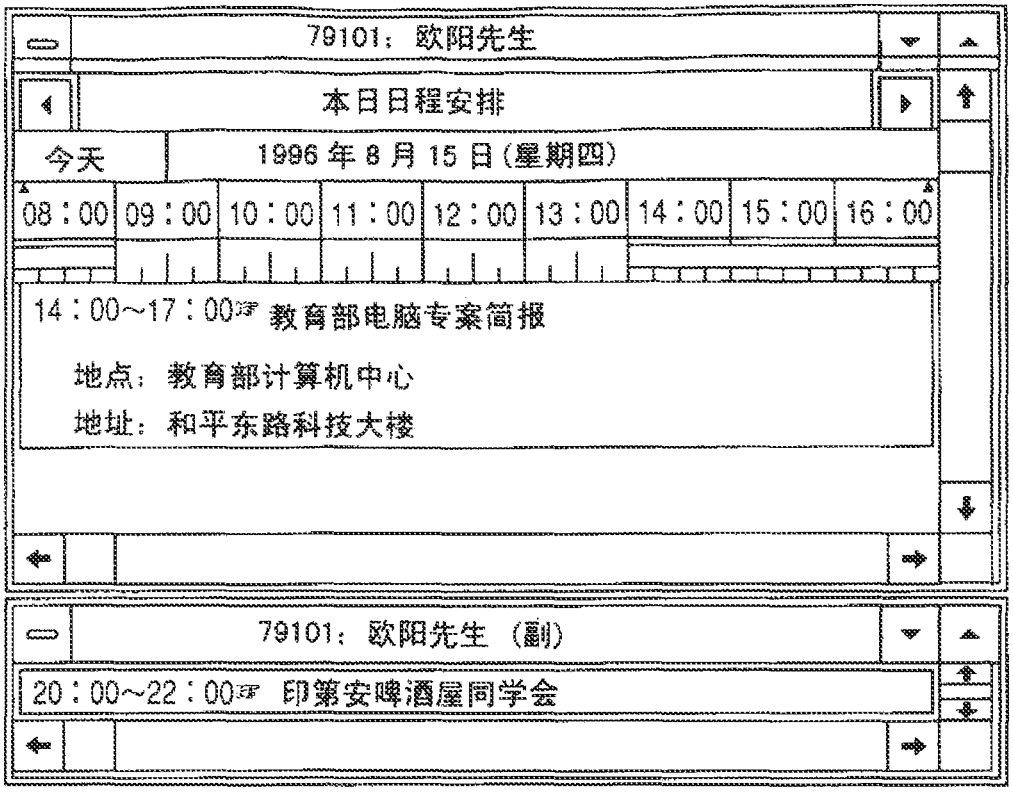

79101：欧阳先生
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14：00~17：00 教育部电脑专案简报
地点：教育部计算机中心
地址：和平东路科技大楼
79101：欧阳先生（副）
20：00~22：00 印第安啤酒屋同学会

图 17

Espacenet

CN102339202A Electronic device and event display method using same

Applicants: PEGATRON CORP

Inventors: JIAXUN WU,KAIXIANG LIN

Classifications:
IPC ***G06F3/048;***

Priorities: CN201010239750A 2010-07-26

Application: CN102339202A·2010-07-26

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Published as: CN102339202A

Electronic device and event display method using same

Abstract

The invention provides an electronic device and an event display method, which are used for presenting a first type event and a second type event to a user. The event display method comprises the following steps of: firstly, receiving a time interval input by the user, and retrieving a first type event record and a second type event record according to the time interval so as to judge whether the first type event and the second type event at the time interval exist or not; and secondly, displaying first relevant information of the first type event and second relevant information of the second type event at the time interval, wherein display positions of the first relevant information and the second relevant information represent occurrence time of the first type event and the second type event. By the device and the method, events which happen in different application programs in the electronic device are presented to the same interface; and according to the occurrence time of the events, corresponding relevant information is displayed at corresponding positions.

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(51)Int.Cl.
G06F 3/048(2006.01)

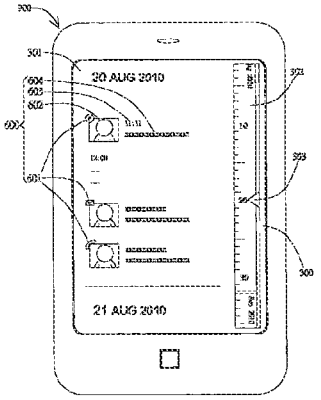
权利要求书 2 页 说明书 4 页 附图 6 页

(54)发明名称

电子装置以及应用于此电子装置的事件显示方法

(57)摘要

本发明提供一种电子装置与事件显示方法，其用于呈现第一类型事件与第二类型事件予使用者，事件显示方法包含下列步骤：首先，接收该使用者所输入的一时间区间。依时间区间检索第一类型事件记录与第二类型事件记录，以判断是否存在发生于时间区间内的第一类型事件与第二类型事件。然后，显示发生于时间区间内的第一类型事件的第一相关信息与第二类型事件的第二相关信息，其中，第一相关信息与第二相关信息的显示位置代表第一类型事件与第二类型事件的发生时间。本发明呈现电子装置中不同应用程序所发生的事件于同一界面，且根据事件的发生时间，显示对应的相关信息于对应位置。



CN 102339202 A

1. 一种事件显示方法，其用于呈现一第一类型事件与一第二类型事件予一使用者，该第一类型事件存储于一第一类型事件记录中，该第二类型事件存储于一第二类型事件记录中，包含下列步骤：

接收该使用者所输入的一时间区间；

依该时间区间检索该第一类型事件记录与该第二类型事件记录，以判断是否存在发生于该时间区间内的该第一类型事件与该第二类型事件；以及

显示发生于该时间区间内的该第一类型事件的第一相关信息与该第二类型事件的第二相关信息，其中该第一相关信息与该第二相关信息的显示位置代表该第一类型事件与该第二类型事件的发生时间。

2. 如权利要求 1 所述的事件显示方法，其特征在于，该事件显示方法还包括接收该使用者点击以输入该时间区间的步骤。

3. 如权利要求 1 所述的事件显示方法，其特征在于，该事件显示方法还包括步骤：显示代表该时间区间的一主时间轴，且该第一相关信息与该第二相关信息以其相对于该主时间轴的显示位置，来代表该第一类型事件与该第二类型事件的发生时间。

4. 如权利要求 3 所述的事件显示方法，其特征在于，该事件显示方法还包括接收该使用者以手势滑动该主时间轴以改变该时间区间的步骤。

5. 如权利要求 3 所述的事件显示方法，其特征在于，该事件显示方法还包括步骤：显示一次时间轴与一指标，该指标指示于该次时间轴的位置代表该时间区间。

6. 如权利要求 5 所述的事件显示方法，其特征在于，该次时间轴代表的时间长度为两周、一月或一年。

7. 如权利要求 5 所述的事件显示方法，其特征在于，该事件显示方法还包括步骤：接收该使用者点击该次时间轴以改变该主时间轴所显示的该时间区间。

8. 如权利要求 3 所述的事件显示方法，其特征在于，该事件显示方法还包括步骤：

显示一次时间轴；以及

接收该使用者以手势滑动该次时间轴以改变该主时间轴所显示的该时间区间。

9. 如权利要求 1 所述的事件显示方法，其特征在于，该事件显示方法还包括步骤：

接受该使用者点击该第一相关信息；以及

显示该第一类型事件于该第一类型事件记录中的一第一记录内容。

10. 如权利要求 9 所述的事件显示方法，其特征在于，该事件显示方法还包括步骤：呼叫该第一类型事件对应的一第一应用程序以显示该第一类型事件于该第一类型事件记录中的该第一记录内容。

11. 如权利要求 1 所述的事件显示方法，其特征在于，该第一相关信息包括该第一类型事件所对应的第一类型图示，且该第二相关信息包括该第二类型事件所对应的第二类型图示。

12. 如权利要求 1 所述的事件显示方法，其特征在于，该第一相关信息包括该第一类型事件所对应的第一联络人信息，且该第二相关信息包括该第二类型事件所对应的第二联络人信息。

13. 如权利要求 1 所述的事件显示方法，其特征在于，该第一相关信息包括该第一类型事件的发生时间，且该第二相关信息包括该第二类型事件的发生时间。

14. 如权利要求 1 所述的事件显示方法，其特征在于，该第一相关信息包括该第一类型事件的部分第一文字内容，且该第二相关信息包括该第二类型事件的部分第二文字内容。

15. 一种电子装置，其能够呈现一第一类型事件与一第二类型事件予一使用者，包括：

一显示器；

一存储元件，其存储一第一类型事件记录、一第二类型事件记录以及程序代码；以及

一处理器，其于执行该程序代码后，执行以下步骤：

接收该使用者所输入的一时间区间；

依该时间区间检索该存储元件所存储的该第一类型事件记录与该第二类型事件记录，以判断是否存在发生于该时间区间内的该第一类型事件与该第二类型事件；以及

于该显示器显示发生于该时间区间内的该第一类型事件的第一相关信息与该第二类型事件的第二相关信息，其中该第一相关信息与该第二相关信息的显示位置代表该第一类型事件与该第二类型事件的发生时间。

16. 如权利要求 15 所述的电子装置，其特征在于，该显示器显示代表该时间区间的一主时间轴，且该第一相关信息与该第二相关信息以其相对于该主时间轴的显示位置，来代表该第一类型事件与该第二类型事件的发生时间。

17. 如权利要求 16 所述的电子装置，其特征在于，该显示器包含一触控显示屏幕。

18. 如权利要求 17 所述的电子装置，其特征在于，该触控显示屏幕接收该使用者点击以输入该时间区间。

19. 如权利要求 16 所述的电子装置，其特征在于，该触控显示屏幕显示一次时间轴与一指标，该指标指示于该次时间轴的位置代表该时间区间。

20. 如权利要求 19 所述的事件显示方法，其特征在于，该次时间轴代表的时间长度为两周、一月或一年。

21. 如权利要求 15 所述的电子装置，其特征在于，该第一相关信息包括该第一类型事件所对应的第一类型图示，且该第二相关信息包括该第二类型事件所对应的第二类型图示。

22. 如权利要求 15 所述的电子装置，其特征在于，该第一相关信息包括该第一类型事件所对应的第一联络人信息，且该第二相关信息包括该第二类型事件所对应的第二联络人信息。

23. 如权利要求 15 所述的电子装置，其特征在于，该第一相关信息包括该第一类型事件的发生时间，且该第二相关信息包括该第二类型事件的发生时间。

24. 如权利要求 15 所述的电子装置，其特征在于，该第一相关信息包括该第一类型事件的部分第一文字内容，且该第二相关信息包括该第二类型事件的部分第二文字内容。

电子装置以及应用于此电子装置的事件显示方法

技术领域

[0001] 本发明涉及一种手持电子装置以及应用于此手持电子装置的事件显示方法。

背景技术

[0002] 随着电子技术的快速发展，各种便携式电子产品大大丰富了消费市场，满足人们多方位工作和娱乐需求。例如，移动电话、移动网络装置 (MobileInternet Device，MID)、个人数字助理 (Personal Digital Assistant，PDA)、电子书、数字相框、数字随身听、电子辞典、全球定位系统导航仪 (GlobalPositioning System Navigator,GPS Navigator)。除了体积的减小与外在美感的提升外，消费者也会以使用上的方便性作为选择便携式电子产品的参考依据。

[0003] 随着电子装置的功能日益强大，应用程序的数量渐增，使用者可能先后或同时在电子装置上操作多个应用程序。以智能型手机为例，使用者可能进行记事、电话通信、收发短信、浏览照片与收发邮件等在内的操作。一般而言，各操作的应用程序如图 1 所示将链接显示在手机桌面。然而，若要察看某操作的内容，使用者必须个别进入各操作的应用程序。另一方面，对于各事件前次执行的时间彼此的关连性并未被整体呈现。因此，使用者无法快速便利地得知不同应用程序所发生的事件于前次执行的时间或结果。

发明内容

[0004] 本发明的主要目的在于提供一种事件显示方法与应用其的电子装置，用以呈现不同应用程序所发生的事件于同一界面，可提高电子装置使用的方便性。

[0005] 根据本发明的事件显示方法的实施例，其用于呈现第一类型事件与第二类型事件予一使用者，第一类型事件存储于第一类型事件记录中，第二类型事件存储于第二类型事件记录中，事件显示方法包含下列步骤：首先，接收该使用者所输入的一时间区间。依时间区间检索第一类型事件记录与第二类型事件记录，以判断是否存在发生于时间区间内的第一类型事件与第二类型事件。然后，显示发生于时间区间内的第一类型事件的第一相关信息与第二类型事件的第二相关信息，其中，第一相关信息与第二相关信息的显示位置代表第一类型事件与第二类型事件的发生时间。

[0006] 配合上述信息显示方法的实施例，本发明提供一种电子装置包含显示器、存储元件与处理器。存储元件存储第一类型事件记录、第二类型事件记录以及程序代码。处理器于执行上述程序代码后，执行上述信息显示方法的步骤：接收使用者所输入的时间区间；依时间区间检索存储元件所存储的第一类型事件记录与第二类型事件记录，以判断是否存在发生于时间区间内的第一类型事件与第二类型事件；以及于显示器显示发生于时间区间内的第一类型事件的第一相关信息与第二类型事件的第二相关信息，其中，第一相关信息与第二相关信息的显示位置代表第一类型事件与第二类型事件的发生时间。

[0007] 本发明的有益效果在于，可呈现电子装置中不同应用程序所发生的事件于同一界面，且根据事件的发生时间，显示对应的相关信息于对应位置。

附图说明

[0008] 图 1 为现有技术示意图；

[0009] 图 2 为本发明实施例的架构方框图；

[0010] 图 3 为本发明实施例的流程示意图；

[0011] 图 4 为本发明实施例的操作示意图；

[0012] 图 5 为本发明实施例的次时间轴不同时间长度示意图；以及

[0013] 图 6 为本发明显示事件对应的记录内容的实施例示意图。

[0014] 其中，附图标记说明如下：

[0015] 30 屏幕

[0016] 90 手持电子装置

[0017] 100 处理器

[0018] 200 存储元件

[0019] 300 显示器

[0020] 301 主时间轴

[0021] 302 次时间轴

[0022] 303 指标

[0023] 600 相关信息

[0024] 601 类型图示

[0025] 602 联络人信息

[0026] 603 发生时间

[0027] 604 文字内容

[0028] 605 启动图示

[0029] 606 记录内容

[0030] 900 电子装置

具体实施方式

[0031] 本发明提供一种电子装置以及应用于此电子装置的事件显示方法。其中，电子装置为具有屏幕的电子装置，且具有便于使用者携带的特性，例如移动电话、移动网络装置、个人数字助理、电子书、数字相框、数字随身听、电子辞典、全球定位系统导航仪、笔记本电脑及平板电脑等。

[0032] 具体而言，如图 2 所示，其为本发明实施例的架构方框图。本发明实施例的电子装置 900 包含处理器 100、存储元件 200 以及显示器 300。显示器 300 用于根据发生时间呈现电子装置的各种类型事件。一般来说，电子装置 900 的各种类型事件是处理器 100 执行各种应用程序所产生并存储于各种应用程序的数据库中，也就是各种类型事件记录。存储元件存储各种类型事件记录、应用程序以及实施本发明方法的程序代码。处理器 100 用以执行上述程序代码后，执行本发明的事件显示方法的步骤。其中，各种应用程序可包含记事功能、通话功能、短信功能、照相功能、邮件功能，但不限于此。

[0033] 举例来说，处理器 100 执行第一应用程序，将产生第一类型事件并存储于第一类

型事件记录。处理器 100 执行第二应用程序，将产生第二类型事件并存储于第二类型事件记录。其中，第一或第二类型事件记录分别存储于第一或第二应用程序的数据库，硬件上则是存储于存储元件 200。例如当使用者输入记事时，存储输入时间与文字内容；当有未接来电时，存储来电号码、来电时间与联络人信息；当接收短信时，存储接收时间、文字内容与联络人信息；当使用照相功能时，存储照片与照相时间；以及当接收到邮件时，存储邮件时间、邮件内容与联络人信息。

[0034] 如图 3 所示，其为本发明实施例的流程示意图。用于呈现第一类型事件与第二类型事件予一使用者，本发明实施例的显示器包含触控显示屏幕，包含以下步骤：

[0035] 步骤 1010，接收使用者点击以输入时间区间。

[0036] 步骤 1020，依时间区间检索存储元件中第一类型事件记录与第二类型事件记录，以判断是否存在发生于时间区间内的第一类型事件与第二类型事件。

[0037] 步骤 1030，根据事件发生时间于触控显示屏幕显示发生于时间区间内的第一类型事件的第一相关信息与第二类型事件的第二相关信息。其中，第一相关信息可由第一类型事件记录取得，第二相关信息可由第二类型事件记录取得，或是由存储于存储元件的数据库取得。

[0038] 其中，相关信息可包括各种类型事件所对应的各种类型图示。例如圆点图形、电话筒图形、对话框、照相机图形与信封图形，分别代表记事功能、通话功能、短信功能、照相功能与邮件功能所产生的事件。相关信息可包括联络人信息、事件的发生时间、部分文字内容。

[0039] 具体而言，本发明实施例的实际操作如图 4 所示，其为本发明实施例的操作示意图。如图 4 所示，本发明实施例包含于显示器 300 的触控显示屏幕显示代表时间区间的主时间轴 301，且各相关信息 600 以相对于主时间轴 301 的显示位置，来代表各类型事件的发生时间。并且，于触控显示屏幕显示次时间轴 302 与显示指标 303，指标 303 指示于次时间轴 302 的位置代表时间区间。其中，相关信息 600 包括事件的类型图示 601、联络人信息 602、发生时间 603、文字内容 604。

[0040] 于本发明实施例中，包含接收使用者以手势 (gesture) 滑动主时间轴 301 以改变时间区间的步骤。以及，接收使用者点击或以手势滑动次时间轴 302 以改变主时间轴 301 所显示的时间区间。

[0041] 以图 4 所示的本发明实施例而言，指标 303 指示于次时间轴 302 的位置代表的时间区间为 2010 年 8 月 20 日，在主时间轴显示 2010 年 8 月 20 日显示各种事件的相关信息 600，使用者可通过此显示方式迅速地得知在特定时间区间有上述事件发生。换言之，本发明的事件显示方法可将发生的事件显示于同一界面，并且将不同类型的事件依照发生的时间对应显示于主时间轴的适当位置，让使用者浏览同一画面即可掌握各事件发生的时间点。

[0042] 在图 4 所示的实施例中，次时间轴 302 以纵向显示于显示器 300 的右侧，然而在不同实施例中，次时间轴 302 的显示位置可以设计需求而加以变化，例如显示在显示器 300 的下方或中央，或以横向显示。

[0043] 在本发明实施例中，本发明的信息显示方法进一步包含调整次时间轴 302 所代表的时间长度。如图 5 所示，为本发明实施例的次时间轴不同时间长度示意图。次时间轴 302

代表的时间长度可根据不同需求为两周 (2weeks)、一月 (1mouth) 或一年 (1year)。于本发明实施例中，使用者能够以手势滑动或点击次时间轴 302 以改变主时间轴所显示的时间区间，通过调整次时间轴 302 所代表的时间长度可以更加方便地找到特定日期。

[0044] 请同时参考图 4 与图 6，图 6 为本发明实施例的事件对应的记录内容。在本发明实施例中，进一步包含接受使用者点击第一或第二相关信息 600；进而显示对应的第一或第二事件于该第一或第二类型事件记录中的一第一记录内容 606。如图 4 所示，使用者可点击显示于主时间轴 301 的相关信息 600，借以连接至前述存储于存储体元件内根据事件发生产生的事件记录 606。如图 6 所示，显示器显示事件记录中对应的记录内容 606。

[0045] 并且，在本发明实施例中，进一步包含呼叫事件对应的应用程序以显示此事件于事件记录中的记录内容。如图 6 所示，记录内容中对应具有启动图示 605，于本发明实施例中可通过点击启动图示 605，呼叫各事件对应的应用程序，进而显示事件记录中对应的记录内容 606。

[0046] 虽然前述的描述及附图已揭示本发明的较佳实施例，必须了解到各种增添、许多修改和取代可能使用于本发明较佳实施例，而不会脱离如所附权利要求所界定的本发明原理的精神及范围。本发明所属技术领域技术人员将可体会，本发明可使用于许多形式、结构、布置、比例、材料、元件和组件的修改。因此，本文于此所揭示的实施例应被视为用以说明本发明，而非用以限制本发明。本发明的范围应由后附权利要求所界定，并涵盖其合法等同物，并不限于先前的描述。

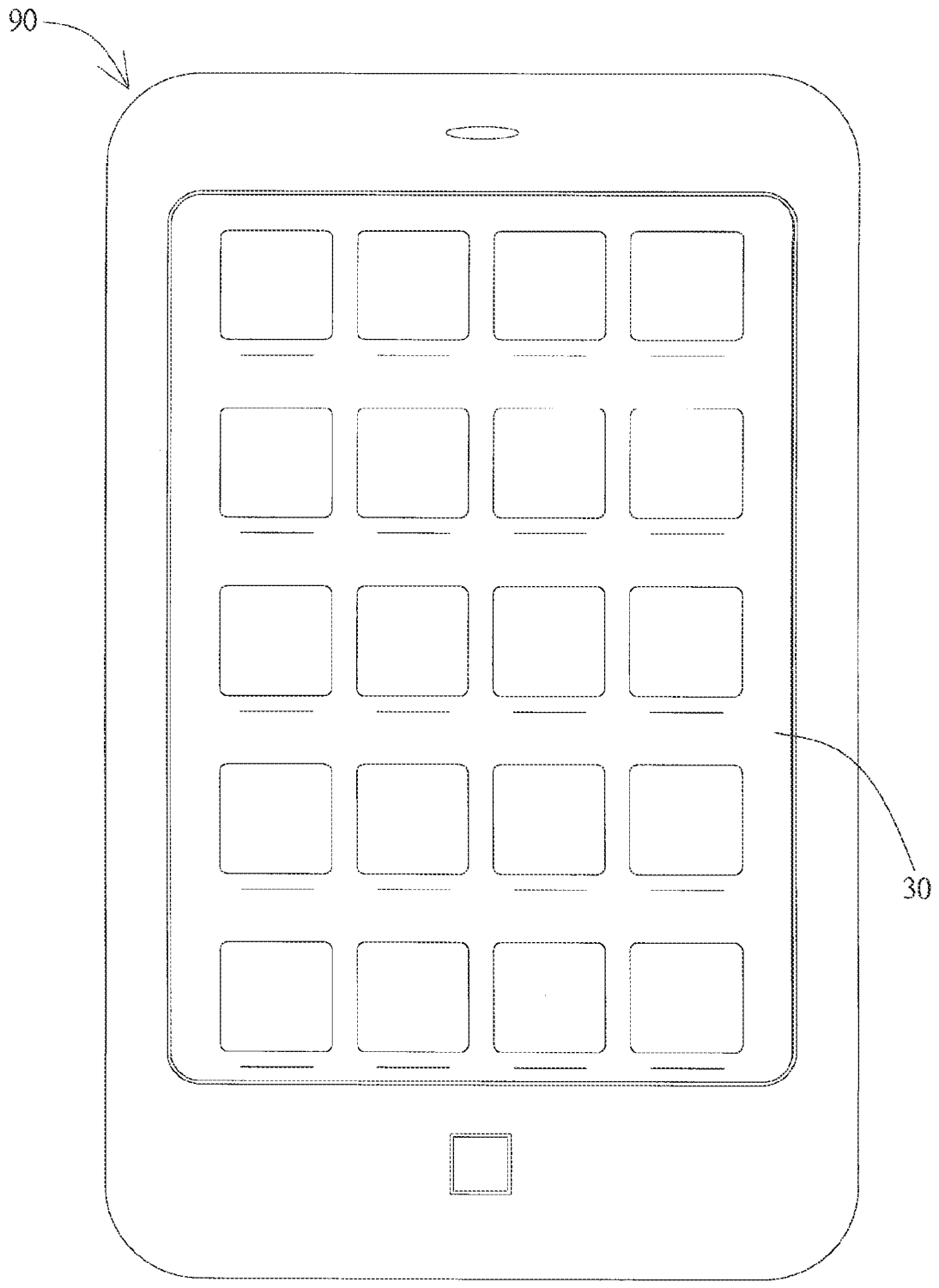


图 1

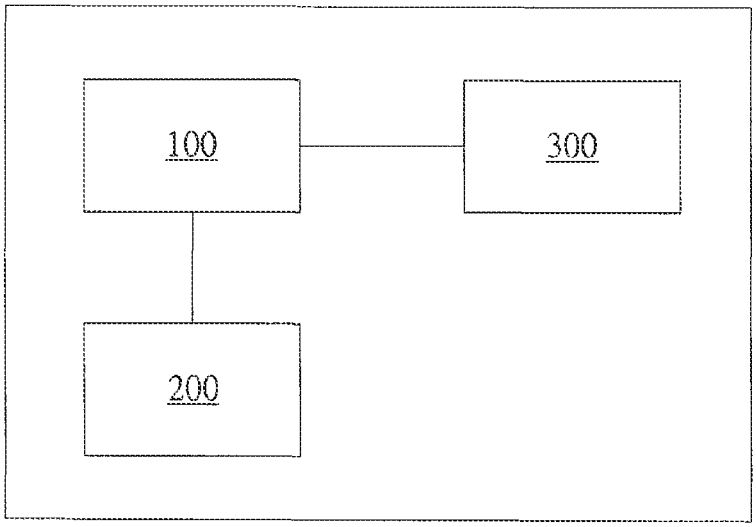


图 2

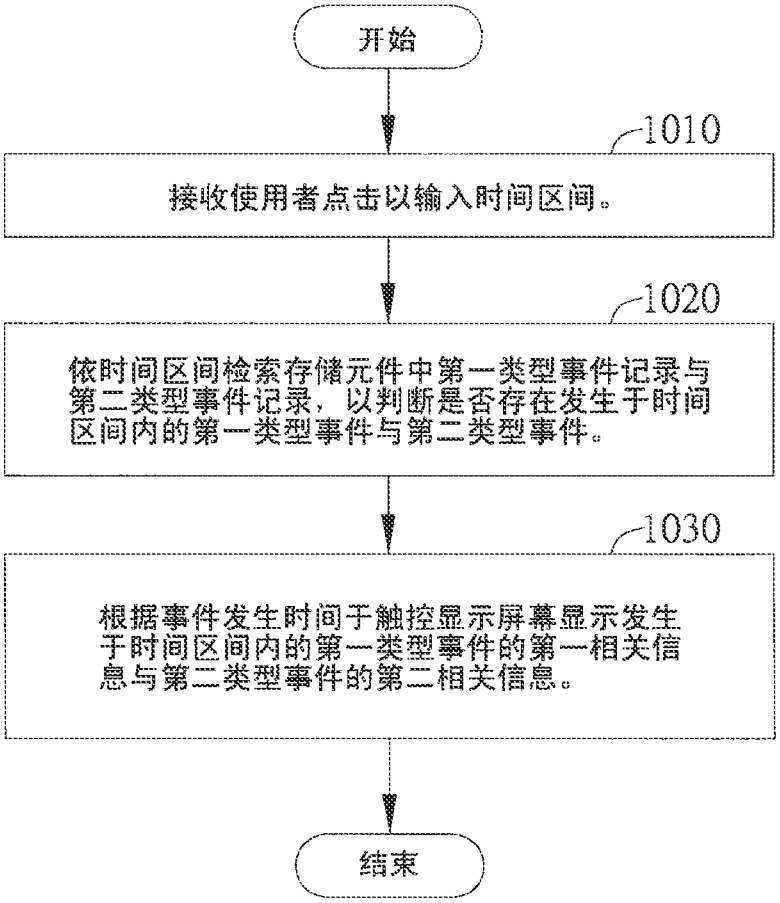

开始
1010
接收使用者点击以输入时间区间。
1020
依时间区间检索存储元件中第一类型事件记录与第二类型事件记录，以判断是否存在发生于时间区间内的第一类型事件与第二类型事件。
1030
根据事件发生时间于触控显示屏幕显示发生于时间区间内的第一类型事件的第一相关信息与第二类型事件的第二相关信息。
结束

图 3

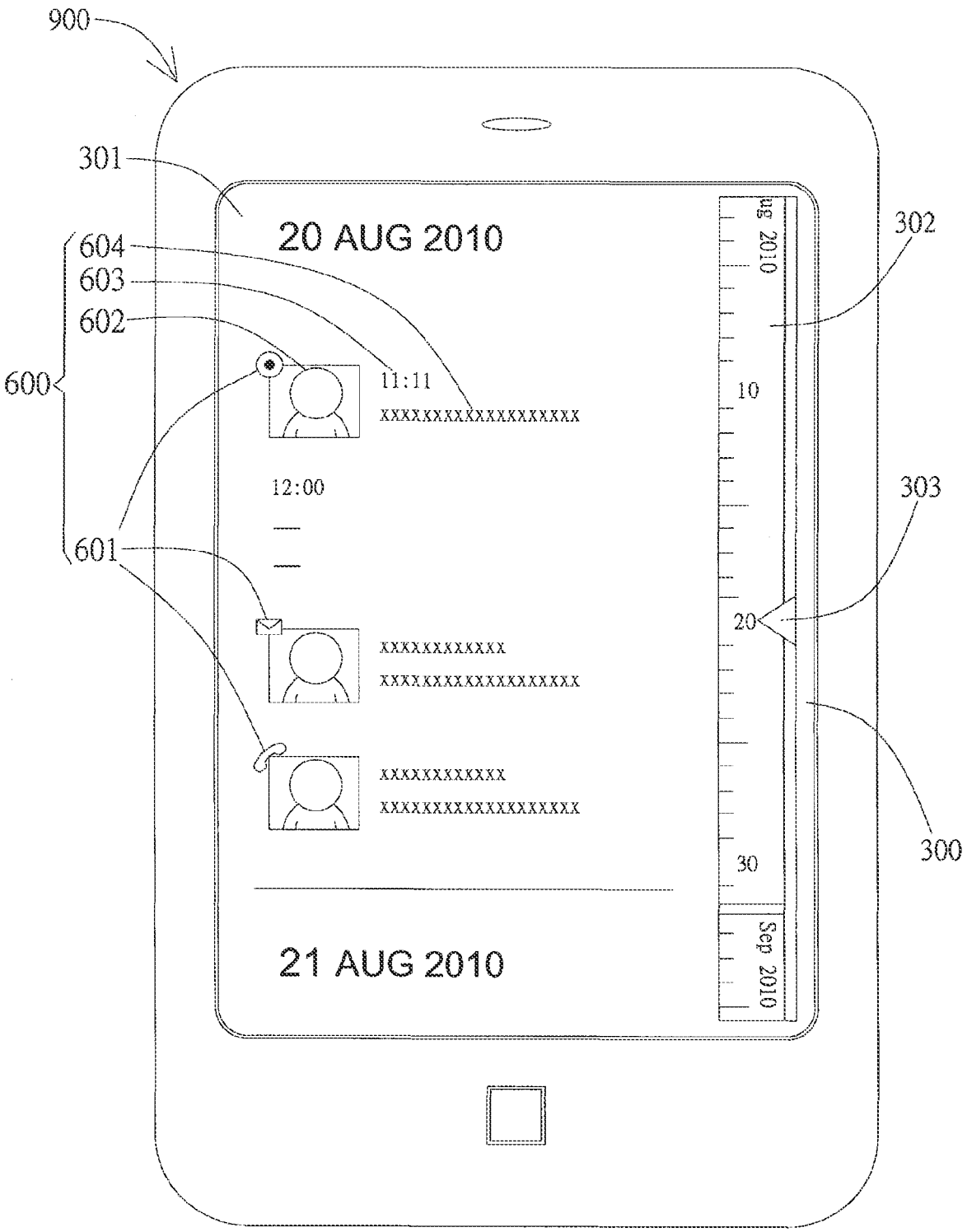

900
301
20 AUG 2010
604
603
602
600
11:11
XXXXXXXXXXXXXXXXXX
12:00
601
XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXX
XXXXXXXXXXXX
XXXXXXXXXXXXXXXXXX
21 AUG 2010
Aug 2010
10
20
30
Sep 2010
302
303
300

图 4

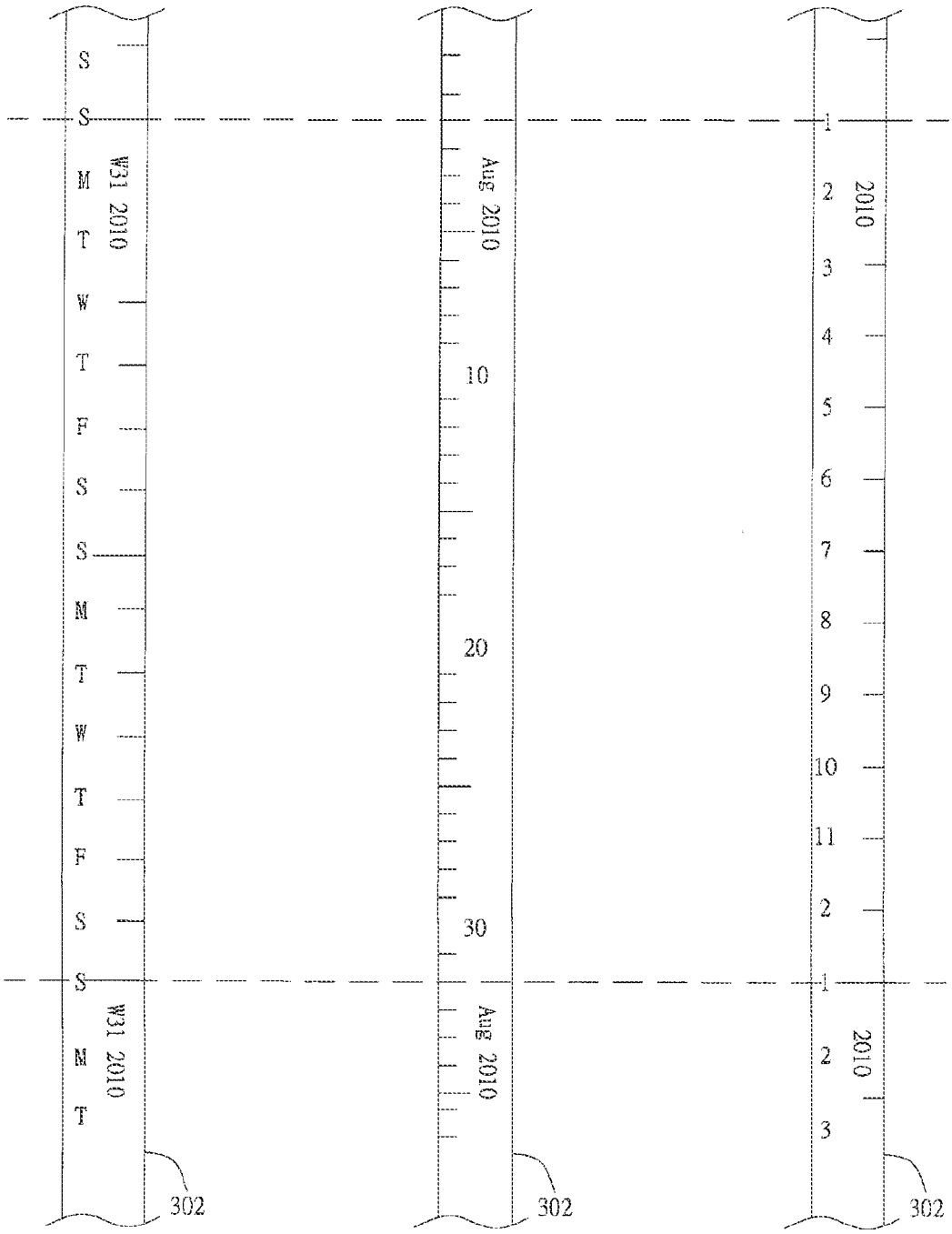

S
S
M
T
W
T
F
S
S
M
T
W
T
F
S
S
M
T
W31 2010
302
Aug 2010
10
20
30
1
W31 2010
302
1
2
3
4
5
6
7
8
9
10
11
2
1
2
3
2010
302
2 周
1 月
1 年

图 5

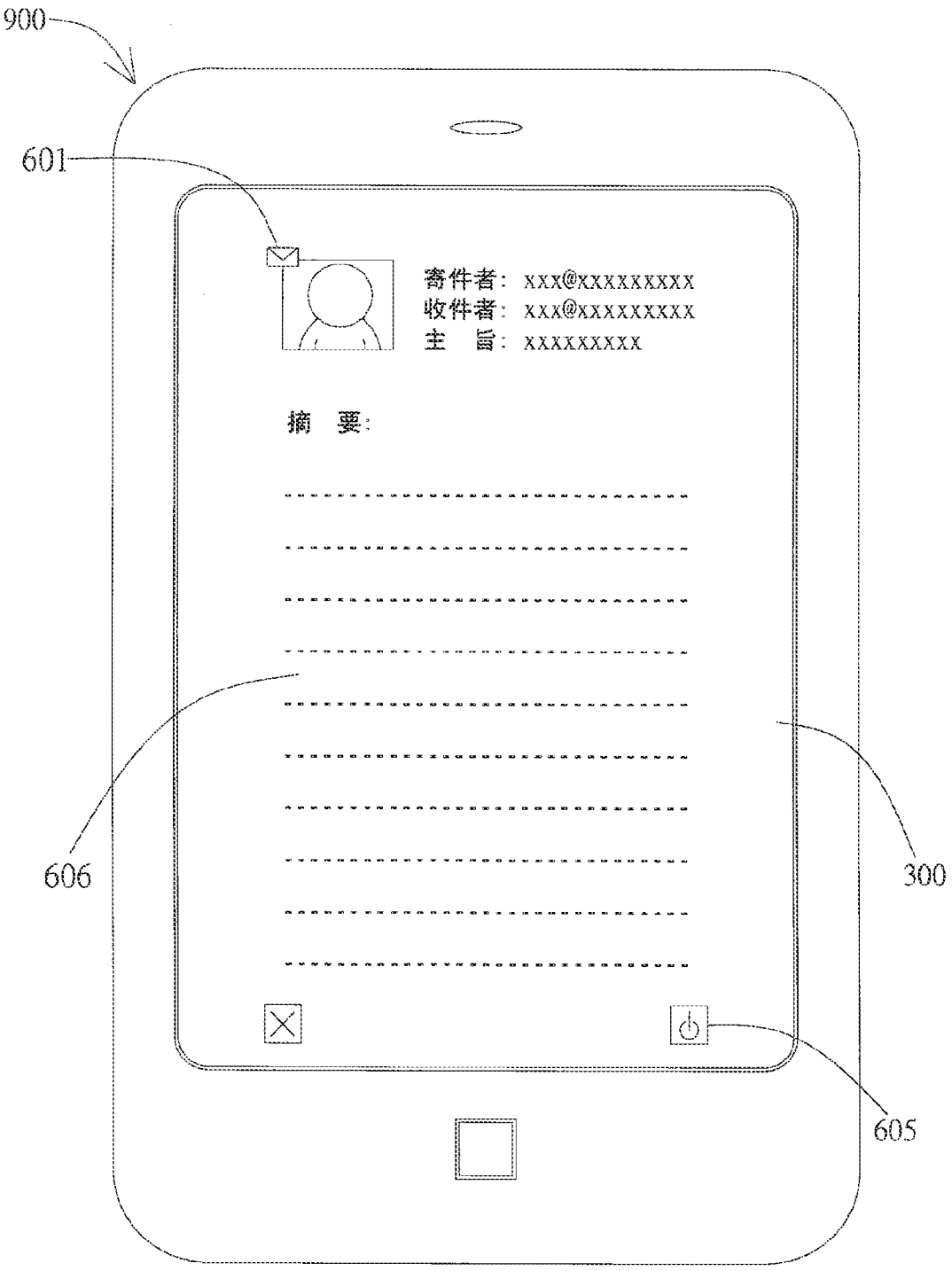

900
601
寄件者：xxx@xxxxxxxxx
收件者：xxx@xxxxxxxxx
主 旨：xxxxxxxxx
摘 要：
606
300
605

图 6

Espacenet

CN103220396A Terminal and method of schedule displaying

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Inventors: CHEN WANG

Classifications:

IPC ***H04M1/21; H04M1/725;***

CPC **G06F17/00 (KR); G06F3/0484 (KR); G06F40/106 (US); G06Q10/109 (EP,US); H04M3/42 (KR);**

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Terminal and method of schedule displaying

Abstract

The invention discloses a terminal and a method of schedule displaying, and relates to the field of terminals. The terminal and the method of schedule displaying can improve the displaying effect of schedule information, and can achieve clear distribution between completed agendas and uncompleted agendas. The terminal comprises an instruction receiving unit and a schedule displaying unit, wherein the instruction receiving unit is used for receiving setting instructions of agenda events of a user, the agenda events comprise agenda content and agenda dates, and the schedule displaying unit is used for displaying the agenda events on a timer shaft. The terminal and the method of schedule displaying are applied to the schedule table functions of various terminal devices.

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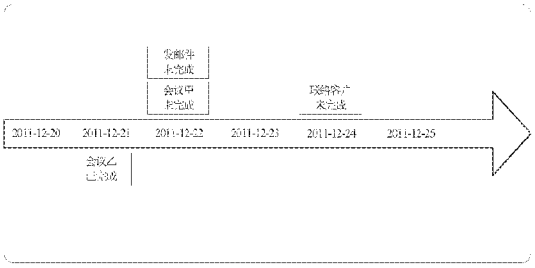
权利要求书2页 说明书6页 附图5页

(54)发明名称

一种终端和一种日程显示的方法

(57)摘要

本发明公开了一种终端和一种日程显示的方法，涉及终端领域，能够提升日程信息的显示效果，并能实现已完成的和未完成的日程工作的明确区分。该终端包括：指令接收单元，用于接收用户的日程事件设定指令，所述日程事件包含日程内容和日程日期；日程显示单元，用于将所述日程事件显示在时间轴上。本发明实施例用于各种终端设备的日程表功能中。



CN 103220396 A

1. 一种终端，其特征在于，包括：

指令接收单元，用于接收用户的日程事件设定指令，所述日程事件包含日程内容和日程日期；

日程显示单元，用于将所述日程事件显示在时间轴上。

2. 如权利要求 1 所述的终端，其特征在于，所述时间轴上标注有日历时间，所述日程显示单元包括：

第一显示子单元，用于将每个日程事件显示在所述时间轴上与所述日程日期对应的日历时间上。

3. 如权利要求 2 所述的终端，其特征在于，还包括：

扩展显示组建立单元，用于当同一日程日期的日程事件的数量超出显示界面的显示范围时，对超出显示范围的日程事件建立扩展显示组。

4. 如权利要求 2-3 中任意一项所述的终端，其特征在于，所述日程事件中还包括日程状态，所述日程显示单元还包括：

第二显示子单元，用于根据所述日程事件的日程状态，将所述日程事件显示在所述时间轴的两侧。

5. 如权利要求 4 所述的终端，其特征在于，所述第二显示子单元具体用于：

将所述日程状态为未完成的日程事件显示在所述时间轴的一侧；

将所述日程状态为已完成的日程事件显示在所述时间轴的另一侧。

6. 如权利要求 4-5 中任意一项所述的终端，其特征在于，所述日程显示单元还包括：

第三显示子单元，用于当所述日程事件的日程状态发生改变时，将所述日程事件移动至所述时间轴的另一侧进行显示。

7. 如权利要求 1-6 中任意一项所述的终端，其特征在于，所述日程事件中还包括日程重要性，所述日程显示单元还包括：

第四显示子单元，用于根据所述日程事件的日程重要性，将所述日程事件按照不同属性显示在所述时间轴上。

8. 如权利要求 7 所述的终端，其特征在于，所述不同属性包括日程事件与时间轴距离的远近、日程事件的显示颜色等属性中的至少一项。

9. 如权利要求 1-8 中任意一项所述的终端，其特征在于，所述时间轴在所述显示界面中延横向显示或延纵向显示。

10. 一种日程显示的方法，其特征在于，包括：

接收用户的日程事件设定指令，所述日程事件包含日程内容和日程日期；

将所述日程事件显示在时间轴上。

11. 如权利要求 10 所述的方法，其特征在于，所述时间轴上标注有日历时间，所述将所述日程事件显示在时间轴上包括：

将每个日程事件显示在所述时间轴上与所述日程日期对应的日历时间上。

12. 如权利要求 11 所述的方法，其特征在于，所述方法还包括：

当同一日程日期的日程事件的数量超出显示界面的显示范围时，对超出显示范围的日程事件建立扩展显示组。

13. 如权利要求 11-12 中任意一项所述的方法，其特征在于，所述日程事件还包括日程

状态，所述将所述日程事件显示在所述时间轴上还包括：

根据所述日程事件的日程状态，将所述日程事件显示在所述时间轴的两侧。

14. 如权利要求 13 所述的方法，其特征在于，所述根据所述日程事件的日程状态，将所述日程事件显示在所述时间轴的两侧包括：

将所述日程状态为未完成的日程事件显示在所述时间轴的一侧；

将所述日程状态为已完成的日程事件显示在所述时间轴的另一侧。

15. 如权利要求 13-14 中任意一项所述的方法，其特征在于，所述将所述日程事件显示在时间轴上还包括：

当所述日程事件的日程状态发生改变时，将所述日程事件移动至所述时间轴的另一侧进行显示。

16. 如权利要求 10-15 中任意一项所述的方法，其特征在于，所述日程事件中包括日程重要性，所述将所述日程事件显示在时间轴上包括：

根据所述日程事件的日程重要性，将所述日程事件按照不同属性显示在所述时间轴上。

17. 如权利要求 16 所述的方法，其特征在于，所述不同属性包括日程事件与时间轴距离的远近、日程事件的显示颜色等属性中的至少一项。

18. 如权利要求 10-17 所述的方法，其特征在于，所述时间轴在所述显示界面中延横向显示或延纵向显示。

一种终端和一种日程显示的方法

技术领域

[0001] 本发明涉及终端领域，尤其涉及一种终端和一种日程显示的方法。

背景技术

[0002] 在当前的计算机、手机等终端应用中，终端设备通常具备日程表功能，用于记录和提醒用户工作、生活中的重要事项，协助用户管理日常事务。传统的日程表，将日程信息与日历表融合在一起，日程信息的内容直接在日历表中表示出来，如图 1 所示。

[0003] 这种传统的日程表展示方式，信息虽然直接在日历中的相应位置展现出来，但是这种显示方式的显示效果并不直观，对于同一时间的日程信息数量过多时，日程信息会挤满表格，显示效果混乱；此外对于已经完成的日程工作，在日程表中也不能实时的显示，导致已完成和未完成的日程工作难以明显区分。

发明内容

[0004] 本发明的实施例提供一种终端和一种日程显示的方法，能够提升日程信息的显示效果，并能实现已完成的和未完成的日程工作的明确区分。

[0005] 为达到上述目的，本发明的实施例采用如下技术方案：

[0006] 一种终端，包括：

[0007] 指令接收单元，用于接收用户的日程事件设定指令，所述日程事件包含日程内容和日程日期；

[0008] 日程显示单元，用于将所述日程事件显示在时间轴上。

[0009] 一种日程显示的方法，包括：

[0010] 接收用户的日程事件设定指令，所述日程事件包含日程内容和日程日期；

[0011] 将所述日程事件显示在时间轴上。

[0012] 本发明实施例提供的一种终端及日程显示的方法，根据用户的日程事件设定指令，将用户的日程事件以时间轴的形式显示出来，提升了用户日程信息的显示效果，有利于提高用户体验。

附图说明

[0013] 为了更清楚地说明本发明实施例或现有技术中的技术方案，下面将对实施例或现有技术描述中所需要使用的附图作简单地介绍，显而易见地，下面描述中的附图仅仅是本发明的一些实施例，对于本领域普通技术人员来讲，在不付出创造性劳动的前提下，还可以根据这些附图获得其他的附图。

[0014] 图 1 为现有技术提供的一种日程表示意图；

[0015] 图 2 为本发明实施例一提供的一种终端的框图；

[0016] 图 3 为本发明实施例二提供的一种终端的框图；

[0017] 图 4 为本发明实施例二中在终端显示界面进行日程显示的示意图；

[0018] 图 5 为本发明实施例二的另一种在终端显示界面进行日程显示的示意图；

[0019] 图 6 为本发明实施例二的再一种在终端显示界面进行日程显示的示意图；

[0020] 图 7 为本发明实施例二中具有扩展显示组的日程显示的示意图；

[0021] 图 8 为本发明实施例二的再一种在终端显示界面进行日程显示的示意图；

[0022] 图 9 为本发明实施例三提供的一种日程显示的方法的流程图。

具体实施方式

[0023] 下面将结合本发明实施例中的附图，对本发明实施例中的技术方案进行清楚、完整地描述，显然，所描述的实施例仅仅是本发明一部分实施例，而不是全部的实施例。基于本发明中的实施例，本领域普通技术人员在没有做出创造性劳动前提下所获得的所有其他实施例，都属于本发明保护的范围。

[0024] 实施例一：

[0025] 本发明实施例提供了一种终端，如图 2 所示，该终端包括：指令接收单元 21，日程显示单元 22。

[0026] 指令接收单元 21 用于接收用户的日程事件设定指令，所述日程事件包含日程内容和日程日期。

[0027] 日程显示单元 22 用于将所述日程事件显示在时间轴上。

[0028] 其中，所述时间轴上记录有日历时间，并且每个日程事件的显示位置处所对应的时间轴的日历时间与所述每个日程事件的日程日期一致。

[0029] 本发明实施例一提供一种终端，根据用户的日程事件设定指令，将用户的日程事件以时间轴的形式显示出来，改善了用户日程信息的显示效果，有利于提高用户体验。

[0030] 实施例二：

[0031] 本发明实施例提供了一种终端，如图 3 所示，包括：指令接收单元 31，日程显示单元 32，扩展显示组建立单元 33。

[0032] 指令接收单元 31 用于接收用户的日程事件设定指令，所述日程事件包含日程内容和日程日期，所述日程事件还包括日程状态，所述日程状态包括已完成状态和未完成状态。可选的，对于新建的日程事件，其日程状态都设置为未完成状态。

[0033] 日程显示单元 32 用于将所述日程事件显示在时间轴上。

[0034] 其中，所述时间轴上记录有日历时间，并且每个日程事件的显示位置处所对应的时间轴的日历时间与所述每个日程事件的日程日期一致。所述日程显示单元 32 还用于在显示日程事件时显示日程状态。

[0035] 具体的，所述时间轴上标注有日历时间，所述日程显示单元 32 还包括第一显示子单元，用于将每个日程事件显示在所述时间轴上与所述日程日期对应的日历时间上。

[0036] 扩展显示组建立单元 33 用于当同一日程日期的日程事件的数量超出显示界面的显示范围时，对超出显示范围的日程事件建立扩展显示组。所述日程显示单元 32 还用于在对应时间轴的日历时间的位置显示所述扩展显示组的图形对象；对于建立了扩展显示组的情况，当终端接收到用户对所述扩展显示组的图形对象的打开指令时，在新建界面中显示所述扩展显示组的各个日程事件。

[0037] 进一步的，所述日程显示单元 32 还包括：第二显示子单元、第三显示子单元。

[0038] 第二显示子单元用于根据所述日程事件的日程状态，将所述日程事件显示在所述时间轴的两侧。具体为：

[0039] 将日程状态为未完成的日程事件显示在所述时间轴的一侧；将日程状态为已完成的日程事件显示在所述时间轴的另一侧。

[0040] 第三显示子单元用于当所述日程事件的日程状态发生改变时，将所述日程事件移动至所述时间轴的另一侧进行显示。

[0041] 举例来对上述终端中显示的日程内容和日程状态进行描述，如图 4 所示。在图 4 中，时间轴沿水平方向，在时间轴上记录有日历时间，这里仅作举例，日历时间为 2011-12-20 至 2011-12-25。假设终端根据用户的日程设定指令分别建立日程事件 T1、T2、T3 和 T4，并且 T1、T2、T3 和 T4 的日程内容、日程日期和日程状态分别如下面表 1 所示。

[0042]

日程事件	T1	T2	T3	T4
日程内容	会议甲	发邮件	联络客户	会议乙
日程日期	2011-12-22	2011-12-22	2011-12-24	2011-12-21
日程状态	未完成	未完成	未完成	已完成

[0043] 表 1

[0044] 那么，相应的在终端显示界面中的显示状态如图 4 所示。

[0045] 可见，在图 4 所示的显示中，在终端显示界面中时间轴的一侧显示未完成的日程事件，并在时间轴的另一侧显示已完成的日程事件，每个日程事件都清晰的显示出日程内容，并且各个日程事件都与时间轴上的日历时间相对应。图 4 的显示中，并未在日程事件中显示日程状态，也可以将日程状态一并进行显示，如图 5 所示。当有日程事件完成后，将完成的日程事件由时间轴一侧移动至时间轴另一侧进行显示，并将日程状态变更为已完成。

[0046] 仍以上述提及图 5 为例做说明，此时如果有日程事件由未完成状态转变为已完成状态——这里不妨认为 T2 变化为已完成状态，则日程显示单元 32 的第三显示子单元将已完成的 T2 日程事件由时间轴一侧移动至时间轴另一侧进行显示，其日程状态也要变更为已完成状态，如图 6 所示。

[0047] 实际应用中，日程状态由未完成状态变更为已完成状态可以是由用户的手动设定而实现，也可以是终端根据预设条件自动实现，比如可规定当邮件发送成功时，将发送邮件这一日程事件对应的日程状态由未完成变更为已完成状态。此外，本发明实施例中的描述均以日程状态由未完成变更为已完成来进行说明，实际场景中也可根据用户需要使日程状态由已完成向未完成转变，本发明实施例对此不做限制。

[0048] 扩展组建立单元 33 用于当同一日程日期的日程事件数量超出所述终端显示界面的显示范围时，对同一日程日期的超出显示范围的各个日程事件建立扩展显示组。相应的，所述日程显示单元 32 还用于在对应时间轴的日历时间的位置显示所述扩展显示组的图形

对象；可选的，对于建立了扩展显示组的情形，当终端接收到用户对所述扩展显示组的图形对象的打开指令时，在新建界面中显示所述扩展显示组的各个日程事件。在表 1 的基础上对扩展显示组的显示进行举例说明，如果日程日期为 2011-12-22 的日程事件除了 T1 和 T2 之外，还有如下表 2 所示的日程事件 R1 至 R4。

[0049]

日程事件	R1	R2	R3	R4
日程内容	会议丙	会议丁	发邮件乙	发邮件丙
日程日期	2011-12-22	2011-12-22	2011-12-22	2011-12-22
日程状态	未完成	未完成	未完成	未完成

[0050] 表 2

[0051] 并且，在终端显示界面的时间轴一侧，其显示空间不足以将所有 2011-12-22 的日程事件显示出来（这里不妨假设在时间轴一侧及另一侧最多只能允许三个日程事件进行显示），则对同一日程日期的超出显示范围的各个日程事件建立扩展显示组，并显示所述扩展显示组的图形对象，如图 7 所示，其日程事件和扩展显示组 73 都在终端显示界面 71 中显示。在图 7 中示例性的根据 R2、R3 和 R4 建立扩展显示组 73，当然也可能是根据 R1 至 R4 中的任意三个建立扩展显示组 73；另外，本发明实施例所描述情况为：只能允许三个日程事件在时间轴一侧或另一侧进行显示，实际应用中，终端显示界面的显示范围各有不同，相应的能够显示的日程事件数量也有不同，实际场景中并不以此为限。在图 7 中的显示方式的基础上，如果接收到用户对所述扩展显示组的图形对象的打开指令（比如对所述图形对象的鼠标点击或触屏操作）时，在新建界面 72 中显示所述扩展显示组 73 的各个日程事件。

[0052] 进一步的，所述日程事件中还可以包括日程重要性，在此情况下，所述日程显示单元 32 还包括第四显示子单元，第四显示子单元用于根据所述日程事件的日程重要性，将所述日程事件按照不同属性显示在所述时间轴上。

[0053] 仍以表 1 为例，如果日程事件 T1 的重要性高于日程事件 T2，则其显示如图 5 所示；如果日程事件 T1 的重要性低于日程事件 T2，则其显示如图 8 所示，从而使得日程内容重要性高的日程事件相比于日程内容重要性低的日程事件的位置靠近时间轴。当然，实际使用中为了更明显的区别日程事件的重要性，可以在终端显示界面中使用不同的颜色来对不同重要性的日程事件进行标记显示。

[0054] 本发明实施例所述的终端可以是手机、平板电脑、掌上电脑、便携式计算机或台式电脑等，本发明实施例对此不做限定。

[0055] 此外，本发明实施例中，在终端显示界面中的时间轴可以沿横向延伸，也可以沿纵向延伸。比如，当终端进行横屏显示时，可以使时间轴沿横向延伸，已完成和未完成的日程事件分列该时间轴的上下侧；当终端进行竖屏显示时，可使时间轴沿纵向延伸，已完成和未完成的日程事件分列该时间轴的左右侧。由于能在终端显示界面中被显示的时间轴部分及

其两侧的日程事件是有限的，因此还可以通过终端的鼠标、按键或触屏操作，来操作终端显示界面中的时间轴进行移动，从而可以查看到更早期的日程事件以及未来的日程事件，具体方案本发明实施例不进行限制。

[0056] 可扩展的，在本发明实施例的终端的日程显示界面中，可以利用图形化的图标来表示日程内容，或以简明文字来描述日程事件主题，并且在用户对日程事件主题进行进一步操作（比如，鼠标点击日程事件主题）时，在新的界面中显示日程事件的详细内容，本发明实施例对此不进行限制。

[0057] 本发明实施例二提供一种终端，可以根据用户的日程设定指令，在终端显示界面中时间轴的一侧显示未完成的日程事件，并在时间轴的另一侧显示已完成的日程事件，同时根据日程事件的重要性对日程事件的显示进行区别排列，还可以通过扩展显示组在新的界面中显示更多的日程事件，这种沿着时间轴分别在时间轴两侧进行日程事件的显示的终端及方法，提升了日程信息的显示效果，并能明确区分出已完成的和未完成的日程工作和日程工作的重要性，有利于提高用户体验。

[0058] 实施例三

[0059] 本发明实施例还提供了一种日程显示的方法，如图 9 所示，该方法包括以下步骤：

[0060] 901、接收用户的日程事件设定指令。

[0061] 所述日程事件包含日程内容和日程日期，所述日程事件还包括日程状态，其中所述日程状态包括已完成状态和未完成状态。可选的，对于新建的日程事件，其日程状态默认设置为未完成状态。

[0062] 902、根据所述日程设定指令，将所述日程事件显示在时间轴上。

[0063] 其中，所述时间轴上标注有日历时间，在进行日程显示时，将每个日程事件显示在所述时间轴上与所述日程日期对应的日历时间上。

[0064] 在具体显示时，可以根据所述日程事件的日程状态，将所述日程事件显示在所述时间轴的两侧，比如，将日程状态为未完成的日程事件显示在所述时间轴的一侧；将日程状态为已完成的日程事件显示在所述时间轴的另一侧。可选的，当所述日程事件的状态发生变化时，将其显示在相对的另一侧。例如，当日程事件完成后，将完成的日程事件移动至与所述时间轴的未完成日程事件一侧相对的时间轴的另一侧进行显示。

[0065] 实际应用中，日程状态由未完成状态变更为已完成状态可以是由用户的手动设定而实现，也可以是终端根据预设条件自动实现，比如可规定当邮件发送成功时，将发送邮件这一日程事件对应的日程状态由未完成变更为已完成状态。此外，本发明实施例中的描述均以日程状态由未完成变更为已完成来进行说明，实际场景中也可根据用户需要使日程状态由已完成向未完成转变，本发明实施例对此不做限制。

[0066] 此外，在本发明实施例所提供的方法中，当同一日程日期的日程事件数量超出所述终端显示界面的显示范围时，还要对同一日程日期的超出显示范围的各个日程事件建立扩展显示组，并在对应时间轴的日历时间的位置显示所述扩展显示组的图形对象；可选的，对于建立了扩展显示组的情况，当终端接收到用户对所述扩展显示组的图形对象的打开指令时，在新建界面中显示所述扩展显示组的各个日程事件。其具体描述可参考本发明实施例上文终端部分的描述，此处不再赘述。

[0067] 进一步可选的，所述日程事件设定指令中还可以包含日程内容重要性信息，在此

情况下，本发明实施例所提供的方法，还可以根据所述日程内容重要性，将所述日程事件按照不同属性显示在所述时间轴上。所述不同属性包括日程事件与时间轴距离的远近、日程事件的显示颜色等属性中的至少一项。例如，在显示具有同样日程日期的日程事件时，使得日程内容重要性高的日程事件相比于日程内容重要性低的日程事件的位置更靠近时间轴，或将日程重要性高的日程事件显示为红色等，其具体描述可参考本发明实施例上文终端部分的描述，此处不再赘述。

[0068] 另外，本发明实施例所提供的方法，在终端显示界面中的时间轴可以沿横向延伸，也可以沿纵向延伸。比如，当终端进行横屏显示时，可以使时间轴沿横向延伸，已完成和未完成的日程事件分列该时间轴的上下侧；当终端进行竖屏显示时，可使时间轴沿纵向延伸，已完成和未完成的日程事件分列该时间轴的左右侧。由于能在终端显示界面中被显示的时间轴部分及其两侧的日程事件是有限的，因此还可以通过终端的鼠标、按键或触屏操作，来操作终端显示界面中的时间轴进行移动，从而可以查看到更早期的日程事件以及未来的日程事件。

[0069] 本发明实施例中终端显示界面里显示的时间轴，除了沿直线横向或竖向显示之外，也可以使用其他图形化的方式进行显示，比如，将时间轴设置为具有一定弧度的曲线形，或是设置为环形等，本发明实施例对此并不进行限定。

[0070] 本发明实施例三提供一种日程显示的方法，根据用户的日程设定指令，在终端显示界面中时间轴的一侧显示未完成的日程事件，并在时间轴的另一侧显示已完成的日程事件，同时根据日程事件的重要性对日程事件的显示进行区别排列，还可以通过扩展显示组在新的界面中显示更多的日程事件，这种沿着时间轴分别在时间轴两侧进行日程事件的显示的终端及方法，提升了日程信息的显示效果，并能明确区分出已完成的和未完成的日程工作和日程工作的重要性，有利于提高用户体验。

[0071] 本领域普通技术人员可以理解：实现上述方法实施例的全部或部分步骤可以通过程序指令相关的硬件来完成，前述的程序可以存储于一计算机可读取存储介质中，该程序在执行时，执行包括上述方法实施例的步骤；而前述的存储介质包括：ROM、RAM、磁碟或者光盘等各种可以存储程序代码的介质。

[0072] 以上所述，仅为本发明的具体实施方式，但本发明的保护范围并不局限于此，任何熟悉本技术领域的技术人员在本发明揭露的技术范围内，可轻易想到的变化或替换，都应涵盖在本发明的保护范围之内。因此，本发明的保护范围应以所述权利要求的保护范围为准。

11-01 会议一 会议二	11-02 发邮件	11-03 会议一 会议二 工作报告	11-04 会议一 会议四 会议二 发邮件 会议三
11-05 发邮件一 发邮件二	11-06 会议一 会议二	11-07	11-08 年终总结
……	……	……	……

图 1

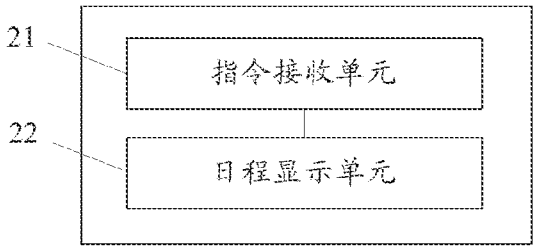


图 2

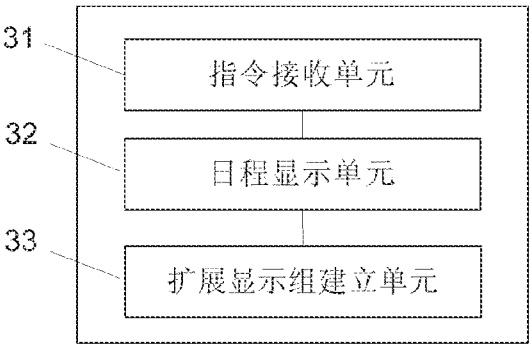


图 3

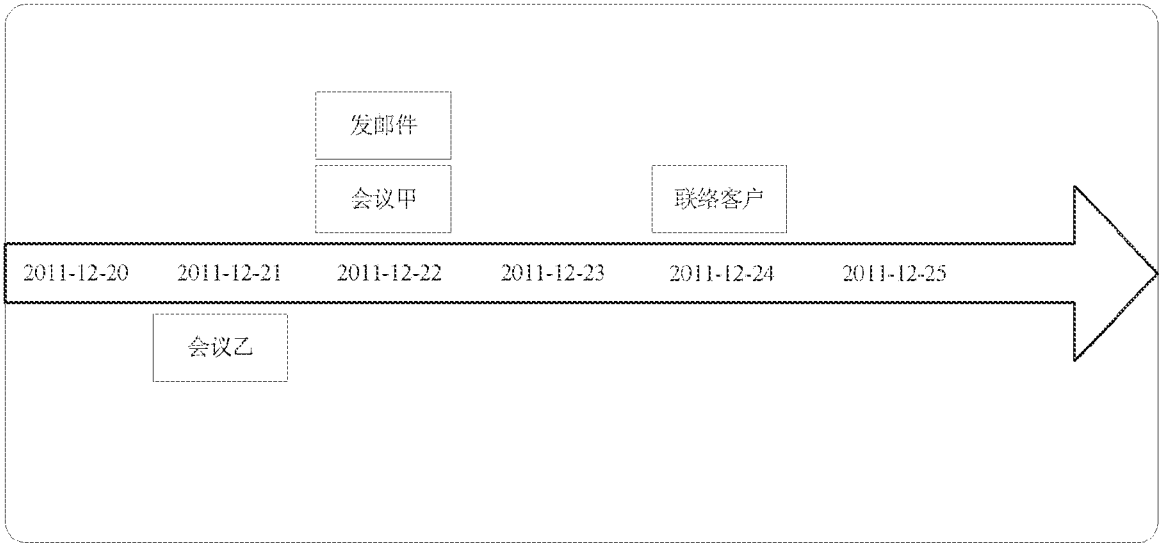

发邮件
会议甲
联络客户
2011-12-20
2011-12-21
2011-12-22
2011-12-23
2011-12-24
2011-12-25
会议乙

图 4

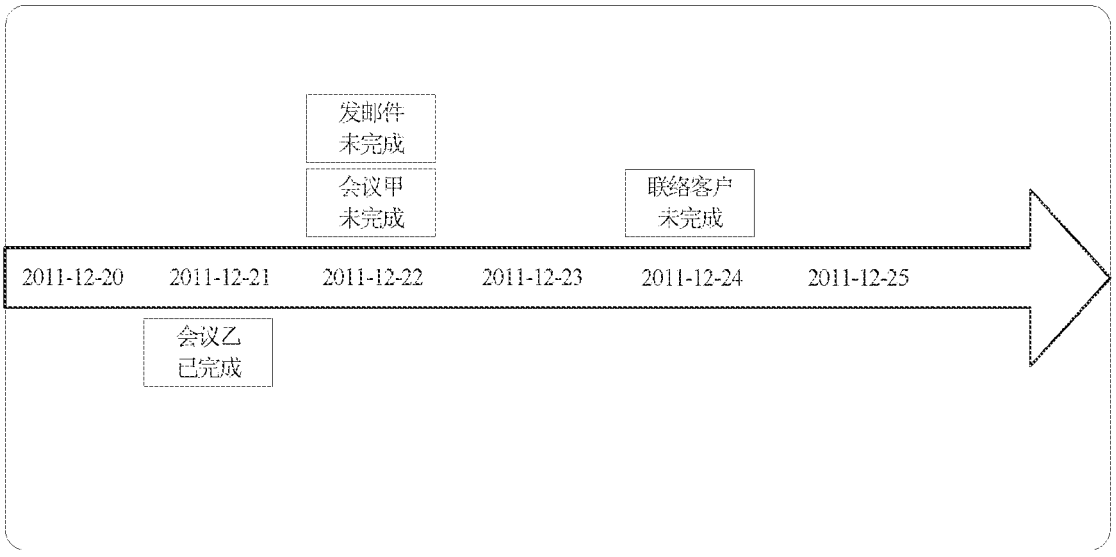

发邮件
未完成
会议甲
未完成
联络客户
未完成
2011-12-20
2011-12-21
2011-12-22
2011-12-23
2011-12-24
2011-12-25
会议乙
已完成

图 5

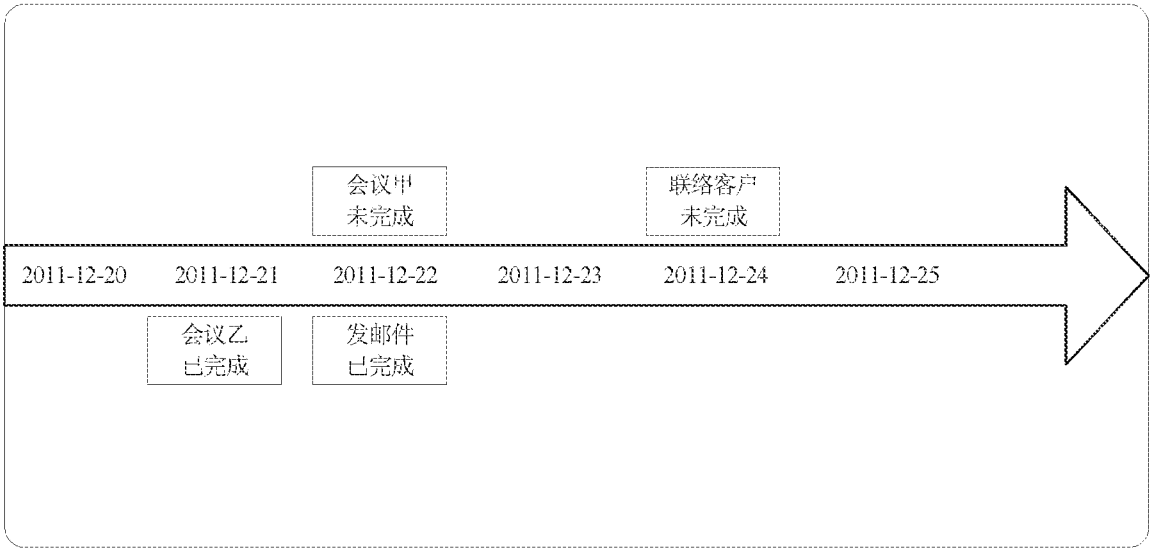

会议甲
未完成
联络客户
未完成
2011-12-20
2011-12-21
2011-12-22
2011-12-23
2011-12-24
2011-12-25
会议乙
已完成
发邮件
已完成

图 6

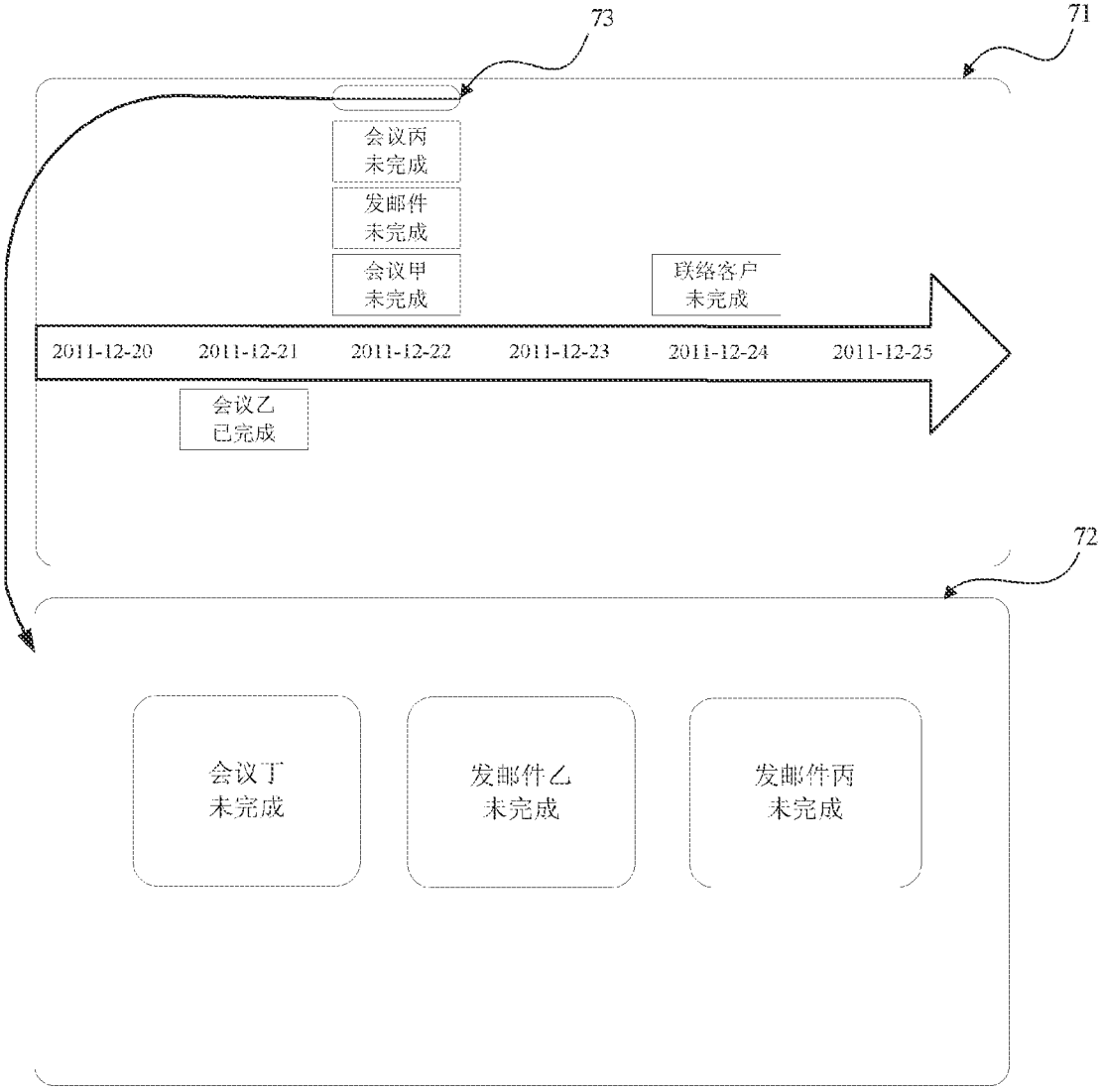

73
71
会议丙
未完成
发邮件
未完成
会议甲
未完成
联络客户
未完成
2011-12-20
2011-12-21
2011-12-22
2011-12-23
2011-12-24
2011-12-25
会议乙
已完成
72
会议丁
未完成
发邮件乙
未完成
发邮件丙
未完成

图 7

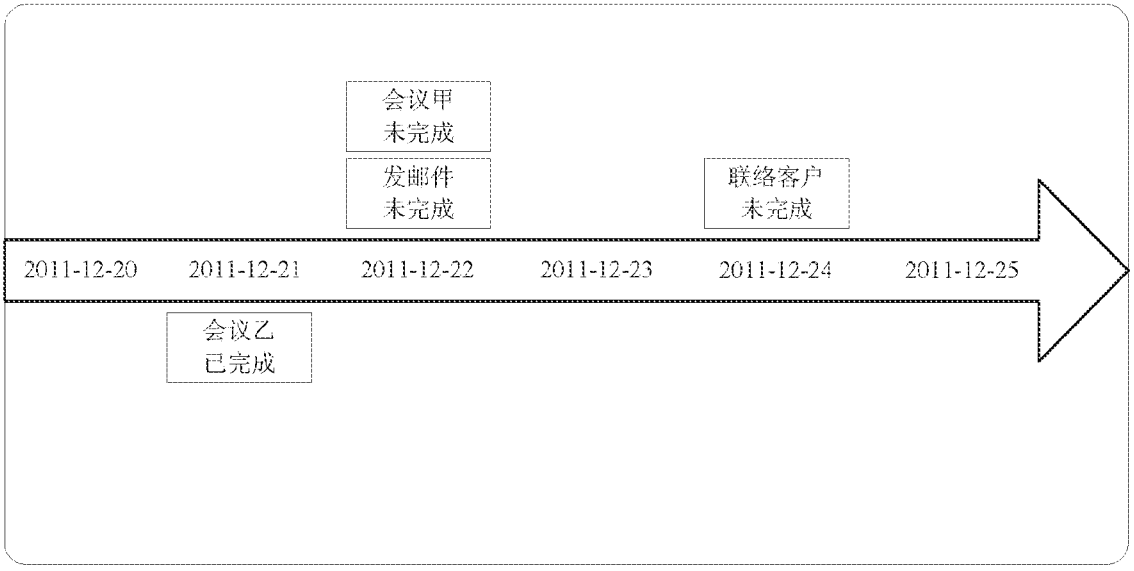

会议甲
未完成
发邮件
未完成
联络客户
未完成
2011-12-20
2011-12-21
2011-12-22
2011-12-23
2011-12-24
2011-12-25
会议乙
已完成

图 8

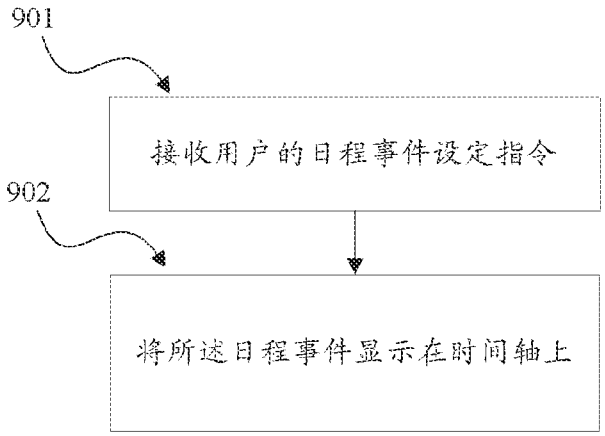

901
接收用户的日程事件设定指令
902
将所述日程事件显示在时间轴上

图 9

Espacenet

CN103677415A Time relevant information processing method for electronic equipment with touch-sensitive displayer

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Time relevant information processing method for electronic equipment with touch-sensitive displayer

Abstract

The invention relates to the field of time information processing, in particular to a time relevant information processing method for electronic equipment with a touch-sensitive displayer. A linear time axis is included and is displayed in the touch-sensitive displayer. A plurality of nodes are arranged on the time axis. The nodes comprise bottom layer nodes which represent the set time minimum unit and upper layer nodes which represent the time collection of time units, wherein the time minimum unit is relevant to corresponding information. Touching with the touch-sensitive displayer is detected, according to the touching position and a gesture state, the operation of lower-level time unit unfolding or folding is carried out on the upper layer nodes, and/or the operation of front-time-period or back-time-period showing is carried out on the nodes. If the bottom layer nodes which represent the time minimum unit are selected in a spot mode in the touch-sensitive displayer, relevant corresponding information is shown. According to the time information processing method, the time nodes can be adjusted according to the size of a shown page and the requirement of a user, and the time nodes are distributed in a discontinuous mode.

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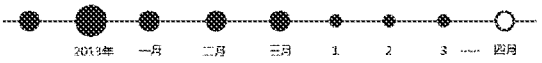
权利要求书1页 说明书4页 附图1页

(54)发明名称

用于具有触敏显示器的电子设备的时间相关信息处理方法

(57)摘要

本发明涉及时间信息处理领域，尤其涉及用于具有触敏显示器的电子设备的时间相关信息处理方法，包括：线状的时间轴，其显示在触敏显示器上，在时间轴上具有多个节点，所述节点包括代表设定的时间最小单位的底层节点，和代表时间单位的时间集合的上层节点，其中时间最小单位与对应信息相关；检测与所述触敏显示器的接触，根据接触位置和手势状态，对上层节点执行展开或折叠下级时间单位的操作，和/或对节点执行展示其前时段或后时段的操作；以及如果在触敏显示器上点选代表时间最小单位的底层节点，则展示相关的对应信息。本发明提供了一种可根据展示页面的大小和用户的需要调整时间节点，且时间节点的分布是不连续的时间信息处理方法。



CN 103677415 A

1. 用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，包括：

线状的时间轴，其显示在触敏显示器上，在时间轴上具有多个节点，所述节点包括代表设定的时间最小单位的底层节点，和代表时间单位的时间集合的上层节点，其中时间最小单位与对应信息相关；

检测与所述触敏显示器的接触，根据接触位置和手势状态，对上层节点执行展开或折叠下级时间单位的操作，和/或对节点执行展示其前时段或后时段的操作；以及

如果在触敏显示器上点选代表时间最小单位的底层节点，则展示相关的对应信息。

2. 如权利要求 1 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述的线状的时间轴为直线状或弧线状。

3. 如权利要求 1 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述时间最小单位为日，且所述上层节点有两层，分别为月和年。

4. 如权利要求 3 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述对应信息为日志。

5. 如权利要求 1 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述根据接触位置和手势状态包括：敲击到一个上层节点上，该上层节点展开或折叠其下级时间单位。

6. 如权利要求 1 或 5 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述根据接触位置和手势状态包括：拖拽和/或滑动当前显示的整个时间轴上的任意位置处，对临近该位置处的节点执行展示其前时段或后时段的操作。

7. 如权利要求 6 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述根据接触位置和手势状态包括：拉伸或捏合当前显示的时间轴上的任意两个节点，对这两个节点之间的时间节点分别执行展开或折叠操作。

8. 如权利要求 7 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述拉伸或捏合的任意两个节点包括同层的节点和不同层的节点。

9. 如权利要求 2 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述的线状的时间轴可水平或垂直显示在触敏显示器上。

10. 如权利要求 1 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述时间轴上每两个相邻的节点以相同的距离表示，所述每两个相邻的节点包括同层的节点和不同层的节点。

用于具有触敏显示器的电子设备的时间相关信息处理方法

技术领域

[0001] 本发明涉及时间信息处理领域，尤其涉及用于具有触敏显示器的电子设备的时间相关信息处理方法。

背景技术

[0002] 在计算机软件中，经常会有按时间顺序展示内容的情景。传统的时间轴通常是一条直线，直线上连续均匀分布一些点，点旁边标注时间。其特点是：点之间的距离等比于点所对应的时刻间的时间距离。即时间轴是把时间概念投射到平面直线上，投射的规则是，时间距离等比于直线上的对应的点间距离。换言之，即传统时间轴所采用的比例尺是固定的，且不能根据展示页面的大小和用户的需要调整时间轴的展示方式。

发明内容

[0003] 针对上述技术问题，本发明设计开发了用于具有触敏显示器的电子设备的时间相关信息处理方法，目的在于提供一种可根据展示页面的大小和用户的需要调整时间节点，且时间节点的分布是不连续的时间信息处理方法。

[0004] 本发明提供的技术方案为：

[0005] 用于具有触敏显示器的电子设备的时间相关信息处理，包括：

[0006] 线状的时间轴，其显示在触敏显示器上，在时间轴上具有多个节点，所述节点包括代表设定的时间最小单位的底层节点，和代表时间单位的时间集合的上层节点，其中时间最小单位与对应信息相关；

[0007] 检测与所述触敏显示器的接触，根据接触位置和手势状态，对上层节点执行展开或折叠下级时间单位的操作，和/或对节点执行展示其前时段或后时段的操作；以及

[0008] 如果在触敏显示器上点选代表时间最小单位的底层节点，则展示相关的对应信息。

[0009] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述的线状的时间轴为直线状或弧线状。

[0010] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述时间最小单位为日，且所述上层节点有两层，分别为月和年。

[0011] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述对应信息为日志。

[0012] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述根据接触位置和手势状态包括：敲击到一个上层节点上，该上层节点展开或折叠其下级时间单位。

[0013] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述根据接触位置和手势状态包括：拖拽和/或滑动当前显示的整个时间轴上的任意位置处，对临近该位置处的节点执行展示其前时段或后时段的操作。

[0014] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述根据接触位置和手势状态包括：拉伸或捏合当前显示的时间轴上的任意两个节点，对这两个节点之间的时间节点分别执行展开或折叠操作。

[0015] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述拉伸或捏合的任意两个节点包括同层的节点和不同层的节点。

[0016] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法，其特征在于，所述的线状的时间轴可水平或垂直显示在触敏显示器上。

[0017] 优选的是，所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述时间轴上每两个相邻的节点以相同的距离表示，所述每两个相邻的节点包括同层的节点和不同层的节点。

[0018] 本发明所述的用于具有触敏显示器的电子设备的时间相关信息处理方法具有以下有益效果：不同层级的时间节点以当前日期为参考显示在时间轴上，距离当前日期最远的时间节点以最大层级显示，当需要查看某一底层节点对应的相关信息时，只需敲击该底层节点所属的上一层时间节点或更高层的时间节点，当再次敲击时，已展开的当前层级的时间节点折叠，实现了同样的距离在时间轴上可代表不同的时间跨度。同时用户可根据需要利用拖拽或滑动的姿势带动时间轴移动，查找未显示在当前位置的时间节点，不需切换交互页面；且通过拉伸或捏合当前显示的时间轴上的任意两个节点，展开或折叠下一层级的时间节点，实现对当前页面大小的调控，多个上层节点可同时展示在触敏显示器上，减少拖拽或滑动的次数，方便查找相关信息。本发明所述的方法可以用于多种软件设计中，例如记事本、日程、日历、微博、博客、社交网站等，时间轴的展示更加直观。

附图说明

[0019] 图 1 是本发明所述的时间轴的展开示意图；

[0020] 图 2 是本发明所述的时间轴的折叠示意图。

具体实施方式

[0021] 下面结合附图对本发明做进一步的详细说明，以令本领域技术人员参照说明书文字能够据以实施。

[0022] 本发明提供一种用于具有触敏显示器的电子设备的时间相关信息处理方法，包括：

[0023] 线状的时间轴，其显示在触敏显示器上，在时间轴上具有多个节点，所述节点包括代表设定的时间最小单位的底层节点，和代表时间单位的时间集合的上层节点，其中时间最小单位与对应信息相关；

[0024] 检测与所述触敏显示器的接触，根据接触位置和手势状态，对上层节点执行展开或折叠下级时间单位的操作，和 / 或对节点执行展示其前时段或后时段的操作；以及

[0025] 如果在触敏显示器上点选代表时间最小单位的底层节点，则展示相关的对应信息。

[0026] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述的线状的时间轴为直线状或弧线状，当时间轴为直线状时，用户只需水平拖拽或滑动，当时间轴为

弧线状时，时间轴的展示更加美观，用户随时间轴的弯曲弧度拖拽或滑动时间轴进行展示。

[0027] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述时间最小单位为日，且所述上层节点有两层，分别为月和年，也可根据用户需要设置为包括秒、分、时、日、周、月、季、年、代、纪等多个层级节点的时间轴，若以秒为时间最小单位，上层节点包括分和时，则该时间轴可以用来记录运动员训练时间和具体训练项目，也可以用来记录科研人员进行科研实验的时间和具体的实验现象、实验进展；若以纪为最上层时间节点，以日为时间最小单位，则该时间轴可以用来记录已发生的重大历史事件；以点的大小表示节点层级的不同，点越大，节点层级越高，以点的颜色表示过去时间节点和将来时间节点，黑点表示过去时间节点，白点表示将来时间节点。

[0028] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述对应信息为日志，包括运动员的具体训练项目，实验现象和导致该实验现象可能的原因分析，重大历史事件发生的地点、背景、影响，每日的备忘录等。

[0029] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述根据接触位置和手势状态包括：敲击到一个上层节点上，该上层节点展开或折叠其下级时间单位。

[0030] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述根据接触位置和手势状态包括：拖拽和 / 或滑动当前显示的整个时间轴上的任意位置处，对临近该位置处的节点执行展示其前时段或后时段的操作。

[0031] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述根据接触位置和手势状态包括：拉伸或捏合当前显示的时间轴上的任意两个节点，对这两个节点之间的时间节点分别执行展开或折叠操作。

[0032] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述拉伸或捏合的任意两个节点包括同层的节点和不同层的节点。

[0033] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述的线状的时间轴可水平或垂直显示在触敏显示器上。

[0034] 所述的用于具有触敏显示器的电子设备的时间相关信息处理方法中，所述时间轴上每两个相邻的节点以相同的距离表示，所述每两个相邻的节点包括同层的节点和不同层的节点，如图 1 所示，时间轴上 2013 年 1 月和 2 月之间的距离和 2013 年 3 月 1 日和 2013 年 3 月 2 日之间的距离相等，但前者表示的时间跨度为 1 个月，后者表示的时间跨度为 1 天，2013 年 3 月和 2013 年 3 月 1 日两个节点处于不同的层级，但在时间轴上两者之间距离与 2013 年 1 月和 2 月之间的距离相同；图 1 中的当前时间为 2013 年 3 月 2 日，距离当前时间较近的时间以日显示，如 2013 年 3 月 1 日，2013 年 3 月 3 日，较远的时间则依次以月、年显示，如 2013 年 2 月，2013 年 4 月，实现了同样的距离在时间轴上可代表不同的时间跨度，更符合人们的直观感受。

[0035] 如图 1 和图 2 所示，触敏显示器显示的是 2013 年 1 月至 4 月的时间节点，底层节点为日，上层节点包括月和年，当需要查看 2013 年 3 月 2 日的对应信息时，首先通过拖拽或滑动时间轴找到 2013 年 3 月的时间节点，包括从左到右、从右到左的拖拽或滑动，触敏显示器上显示的时间轴当前页面随拖拽和滑动的方向移动，当找到 2013 年 3 月的时间节点时停止拖拽或滑动，敲击 2013 年 3 月的时间节点或拉伸 2013 年 3 月和 2013 年 4 月两个节点，2013 年 3 月 1 日至 31 日的多个底层节点展开，点选 2013 年 3 月 2 日的底层节点，则展示相

关的对应信息。若展开的 2013 年 3 月 1 日至 31 日的多个底层节点的页面中 2013 年 3 月 2 日的底层节点并不位于整个页面的中心，不方便查看时，可再次通过向后拖拽或滑动的方式将其调整到方便查看的位置。当当前信息查看完成时，可通过敲击 2013 年 3 月的时间节点或捏合 2013 年 3 月和 2013 年 4 月两个节点将 2013 年 3 月的多个底层节点折叠，节省页面空间。

[0036] 尽管本发明的实施方案已公开如上，但其并不仅仅限于说明书和实施方式中所列运用，它完全可以被适用于各种适合本发明的领域，对于熟悉本领域的人员而言，可容易地实现另外的修改，因此在不背离权利要求及等同范围所限定的一般概念下，本发明并不限于特定的细节和这里示出与描述的图例。

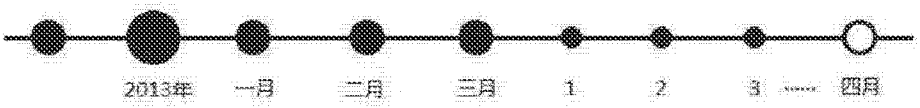


图 1

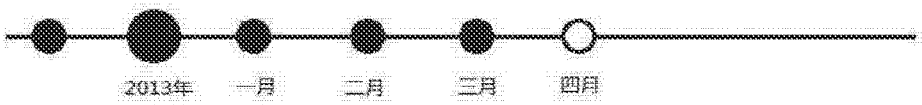


图 2

Espacenet

CN104216651A Social information displaying method and device

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Social information displaying method and device

Abstract

The invention provides a social information displaying method which comprises the steps that social information of friends of a user is obtained; time axes corresponding to the friends are displayed at intervals on an interface; and according to the issuing time of the social information of the friends corresponding to the time axes, the corresponding nodes of the corresponding social information of the friends are arrayed and displayed on the time axes. According to the method, convenience for checking of the social information of the multiple friends is improved, and user operation time is saved. In addition, the invention provides a social information displaying device.

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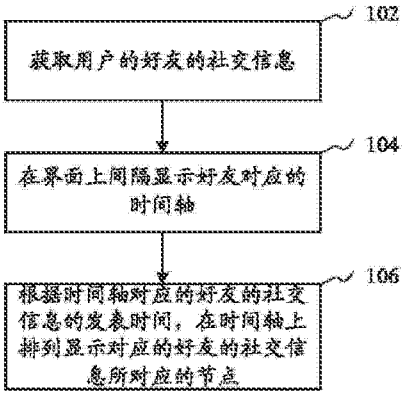
权利要求书3页 说明书10页 附图6页

(54)发明名称

显示社交信息的方法和装置

(57)摘要

本发明提供了一种显示社交信息的方法，所述方法包括：获取用户的好友的社交信息；在界面上间隔显示所述好友对应的时间轴；根据所述时间轴对应的好友的社交信息的发表时间，在所述时间轴上排列显示所述对应的好友的社交信息所对应的节点。采用该方法，提高了查看多个好友的社交信息的便利性，节省了用户操作的时间。此外，还提供了一种显示社交信息的装置。



CN 104216651 A

1. 一种显示社交信息的方法，所述方法包括：

获取用户的好友的社交信息；

在界面上间隔显示所述好友对应的时间轴；

根据所述时间轴对应的好友的社交信息的发表时间，在所述时间轴上排列显示所述对应的好友的社交信息所对应的节点。

2. 根据权利要求 1 所述的方法，其特征在于，所述在界面上间隔显示所述好友对应的时间轴的步骤为：

根据屏幕大小确定显示时间轴的好友数量，在界面上间隔显示所述好友数量的好友对应的时间轴。

3. 根据权利要求 1 所述的方法，其特征在于，所述根据时间轴对应的好友的社交信息的发表时间，在所述时间轴上排列显示所述对应的好友的社交信息所对应的节点的步骤为：

根据所述时间轴对应的好友的社交信息的发表时间，确定好友对应的时间轴上显示的节点的个数；

根据所述节点的个数和所述节点对应的社交信息的发表时间确定所述节点在界面上的显示位置；

根据所述显示位置在所述时间轴上显示所述节点。

4. 根据权利要求 1 至 3 任一项所述的方法，其特征在于，在获取用户的好友的社交信息的步骤之后，还包括：缓存获取的所述好友的社交信息；

所述方法还包括：

检测作用于所述界面上的滑动信号；

当检测到所述滑动信号时，在界面上间隔显示所述缓存的好友对应的时间轴；和 / 或

当检测到所述滑动信号时，根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示所述缓存的好友的社交信息所对应的节点。

5. 根据权利要求 1 所述的方法，其特征在于，所述方法还包括：

在界面上显示所述节点对应的社交信息的发表时间和 / 或评论信息。

6. 根据权利要求 1 所述的方法，其特征在于，所述方法还包括：

检测作用于所述节点上的第一操作信号；

当检测到所述第一操作信号时，显示所述节点对应的操作菜单。

7. 根据权利要求 1 所述的方法，其特征在于，所述方法还包括：

检测作用于所述节点上的第二操作信号；

当检测到所述第二操作信号时，根据所述节点对应的社交信息的类型显示所述节点对应的社交信息。

8. 根据权利要求 1 所述的方法，其特征在于，所述方法还包括：

获取用户的社交信息；

在界面上显示用户对应的时间轴；以及

根据所述用户的社交信息的发表时间，在所述用户对应的时间轴上排列显示所述用户的社交信息所对应的节点。

9. 根据权利要求 8 所述的方法，其特征在于，所述方法还包括：

在界面上显示辅助线；

所述用户对应的时间轴上的一个节点位于所述辅助线上。

10. 一种显示社交信息的装置，其特征在于，所述装置包括：

社交信息获取模块，用于获取用户的好友的社交信息；

时间轴显示模块，用于在界面上间隔显示所述好友对应的时间轴；

节点显示模块，用于根据所述时间轴对应的好友的社交信息的发表时间，在所述时间轴上排列显示所述对应的好友的社交信息所对应的节点。

11. 根据权利要求 10 所述的装置，其特征在于，所述时间轴显示模块用于根据屏幕大小确定显示时间轴的好友数量，在界面上间隔显示所述好友数量的好友对应的时间轴。

12. 根据权利要求 10 所述的装置，其特征在于，所述节点显示模块包括：

节点个数确定模块，用于根据所述时间轴对应的好友的社交信息的发表时间，确定好友对应的时间轴上显示的节点的个数；

节点位置确定模块，用于根据所述节点的个数和所述节点对应的社交信息的发表时间确定所述节点在界面上的显示位置；

第一节点显示模块，用于根据所述显示位置在所述时间轴上显示所述节点。

13. 根据权利要求 10 至 12 任一项所述的装置，其特征在于，所述装置还包括：

缓存模块，用于缓存获取的所述好友的社交信息；

滑动检测模块，用于检测作用于所述界面上的滑动信号；

所述时间轴显示模块还用于当所述滑动检测模块检测到所述滑动信号时，在界面上间隔显示所述缓存的好友对应的时间轴；和 / 或

所述节点显示模块还用于当所述滑动检测模块检测到所述滑动信号时，根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示所述缓存的好友的社交信息所对应的节点。

14. 根据权利要求 10 所述的装置，其特征在于，所述装置还包括：

时间显示模块，用于在界面上显示所述节点对应的社交信息的发表时间；和 / 或评论显示模块，用于在界面上显示所述节点对应的社交信息的评论信息。

15. 根据权利要求 10 所述的装置，其特征在于，所述装置还包括：

第一操作检测模块，用于检测作用于所述节点上的第一操作信号；

菜单显示模块，用于当所述第一操作检测模块检测到所述第一操作信号时，显示所述节点对应的操作菜单。

16. 根据权利要求 10 所述的装置，其特征在于，所述装置还包括：

第二操作检测模块，用于检测作用于所述节点上的第二操作信号；

社交信息显示模块，用于当所述第二操作检测模块检测到所述第二操作信号时，根据所述节点对应的社交信息的类型显示所述节点对应的社交信息。

17. 根据权利要求 10 所述的装置，其特征在于，所述社交信息获取模块还用于获取用户的社交信息；所述时间轴显示模块还用于在界面上显示用户对应的时间轴；以及所述节点显示模块还用于根据所述用户的社交信息的发表时间，在所述用户对应的时间轴上排列显示所述用户的社交信息所对应的节点。

18. 根据权利要求 17 所述的装置，其特征在于，所述装置还包括：

辅助线显示模块，用于在界面上显示辅助线；

所述用户对应的时间轴上的一个节点位于所述辅助线上。

显示社交信息的方法和装置

技术领域

[0001] 本发明涉及计算机技术领域，特别是涉及一种显示社交信息的方法和装置。

背景技术

[0002] 近年来，随着社交网络的走红，越来越多的人加入了社交网络。人们通过社交网络发布自己的心情生活等信息，分享给自己的好友，以期取得共鸣。传统的显示社交信息的方法通常是：对于某个用户，按照发表时间的先后顺序逐条显示其发表的社交信息。

[0003] 然而，发明人发现现有技术至少存在以下问题：

[0004] 如果用户想要查看好友发布的社交信息，需要通过一系列复杂操作，包括但不限于进入好友列表选择好友，然后点击进入到好友的个人主页，才能查看到好友所发布的社交信息。当需要查看多个好友的社交信息时，则每个都需要这样的操作，增加了用户操作的时间，特别是使用电量有限的移动终端来查看好友发布的社交信息时，缩短了移动终端的续航时间。

发明内容

[0005] 基于此，有必要针对查看好友的社交信息操作繁琐的问题，提供一种显示社交信息的方法和装置。

[0006] 一种显示社交信息的方法，所述方法包括：

[0007] 获取用户的好友的社交信息；

[0008] 在界面上间隔显示所述好友对应的时间轴；

[0009] 根据所述时间轴对应的好友的社交信息的发表时间，在所述时间轴上排列显示所述对应的好友的社交信息所对应的节点。

[0010] 一种显示社交信息的装置，所述装置包括：

[0011] 社交信息获取模块，用于获取用户的好友的社交信息；

[0012] 时间轴显示模块，用于在界面上间隔显示所述好友对应的时间轴；

[0013] 节点显示模块，用于根据所述时间轴对应的好友的社交信息的发表时间，在所述时间轴上排列显示所述对应的好友的社交信息所对应的节点。

[0014] 上述显示社交信息的方法和装置，通过在界面上显示好友对应的时间轴，以及在时间轴上显示对应的好友的社交信息所对应的节点，通过该界面即可查看用户的多个好友的社交信息，无需每个都进入好友的个人主页，节省了用户操作的时间，特别是应用在移动终端上时，能增加续航时间。

附图说明

[0015] 图 1 为一个实施例中显示社交信息的方法的流程示意图；

[0016] 图 2 为图 1 所示实施例提供的显示社交信息的界面示意图；

[0017] 图 3 为一个实施例中在时间轴上显示节点的流程示意图；

[0018] 图 4 为一个实施例中显示社交信息的界面示意图；

[0019] 图 5A ～ 5B 为另一个实施例提供的显示社交信息的界面示意图；

[0020] 图 6 为一个实施例中显示社交信息的装置的结构框图；

[0021] 图 7 为一个实施例中节点显示模块的结构框图；

[0022] 图 8 为另一个实施例中显示社交信息的装置的结构框图；

[0023] 图 9 为再一个实施例中显示社交信息的装置的结构框图；

[0024] 图 10 为又一个实施例中显示社交信息的装置的结构框图；

[0025] 图 11 为一个实施例中显示社交信息的终端的结构示意图。

具体实施方式

[0026] 为了使本发明的目的、技术方案及优点更加清楚明白，以下结合附图及实施例，对本发明进行进一步详细说明。应当理解，此处所描述的具体实施例仅仅用以解释本发明，并不用于限定本发明。

[0027] 在一个实施例中，提供了一种显示社交信息的方法，该方法以应用在具有显示功能的终端中进行举例说明，这些终端包括但不限于个人计算机、个人数字助理、智能手机、平板电脑、膝上型便携计算机等。如图 1 所示，包括：

[0028] 步骤 102，获取用户的好友的社交信息。

[0029] 用户的好友，可以是用户在各种社交平台上设置的与自身关系密切的人，包括但不限于用户在社交平台上的好友、关注人和收听人等。用户的好友的社交信息，为用户的好友在各种社交平台上发表的信息，这些社交平台包括但不限于 SNS 社区、即时通讯平台、微博平台等。用户的好友在这些社交平台上发表的社交信息可保存在服务器中，当终端接收到显示好友的社交信息的请求时，可从服务器拉取用户的好友的社交信息。终端可将从服务器拉取的好友的社交信息存储在本地，因此也可直接从本地中获取之前存储的好友的社交信息。

[0030] 步骤 104，在界面上间隔显示好友对应的时间轴。

[0031] 每个好友都对应了一条时间轴，时间轴在界面上可以横向显示，也可以纵向显示。在一个实施例中，步骤 104 具体为：根据屏幕大小确定显示时间轴的好友数量，在界面上间隔显示该好友数量的好友对应的时间轴。由于用户的好友可能非常多，并不能同时在终端的界面上进行显示，在获取到用户的好友的社交信息后，可检测终端的屏幕大小，根据屏幕大小确定显示时间轴的好友数量。例如，当检测到终端的屏幕大小为智能手机的屏幕大小，则确定显示时间轴的好友数量为 3 个，当检测到终端的屏幕大小为平板电脑的屏幕大小，则确定显示时间轴的好友数量为 5 个，等等。

[0032] 进一步的，在一个实施例中，当终端接收到显示好友的社交信息的请求时，可检测终端的屏幕大小，根据屏幕大小确定显示时间轴的好友数量，并从服务器拉取该好友数量的好友的社交信息。由于仅从服务器拉取所需要显示的数量的好友的社交信息，因此能够节省网络流量。在一个优选的实施例中，还可根据好友的优先级从高到低拉取该好友数量的好友的社交信息。比如，用户添加该好友的时间越长，好友的优先级越高；又如，好友被用户设置为特别关心的人，则优先级越高；等等。

[0033] 步骤 106，根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示对

应的好友的社交信息所对应的节点。

[0034] 社交信息所对应的节点可以在时间轴上以控件的形式显示，一种显示社交信息的界面如图 2 所示，其中，在界面上间隔显示了好友对应的时间轴 202，每个好友对应了一个时间轴 202，时间轴 202 纵向显示。在时间轴 202 上显示了节点 204，节点 204 以圆形的控件的形式显示，并按照对应的社交信息的发表时间的先后顺序进行排列。

[0035] 进一步的，节点 204 可根据对应的社交信息的类型显示不同的内容，如：对应的社交信息为文字信息，则在节点 204 上显示文字信息的一部分；对应的社交信息为图片信息，则在节点 204 上可显示图片的缩略图；对应的社交信息为音视频信息，则在节点 204 上可显示音视频图标，等等。进一步的，通过对节点 204 的操作，如单击、双击等，可在界面上显示与节点 204 对应的社交信息。

[0036] 本实施例中，通过在界面上显示好友对应的时间轴，以及在时间轴上显示对应的好友的社交信息所对应的节点，通过该界面即可查看用户的多个好友的社交信息，无需每个都进入好友的个人主页，节省了用户操作的时间，特别是应用在移动终端上时，能增加续航时间。

[0037] 在一个实施例中，如图 3 所示，步骤 106 的具体过程为：

[0038] 步骤 302，根据时间轴对应的好友的社交信息的发表时间，确定好友对应的时间轴上显示的节点的个数。

[0039] 对于需在界面上显示时间轴的好友，根据好友的社交信息的发表时间，可以得到在第一预设时间内好友的社交信息的数量，具体的，可确定好友对应的时间轴上显示的节点的个数为第一预设时间内好友发表的社交信息的数量，且至少有一个时间轴上显示的节点至少为两个。当在第一预设时间内所有好友发表的社交信息的数量都少于两个，则确定好友对应的时间轴上显示的节点的个数为第二预设时间内好友发表的社交信息的数量，且至少有一个时间轴上显示的节点至少为两个。

[0040] 例如，第一预设时间内为一天，若在一天内有好友的社交信息包含至少两条，则时间轴上显示对应的好友在一天内发表的社交信息对应的节点；若在一天内好友的社交信息为零，则时间轴上显示对应的好友在一个星期或一个月内发表的社交信息对应的节点。

[0041] 步骤 304，根据节点的个数和节点对应的社交信息的发表时间确定节点在界面上的显示位置。

[0042] 在确定好时间轴上显示的节点的个数后，根据节点对应的社交信息的发表时间即可确定相邻两条社交信息对应的节点在时间轴上的距离，从而确定了节点在界面上的显示位置。

[0043] 步骤 306，根据显示位置在时间轴上显示节点。

[0044] 本实施例中，通过确定时间轴上显示的节点的个数，以及节点的在界面上的显示位置，从而能够实现在时间轴对应的位置上显示节点，由于每个好友对应了一个时间轴，时间轴上可以按照社交信息的发表时间排列显示该好友的社交信息对应的节点，使得好友的社交信息可以二维矩阵的形式在界面上显示，便于用户查看，节省了用户操作的时间。

[0045] 在一个实施例中，可检测作用于时间轴或节点的移动信号；当检测到时间轴或节点的移动信号时，可根据移动信号对时间轴或节点进行移动。本实施例中，时间轴和节点都能处于可移动的状态，用户可以对移动任何一个好友对应的时间轴，也可以移动任何一条

时间轴上的任何一个节点，从而提高了查看的便利性。

[0046] 在一个实施例中，在获取用户的好友的社交信息后，还包括：缓存获取的好友的社交信息。本实施例中，在终端从服务器获取到用户的好友的社交信息后，可将获取的好友的社交信息缓存在本地。进一步的，可根据终端的屏幕大小设置缓存的好友数量和每个好友缓存的社交信息的数量。例如，对于平板电脑、智能手机等终端，可设置缓存 2 ～ 3 个好友的社交信息，每个好友缓存 3 ～ 5 条社交信息。进一步的，当终端获取到显示社交信息的请求时，可从服务器获取应在界面上显示时间轴的好友的社交信息，并在时间轴上显示对应的好友的社交信息所对应的节点，对于超出屏幕大小的好友和超出屏幕大小的好友的社交信息，可再从服务器获取需要缓存的好友的社交信息，缓存 2 ～ 3 个好友的社交信息，每个好友缓存 3 ～ 5 条社交信息。

[0047] 本实施例中，显示社交信息的方法还包括：检测作用于界面上的滑动信号；当检测到滑动信号时，在界面上间隔显示缓存的好友对应的时间轴；和 / 或当检测到滑动信号时，根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示缓存的好友的社交信息所对应的节点。

[0048] 一种显示社交信息的界面如图 4 所示，当前界面上显示了好友对应的时间轴 402，在时间轴 402 上显示了对应的好友的社交信息所对应的节点 404。对于带触摸屏的终端，可使用手指在界面上进行上下滑动或左右滑动，对于不带触摸屏的终端，也可以使用诸如鼠标等输入设备控制界面的上下滑动或左右滑动。当检测到作用于界面的上下滑动信号时，如，使用手指在带触摸屏的终端上向下滑动，则可从缓存中获取界面上所显示的时间轴对应的好友的社交信息，进一步在时间轴上显示缓存的好友的社交信息所对应的时间。当检测到作用于界面的左右滑动信号时，如，使用手指在带触摸屏的终端上向左滑动时，则可从缓存中获取进一步需要显示的好友的社交信息，在界面显示这些好友对应的时间轴，并在时间轴上显示对应的好友的社交信息所对应的节点。进一步的，将缓存中的好友对应的时间轴在界面上显示，或者将缓存中的好友的社交信息对应的节点在界面上显示后，可进一步从服务器拉取社交信息并缓存。

[0049] 本实施例中，根据对界面的滑动，可实现在界面上显示更多的好友的时间轴，以及在界面上显示好友更早一段时间内发表的社交信息对应的节点，进一步便于用户对更多的好友以及好友更早的社交信息进行查看和浏览，使用起来十分便利，进一步节省了用户操作的时间，特别是用在电量有限的移动终端上时，能增加移动终端的续航时间。由于缓存可以根据用户的滑动操作进行实时更新，不断从服务器拉取需要显示的社交信息，而界面上显示时间轴的好友的社交信息都从缓存中获取，提高了显示效率。

[0050] 在一个实施例中，显示社交信息的方法还包括：在界面上显示节点对应的社交信息的发表时间和 / 或评论信息。如图 5A 所示，界面上间隔显示了好友对应的时间轴 502，在时间轴 502 上排列显示了对应的好友的社交信息所对应的节点 504，在每个节点 504 的一侧可显示对应的社交信息的发表时间 506，当社交信息有对应的评论信息时，还可在节点 504 一侧显示评论信息 508。对于有多条评论信息的社交信息，可只显示最新的两条评论信息 508。

[0051] 在一个实施例中，显示社交信息的方法还包括：检测作用于节点上的第一操作信号；当检测到第一操作信号时，显示节点对应的操作菜单。本实施例中，第一操作信号可以

是对节点的单击、双击、长按等操作信号中的至少一种。如图 5A 所示，当检测到对节点 504 的第一操作信号时，则相应的显示节点 504 对应的操作菜单 510，操作菜单 510 包括但不限于对节点 504 对应的社交信息的评论菜单、“赞”菜单（评分菜单）等菜单选项。这样，用户可以对好友的社交信息进行操作，增强了社交平台中的用户之间的互动性。

[0052] 在另一个实施例中，显示社交信息的方法还包括：检测作用于节点上的第二操作信号；当检测到第二操作信号时，根据节点对应的社交信息的类型显示节点对应的社交信息。本实施例中，第二操作信号可以是对节点的单击、双击、长按等操作信号中的至少一种，且区别于第一操作信号。当检测到第二操作信号时，获取节点对应的社交信息的类型，如果节点对应的社交信息为文本信息，则可在节点一侧显示悬浮文本框，在文本框中显示该文字信息；如果节点对应的社交信息为图片信息，则可在界面上放大显示图片；如果节点对应的社交信息为音视频信息，则可调用播放器对音视频进行播放；等等。

[0053] 本实施例中，由于界面上只显示社交信息对应的节点，在检测对节点的第二操作信号时，再显示节点对应的社交信息，用户可以针对某个好友，对其时间轴上的节点对应的社交信息进行查看，而其他未查看的社交信息仍以节点的形式显示，能够有效节省屏幕空间。

[0054] 在一个实施例中，显示社交信息的方法还包括：获取用户的社交信息；在界面上显示用户对应的时间轴；以及根据用户的社交信息的发表时间，在用户对应的时间轴上排列显示用户的社交信息所对应的节点。

[0055] 本实施例中，在界面上除了可以显示好友对应的时间轴外，还可显示用户对应的时间轴。可以设置用户对应的时间轴显示在界面的正中央，也可以设置用户对应的时间轴显示在界面的边缘，用户的好友对应的时间轴可根据好友的优先级进行间隔显示，好友的优先级越高，则好友对应的时间轴与用户对应的时间轴越近。

[0056] 一种显示社交信息的界面如图 5B 所示，在界面上除了显示好友对应的时间轴 502 外，还显示了用户对应的时间轴 512。本实施例中，通过在界面上显示用户对应的时间轴和用户的好友对应的时间轴，使得用户和好友的社交信息能够以一个二维矩阵的形式进行显示，便于用户查看好友的社交信息，并且从界面上可以清楚的得知好友的社交信息与用户的社交信息在时间上的关系，增强了用户与好友之间的互动性，提高了用户粘性。

[0057] 在一个实施例中，还可检测作用于用户对应的时间轴上的节点的第一操作信号；当检测到第一操作信号时，显示节点对应的操作菜单。该操作菜单包括但不限于对节点所对应的社交信息的评论、删除、“赞”（评分）等菜单选项。如图 5B 所示，检测到对时间轴 512 上的节点的第一操作信号，显示操作菜单 510。

[0058] 在一个实施例中，显示社交信息的方法还包括：在界面上显示辅助线；用户对应的时间轴上的一个节点位于该辅助线上。如图 5B 所示，在界面上显示辅助线 514，用户对应的时间轴 512 上的一个节点位于该辅助线 514 上。在另一个实施例中，也可以在检测到对用户对应的时间轴上的节点的第二操作信号时，在界面上显示辅助线，第二操作信号对应的节点位于该辅助线上。通过在界面上显示辅助线 514，便于比较用户和好友的社交信息的发表时间。

[0059] 在一个实施例中，如图 5B 所示，还可在界面显示工具条 516，工具条 516 上包含至少一个操作按钮 516a，当光标位于工具条 516 所在区域时，工具条 516 显示，当光标离开工

具条 516 所在区域时，则隐藏工具条 516。操作按钮 516a 可实现用户对界面的一些操作，例如，可通过操作按钮 516a 快速发表社交信息等。

[0060] 如图 6 所示，在一个实施例中，还提供了一种显示社交信息的装置，包括：

[0061] 社交信息获取模块 602，用于获取用户的好友的社交信息。

[0062] 时间轴显示模块 604，用于在界面上间隔显示好友对应的时间轴。

[0063] 节点显示模块 606，用于根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示对应的好友的社交信息所对应的节点。

[0064] 在一个实施例中，时间轴显示模块 604 用于根据屏幕大小确定显示时间轴的好友数量，在界面上间隔显示好友数量的好友对应的时间轴。

[0065] 在一个实施例中，如图 7 所示，节点显示模块 606 包括：

[0066] 节点个数确定模块 606a，用于根据时间轴对应的好友的社交信息的发表时间，确定好友对应的时间轴上显示的节点的个数。

[0067] 节点位置确定模块 606b，用于根据节点的个数和节点对应的社交信息的发表时间确定节点在界面上的显示位置。

[0068] 第一节点显示模块 606c，用于根据显示位置在所述时间轴上显示节点。

[0069] 在一个实施例中，如图 8 所示，在图 6 所示实施例的基础上，显示社交信息的装置还包括：

[0070] 缓存模块 602，用于缓存获取的好友的社交信息。

[0071] 滑动检测模块 605，用于检测作用于界面上的滑动信号。

[0072] 本实施例中，时间轴显示模块 604 还用于当滑动检测模块 605 检测到滑动信号时，在界面上间隔显示缓存的好友对应的时间轴。和 / 或

[0073] 节点显示模块 606 还用于当滑动检测模块 605 检测到所述滑动信号时，根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示缓存的好友的社交信息所对应的节点。

[0074] 在一个实施例中，如图 9 所示，在图 6 所示实施例的基础上，显示社交信息的装置还包括：

[0075] 时间显示模块 607，用于在界面上显示节点对应的社交信息的发表时间。

[0076] 评论显示模块 608，用于在界面上显示节点对应的社交信息的评论信息。

[0077] 可以理解，显示社交信息的装置还可包含时间显示模块 607 和评论显示模块 608 中的任意一个。

[0078] 在一个实施例中，如图 10 所示，在图 6 所示实施例的基础上，显示社交信息的装置还包括：

[0079] 第一操作检测模块 609，用于检测作用于节点上的第一操作信号。

[0080] 菜单显示模块 610，用于当第一操作检测模块 609 检测到第一操作信号时，显示节点对应的操作菜单。

[0081] 第二操作检测模块 611，用于检测作用于节点上的第二操作信号。

[0082] 社交信息显示模块 612，用于当第二操作检测模块 611 检测到第二操作信号时，根据节点对应的社交信息的类型显示节点对应的社交信息。

[0083] 可以理解，显示社交信息的装置还可包含第一操作检测模块 609 和菜单显示模块

610，或者只包含第二操作检测模块 611 和社交信息显示模块 612。

[0084] 在一个实施例中，社交信息获取模块 602 还用于获取用户的社交信息；时间轴显示模块 604 还用于在界面上显示用户对应的时间轴；节点显示模块 606 还用于根据用户的社交信息的发表时间，在用户对应的时间轴上排列显示用户的社交信息所对应的节点。

[0085] 在一个实施例中，显示社交信息的装置还包括辅助线显示模块（图中未示出），用于在界面上显示辅助线；用户对应的时间轴上的一个节点位于该辅助线上。

[0086] 如图 2 所示，在一个实施例中，还提供了一种显示社交信息的界面，包括：间隔显示的与好友对应的时间轴，和根据好友的社交信息的发表时间在时间轴上排列显示的好友的社交信息所对应的节点。

[0087] 在一个实施例中，如图 5A 所示，显示社交信息的界面，还包括：与节点对应的时间信息，和 / 或与节点对应的社交信息的评论信息。

[0088] 在一个实施例中，当检测到对节点的第一操作信号时，显示社交信息的界面，还包括与节点对应的操作菜单。

[0089] 在一个实施例中，如图 5B 所示，显示社交信息的界面，还包括：与用户对应的时间轴，和根据用户的社交信息的发表时间在用户对应的时间轴上排列显示的用户的社交信息所对应的节点。

[0090] 在一个实施例中，当检测到对用户对应的时间轴上的节点的第一操作信号时，显示社交信息的界面，还包括与节点对应的操作菜单。

[0091] 在一个实施例中，如图 5B 所示，显示社交信息的界面，还包括辅助线，用户对应的时间轴上的一个节点位于该辅助线上。

[0092] 在一个实施例中，如图 5B 所示，显示社交信息的界面，还包括具有至少一个操作按钮的工具条。

[0093] 本领域普通技术人员可以理解实现上述实施例方法中的全部或部分流程，是可以通过计算机程序来指令相关的硬件来完成，所述的程序可存储于一计算机可读取存储介质中，该程序在执行时，可包括如上述各方法的实施例的流程。其中，所述的存储介质可为磁碟、光盘、只读存储记忆体（Read-Only Memory，ROM）或随机存储记忆体（Random Access Memory，RAM）等。

[0094] 本发明实施例还提供了另一种显示社交信息的终端，如图 11 所示，为了便于说明，仅示出了与本发明实施例相关的部分，具体技术细节未揭示的，请参照本发明实施例方法部分。该终端可以为包括手机、平板电脑、PDA（Personal Digital Assistant，个人数字助理）、POS（Point of Sales，销售终端）、车载电脑等任意终端设备，以终端为手机为例：

[0095] 图 11 示出的是与本发明实施例提供的终端相关的手机的部分结构的框图。参考图 11，手机包括：射频（Radio Frequency，RF）电路 1110、存储器 1120、输入单元 1130、显示单元 1140、传感器 1150、音频电路 1160、无线保真（wireless fidelity，WiFi）模块 1170、处理器 1180、以及电源 1190 等部件。本领域技术人员可以理解，图 11 中示出的手机结构并不构成对手机的限定，可以包括比图示更多或更少的部件，或者组合某些部件，或者不同的部件布置。

[0096] 下面结合图 11 对手机的各个构成部件进行具体的介绍：

[0097] RF 电路 1110 可用于收发信息或通话过程中，信号的接收和发送，特别地，将

基站的下行信息接收后，给处理器 1180 处理；另外，将设计上行的数据发送给基站。通常，RF 电路包括但不限于天线、至少一个放大器、收发信机、耦合器、低噪声放大器(Low Noise Amplifier，LNA)、双工器等。此外，RF 电路 110 还可以通过无线通信与网络和其他设备通信。上述无线通信可以使用任一通信标准或协议，包括但不限于全球移动通讯系统(Global System of Mobile communication，GSM)、通用分组无线服务(General Packet Radio Service，GPRS)、码分多址(Code Division Multiple Access，CDMA)、宽带码分多址(Wideband Code Division Multiple Access，WCDMA)、长期演进(Long Term Evolution，LTE))、电子邮件、短消息服务(Short Messaging Service，SMS)等。

[0098] 存储器 1120 可用于存储软件程序以及模块，处理器 1180 通过运行存储在存储器 1120 的软件程序以及模块，从而执行手机的各种功能应用以及数据处理。存储器 1120 可主要包括存储程序区和存储数据区，其中，存储程序区可存储操作系统、至少一个功能所需的应用程序(比如声音播放功能、图像播放功能等)等；存储数据区可存储根据手机的使用所创建的数据(比如音频数据、电话本等)等。此外，存储器 1120 可以包括高速随机存取存储器，还可以包括非易失性存储器，例如至少一个磁盘存储器件、闪存器件、或其他易失性固态存储器件。

[0099] 输入单元 1130 可用于接收输入的数字或字符信息，以及产生与手机 1100 的用户设置以及功能控制有关的键信号输入。具体地，输入单元 1130 可包括触控面板 1131 以及其他输入设备 1132。触控面板 1131，也称为触摸屏，可收集用户在其上或附近的触摸操作(比如用户使用手指、触笔等任何适合的物体或附件在触控面板 1131 上或在触控面板 1131 附近的操作)，并根据预先设定的程式驱动相应的连接装置。可选的，触控面板 1131 可包括触摸检测装置和触摸控制器两个部分。其中，触摸检测装置检测用户的触摸方位，并检测触摸操作带来的信号，将信号传送给触摸控制器；触摸控制器从触摸检测装置上接收触摸信息，并将它转换成触点坐标，再送给处理器 1180，并能接收处理器 1180 发来的命令并加以执行。此外，可以采用电阻式、电容式、红外线以及表面声波等多种类型实现触控面板 1131。除了触控面板 1131，输入单元 1130 还可以包括其他输入设备 1132。具体地，其他输入设备 1132 可以包括但不限于物理键盘、功能键(比如音量控制按键、开关按键等)、轨迹球、鼠标、操作杆等中的一种或多种。

[0100] 显示单元 1140 可用于显示由用户输入的信息或提供给用户的信息以及手机的各种菜单。显示单元 1140 可包括显示面板 1141，可选的，可以采用液晶显示器(Liquid Crystal Display，LCD)、有机发光二极管(Organic Light-Emitting Diode，OLED)等形式来配置显示面板 1141。进一步的，触控面板 1131 可覆盖显示面板 1141，当触控面板 1131 检测到在其上或附近的触摸操作后，传送给处理器 1180 以确定触摸事件的类型，随后处理器 1180 根据触摸事件的类型在显示面板 1141 上提供相应的视觉输出。虽然在图 11 中，触控面板 1131 与显示面板 1141 是作为两个独立的部件来实现手机的输入和输入功能，但是在某些实施例中，可以将触控面板 1131 与显示面板 1141 集成而实现手机的输入和输出功能。

[0101] 手机 1100 还可包括至少一种传感器 1150，比如光传感器、运动传感器以及其他传感器。具体地，光传感器可包括环境光传感器及接近传感器，其中，环境光传感器可根据环境光线的明暗来调节显示面板 1141 的亮度，接近传感器可在手机移动到耳边时，关闭显示

面板 1141 和 / 或背光。作为运动传感器的一种，加速计传感器可检测各个方向上（一般为三轴）加速度的大小，静止时可检测出重力的大小及方向，可用于识别手机姿态的应用（比如横竖屏切换、相关游戏、磁力计姿态校准）、振动识别相关功能（比如计步器、敲击）等；至于手机还可配置的陀螺仪、气压计、湿度计、温度计、红外线传感器等其他传感器，在此不再赘述。

[0102] 音频电路 1160、扬声器 1161，传声器 1162 可提供用户与手机之间的音频接口。音频电路 1160 可将接收到的音频数据转换后的电信号，传输到扬声器 1161，由扬声器 1161 转换为声音信号输出；另一方面，传声器 1162 将收集的声音信号转换为电信号，由音频电路 1160 接收后转换为音频数据，再将音频数据输出处理器 1180 处理后，经 RF 电路 1110 以发送给比如另一手机，或者将音频数据输出至存储器 1120 以便进一步处理。

[0103] WiFi 属于短距离无线传输技术，手机通过 WiFi 模块 1170 可以帮助用户收发电子邮件、浏览网页和访问流式媒体等，它为用户提供了无线的宽带互联网访问。虽然图 11 示出了 WiFi 模块 1170，但是可以理解的是，其并不属于手机 1100 的必须构成，完全可以根据需要在不改变发明的本质的范围内而省略。

[0104] 处理器 1180 是手机的控制中心，利用各种接口和线路连接整个手机的各个部分，通过运行或执行存储在存储器 1120 内的软件程序和 / 或模块，以及调用存储在存储器 1120 内的数据，执行手机的各种功能和处理数据，从而对手机进行整体监控。可选的，处理器 1180 可包括一个或多个处理单元；优选的，处理器 1180 可集成应用处理器和调制解调处理器，其中，应用处理器主要处理操作系统、用户界面和应用程序等，调制解调处理器主要处理无线通信。可以理解的是，上述调制解调处理器也可以不集成到处理器 1180 中。

[0105] 手机 1100 还包括给各个部件供电的电源 1190（比如电池），优选的，电源可以通过电源管理系统与处理器 1180 逻辑相连，从而通过电源管理系统实现管理充电、放电、以及功耗管理等功能。

[0106] 尽管未示出，手机 1100 还可以包括摄像头、蓝牙模块等，在此不再赘述。

[0107] 在本发明实施例中，该终端所包括的处理器 1180 还具有以下功能：获取用户的好友的社交信息；在界面上间隔显示好友对应的时间轴；根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示对应的好友的社交信息所对应的节点。

[0108] 在一个实施例中，处理器 1180 该具有功能：根据屏幕大小确定显示时间轴的好友数量，在界面上间隔显示好友数量的好友对应的时间轴。

[0109] 在一个实施例中，处理器 1180 还具有以下功能：根据时间轴对应的好友的社交信息的发表时间，确定好友对应的时间轴上显示的节点的个数；根据节点的个数和节点对应的社交信息的发表时间确定节点在界面上的显示位置；根据显示位置在所述时间轴上显示节点。

[0110] 在一个实施例中，处理器 1180 还具有以下功能：缓存获取的好友的社交信息；检测作用于界面上的滑动信号；当检测到滑动信号时，在界面上间隔显示缓存的好友对应的时间轴；和 / 或当检测到滑动信号时，根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示缓存的好友的社交信息所对应的节点。

[0111] 在一个实施例中，处理器 1180 还具有以下功能：在界面上显示节点对应的社交信息的发表时间和 / 或评论信息。

[0112] 在一个实施例中，处理器 1180 还具有以下功能：检测作用于节点上的第一操作信号；当检测到第一操作信号时，显示节点对应的操作菜单。

[0113] 在一个实施例中，处理器 1180 还具有以下功能：检测作用于节点上的第二操作信号；当检测到第二操作信号时，根据节点对应的社交信息的类型显示节点对应的社交信息。

[0114] 在一个实施例中，处理器 1180 还具有以下功能：获取用户的社交信息；在界面上显示用户对应的时间轴；以及根据用户的社交信息的发表时间，在所述用户对应的时间轴上排列显示用户的社交信息所对应的节点。

[0115] 在一个实施例中，处理器 1180 还具有以下功能：在界面上显示辅助线；用户对应的时间轴上的一个节点位于辅助线上。

[0116] 以上所述实施例仅表达了本发明的几种实施方式，其描述较为具体和详细，但并不能因此而理解为对本发明专利范围的限制。应当指出的是，对于本领域的普通技术人员来说，在不脱离本发明构思的前提下，还可以做出若干变形和改进，这些都属于本发明的保护范围。因此，本发明专利的保护范围应以所附权利要求为准。

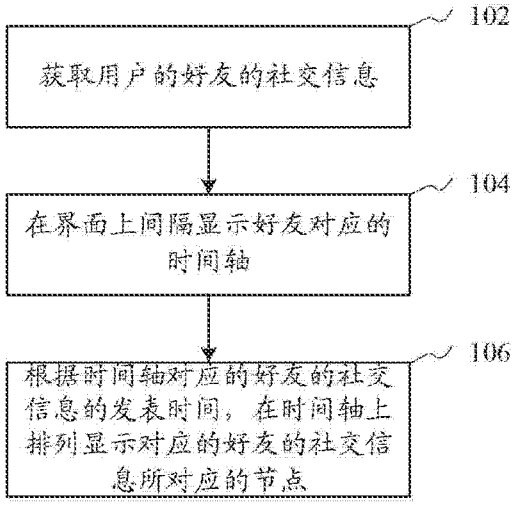

102
获取用户的好友的社交信息
104
在界面上间隔显示好友对应的时间轴
106
根据时间轴对应的好友的社交信息的发表时间，在时间轴上排列显示对应的好友的社交信息所对应的节点

图 1

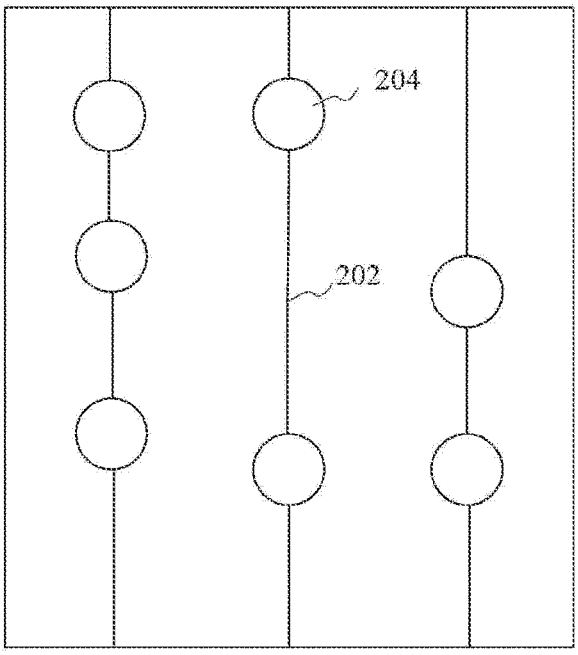

204
202

图 2

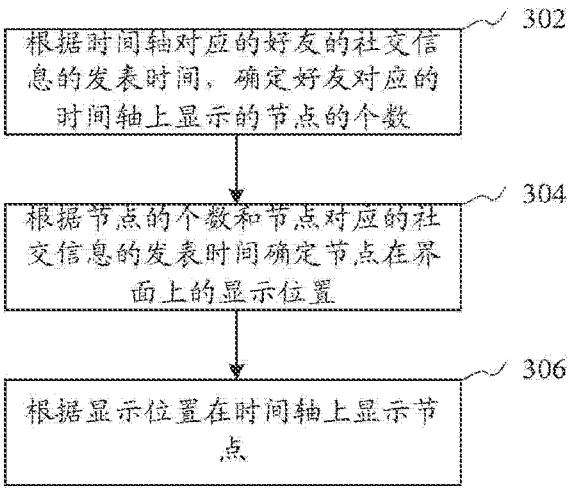

302
根据时间轴对应的好友的社交信息的发表时间，确定好友对应的时间轴上显示的节点的个数
304
根据节点的个数和节点对应的社交信息的发表时间确定节点在界面上的显示位置
306
根据显示位置在时间轴上显示节点

图 3

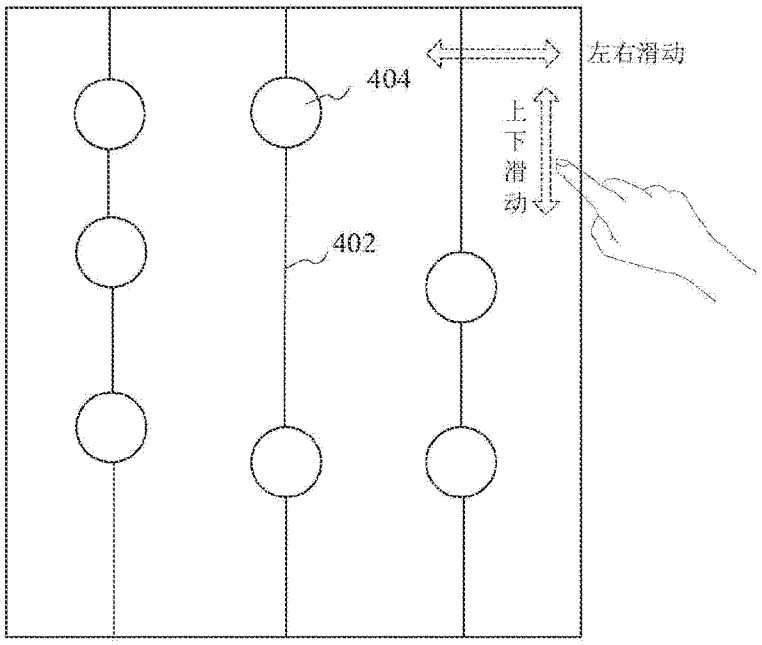


图 4

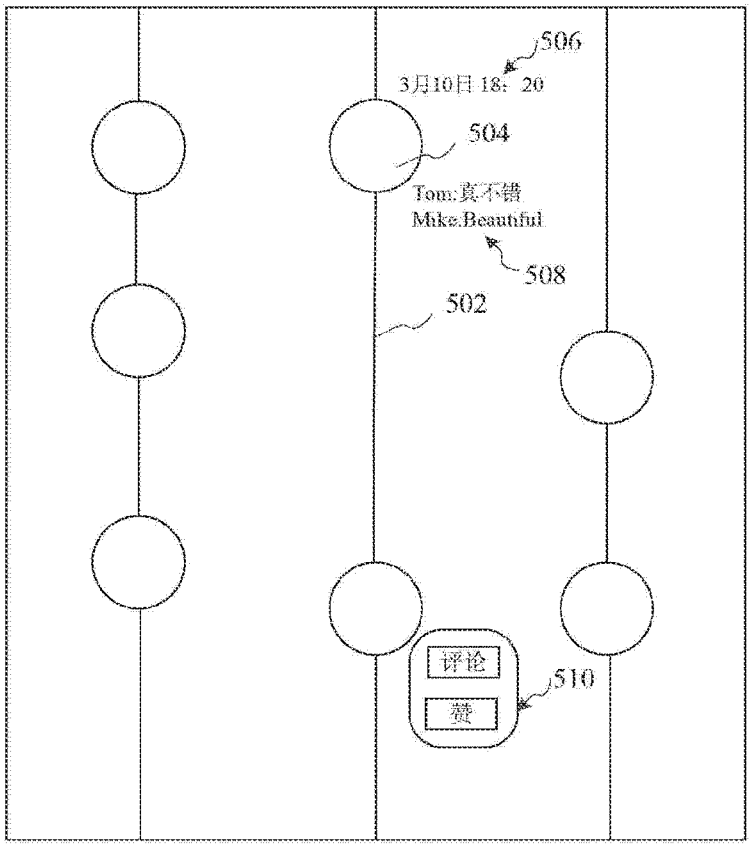


图 5A

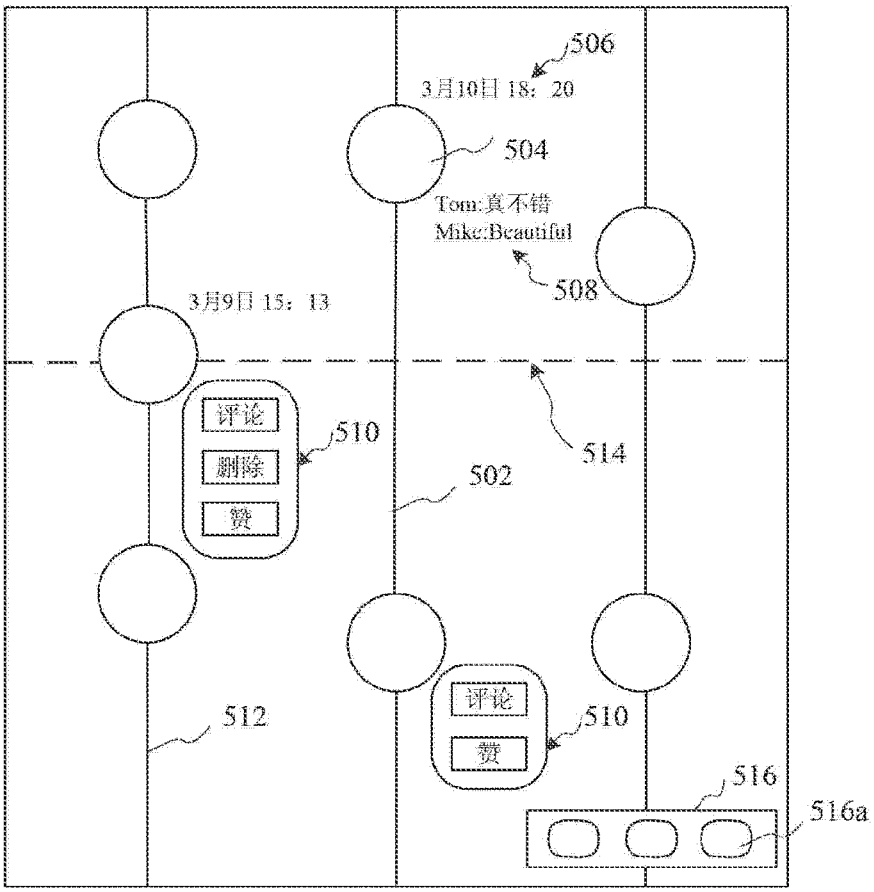

506
3月10日 18：20
504
Tom:真不错
Mike:Beautiful
508
3月9日 15：13
评论
删除
赞
510
514
502
512
评论
赞
510
516
516a

图 5B

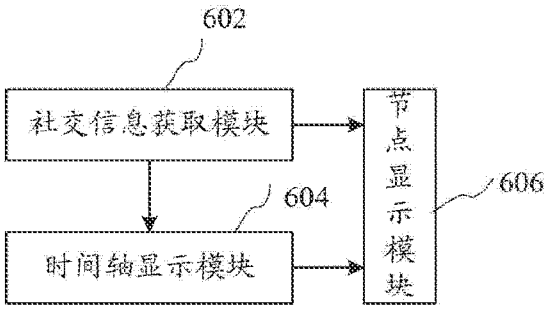

602
社交信息获取模块
604
时间轴显示模块
节点显示模块
606

图 6

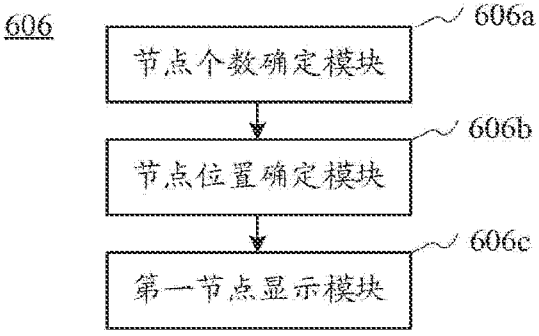

606
节点个数确定模块
606a
节点位置确定模块
606b
第一节点显示模块
606c

图 7

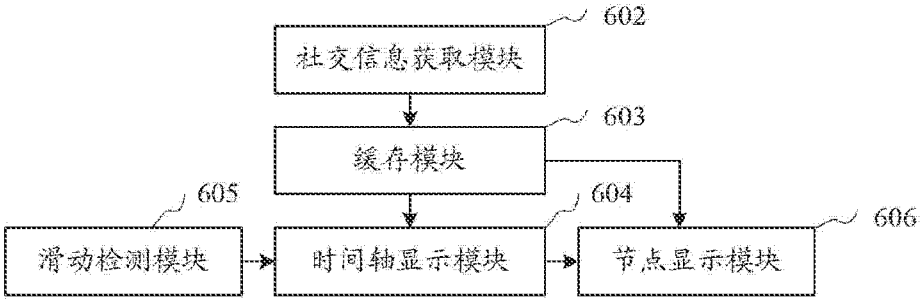

602
社交信息获取模块
603
缓存模块
605
604
606
滑动检测模块
时间轴显示模块
节点显示模块

图 8

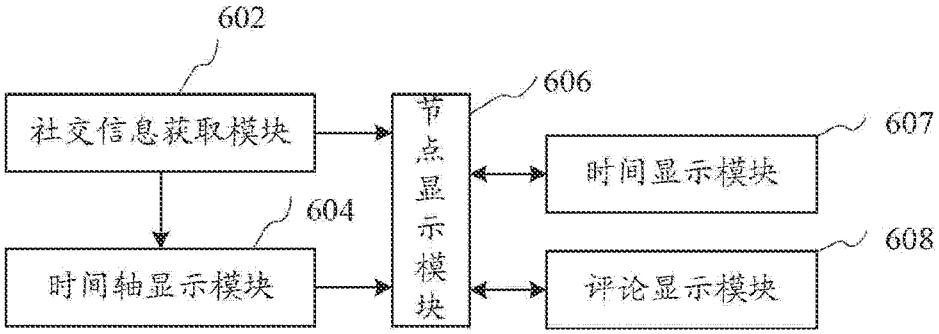

602
606
607
社交信息获取模块
节点显示模块
时间显示模块
604
608
时间轴显示模块
评论显示模块

图 9

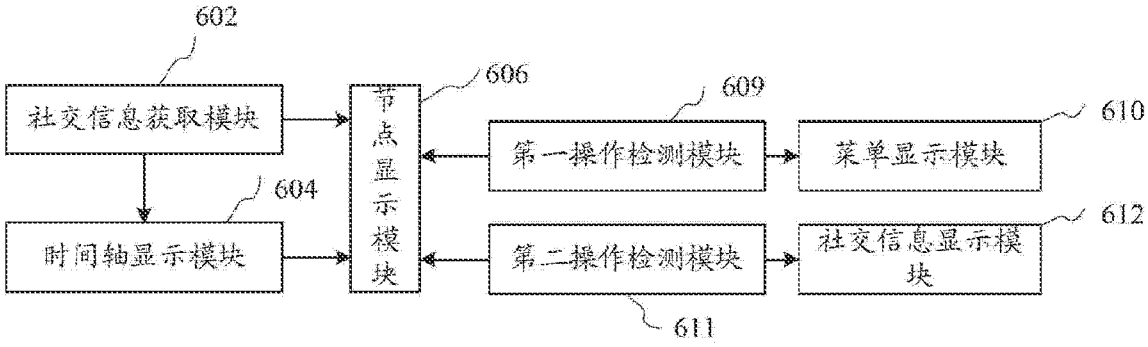

602
606
609
610
社交信息获取模块
节点显示模块
第一操作检测模块
菜单显示模块
604
612
时间轴显示模块
第二操作检测模块
社交信息显示模块
611

图 10

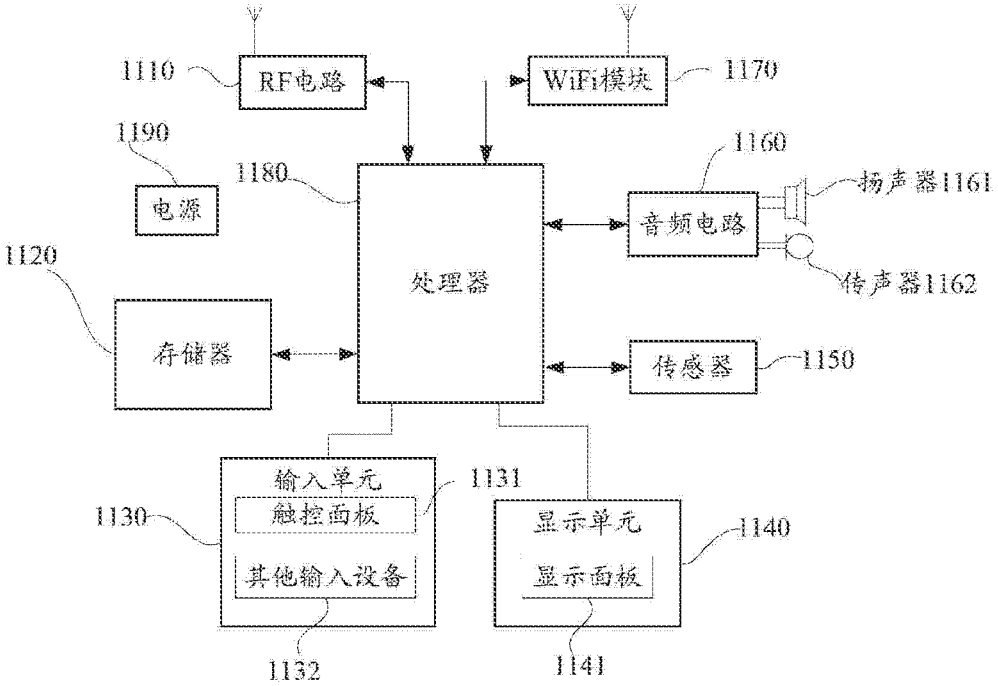

1110
RF电路
WiFi模块
1170
1190
电源
1180
1160
扬声器1161
音频电路
处理器
1120
存储器
传感器
1150
传声器1162
输入单元
1131
触控面板
1130
显示单元
1140
其他输入设备
显示面板
1132
1141

图 11

Patents cn1892880

Content providing system, content providing apparatus and method, content distribution server, and content receiving terminal

Abstract

A content providing system comprising a content distribution server and a content receiving terminal connected to each other through a communication channel. The content distribution server includes a content storage unit in which content items are stored in association with at least time information and attribute information concerning the time information, a search unit searching, in response to a content providing request, the content storage unit for at least one content item according to a search condition based on the time information and the accompanying information, and a distributor distributing at least one content item to the content receiving terminal. The content receiving terminal includes a time information input unit receiving the input of time information, a request sender sending a content providing request including the input time information and accompanying information to the content distribution server, and a provider providing at least one content item to a user.

Classifications

G06F16/951 Indexing; Web crawling techniques

CN1892880B

China

Download PDF Find Prior Art Similar

Other languages: Chinese

Inventor: 竹原充, 佐古曜一郎, 寺内俊郎, 高井基行

Current Assignee : Sony Corp

Worldwide applications

2005 JP 2006 US KR ~~CN~~ EP

Application CN2006101003407A events

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2005-07-04	Priority to JP2005194667
2005-07-04	Priority to JP2005194667
2006-07-03	Application filed by Sony Corp
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Status	Expired - Fee Related
2026-07-03	Anticipated expiration

Info: Patent citations (165), Non-patent citations (1), Cited by (37), Legal events, Similar documents, Priority and Related Applications

External links: Espacenet, Global Dossier, Discuss

Claims (18)

Hide Dependent

1. a content provides system, comprising:

Content distributing server, And

Be connected to the content receiver terminal of described content distributing server by communication channel,

Wherein, described content distributing server comprises:

Wherein stored the content storage unit of a plurality of content items, described content item be at least with about described a plurality of content items each temporal information and store explicitly about the attribute information of described temporal information,

Searcher, be used in response to send from described content receiver terminal, comprise temporal information and specify the content of the incidental information of scope that will be by using the content item that described temporal information searches for that request is provided, and

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G06F 17/30(2006.01)
H04N 5/765(2006.01)

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审查员 陈佳

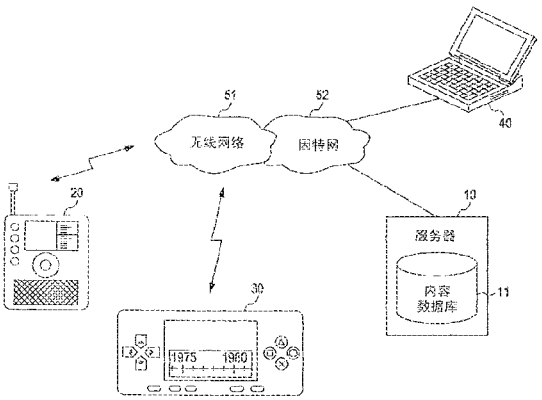
权利要求书 5 页 说明书 31 页 附图 30 页

(54)发明名称

内容提供系统、装置及方法、内容分发服务器及接收终端

(57)摘要

一种包括通过通信信道彼此连接的内容分发服务器和内容接收终端的内容提供系统。该内容分发服务器包括内容存储单元，其中至少与时间信息和关于该时间信息的属性信息相关联地储存了内容项；搜索单元，它响应于内容提供请求，根据基于时间信息和附随信息的搜索条件在内容存储单元中搜索至少一个内容项；以及分发器，它向内容接收终端分发至少一个内容项。该内容接收终端包括时间信息输入单元，它接收时间信息的输入；请求发送器，它向内容分发服务器发送包括所输入的时间信息和附带信息的内容提供请求；以及提供器，它向用户提供至少一个内容项。



CN 1892880 B

1. 一种内容提供系统，包括：

内容分发服务器；以及

通过通信信道连接到所述内容分发服务器的内容接收终端，

其中，所述内容分发服务器包括：

其中储存了多个内容项的内容存储单元，所述内容项是至少与关于所述多个内容项的每一个的时间信息和关于所述时间信息的属性信息相关联地储存的，

搜索装置，用于响应于从所述内容接收终端发送的、包括时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求，并根据基于包括在所述内容提供请求中的时间信息和附带信息在所述内容存储单元中搜索至少一个内容项；

分发装置，用于将由所述搜索装置搜索的所述至少一个内容项分发到所述内容接收终端，

所述内容接收终端包括：

时间信息输入装置，用于接收所述时间信息的输入，

请求发送装置，用于向所述内容分发服务器发送包括所输入的时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求，以及

提供装置，用于向用户提供从所述内容分发服务器发送的至少一个内容项，

其中，在所述内容分发服务器的内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，并且所述请求发送装置在所述内容提供请求中包括关于所述时间信息的属性信息作为所述附带信息。

2. 如权利要求 1 所述的内容提供系统，其特征在于，所述内容接收终端还包括时间属性信息输入装置，用于接收关于所述时间信息的属性信息的输入，并且所述请求发送装置在所述内容提供请求中包括关于由所述时间属性信息输入装置接收的所述时间信息的属性信息作为所述附带信息。

3. 如权利要求 1 所述的内容提供系统，其特征在于，在所述内容分发服务器的内容存储单元中，与每一所述内容项相关联地储存了内容属性信息以及所述时间信息，

所述内容接收终端还包括用于接收所述内容属性信息的输入的内容属性信息输入装置，以及

所述请求发送装置在所述内容提供请求中包括由所述内容属性信息输入装置接收的内容属性信息作为所述附带信息。

4. 如权利要求 1 所述的内容提供系统，其特征在于，当所述内容分发服务器的搜索装置搜索多个内容项作为搜索结果时，所述分发装置依次向所述内容接收终端发送所述多个内容项。

5. 如权利要求 4 所述的内容提供系统，其特征在于，所述内容分发服务器的分发装置依次向所述内容接收终端发送所述多个内容项的每一个的一部分，并且还响应于来自所述内容接收终端的内容确定指令，向所述内容接收终端发送接收到所述内容确定指令时正在发送的内容项的全部，

所述内容接收终端的提供装置依次回放从所述内容分发服务器发送的所述多个内容项的每一个的一部分，

所述内容接收终端还包括：

用于在回放所述多个内容项的每一个的一部分时接收对内容确定指令的输入操作的确定装置，以及

用于在所述确定装置接收到所述对内容确定指令的输入操作时向所述内容分发服务器发送所述内容确定指令的装置，并且

所述提供装置响应于所述内容确定指令接收从所述内容分发服务器发送的内容，并将所接收的内容提供给用户。

6. 如权利要求 4 所述的内容提供系统，其特征在于，所述内容接收终端还包括：

用于在由所述提供装置向用户提供从所述内容分发服务器接收的内容项的同时接收对下一内容项的下一请求的输入操作的下一请求输入装置，以及

用于在由所述下一请求输入装置接收对下一请求的输入操作时将所述下一请求发送给所述内容分发服务器的装置，以及

所述内容分发服务器的分发装置在从所述内容接收终端接收到所述下一请求时停止正被发送到所述内容接收终端的内容项的分发，并开始分发下一内容项。

7. 如权利要求 1 所述的内容提供系统，其特征在于，所述内容分发服务器还包括用于向所述内容接收终端发送关于由所述搜索装置搜索的多个内容项的列表信息的内容列表发送装置，以及

所述分发装置从所述内容接收终端接收关于由所述内容列表发送装置发送的列表信息中的多个内容项中的一个的指定信息，并将由所述指定信息指定的内容项发送到所述内容接收终端。

8. 一种内容分发服务器，其通过通信信道连接到内容接收终端，以与所述内容接收终端一起形成内容提供系统，所述内容分发服务器包括：

其中储存了多个内容项的内容存储单元，所述内容项是至少与关于所述多个内容项的每一个的时间信息以及关于所述时间信息的属性信息相关联地储存的；

搜索装置，用于响应于从所述内容接收终端发送的、包括时间信息和指定要使用所述时间信息搜索的内容项的范围的附带信息的内容提供请求，根据基于包括在所述内容提供请求中的时间信息和附带信息的搜索条件，在所述内容存储单元中搜索至少一个内容项；以及

分发装置，用于向所述内容接收终端分发由所述搜索装置搜索的所述至少一个内容项，其中，在所述内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，且关于所述时间信息的属性信息被包括在所述附带信息中。

9. 一种内容接收终端，其通过通信信道连接到内容分发服务器，以与所述内容分发服务器一起形成内容提供系统，在所述内容分发服务器中储存了多个内容项，所述内容项是至少与关于所述多个内容项中的每一个的时间信息和关于所述时间信息的属性信息相关联地储存的，所述内容接收终端包括：

时间信息输入装置，用于接收时间信息的输入；

请求发送装置，用于向所述内容分发服务器发送包括所输入的时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求；以及

提供装置，用于向用户提供从所述内容分发服务器发送的至少一个内容项，其中，所述内容分发服务器储存至少一组关于每一所述内容项的时间信息和关于所述时间信息的属

性信息，

所述内容接收终端还包括时间属性信息输入装置，用于接收关于所述时间信息的属性信息的输入，以及

所述请求发送装置在所述内容提供请求中包括由所述时间属性信息输入装置接收的关于所述时间信息的属性信息作为所述附带信息。

10. 如权利要求 9 所述的内容接收终端，其特征在于，所述内容分发服务器将内容分发信息以及所述时间信息与每一所述内容项相关联地储存，

所述内容接收终端还包括用于接收所述内容属性信息的输入的内容属性信息输入装置，以及

所述请求发送装置在所述内容提供请求中包括由所述内容属性信息输入装置接收的内容属性信息作为所述附带信息。

11. 一种内容提供装置，包括：

其中储存了多个内容项的内容存储单元，所述内容项是至少与关于所述多个内容项的每一个的时间信息和关于所述时间信息的属性信息相关联地储存的；

时间信息输入装置，用于接收所述时间信息的输入；

搜索装置，用于根据基于由所述时间信息输入装置接收到的时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的搜索条件，在所述内容存储单元中搜索至少一个内容项；以及

提供装置，用于向用户提供由所述搜索装置搜索的所述至少一个内容项，其中，在所述内容存储单元中，储存了至少一个关于每一所述内容项的时间信息和关于所述时间信息的属性信息，

所述内容提供装置还包括用于接收关于所述时间信息的属性信息的输入的时间属性信息输入装置，以及

所述搜索装置通过在所述附带信息中包括由所述时间属性信息输入装置接收的关于所述时间信息的属性信息来确定搜索条件。

12. 如权利要求 11 所述的内容提供装置，其特征在于，在所述内容存储单元中，将内容属性信息、以及所述时间信息与每一所述内容项相关联地储存，

所述内容提供装置还包括用于接收所述内容属性信息的输入的内容属性信息输入装置，以及

所述搜索装置通过在所述附带信息中包括由所述内容属性信息输入装置接收的内容属性信息来确定搜索条件。

13. 一种内容提供系统中的内容提供方法，所述内容提供系统包括内容分发服务器和通过通信信道连接到所述内容分发服务器的内容接收终端，所述内容提供方法包括以下步骤：

由所述内容接收终端接收时间信息的输入；

由所述内容接收终端向所述内容分发服务器发送包括所输入的时间信息以及指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求；

由所述内容接收终端向用户提供从所述内容分发服务器发送的至少一个内容项；

由所述内容分发服务器从所述内容接收终端接收所述内容提供请求；

由所述内容分发服务器响应于从所述内容接收终端发送的、包括所述时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求，根据基于包括在所述内容提供请求中的时间信息和附带信息的搜索条件，在储存多个内容项的内容存储单元中搜索至少一个内容项，所述内容项是至少与关于所述多个内容项的每一个的时间信息以及关于所述时间信息的属性信息相关联地储存的；以及

向所述内容接收终端分发所搜索的所述至少一个内容项，

其中，在所述内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，并且所述内容提供请求包括关于所述时间信息的属性信息作为所述附带信息。

14. 一种用于从其中储存了多个内容项的内容存储单元中读取并提供内容项的内容提供方法，所述内容项是至少与关于所述多个内容项的每一个的时间信息和关于所述时间信息的属性信息相关联地储存的，所述内容提供方法包括以下步骤：

接收时间信息的输入；

根据基于所接收的时间信息以及指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的搜索条件，在所述内容存储单元中搜索至少一个内容项；以及

向用户提供所搜索的所述至少一个内容项，

其中，在所述内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，并且所述搜索条件包括关于所述时间信息的属性信息作为所述附带信息。

15. 一种内容提供系统，包括：

内容分发服务器；以及

通过通信信道连接到所述内容分发服务器的内容接收终端，

其中，所述内容分发服务器包括：

其中储存了多个内容项的内容存储单元，所述内容项是至少与关于所述多个内容项的每一个的时间信息和关于所述时间信息的属性信息相关联地储存的，

搜索单元，它被配置成响应于从所述内容接收终端发送的包括时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求，根据基于包括在所述内容提供请求中的时间信息和附带信息的搜索条件，在所述内容存储单元中搜索至少一个内容项，以及

分发器，它被配置成向所述内容接收终端分发出所述搜索单元搜索到的所述至少一个内容项，以及

所述内容接收终端包括：

时间信息输入单元，它被配置成接收时间信息的输入，

请求发送器，它被配置成向所述内容分发服务器发送包括所输入的时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求，以及

提供器，它被配置成向用户提供从所述内容分发服务器发送的至少一个内容项，

其中，在所述内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，并且所述内容提供请求包括关于所述时间信息的属性信息作为所述附带信息。

16. 一种内容分发服务器，其通过通信信道连接到内容接收终端，以与所述内容接收终端一起形成内容提供系统，所述内容分发服务器包括：

其中储存了多个内容项的内容存储单元，所述内容项是至少与关于所述多个内容项的每一个的时间信息和关于所述时间信息的属性信息相关联地储存的；

搜索单元，它被配置成响应于从所述内容接收终端发送的、包括时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求，根据基于包括在所述内容提供请求中的时间信息和附带信息的搜索条件，在所述内容存储单元中搜索至少一个内容项；以及

分发器，它被配置成向所述内容接收终端分发由所述搜索单元搜索到的所述至少一个内容项，

其中，在所述内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，并且所述内容提供请求包括关于所述时间信息的属性信息作为所述附带信息。

17. 一种内容接收终端，其通过通信信道连接到内容分发服务器，以与所述内容分发服务器一起形成内容提供系统，多个内容项至少与关于所述多个内容项的每一个的时间信息和关于所述时间信息的属性信息相关联地储存在所述内容分发服务器中，所述内容接收终端包括：

时间信息输入单元，它被配置成接收时间信息的输入；

请求发送器，它被配置成向所述内容分发服务器发送包括所输入的时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的内容提供请求；以及

提供器，它被配置成向用户提供从所述内容分发服务器发送的至少一个内容项，

其中，在所述内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，并且所述内容提供请求包括关于所述时间信息的属性信息作为所述附带信息。

18. 一种内容提供装置，包括：

其中储存了多个内容项的内容存储单元，所述内容项是至少与关于所述多个内容项的每一个的时间信息和关于所述时间信息的属性信息相关联地储存的；

时间信息输入单元，它被配置成接收时间信息的输入；

搜索单元，它被配置成根据基于由所述时间信息输入单元接收的时间信息和指定要通过使用所述时间信息来搜索的内容项的范围的附带信息的搜索条件，在所述内容存储单元中搜索至少一个内容项；以及

提供器，它被配置成向用户提供由所述搜索单元搜索的所述至少一个内容项，

其中，在所述内容存储单元中，储存了至少一组关于每一所述内容项的时间信息和关于所述时间信息的属性信息，并且所述搜索条件包括关于所述时间信息的属性信息作为所述附带信息。

内容提供系统、装置及方法、内容分发服务器及接收终端

[0001] 相关申请的交叉引用

[0002] 本申请包含与2005年7月4日向日本专利局提交的日本专利申请JP2005-194667有关的主题，该申请的全部内容通过引用结合于此。

技术领域

[0003] 本发明涉及使得用户能够通过使用时间信息作为搜索关键字在大容量存储设备中搜索诸如音乐片段、电影和电子书籍等大量内容的内容提供系统、内容提供装置以及内容提供方法。本发明也涉及用于该内容提供系统、装置和方法的内容分发服务器和内容接收终端。

[0004] 在本说明书中，内容是由例如音乐、视频（包括电影、电视广播节目以及摄影图像）、电子书籍（文本信息，诸如论文、小说和杂志，以及静止图像信息）、指南信息、网页和程序（包括游戏程序）组成的信息。

背景技术

[0005] 迄今为止，由例如秒、分、小时、日、月和年组成的时间信息被储存在与对应的内容相关联的内容存储单元中，并且当搜索内容时，将所储存的时间信息用作关键字。

[0006] 例如，日本未审查专利申请公开号2004-259313公开了一种使得用户能够容易地找到期望内容的记录/回放装置。在该记录/回放装置中，节目标题及其记录日期被储存在彼此相关联的内容存储单元中，且当用户指定搜索所记录的节目的日期时，可将找到的节目的标题显示为搜索结果。

[0007] 日本未审查专利申请公开号2004-139576公开了一种用于从通过例如旅行获得的图像数据中创建相册的装置和方法。图像数据连同关于拍摄日期的信息一起储存。同样，关于旅行的信息，诸如出发地点、出发时间以及最终目的地等被储存在服务器中。然后，沿着用户的旅行路线获得图像数据的多个地点在添加到图像数据的拍摄日期信息的基础上估计。然后，从对应的存储单元中读取由与所估计地点有关的其他人拍摄的图像的图像数据，或诸如所估计地点的描述等文本数据。结果，从图像数据和相关数据中创建了相册。

发明内容

[0008] 根据如上述公布中所公开的通过使用例如日期信息的时间信息来搜索内容的相关技术，与一个特定内容项的特征或特性有关的一条时间信息与该特定内容项唯一地相关联，并储存在存储单元中。因此，因为用作内容搜索关键字的时间信息仅具有一种意义，所以指示时间信息的意义的附带信息，即用于指定时间信息的类型的附带信息是不必要的。

[0009] 由此，在将各种类型的内容和内容项储存在一个存储单元中的情况下，或者即使只有一个特定的内容项，如果具有不同意义的多条时间信息被储存在与该特定内容项相关联的一个存储单元中，则很难应用上述公布中公开的相关技术。

[0010] 存在允许用户将特定日期指定为搜索关键字来搜索包括指定日期作为文本信息

的信息或站点的某些因特网搜索引擎。

[0011] 然而，在这些因特网搜索引擎中，搜索包括由搜索关键字指定的日期仅作为文本信息的信息或站点，且难以获得包括时间信息作为元数据（附加数据）的内容（例如，包括日期信息作为元数据的运动图像专家组（MPEG）文件），诸如在由搜索关键字所指定的日期发行的音乐内容、在指定日期广播的广播节目、或在指定日期放映的电影来作为搜索结果。

[0012] 由此，期望提供一种在各种类型的内容和内容项被储存在一个存储单元中时能够在时间信息的基础上容易地获得包括时间信息作为元数据的内容的系统和方法。

[0013] 根据本发明的一个实施例，提供了一种内容提供系统，包括内容分发服务器和通过通信信道连接到该内容分发服务器的内容接收终端。该内容分发服务器包括：内容存储单元，其中将多个内容项至少与关于该多个内容项的每一个的时间信息以及关于该时间信息的属性信息相关联地储存在该内容存储单元中；搜索装置，用于响应于包括时间信息和用于指定要通过使用从内容接收终端发送的时间信息来搜索的内容项的范围的附带信息的内容提供请求来进行搜索，该内容存储单元用于根据基于时间信息和包括在内容提供请求中的附带信息的搜索条件来储存至少一个内容项；以及分发装置，用于将通过搜索装置搜索的至少一个内容项分发到内容接收终端。该内容接收终端包括：时间信息输入装置，用于接收时间信息的输入；请求发送装置，用于向内容分发服务器发送包括输入时间信息和用于指定要通过使用时间信息来搜索的内容项的范围的附带信息的内容提供请求；以及提供装置，用于向用户提供从内容分发服务器发送的至少一个内容项。

[0014] 在内容分发服务器的内容存储单元中，可储存至少一组关于每一内容项的时间信息和关于该时间信息的属性信息，并且该请求发送装置可包括关于内容提供请求中的时间信息的属性信息作为附带信息。

[0015] 该内容接收终端还可包括时间属性信息输入装置，用于接收关于时间信息的属性信息的输入，并且该请求发送装置可包括关于由时间属性信息输入装置在内容提供请求中接收到的时间信息的属性信息作为附带信息。

[0016] 根据本发明的一个实施例，在内容分发服务器的内容存储单元中，不仅是时间信息，还有关于该时间信息的属性信息都与每一内容项相关联地被储存。从内容接收终端发送的内容提供请求包括时间信息、和用于指定要通过时间信息搜索的内容项的范围的附带信息。

[0017] 在内容分发服务器中，搜索装置根据基于包括在内容提供请求中的时间信息和附带信息的搜索条件在内容存储单元中搜索至少一个内容项，然后将至少一个内容项作为搜索结果分发到内容接收终端。

[0018] 根据本发明的一个实施例，搜索不仅可通过将时间信息用作搜索条件，还可通过将附带信息用作搜索条件来进行。由此，当在内容存储单元中储存了多项时间信息和关于该时间信息的属性信息时，可通过将对应的时间信息属性信息包括在内容提供请求中来搜索具有特殊意义的一条特定内容。

[0019] 如果用户将时间信息属性信息指定为附随信息，则可将该时间信息属性信息包括在内容提供请求中。然后，用户可获得具有由该时间信息属性信息表示的特定意义的内容。

[0020] 根据本发明的一个实施例，在各种类型的内容和内容项被储存在一个存储单元中时，可容易获得包括时间信息作为元数据的内容。

附图说明

[0021] 图 1 是示出根据本发明的一个实施例的内容提供系统的概观的框图；

[0022] 图 2 示出了根据本发明的一个实施例，关于储存在为内容分发服务器提供的内容数据库中的内容的属性信息的示例；

[0023] 图 3 是示出根据本发明的一个实施例的内容分发服务器的硬件配置的框图；

[0024] 图 4 是示出根据本发明的一个实施例的音乐内容接收终端的操作面板的示例；

[0025] 图 5 是示出根据本发明的一个实施例的音乐内容分发服务器的硬件配置的框图；

[0026] 图 6 示出了根据本发明的一个实施例的 AV 内容接收终端的操作面板的示例；

[0027] 图 7 是示出根据本发明的一个实施例的 AV 内容接收终端的硬件配置的框图；

[0028] 图 8 到 11 示出了由根据本发明的一个实施例的内容提供系统执行的内容请求操作的示例；

[0029] 图 12 到 19 示出了根据本发明的一个实施例的内容提供系统的内容分发模式的示例；

[0030] 图 20 到 22 是示出由根据本发明的一个实施例的音乐内容接收终端执行的操作的示例的流程图；

[0031] 图 23 到 25 是示出由根据本发明的一个实施例的 AV 内容接收终端执行的操作的示例的流程图；

[0032] 图 26 到 30 是示出由根据本发明的一个实施例的内容分发服务器执行的操作的示例的流程图；

具体实施方式

[0033] 以下参考附图详细描述根据本发明的一个实施例的内容提供系统。

[0034] 在图 1 所示的根据本发明的一个实施例的内容提供系统中，内容分发服务器 10 和多个（在图 1 所示的示例中为 3 个）内容接收终端 20、30 和 40 通过预定通信信道彼此连接。在图 1 中，通信信道包括无线网络 51 和因特网 52。

[0035] 作为专用于音乐内容的接收终端的一个示例的内容接收终端 20 可用作便携式设备，诸如便携式无线电接收机。也称为“音乐内容接收终端”20 的内容接收终端 20 通过经由无线网络 51 和因特网 52 访问内容分发服务器 10 而形成通信信道，使得它可通过该通信信道连接到内容分发服务器 10。

[0036] 作为专用于诸如电影等视听 (AV) 内容的接收终端的一个示例的内容接收终端 30 是具有 AV 回放功能的便携式游戏机。也称为“AV 内容接收终端”30 的内容接收终端 30 也通过经由无线网络 51 和因特网 52 访问内容分发服务器 10 而形成通信信道，使得它可通过该通信信道连接到内容分发服务器 10。

[0037] 作为个人计算机的内容接收终端 40 通过使用软件具有像内容接收终端的功能，使得它能够获得和播放各内容片段。也称为“通用内容接收终端”40 的内容接收终端 40 通过经由因特网 52 访问内容分发服务器 10 而形成通信信道，使得它可通过该通信信道连接到内容分发服务器 10。

[0038] 上述内容接收终端 20、30 和 40 仅是本实施例中内容接收终端的示例。因此，可在

本发明的实施例中使用各种其它内容接收终端。然而，为简化方便起见，以下在假定仅将内容接收终端 20、30 和 49 用作内容提供系统中的内容接收终端的情况下给出描述。

[0039] 内容分发服务器 10 包括内容数据库 11。在内容数据库 11 中，将音乐内容、视频内容、广播节目内容、电子书籍内容、照片内容（摄影图像内容）和其它类型的内容与关于这些内容的属性信息相关联地储存。

[0040] 图 2 示出了内容属性信息的一个示例。在该内容属性信息中，内容数据项与内容标识信息 ID 相关联。更具体地，如图 2 所示，内容数据项与内容标识信息 ID（未示出）相关联地储存在内容数据库 11 中，而内容属性信息与内容标识信息 ID 相关联地储存在内容数据库 11 中。

[0041] 在图 2 所示的示例中，作为内容属性信息，储存了诸如音乐、电影、电视广播节目和电子书籍等内容类型；内容类别；内容标题；诸如演员或角色等表演者；时间信息和内容数据的压缩方法和数据格式。

[0042] 在本实施例中，时间信息连同关于该时间信息的属性信息（后文有时简称为“时间信息属性信息”）一起储存。时间信息属性信息指示对应的时间信息表示什么。因此，取决于属性信息的类型或变化，可将多个时间信息项与一个内容片段相关联。即，在本实施例中，关于储存在内容数据库 11 中的内容的时间信息包括多个不同类型的时间信息，且该时间信息属性信息用于指定每一类时间信息。

[0043] 例如，对于音乐内容，如图 2 所示，可将诸如发行某一音乐片段的唱片或光盘 (CD) 的日期、该音乐片段进入排行榜前十名的日期、以及该音乐片段在无线电或电视上广播的日期等时间信息，连同诸如表示时间信息的文本信息等时间信息属性信息一起储存在内容数据库 11 中。

[0044] 对于电影内容，如图 2 所示，可将诸如某一电影在日本的上映日期、该电影在美国的上映日期、以及该电影在电视上广播的日期等时间信息、连同诸如表示时间信息的文本信息等时间信息属性信息一起储存在内容数据库 11 中。

[0045] 对于电视广播节目内容，如图 2 所示，可将诸如某一电视广播节目的广播日期、该电视广播节目作为数字多功能盘 (DVD) 发行的日期、以及该电视广播节目重播的日期等时间信息、连同诸如表示时间信息的文本信息等时间信息属性信息一起储存在内容数据库 11 中。

[0046] 对于新闻内容，如图 2 所示，可将诸如该新闻的广播日期、该新闻中事件的发生日期、该新闻报道在报纸上的印刷日期等时间信息、连同诸如表示时间信息的文本信息等时间信息属性信息一起储存在内容数据库 11 中。在本实施例中，新闻内容通过根据事件或事变按分钟划分来存储。即，即使新闻报道是在相同的时区中广播的，它们也根据事件或事变来划分。

[0047] 对于电子书籍内容，如图 2 所示，可将诸如某一书籍以纸件形式发行的日期、该书籍以电子形式发行的日期、以及该书籍列入最畅销列表的日期等时间信息、连同诸如表示时间信息的文本信息等时间信息属性信息一起储存在内容数据库 11 中。

[0048] 在根据每一内容片段的类型压缩之后，内容数据可储存在内容数据库 11 中。例如，音乐内容数据可根据 MPEG-1 音频层 III(MP3) 或自适应变换声学编码 3(ATRAC3) 来压缩。音乐内容可以是乐器数字接口 (MIDI) 数据。

[0049] 视频内容数据根据运动图像专家组 2(MPEG2)、MPEG4 或 JPEG 来压缩。

[0050] 音乐内容或视频内容的压缩格式或数据格式作为内容属性信息储存在内容数据库 11 中，尽管在图 2 中并未示出。然后，在从内容接收终端接收到内容提供请求之后，内容分发服务器 10 基于内容提供请求中所指示的关于为内容接收终端提供的解码功能以及可由内容接收终端回放的数据格式的信息，选择可由内容接收终端解码和回放的内容数据，并将所选择的内容数据分发到内容接收终端。

[0051] 如上所述，根据该实施例，内容分发服务器 10 在内容数据库 11 中与时间信息相关联地储存多种类型的内容。然后，响应于来自内容接收终端 20、30 或 40 的内容提供请求，内容分发服务器 10 将所请求的内容分发到对应的内容接收终端。

[0052] 在该实施例中，内容接收终端 20、30 或 40 的用户通过指定诸如年份或日期等时间信息作为搜索条件来请求内容。例如，用户可请求 60 年代的音乐内容、1980 年放映的电影内容、或者在 1999 年 11 月 11 日下午 10:00 发生的事件。

[0053] 因此，内容接收终端 20、30 或 40 向内容分发服务器发送至少包括时间信息作为搜索关键字的内容提供请求。

[0054] 在这一情况下，如果用户仅指定时间信息而未指定内容类型，则提取匹配作为搜索条件的时间信息的所有内容片段作为搜索结果并分发它们。因此，当用户仅需要音乐内容、电影内容或新闻内容时，内容接收终端的用户在内容提供请求中不仅包括时间信息，还包括指示内容类型的信息。

[0055] 如果内容提供请求中仅包含时间信息而没有时间信息属性信息，则该时间信息表示什么是未知的。因此，在本实施例中，将时间信息属性信息包括在内容提供请求中，以指示该时间信息表示什么。例如，如果请求仅包括 70 年代流行曲调的音乐内容，则用户输入 1970 作为时间信息，并包括表示流行曲调的信息作为时间信息属性信息。

[0056] 作为表示流行曲调的时间信息属性信息，可使用与储存在分发服务器 10 的内容数据库 11 中的相同的信息，诸如图 2 所示的信息，例如“排行榜前十名”。

[0057] 然而，并非必然要将与储存在内容数据库 11 中的相同的信息用作时间信息属性信息。其原因是内容分发服务器 10 可分析包括在从内容接收终端发送的内容提供请求中的时间信息属性信息，以在内容数据库 11 中搜索对应的属性信息。

[0058] 即，如果包括在从内容接收终端发送的内容提供请求中的时间信息属性信息指示流行曲调，则内容分发服务器 10 可确定要搜索的时间信息属性信息是“排行榜前十名”，然后通过使用该属性信息连同由用户指定的时间信息来搜索内容数据库 11，并且然后获得包括 70 年代的流行曲调的音乐内容。

[0059] 在该实施例中，为便于在内容分发服务器 10 中生成搜索条件，预先确定要选择的信息属性信息，并且用户可根据预定的属性信息来选择时间信息属性信息。

[0060] 如上所述，在该实施例中，内容分发服务器 10 储存多种类型的内容。因此，当用户请求一特定类型的内容时，必须指定该内容的类型。

[0061] 音乐内容接收终端 20 和 AV 内容接收终端 30 是分别用于请求音乐内容和视频内容的专用终端。因此，音乐内容接收终端 20 和 AV 内容接收终端 30 通过在请求中包括指示内容类型的信息来发送内容提供请求，以使用户无需输入内容类型。

[0062] 然而，通用内容接收终端 40 的用户必须输入用户所请求的内容的类型。

[0063] 在该实施例中，用户并非始终必须指定时间信息属性信息。如果内容分发服务器10从内容接收终端接收到不带时间信息属性信息的内容提供请求，则它确定该内容接收终端请求了推荐的内容。

[0064] 如果内容分发服务器10从内容接收终端接收到带有时间信息属性信息的内容提供请求，则它搜索满足由该时间信息属性信息指示的搜索条件的内容，并将搜索结果分发到内容接收终端。

[0065] 在该实施例中，内容接收终端的用户可设置除时间信息之外的内容属性信息，诸如内容类别（这类除时间信息之外的属性信息被简称为“内容属性信息”）。由用户设置的内容属性信息被包括在内容提供请求中，并由内容分发服务器10用作搜索条件之一。用户无需指定内容属性信息，在这一情况下，内容分发服务器10在不考虑内容属性信息的情况下搜索内容。

[0066] 如上所述，根据该实施例，内容接收终端通过在请求中包括时间信息和用于指定要通过使用该时间信息搜索的内容的范围的附带信息，来发送内容提供请求。然后，内容分发服务器10通过使用该时间信息和附带信息作为搜索条件来搜索内容数据库11。由此，可容易地获得包括时间信息作为元数据的内容，诸如在由时间信息指定的日期发行的音乐内容、在由时间信息指定的日期广播的广播节目内容、或在由时间信息指定的日期放映的电影内容。

[0067] 下文描述内容分发服务器10和内容接收终端20、30和40的配置和操作的细节。为方便简化起见，在以下实例中，可由用户选为属性信息的信息限于类别信息。

[0068] 内容分发服务器10的硬件配置

[0069] 内容分发服务器10的硬件配置的一个示例在图3中示出。

[0070] 在图3所示的内容分发服务器10中，中央处理单元(CPU)101通过系统总线100连接到程序只读存储器（程序ROM)102、工作区随机存取存储器（工作区RAM)103、通信接口104、接收数据处理器105、发送数据处理器106、内容数据库11、内容搜索单元107和分发数据生成器108。通信接口104连接到因特网52。

[0071] 在程序ROM 102中，储存要由CPU 101执行的处理程序。工作区RAM 103用作用于由CPIU 101执行处理程序的工作区。指示内容分发服务器10的通信网络地址（用作发送者地址）的信息也储存在程序ROM 102中。

[0072] 接收数据处理器105接收经由通信接口104从内容接收终端接收的内容提供请求，将该请求转换成可由内容分发服务器10处理的数据，然后将经转换的请求发送到系统总线100。

[0073] 发送数据处理器106将由分发数据生成器108生成的分发数据转换成可经由通信网络发送的数据，并将经转换的分发数据经由通信接口104发送到因特网52。

[0074] 内容数据库11储存内容数据（至少为内容相关的时间信息）以及诸如图2所示的内容属性信息，包括时间信息属性信息。如上所述，内容数据和对应的内容属性信息通过内容表示信息ID彼此相关联。

[0075] 内容搜索单元107通过使用包括在从内容接收终端发送的内容提供请求中的时间信息以及相关联的时间信息属性信息和类别信息作为搜索条件，在内容数据库11中搜索属性信息，然后基于搜索到的属性信息提取内容数据。内容搜索单元107可由CPU 101

执行的软件来实现。

[0076] 分发数据生成器 108 从由内容搜索单元 107 获得的搜索结果生成分发数据，并将所生成的分发数据传送到发送数据处理器 106。

[0077] 如果所请求的内容是音乐内容，则分发数据生成器 108 将从内容数据库 11 搜索到的音乐内容数据发送到音乐内容接收终端 20，使得音乐内容接收终端 20 可对音乐内容执行流回放。

[0078] 如果找到多个音乐片段作为搜索结果，则内容分发服务器 10 以随机的顺序将多个音乐片段发送到音乐内容接收终端 20。该随机顺序可基于发送内容提供请求的时间或接收到内容提供请求的时间来确定。采用这一安排，如果对多个内容片段提供请求的请求发送时间或请求接收时间是不同的，则响应于一个内容片段提供请求作为搜索结果获得的多个内容片段以与响应于另一内容提供请求发送多个内容片段的顺序不同的顺序来发送，即使所获得的内容片段在多个所接收的请求中是相同的。

[0079] 此原因是防止用户在通过指定时间信息在不同的时刻发送内容提供请求时因以相同的顺序重复地接收到相同的音乐片段而感到厌倦。个别用户的分发历史可被储存，从而可防止同一内容被重复地发送到同一用户。

[0080] 如上所述，根据该实施例，关于音乐内容，用户通过使用音乐内容接收终端 20 至少指定时间信息来请求内容分发服务器 10 提供音乐内容。然后，匹配所指定的时间信息的音乐内容可被发送到音乐内容接收终端 20，并如同用户在无线电接收器中收听音乐那样回放。因此，用户可按某一顺序收听例如 60 年代的流行音乐片段。由此，在该实施例中，可提供一种用于音乐内容的新颖的提供方法。

[0081] 当从内容数据库 11 中获得多个内容项作为搜索结果时，并非如上所述地顺序地分发内容项，而是可在向内容接收终端分发特定的内容数据之前，将一内容项列表作为搜索结果发送到内容接收终端。然后，用户从该列表中选择期望的内容项，并将选择结果发回内容分发服务器 10。因此，内容分发服务器 10 可将由用户选择的内容项发送到内容接收终端。

[0082] 在该实施例中，作为搜索结果获得的音乐内容项如上所述地以随机顺序依次分发。然而，关于其它类型的内容，例如 AV 内容或电子书书内容，则在分发最终的内容数据之前发送内容项列表作为搜索结果。

[0083] 即，如果所请求的内容不同于音乐内容，则分发数据生成器 108 生成包括从内容数据库 11 获得的至少一个内容项的内容列表，然后将该列表发送到内容接收终端 30 或 40。

[0084] 内容接收终端 30 或 40 接收该列表，然后接收用户从列表中对一个特定内容项的选择，并向内容分发服务器 10 发送提供用户选择的内容的请求。

[0085] 响应于该请求，内容分发服务器 10 将所请求的内容数据返回给内容接收终端 30 或 40。

[0086] 音乐内容接收终端 20 的硬件配置

[0087] 图 4 是示出音乐内容接收终端 20 的外部配置，尤其是音乐内容接收终端 20 的外壳 21 的操作面板的正视图。

[0088] 在该实施例中，音乐内容接收终端 20 包括发送 / 接收天线 22 以连接到无线网络。在音乐内容接收终端 20 的外壳 21 的操作面板上，布置了用于设置时间信息的旋钮操作单

元 23、显示屏 24（例如，为液晶显示器 (LCD)）、诸如用于设置时间信息属性信息的操作按钮 25a（时间属性改变操作按钮）和用于设置类别的操作按钮 25b（类别改变操作按钮）等多个操作按钮、以及用于从扬声器输出声音的声音输出单元 26。

[0089] 显示屏 24 包括时间轴指示器 241、时间轴光标 242、时间信息显示栏 243、时间信息属性显示栏 244 以及内容类别显示栏 245。

[0090] 时间轴指示器 241 被垂直校准为时间轴。在图 4 所示的示例中，以 5 年为增量提供了大标记，并且每隔 5 年以大标记指示年份。以 1 年为增量提供了中标记，并且以 3 个月为增量提供了小标记。

[0091] 时间轴光标 242 被表示为水平条，且时间轴光标 242 的位置根据用户在旋钮操作单元 23 上执行的旋转在时间轴指示器 241 的时间轴方向上移动。在该示例中，时间轴光标 242 的位置根据旋钮操作单元 23 的旋转由软件控制来移动。

[0092] 在这一情况下，时间轴光标 242 可连续地移动。这对应于根据现有无线电接收器中的频率刻度盘旋钮的操作表示当前所接收频率的条。因此，在该实施例中，用户可通过操作旋钮操作单元 23 来连续地改变日期（秒、分、小时、日、月和年）。

[0093] 时间轴指示器 241 中的时间轴上表示的标记仅仅是可由用户设置的时间信息的一部分。如果用户在时间轴光标 242 位于时间轴指示器 241 的最顶部位置时以从现在到过去的方向改变时间信息，则时间轴指示器 241 中表示的标记在从现在到过去的方向上滚动。类似地，如果用户在时间轴光标 242 位于时间轴指示器 241 的最底部位置时以从过去到现在的方向改变时间信息，则时间轴指示器 241 中表示的标记以从过去到现在的方向滚动。

[0094] 或者，可固定时间轴光标 242，并且可根据用户对旋钮操作单元 23 执行的旋转操作来滚动时间轴指示器 241 中表示的标记，由此改变时间信息。

[0095] 在该实施例中，旋钮操作单元 23 包括扁平的盘形大旋钮 23a 和柱形小旋钮 23b，该小旋钮具有足够的高度以使用户能容易地握住该小旋钮 23b。大旋钮 23a 和小旋钮 23b 可同轴旋转。

[0096] 旋钮操作单元 23 具有双旋转轴结构。更具体地，用户主要通过握住小旋钮 23b 来旋转旋钮操作单元 23。小旋钮 23b 可在旋转轴的中心线方向上移动。当小旋钮 23b 在旋转轴的中心线方向上朝向用户拉动时，大旋钮 23a 和小旋钮 23b 围绕第一旋转轴整体旋转。当按下小旋钮 23b 时，仅围绕第二旋转轴旋转小旋钮 23b。即，当按下小旋钮 23b 时，允许释放使大旋钮 23a 与小旋钮 23b 一起整体移动的整体锁定机构，且当拉起小旋钮 23b 时，整体锁定机构被启用。

[0097] 大旋钮 23a 和小旋钮 23b 的整体旋转对应于粗略的调整操作，并且用户可相对粗略地调整时间轴上的位置。例如，采用这一操作，用户可仅改变年份。小旋钮 23b 的单独旋转对应于精细的调整操作，且用户可相对精细地调整时间轴上的位置。例如，用户可改变时间、日和月。

[0098] 旋钮操作单元 23 的上述结构仅仅是一个示例，且可用其它结构来例如配置为单轴旋钮。

[0099] 显示屏 24 上的时间信息显示栏 243 显示用户通过使用旋钮操作单元 23 输入的时间信息（时间、日、月和年），同时检查时间轴显示栏 241 中的时间轴光标 242 的位置。

[0100] 在显示屏 24 上的时间信息属性显示栏 244 中，指示了表明由用户设置的时间信息表示什么的属性。在时间信息属性显示栏 244 中，每当按下时间属性改变操作按钮 25a 时，指示了表明时间信息表示什么的不同属性，并且可选择期望的属性作为时间信息属性信息。

[0101] 如上所述，在该实施例中，用户无需指定时间信息属性信息。在这一情况下，搜索在由旋钮操作单元 23 设置的时间信息包括所有属性信息的搜索条件下进行。

[0102] 时间属性改变操作按钮 25a 可以被按下和旋转。在这一结构中，通过按下时间属性改变操作按钮 25a，可在时间信息属性显示栏 244 中显示的时间信息属性列表，即表示时间信息的属性的列表，作为下拉菜单来显示。然后，通过旋转时间属性改变操作按钮 25a，从列表中选择一个属性，并通过再次按下时间属性改变操作按钮 25a，可设置所选择的属性。

[0103] 在显示屏 24 上的类别显示栏 245 中，显示用户设置的类别。在类别显示栏 245 中，每当按下类别改变操作按钮 25b 时，就可显示一不同类别并可选择期望的类别。

[0104] 如上所述，在该实施例中，用户无需指定类别。在这一情况下，搜索在由旋钮操作单元 23 设置的时间信息包括所有类别的搜索条件下进行。

[0105] 如在时间属性改变操作按钮 25a 的操作中一样，可将类别列表作为下拉菜单显示在类别显示栏 245 中，并且用户可从该列表中选择一个类别。

[0106] 图 5 是示出音乐内容接收终端 20 的硬件配置的框图。

[0107] 在音乐内容接收终端 20 中，CPU 201 如图 5 所示地通过系统总线 200 连接到程序 ROM 202、工作区 RAM 203、无线收发器 204、接收数据处理器 205、发送数据处理器 206、音乐内容解码处理器 207、内容提供请求生成器 208、音频信号接口 209、LCD 接口 210、时间信息接口 211 以及操作单元接口 212。

[0108] 包括显示屏 24 的 LCD 213 连接到 LCD 接口 210。包括时间属性改变操作按钮 25a 和类别改变操作按钮 25b 的按钮操作单元 215 连接到操作接口 212。操作接口 212 向系统总线 200 提供用户在时间属性改变操作按钮 25a 或类别改变操作按钮 25b 上执行的操作的操作信息。

[0109] 提供给系统总线 200 的操作信息由 CPU 201 根据储存在 ROM 202 中的程序来分析，并被转换成时间属性信息或类别信息。时间信息属性信息或类别信息可指示属性或类别都未被指定。时间信息属性信息或类别信息被传送到内容提供请求生成器 208，并用于生成要作为附带时间信息的信息包括在内容提供请求中的信息。

[0110] 操作信息信号转换器 214 连接到时间信息接口 211。在根据大旋钮 23a 和小旋钮 23b 的旋转量接收到操作信息信号之后，操作信息信号转换器 214 将操作信息信号转换成投影在时间轴上的时间信息。时间信息接口 211 从操作信息信号转换器 214 接收经转换的时间信息，并将其提供给系统总线 200。时间信息然后在 CPU 201 的控制下被传送到内容提供请求生成器 208，并用于生成要包括在内容提供请求中的信息。

[0111] 内容提供请求生成器 208 生成内容提供请求，包括从时间信息接口 211 和操作单元接口 212 获得的时间信息以及由时间信息属性信息和类别信息组成的附带信息作为搜索条件信息，并在 CPU 201 的控制下将所生成的内容提供请求提供给发送数据处理器 206。

[0112] 发送数据处理器 206 从 ROM 202 获得内容分发服务器 10 的通信网络地址，并将要包括在网络地址中的数据转换成匹配无线通信的信号格式以生成发送数据，然后将所生成

的数据发送到无线收发器 204。

[0113] 无线收发器 204 经由天线 22 无线地发送来自发送数据处理器 206 的发送数据，并也将由天线 22 接收的数据传输到接收数据处理器 205。

[0114] 接收数据处理器 205 将从无线收发器 204 传输的接收数据转换成可由音乐内容接收终端 20 处理的数据，并将经转换的数据发送给系统总线 200。CPU 201 分析接收数据，且如果接收数据是音乐内容数据，则 CPU 201 将其传送到音乐内容解码处理器 207。

[0115] 音乐内容解码处理器 207 将音乐内容解码成数字音频信号，并将经解码的数字音频信号提供给音频信号接口 209。

[0116] 音频信号接口 209 将数字音频信号转换成模拟音频信号，并通过音频放大器 216 将其提供给扬声器 217，使得音频信号可被回放。

[0117] 在该实施例中，内容提供请求包括用于标识为音乐内容接收终端 20 的音乐内容解码处理器 207 提供的音乐内容解码功能。然后，可从内容分发服务器 10 接收可由音乐内容解码处理器 207 解码的音乐内容。

[0118] AV 内容接收终端 30 的硬件配置

[0119] 图 6 是示出本实施例中的 AV 内容接收终端 30 的外部配置，尤其是 AV 内容接收终端 30 的外壳 31 的操作面板的正视图。

[0120] 如上所述，AV 内容接收终端 30 是具有游戏机功能的便携式终端，并具有用于连接到无线网络的发送 / 接收天线。

[0121] 在 AV 内容接收终端 30 的外壳 31 的操作面板上，布置了担当游戏机操作控制器的按钮操作单元 32 和 33，并也设置了 LCD 显示屏 34。在该实施例中，在外壳 31 的操作面板上也设置了菜单按钮 35 和发送按钮 31。

[0122] 按钮操作单元 32 包括游戏机操作按钮 32a、32b、32c 和 32d。在该实施例中，操作按钮 32a、32b、32c 和 32d 也用作用于请求 AV 内容的操作按钮。在该示例中，操作按钮 32a、32b 和 32c 也分别担当输入按钮（设置按钮）、时间信息属性信息指定按钮以及类别指定按钮。

[0123] 按钮操作单元 33 包括分别用于指定方向，即上、下、左、右的操作按钮 33a、33b、33c 和 33d。操作按钮 33a、33b、33c 和 33d 用于指定方向，而不管 AV 内容接收终端 30 是用作游戏机还是用于请求 AV 内容。具体地，用于指定水平方向，即左和右的操作按钮 33c 和 33d 担当用于输入时间信息的操作按钮。

[0124] 在该实施例中，在 AV 内容接收终端 30 的显示屏 34 上，布置了时间轴指示器 341、时间轴光标 342、时间信息显示栏 343、时间信息属性显示栏 344 以及 AV 内容类别显示栏 345。

[0125] 时间轴指示器 341 被水平校准为时间轴。在图 6 所示的示例中，以 5 年为增量提供了大标记，并且每隔 5 年对大标记指示年份。以 1 年为增量提供了中标记，并以 3 个月为增量提供了小标记。

[0126] 在图 6 中，时间轴光标 342 被表示为垂直条，且时间轴光标 342 的位置根据对水平方向指定按钮 33c 或 33d 执行的用户操作在时间轴指示器 341 中在时间轴方向上移动。在该示例中，时间轴光标 342 的位置根据对水平方向指定按钮 33c 或 33d 执行的操作由软件控制来水平移动。

[0127] 在这一情况下，时间轴光标 342 可被连续移动。这对应于根据现有无线电接收器中频率旋钮的操作指示当前接收频率的条。因此，在该实施例中，用户可通过操作水平方向指定按钮 33c 和 3d 来连续地改变日期（秒、分、小时、日、月和年）。

[0128] 时间轴指示器 341 中时间轴上所表示的标记仅仅是可由用户设置的时间信息的一部分。如果用户在时间轴光标 342 位于时间轴指示器 341 的最左边位置时以从过去到现在的方向改变时间信息，则时间轴指示器 341 中所表示的标记以从现在到过去的方向滚动。类似地，如果用户在时间轴光标 342 位于时间轴指示器 341 的最右边位置时以从过去到现在的方向改变时间信息，则时间轴指示器 341 中所表示的标记以从过去到现在的方向滚动。

[0129] 或者，时间轴光标 342 可被固定，且时间轴指示器 341 中所表示的标记可根据水平方向指定操作按钮 33c 和 33d 上的用户操作来滚动，由此改变时间信息。

[0130] 显示屏 34 上的时间信息显示栏 343 显示由用户通过使用水平方向指定操作按钮 33c 和 33d 输入的时间信息（时间、日、月和年），同时检查时间轴光标 342 在时间轴显示栏 341 中的位置。

[0131] 在显示屏 34 上的时间信息属性显示栏 344 中，指示了表明由用户设置的时间信息表示什么的属性。在时间信息属性显示栏 344 中，每当按下操作按钮 34b 时，就指示表明该时间信息表示什么的不同属性，并且可选择期望的属性作为时间信息属性信息。

[0132] 如上所述，在该实施例中，用户无需指定时间信息属性信息。在这一情况下，搜索是在由水平方向指定操作按钮 33c 或 33d 设置的时间信息包括所有属性信息的搜索条件下进行的。

[0133] 通过按下操作按钮 32b，可在时间信息属性显示栏 344 中指示的属性列表，即可供选择的属性列表，可作为下拉菜单来显示。然后，通过操作垂直方向指定操作按钮 33a 或 33b，可从列表中选择一个属性，并通过按下操作按钮（输入键）32a，可设置所选择的属性。

[0134] 在显示屏 34 上的类别显示栏 345 中，显示由用户设置的类别。在类别显示栏 345 中，每当按下操作按钮 32c 时，就显示一不同类别并可选择期望的类别。

[0135] 如上所述，在该实施例中，用户无需指定类别。在这一情况下，搜索是在由水平方向指定操作单元 33c 或 33d 设置的时间信息包括所有类别的搜索条件下进行的。

[0136] 如同操作按钮 32b 的操作那样，可在类别显示栏 345 中显示类别列表作为下拉菜单，且用户可从该列表中选择一个类别。

[0137] 菜单按钮 35 用于在显示屏 34 上显示包括游戏机模式、AV 内容提供请求模式以及为 AV 内容接收终端 30 提供的其它功能模式的功能模式列表。在通过按下菜单按钮 35 显示功能模式列表之后，用户操作方向指定按钮 33a 到 33d，来选择要在 AV 内容接收终端 30 中执行的功能模式，然后按下担当输入按钮的操作按钮 33a，以设置所选择的功能模式。

[0138] 发送按钮 36 由用户用内容提供请求模式向内容分发服务器 10 发送内容提供请求时操作。

[0139] 图 7 是示出 AV 内容接收终端 30 的硬件配置的框图。

[0140] 在 AV 内容接收终端 30 中，CPU 301 如图 7 所示地通过系统总线 300 连接到程序 ROM 302、工作区 RAM 303、无线收发器 304、接收数据处理器 305、发送数据处理器 306、AV 内容解码处理器 307、内容提供请求生成器 308、音频信号接口 309、LCD 接口 310、操作单元接

口 311、游戏功能单元 312 和游戏介质驱动器 313。

[0141] 包括显示屏 34 的 LCD 314 连接到 LCD 接口 310。包括操作按钮 32a 到 32d、方向指定按钮 33a 到 33d、菜单按钮 35 和发送按钮 36 的按钮操作单元 315 连接到操作接口 311。操作接口 311 在 CPU 301 的控制下检测关于操作按钮 32a 到 32d、方向指定按钮 33a 到 33d、菜单按钮 315 和发送按钮 316 中用户操作了哪一按钮的操作信息，并将检测到的操作信息提供给系统总线 300。

[0142] CPU 301 根据储存在程序 ROM 302 中的程序分析关于按钮操作单元 315 上执行的操作的操作信息，然后根据对应的功能模式来执行处理。

[0143] 例如，在内容提供请求模式中，响应于水平方向指定按钮 33c 或 33d 上的操作，CPU 301 确定已设置了时间信息，然后根据水平方向指定按钮 33c 或 33d 上的操作改变时间轴指示器 341 中时间轴上的时间轴光标 342 的位置，并且也在时间信息显示栏 343 中的时间轴上显示与该时间相关联的时间信息。CPU 301 然后将该时间信息传送到内容提供请求生成器 308，且内容提供请求生成器 308 使用该时间信息来生成包括在内容提供请求中的信息。

[0144] CPU 301 也响应于分别在操作按钮 32b 或 32c 上的操作改变时间信息属性显示栏 344 或类别显示栏 345 中的显示，并将属性信息或类别信息（包括指示没有指定属性或类别的信息）传送到内容提供请求生成器 308，且内容提供请求生成器 308 使用该属性信息或类别信息来生成包括在内容提供请求中的附带信息。

[0145] 在 CPU 301 的控制下，内容提供请求生成器 308 生成包括时间信息以及由时间信息属性信息和类别信息组成的附带信息的内容提供请求作为搜索条件信息，并将所生成的内容提供请求提供给发送数据处理器 306。

[0146] 发送数据处理器 306 从程序 ROM 302 获得内容分发服务器 10 的通信网络地址，并将要包括在网络地址中的数据转换成匹配无线通信的信号格式来生成发送数据，然后将所生成的数据发送到无线收发器 304。

[0147] 无线收发器 304 经由天线 37 无线地发送来自发送数据处理器 306 的发送数据，并也将由天线 37 接收到的数据传送到接收数据处理器 305。

[0148] 接收数据处理器 305 将从无线收发器 304 传送的接收数据转换成可由 AV 内容接收终端 30 处理的数据，并将经转换的数据发送给系统总线 300。CPU 301 分析接收数据，并将 AV 内容数据传送到 AV 内容解码处理器 307。

[0149] AV 内容解码处理器 307 对 AV 内容数据进行解码，并经由 LCD 接口 310 将经解码的数字视频数据传送到 LCD 314，使得对应的图像可被回放。CPU 301 也将经解码的数字音频信号传送到音频信号接口 309。

[0150] 音频信号接口 309 将数字音频信号转换成模拟音频信号，并通过音频放大器 316 将其提供给扬声器 317，使得音频信号可被回放。

[0151] 在该实施例中，内容提供请求包括用于标识为 AV 内容接收终端 30 的 AV 内容解码处理器 307 提供的 AV 内容解码功能的信息。然后，可从内容分发服务器 10 接收可由 AV 内容解码处理器 307 解码的 AV 内容。

[0152] 游戏功能单元 312 通过使用记录在例如 CD-ROM 或 DVD 等安装在游戏介质驱动器 313 中的游戏介质上的游戏程序或游戏数据，在 LCD 314 的显示屏 34 上显示游戏屏幕。游戏功能单元 312 响应于按钮操作单元 315 的操作按钮 32 或 33 上的操作改变游戏屏幕的显

示。

[0153] 通用内容接收终端 40 的硬件配置

[0154] 如上所述，由于通用内容接收终端 40 是个人计算机，因此未示出其具体硬件配置。该个人计算机可经由因特网 52 访问内容分发服务器 10。

[0155] 本实施例的通用内容接收终端 40 包括音乐内容接收终端 20 和 AV 内容接收终端 30 的功能，作为储存在内置 ROM 中的软件程序，并且还包括请求电子书籍或其它类型内容的功能作为软件程序。

[0156] 作为通用内容接收终端 40 的显示屏，使用类似于图 6 所示的 AV 内容接收终端 30 中的用于请求内容的操作屏幕的显示屏。然后，可通过使用为个人计算机的键盘提供的方向指定键来设置时间信息，并且还可通过执行预定的键操作来设置时间信息的属性或类别。

[0157] 内容接收终端请求诸如电子书籍等其它类型的内容、内容分发服务器 10 响应于内容提供请求执行处理、以及内容接收终端接收内容类似于请求和接收 AV 内容时的操作。然而，内容请求模式或内容分发模式可根据内容的特性而有所不同。

[0158] 在通用内容接收终端 40 的情况下，用户必须选择要请求的内容的类型。然而，用户可请求所有类型的内容，而不指定内容的类型。

[0159] 因此，提供了用于允许用户选择内容类型的操作单元以及用于在显示屏上显示所选择的内容类型的单元（功能单元）。

[0160] 内容请求操作综述

[0161] 关于请求内容的操作，根据用户请求内容的操作或包括在内容提供请求终端的搜索条件中的差异来考虑若干模式。

[0162] 在第一模式中，当用户请求内容时仅设置时间信息。然而，内容提供请求不仅包括用户设置的时间信息，还包括附带信息作为用于指定要通过使用时间信息来搜索的内容范围的搜索条件信息。在第一模式中，附带信息由内容接收终端自动包括在内容提供请求中。

[0163] 用于指定内容范围并由内容接收终端自动包含在内容提供请求中的附带信息本身包括预定的时间信息属性信息和 / 或预定的内容属性信息，诸如类别。在这一情况下，附带信息可按三种不同的方式被包括在内容提供请求中，诸如仅包括预定的时间信息属性信息，仅包括预定的内容属性信息（诸如类别），以及同时包括预定的时间信息属性信息和内容属性信息（诸如类别）。

[0164] 在上述第一模式中，内容提供请求由诸如音乐内容接收终端 20 或 AV 内容接收终端 30 等专用于特定内容的内容接收终端提供，在这一情况下，不向内容接收终端提供用于设置时间信息属性信息的输入单元或用于设置类别的输入单元，这些输入单元允许用户输入特定信息。

[0165] 如果内容分发服务器 10 的内容数据库 11 储存多种类型的内容，则内容接收终端必须在内容提供请求中包括指定内容的期望类型的信息作为附带信息。

[0166] 另一方面，如果内容分发服务器 10 是专用于匹配专用于内容接收终端的内容类型的特定类型的内容的分发服务器，则内容接收终端无需在内容提供请求中包括指定内容的期望类型的信息作为附带信息。

[0167] 图 8 示出了上述第一模式中从内容接收终端 20 或 30 向内容分发服务器 10 提供

内容的请求的概念。

[0168] 图 8 所示的输入设备 61 形成了用于设置时间信息的输入单元，诸如音乐内容接收终端 20 的旋钮操作单元 23，或 AV 内容接收终端 30 的按钮操作单元 33。

[0169] 响应于用户通过操作输入设备 61 设置的时间信息，CPU 201 或 301 通过使用具有软件处理功能的信息转换器 62，将关于对输入设备 61 执行的操作的操作信息转换成指示直线轴上一个点的信息。在这一实施例中，直线轴对应于时间轴，而关于该直线轴上某一点的信息被映射到时间轴上的一个特定时间，使得关于对输入设备 61 执行的操作的操作输入信息可被转换成时间信息。时间信息被包括在内容提供请求中，且具有该时间信息的内容提供请求被发送到内容分发服务器 10。

[0170] 响应于对输入设备 61 执行的操作，CPU 201 或 301 通过使用具有软件处理功能的自动附带信息生成器 63，自动生成用于指定要通过使用时间信息来搜索的内容范围的附带信息，并将所生成的附带信息包括在内容提供请求中，然后将该请求发送到内容分发服务器 10。

[0171] 内容分发服务器 10 基于包含在所接收的内容提供请求中的时间信息和附带信息来生成搜索条件，并根据所生成的搜索条件搜索内容数据库 11，以从内容数据库 11 中提取内容接收终端所请求的一个或多个内容项。

[0172] 内容分发服务器 10 通过使用具有软件处理功能的内容分发器 65 将所提取的内容数据发送到内容接收终端。内容接收终端然后对所接收的内容数据解码，并通过诸如显示器或扬声器等输出设备 64 将经解码的数据呈现给用户。

[0173] 由内容接收终端本身使用自动附带信息生成器 63 包括在内容提供请求中的附带信息的第一示例仅是时间信息属性信息，且在这一情况下，这一属性信息指示未指定任何时间属性。

[0174] 在第一示例中，内容分发服务器 10 可确定所有时间属性都作为搜索条件被包括在内，或者指定了一个或多个特定的、推荐的时间属性。

[0175] 在这一情况下，例如类别等内容属性信息未被指定。内容分发服务器 10 可确定所有类别都作为搜索条件被包括在内，或者指定了一个或多个特定的、推荐的类别。

[0176] 由内容接收终端本身使用自动附带信息生成器 63 包括在内容提供请求中的附带信息的第二示例仅是时间信息属性信息，并且在这一情况下，属性信息是预定的、指定的信息，诸如例如某一音乐片段进入排行榜前十名的日期。

[0177] 在第二示例中，如果内容是音乐内容，则内容分发服务器 10 在内容数据库 11 中搜索在由时间信息指定的日期进入排行榜前十名的音乐片段，并将匹配的内容片段分发到内容接收终端。

[0178] 由内容接收终端本身使用自动附带信息生成器 63 包括在内容提供请求中的附带信息的第三示例仅是内容属性信息，且在这一情况下，这一内容属性信息指示没有指定任何内容属性。

[0179] 在第三示例中，内容分发服务器 10 可确定所有内容属性都作为搜索条件被包括在内，或者指定了一个或多个特定的、推荐的内容属性。

[0180] 在这一情况下，未指定时间信息属性信息。内容分发服务器 10 可确定所有时间属性都作为搜索条件被包括在内，或者指定了一个或多个特定的、推荐的时间属性。

[0181] 由内容接收终端本身使用自动附带信息生成器 63 包括在内容提供请求中的附带信息的第四示例是时间信息属性信息和内容属性信息两者，且在这一情况下，这一信息指示既未指定时间属性，也未指定内容属性。

[0182] 在这一情况下，内容分发服务器 10 可按类似于上述第一或第三示例中的方式来进行搜索。

[0183] 由内容接收终端本身使用自动附带信息生成器 63 包括在内容提供请求中的附带信息的第五示例是时间信息属性信息和内容属性信息两者，且在这一情况下，属性信息之一指示没有指定任何属性，而另一属性信息是预定的、指定的属性信息。

[0184] 对于未指定的属性信息，内容分发服务器 10 可按类似于上述第一、第三或第四示例中的方式来进行搜索。

[0185] 由内容接收终端本身使用自动附带信息生成器 63 包括在内容提供请求中的附带信息的第六示例是时间信息属性信息和内容属性信息两者，且在这一情况下，时间信息属性信息和内容属性信息两者都是预定的、指定的信息。

[0186] 在第六示例中，假定在非常受限的搜索条件下的内容分发，诸如请求由预定的、指定的时间信息指定的一个或多个内容项。

[0187] 在第二模式中，当用户请求内容时，不仅输入或选择性地输入时间信息，还有时间信息属性信息。在上述内容接收终端中，仅可通过由用户从预定属性中作选择来输入时间信息属性信息。然而，用户可输入特定文本作为时间信息属性信息。这也适用于诸如类别等内容属性信息的输入。这尤其可在通用内容接收终端 40 中容易地执行。

[0188] 由用户设置的时间信息书信信息作为用于指定要通过使用该时间信息来搜索的内容范围的附带信息被包括在内容提供请求中。

[0189] 在第二模式以及第一模式中，未输入内容类型。因此，在第二模式中，内容由专用于特定内容的内容接收终端，诸如音乐内容接收终端 20 或 AV 内容接收终端 30 请求。在这一情况下，不向内容接收终端提供用于由用户输入类别的输入单元（内容属性输入单元）。

[0190] 在第二模式中，如果无需在内容提供请求中包括内容属性信息或指示内容类型的信息作为附带信息，则第一模式中所提供的自动附带信息生成器 63 不是必需的。

[0191] 然而，如果内容分发服务器 10 的内容数据库 11 如上所述地储存多种类型的内容，则内容接收终端必须在内容提供请求中包括用于指定内容类型的信息作为附带信息。由此，在自动附带信息生成器 63 中生成用于指定内容类型的信息，并将该信息作为附带信息包括在内容提供请求中。

[0192] 如同第一模式中一样，并非总是必须将诸如类别等内容属性作为附带信息包括在内。在这一情况下，内容分发服务器 10 可确定未指定任何内容属性，且通过假定所有类别都被包括在内或仅指定了特定的、推荐的类别来进行搜索。

[0193] 诸如类别等预定内容属性信息（可指示没有指定任何内容属性）可在自动附带信息生成器 63 中生成，并作为附带信息被包括在内容提供请求中。

[0194] 图 9 示出了在上述第二模式中从内容接收终端 20 或 30 向内容分发服务器 10 提供内容的请求的概念。在图 9 中，对应于图 8 中的元素的那些元素用相同的参考标号来表示。

[0195] 在图 9 中，内容接收终端包括时间信息属性输入设备 66，它由图 4 所示的音乐内容

接收终端 20 的时间属性改变操作按钮 25a，或图 6 所示的 AV 内容接收终端 30 的操作按钮 32b 构成。

[0196] 然后，在内容接收终端中，响应于用户通过时间信息属性输入设备 66 的输入操作，担当软件功能处理器的时间信息属性转换器 67 根据输入操作来转换属性信息。这对应于响应于对时间属性改变操作按钮 25a 或操作按钮 32b 执行的操作来设置时间信息属性信息的操作。

[0197] 然后，将从时间信息属性转换器 67 输出的时间信息属性信息、连同从自动附带信息生成器 63 输出的另一类型的附带信息（如果提供的话）一起包括在内容提供请求中作为附带信息，并且然后将内容提供请求发送到内容分发服务器 10。

[0198] 如上所述，第二模式类似于第一模式，不同之处在于时间信息属性信息是由用户设置的。同样，在第二模式中，可以不提供自动附带信息生成器 63。

[0199] 在第三模式中，当用户请求内容时，不仅输入或选择性地输入时间信息，还有内容属性信息。用户输入的内容属性信息作为用于指定要通过使用时间信息搜索的内容范围的附带信息被包括在内容提供请求中。

[0200] 如同第一或第二模式中那样，在第三模式中，未输入内容类型。因此，在第三模式中，内容是由诸如音乐内容接收终端 20 或 AV 内容接收终端 30 等专用于特定内容的内容接收终端请求的。在第三模式中，未向内容接收终端提供用于由用户输入时间信息属性信息的输入单元（内容属性输入单元）。

[0201] 在第三模式中，如果不必将时间属性信息或指示内容类型的信息作为附带信息包括在内容提供请求中，则第一模式中提供的自动附带信息生成器 63 不是必需的。

[0202] 然而，如果内容分发服务器 10 的内容数据库 11 如上所述地储存多种类型的内容，则内容接收终端必须将用于指定内容类型的信息作为附带信息包括在内容提供请求中。由此，用于指定内容类型的信息在自动附带信息生成器 63 中生成，并作为附带信息被包括在内容提供请求中。

[0203] 如同第一模式中那样，并非总是必须将时间信息属性信息作为附带信息包括在内。在这一情况下，内容分发服务器 10 可确定未指定任何时间属性，并通过假定所有的时间属性都被包括在内，或仅指定特定的、推荐的时间属性来进行搜索。

[0204] 预定时间信息属性信息（可指示未指定任何时间属性）可在自动附带信息生成器 63 内生成，并作为附带信息被包括在内容提供请求中。

[0205] 图 10 示出了在上述第三模式中从内容接收终端 20 或 30 向内容分发服务器 10 提供内容的请求的概念。在图 10 中，对应于图 8 中元素的那些元素用相同的参考标号来表示。

[0206] 内容接收终端包括内容属性输入设备 68，它由图 4 所示的音乐内容接收终端 20 的类别改变操作按钮 25b 或图 6 所示的 AV 内容接收终端的操作按钮 32c 构成。

[0207] 然后，在内容接收终端中，响应于用户通过内容属性输入设备 68 的输入操作，担当软件功能处理器的内容属性转换器 69 根据输入操作来转换内容属性信息。这对应于响应于对类别改变操作按钮 25b 或操作按钮 32c 执行的操作来设置内容属性信息的操作。

[0208] 然后，将从内容属性转换器 69 输出的内容属性信息、连同从自动附带信息生成器 63 输出的另一类型的附带信息（如果提供的话）一起包括在内容提供请求中作为附带信息，并且然后将内容提供请求发送到内容分发服务器 10。

[0209] 如上所述，第三模式类似于第一模式，不同之处在于内容属性信息是由用户设置的。同样，在第三模式中，可以不提供自动附带信息生成器 63。

[0210] 在第四模式中，当用户请求内容时，不仅输入或选择性地输入时间信息，还有时间信息属性信息。用户所输入的时间信息属性信息和内容属性信息作为用于指定要通过使用时间信息来搜索的内容范围的附带信息被包括在内容提供请求中。

[0211] 如同在第一、第二和第三模式中那样，在第四模式中，未输入内容类型。因此，在第四模式中，从诸如音乐内容接收终端 20 或 AV 内容接收终端 30 等专用于特定内容的内容接收终端作出提供内容的请求。在第四模式中，向内容接收终端提供用于由用户输入时间信息的输入单元、以及用于由用户输入类别的输入单元（内容属性输入单元）。

[0212] 在第四模式中，如果由于内容分发服务器 10 是专用于匹配对该内容接收终端专用的内容的内容的服务器而无需将指示内容类型的信息作为附带信息包括在内容提供请求中，则第一模式中提供的自动附带信息生成器 63 不是必需的。

[0213] 然而，如果内容分发服务器 10 的内容数据库 11 如上所述地储存了多种类型的内容，则内容接收终端必须将指定内容类型的信息作为附带信息包括在内容提供请求中。由此，用于指定内容类型的信息在自动附带信息生成器 63 中生成，并作为附带信息被包括在内容提供请求中。

[0214] 图 11 示出了在上述第四模式中从内容接收终端 20 或 30 向内容服务器 10 提供内容的请求的概念。在图 11 中，对应于图 8 到 10 中的元素的那些元素用相同的参考标号来表示。

[0215] 在图 11 中，内容接收终端包括时间信息属性输入设备 66、时间信息属性转换器 67、内容属性信息输入设备 68、以及内容属性转换器 69。这一配置类似于图 4 所示的音乐内容接收终端 20 或图 6 所示的 AV 内容接收终端的配置。

[0216] 各个元件的操作已在上文中讨论，且因而在此省略详细解释。在第四模式中，内容提供请求包括时间信息属性信息以及内容属性信息（这一信息可指示没有指定任何时间属性或内容属性），作为用于指定要通过使用时间信息来搜索的内容范围的附带信息。然后，内容分发服务器 10 在基于时间信息和附带信息确定的搜索条件下搜索内容数据库 11，然后将内容数据作为搜索结果发送到内容接收终端。

[0217] 在第五模式中，内容是从通用内容接收终端 40 请求的。即，在第五模式中，内容提供请求是在假定内容分发服务器 10 的内容数据库 11 中储存了多种类型的内容的情况下从内容接收终端 40 发送的。因此，在请求内容时，用户必须输入或选择性地输入不仅时间信息，还有内容类型。

[0218] 因此，在第五模式中，可考虑各种修改，其中在参考图 8 到 11 讨论的第一模式到第四模式的每一个中为内容接收终端提供了用于输入内容类型的输入单元，并且关于输入单元输入的内容类型的信息作为附带信息被包括在内容提供请求中。

[0219] 第五模式的各种修改中的操作类似于第一到第四模式中的那些操作，不同之处在于输入了内容类型（包括未指定内容类型的情况），并且内容类型被包括在附带信息中。由此，此处省略对这些操作的详细解释。

[0220] 内容接收终端的地址作为发送者地址被包含在内容提供请求中，尽管未在图 8 到 11 中示出。内容分发服务器 10 将内容数据分发到作为内容目的地地址的接收地址。内容

提供请求可包括关于向内容接收终端提供的解码功能的信息。

[0221] 内容分发模式

[0222] 如上所述，内容分发服务器 10 取决于内容类型，即音乐内容或 AV 内容，以不同的方式分发诸如电影内容等内容。以下描述内容分发服务器 10 所采用的若干分发模式。

[0223] 图 12 示出了其中内容分发服务器 10 向音乐内容接收器 20 分发内容的第一分发模式的概念。

[0224] 如上所述，用户可通过使用例如旋钮操作单元 23 沿时间轴顺序地改变时间信息。在这一情况下，如果关于由该操作跟踪的时间轴上的所有时间位置的信息都被作为内容提供请求发送到内容分发服务器 10，如同用户通过使用无线电接收器的频率拨盘来改变接收频率一样，则用户不需要的内容也被发送给用户。

[0225] 因此，在该实施例中，内容接收终端仅在确定用户可能请求内容的时候才向内容分发服务器 10 发送内容提供请求。

[0226] 在该实施例中，当用户通过使用诸如旋钮操作单元 23 等时间信息输入单元在一预定时间段内暂停改变时间信息的操作，则确定用户想要指定直线轴上的一点，然后将包括这一时间信息的内容提供请求发送给内容分发服务器 10。

[0227] 可能除时间信息输入单元之外还布置了内容提供请求单元（诸如发送按钮）。然而，在这一情况下操作变复杂了。因此，在该实施例中，仅提供时间信息输入单元。

[0228] 如上所述，例如，通过旋钮操作单元 23 的大旋钮 23a 和小旋钮 23b 的整体操作，可例如按照年份来粗略地指定时间信息。这一情况下的第一分发模式的示例在图 12 中示出。

[0229] 现在假定例如改变时间信息来指定年份 1978，且包括该时间信息的内容提供请求被发送给内容分发服务器 10。然后，内容分发服务器 10 识别该时间信息指定年份 1978，并根据基于包含在内容提供请求中的时间信息和附带信息确定的搜索条件来搜索内容数据库 11，然后将音乐片段 A1、A2、A3、A4 等作为搜索结果顺序地发送给音乐内容接收终端 20。

[0230] 然后，如上所述，在第一分发模式中，音乐内容接收终端 20 对从内容分发服务器 10 发送的音乐片段执行流回放。内容分发服务器 10 将音乐片段 A1 的全部内容数据发送到音乐内容接收终端 20，然后开始发送后一音乐片段 A2 的内容数据。因此，在音乐内容接收终端 20 中，在完成了一个音乐片段的流回放之后，会从头开始下一音乐片段的流回放。这如同通过无线电广播来分发和回放指定年份的音乐片段一样。

[0231] 图 12 所示的作为搜索结果顺序地回放的音乐片段 A1、A2、A3、A4 等仅是顺序回放的音乐片段的示例，且不是固定的音乐片段。相反，音乐片段 A1、A2、A3 等在每次内容分发服务器 10 接收到内容提供请求时随机改变。这也适用于作为搜索结果的其它指定年份的音乐片段 B1、B2、B3、B4 等，C1、C2、C3、C4 等，以及 D1、D2、D3、D4 等。

[0232] 如果用户操作旋钮操作单元 23 来指定另一年份，例如 1979，同时收听从内容分发服务器 10 接收到的 1978 年的音乐片段 A1，则包括出 1979 指定的时间信息的新的内容提供请求被发送到内容分发服务器 10。然后，内容分发服务器 10 暂停音乐片段 A1 的分发，并开始分发音乐片段 B1 作为搜索结果。

[0233] 因此，响应于对旋钮操作单元 23 的操作，音乐内容接收终端 20 可将流回放从音乐片段 A1 改为音乐片段 B1。因此，用户可通过在一预定时间段内通过旋钮操作单元 23 在对应于期望年份的位置处暂停旋转操作来改变年份。采用这一操作，用户可在收听音乐片段

的开头的同时改变年份。

[0234] 尽管在改变年份的上下文中讨论了改变时间信息，但是可通过仅操作旋钮操作单元 23 的小旋钮 23b 来指定时间、日、月作为时间信息。即，可更详细地指定时间信息，且可获得匹配搜索条件的内容。在这一情况下，如上所述，如果获得了多个内容项，则对这些内容项执行流回放。

[0235] 尽管作为示例讨论了音乐内容的分发，但是诸如 AV 内容和电子书籍内容等其它类型的内容也可在第一分发模式中分发。

[0236] 在第一分发模式中，在收听一个内容片段的同时，用户在完成第一个内容的回放之前很难收听由诸如同一年份等同一时间信息指定的另一个内容片段。在第二分发模式中，这一缺点得以克服。

[0237] 在第二分发模式中，向内容接收终端提供了用于请求要在当前接收音乐内容之后分发的下一音乐内容的操作单元。例如，为音乐内容接收终端 20 提供了图 13 所示的下一按钮 25c。

[0238] 在第二分发模式中，用户输入时间信息以向内容分发服务器 10 发送内容提供请求，并且内容分发服务器 10 向内容接收终端返回内容数据作为搜索结果，如同第一分发模式中的一样。

[0239] 然而，与第一分发模式不同，在第二分发模式中，即使向内容接收终端分发预定内容片段未完成，内容分发服务器 10 也可从内容接收终端接收下一内容提供请求。

[0240] 在图 13 所示的音乐内容接收终端 20 中，当音乐内容接收终端 20 的用户在从内容分发服务器 10 接收预定音乐内容的同时操作下一按钮 25c 时，音乐内容接收终端 20 可向内容分发服务器 10 发送提供下一内容的请求。

[0241] 响应于该请求，内容分发服务器 10 暂停当前内容的分发，并开始分发下一内容。例如，在图 12 中，在接收音乐内容片段 A1 的同时响应于来自内容接收终端的发送下一内容的请求，内容分发服务器 10 暂停音乐片段 A1 的分发，并开始下一音乐片段 A2 的分发。

[0242] 在第二分发模式中，用户可通过操作下一按钮 25c 停止用户不希望收听的内容的分发（回放）来请求下一内容的分发（回放）。结果，用户可仅选择并收听他 / 她最喜欢的内容。

[0243] 在第二分发模式中，要分发的内容不限于音乐内容。例如，在 AV 内容的情况下，如果用户开始观看 AV 内容的一部分并且不希望再继续观看该内容，则他 / 她可通过操作下一按钮 25c 来请求下一 AV 内容的分发。

[0244] 在上述示例中，内容分发服务器 10 在接收到请求时基于对下一按钮 25c 执行的操作发送下一内容。或者，内容分发服务器 10 可从多个内容片段中随机地选择一个内容片段，并分发所选择的内容。

[0245] 与第一和第二分发模式不同，在第三模式中，响应于内容提供请求，通过临时分发和最终分发来分发内容。然后，在临时分发中，并非如第一分发模式中执行的发送所有内容片段的那样，而是内容分发服务器 10 仅向用户发送已准备内容片段的一部分、以及用于标识每一内容片段的标识信息。

[0246] 在第三分发模式中，例如，图 12 所示的音乐片段 A1、A2、A3、A4 等是已准备内容项的一部分，它们较佳地是音乐片段的特征部分，例如序曲或高潮部分。因此，每一音乐片段

A1、A2、A3、A4 等的回放是在相对较短的一段时间内完成的，然后开始下一音乐片段的回放。

[0247] 然后，内容接收终端在进行临时分发的同时从用户处接收最终分发请求，并将该最终分发请求发送到内容分发服务器 10。即，用户观看或收听临时分发中提供的内容片段的一部分，并选择要通过最终分发提供的内容，然后请求所选择内容的分发。

[0248] 因此，在第三分发模式中，向内容接收终端提供诸如最终分发按钮（包括软件按钮）等操作输入单元。当用户在进行临时分发的同时操作最终分发按钮时，选择要通过最终分发提供的内容，并请求最终分发对所选择内容的分发。

[0249] 在第三分发模式中，如果内容接收终端确定在进行临时分发的同时操作了最终分发按钮，则它在操作最终分发按钮时生成包括关于正通过临时分发接收的内容的标识信息的最终分发请求信息，然后将该最终分发请求信息发送到内容分发服务器 10。

[0250] 在进行临时分发的同时从内容接收终端接收到最终分发请求信息之后，内容分发服务器 10 暂停临时分发，并向内容接收终端分发由最终分发请求信息中包含的标识信息指定的内容数据。

[0251] 如同在第二分发模式中那样，在第三分发模式中，可提供下一按钮。在这一情况下，当内容接收终端通过用户对下一按钮的操作向内容分发服务器 10 发送下一分发请求时，内容分发服务器 10 开始分发要通过临时分发来分发的下一内容的一部分，即使当前内容的临时分发尚未完成。

[0252] 在第三分发模式中，如果内容接收终端包括显示屏，则内容项的图像可作为辅助信息连同通过临时分发来分发的内容的一部分一起被发送，由此协助用户请求最终分发的内容。在音乐内容的情况下，例如，诸如图 14 所示的唱片封套或 CD 封套的图像可从内容分发服务器 10 发送到内容接收终端，然后内容接收终端可根据临时分发中的回放次序来顺序地滚动封套图像。

[0253] 在图 14 所示的示例中，例如在内容接收终端 20 的显示屏 24 上的时间轴指示器 241 中显示了封套图像。当发送最终分发请求时封套图像消失，然后再继续时间轴指示器 241 的显示。

[0254] 要在第三分发模式中分发的内容类型不限于音乐内容，而可以是其它类型的内容，诸如 AV 内容和电子书籍内容。在 AV 内容的情况下，在临时分发中可提取并回放若干特征场景。在电子书籍内容的情况下，可在临时分发中分发书的第一页或第一和第二页。

[0255] 作为协助用户选择最终分发中的内容的辅助信息，诸如音乐内容的唱片封套或 CD 封套，磁带封套、DVD 封套或特征场景缩略图可用于 AV 内容，或者对应于电子书籍的纸件形式封面可用于电子书籍内容。

[0256] 在第三分发模式中，当在临时分发中向用户呈现内容的一部分时，可执行快速回放，诸如以 ×1.2、×1.5 或 ×2.0 的速度，来取代正常速度回放。

[0257] 在第四分发模式中，内容也通过临时分发和最终分发来分发。在第四分发模式中，从内容分发服务器 10 接收诸如 AV 内容等除音乐内容之外的内容。这一分发模式的细节在下文描述。

[0258] 在第四分发模式的临时分发中，响应于来自内容接收终端 30 或 40 的内容提供请求，内容分发服务器 10 搜索内容数据库 11，以生成包括从内容数据库 11 获得的至少一个内容项的内容列表作为搜索结果，并将该列表发送给内容接收终端 30 或 40。

[0259] 内容接收终端 30 或 40 从内容分发服务器 10 接收临时分发的数据，并在显示屏上显示内容列表，然后指示用户输入最终分发请求。当接收到临时分发的内容时内容接收终端 30 的显示屏 34 上显示的列表的示例在图 15 到 19 中示出。

[0260] 图 15 到 17 示出了当响应于通过指定年份 1961 作为时间信息、并指定电影作为类别从内容接收终端 30 发送到内容分发服务器 10 的内容提供请求而接收临时分发的内容时，内容接收终端 30 的显示屏 34 上显示的列表的一个示例。

[0261] 在显示屏 34 上，取代诸如图 6 所示的用于请求内容的时间轴指示器 41，显示如图 15 到 17 所示的临时分发接收屏幕。在该接收屏幕中，所指定的时间信息在时间信息指示器 346 中指示，而所指定的类别在类别指示器 347 中指示，并且内容列表在列表指示器 348 中指示。

[0262] 在该示例中，电影内容列表包括多个文本域，诸如电影标题和演员，它们在列表中垂直排列。由于屏幕 34 的有限尺寸而不能在列表指示器 348 中示出的内容可作为下一页显示或通过滚动来显现。

[0263] 在列表指示器 348 中的内容列表中，所选择的电影内容可通过突出显示的或围绕的光标 CS 来标识。然后，包括由光标 CS 选择的电影的特征场景的缩略图图像在缩略图指示器 349 中指示，该指示器是显示屏 34 的一部分。

[0264] 通过在接收屏幕中操作方向指定按钮 33 的垂直方向指定按钮 33a 和 33b，用户可改变要选择的电影。例如，如果用户通过在图 15 的接收屏幕中操作操作按钮 33b 来选择当前所选择电影内容下一个的电影内容，则接收屏幕变为图 16 所示的屏幕。响应于电影内容的改变，缩略图指示器 349 中显示的缩略图图像改为包括当前选择的电影内容的特征场景的缩略图图像。

[0265] 如果用户通过在图 16 的操作屏幕中操作操作按钮 33b 选择当前电影内容下一个的另一电影内容，则接收屏幕变为图 17 所示的屏幕。响应于电影内容的改变，缩略图指示器 349 中显示的缩略图图像改为包括当前选择的电影内容的特征场景的缩略图图像。

[0266] 图 18 和 19 示出了当响应于通过指定年份 1961 作为时间信息、并指定新闻作为类别从内容接收终端 30 发送到内容分发服务器 10 的内容提供请求而接收临时分发的内容时，内容接收终端 30 的显示屏 34 上所显示列表的一个示例。

[0267] 如图 18 和 19 所示，新闻内容列表包括多个文本域，诸如新闻中的事变或事件发生的日期以及新闻摘录，它们在列表中垂直排列。由于屏幕 34 的有限尺寸而不能在列表指示器 348 中示出的内容可作为下一页显示，或可通过滚动显现。

[0268] 如同电影内容列表中那样，在列表指示器 348 中的新闻内容列表中，所选择的新闻可通过突出显示或围绕的光标 CS 来标识。然后，包括当前由光标 CS 选择的新闻的特征场景的缩略图图像可在缩略图指示器 349 中指示，该指示器是显示屏 34 的一部分。

[0269] 在图 18 的临时分发接收屏幕中，如果用户通过操作操作按钮 33b 选择当前所选择新闻内容下一个的新闻内容时，接收屏幕变为图 19 所示的屏幕。响应于新闻内容的改变，缩略图指示器 349 中显示的缩略图图像改为包括当前选择的新闻内容的特征场景的缩略图。

[0270] 在图 15 到 19 之一中示出的接收屏幕中，如果用户按下输入按钮 32a 或发送按钮 36，则内容接收终端 30 确定进行了对当前选择内容的最终分发请求，并向内容分发服务器

10 发送包括关于当前选择内容的标识信息的最终分发请求。内容标识信息与临时分发列表的每一字段相关联地被包括在临时分发列表中。

[0271] 在从内容接收终端 30 接收到最终分发请求之后，内容分发服务器 10 向内容接收终端 30 发送由包括在最终分发请求中的标识信息请求的内容数据。

[0272] 内容接收终端 30 从内容分发服务器 10 接收最终分发的内容数据，并在显示屏 34 上显示内容，诸如电影、新闻或电子书籍，或者通过扬声器回放附带的声音。最终分发显示屏未示出。

[0273] 如同在第一分发模式中那样，在第二到第四分发模式中，仅指定年份作为时间信息。或者，也可指定时间、日和月作为时间信息。即，可更详细地指定时间信息，且可获得匹配所指定时间信息的内容。在这一情况下，如果获得了多个内容项，则它们如同第一分发模式中那样来处理。

[0274] 以下参考对应的流程图给出由内容接收终端 20、30 和 40 执行的内容请求操作、以及由内容分发服务器 10 执行的内容分发操作的描述。

[0275] 内容接收终端的内容请求操作

[0276] 以下参考图 20 到 22 的流程图，在音乐内容接收终端 20 的上下文中描述当内容分发服务器 10 在第一分发模式中分发内容时内容接收终端执行的操作。在这一情况下，假定音乐内容接收终端 20 在上述第四模式中发送内容提供请求。

[0277] 图 20 到 22 所示的处理是由音乐内容接收终端 20 的 CPU 201 根据储存在程序 ROM 202 终端的程序，使用 RAM 203 作为工作区来执行的。

[0278] 当音乐内容接收终端 20 通电时，CPU 201 开始图 20 到 22 中的处理例程。在步骤 S1，CPU 201 读取储存在 ROM 202 中的内容分发服务器 10 的通信网络地址并访问内容分发服务器 10。

[0279] 然后，在步骤 S2，CPU 201 向内容分发服务器 10 进行设备认证，并确定认证是否成功。如果在步骤 S2 确定认证未成功，则 CPU 201 前进到步骤 S3，以通知用户：内容接收终端 20 重试访问内容分发服务器 10。然后，CPU 201 返回到步骤 S1 以访问内容分发服务器 10。

[0280] 如果在步骤 S2 确定向内容分发服务器 10 的认证成功，则 CPU 201 前进到步骤 S4 以建立与内容分发服务器 10 的通信信道。在该实施例中，在建立了与内容分发服务器 10 的通信信道之后，音乐内容接收终端 20 经由所建立的通信信道恒定地连接到内容分发服务器 10，直到内容接收终端 20 断电。

[0281] 然后，在步骤 S5，CPU 201 通过在内容提供请求中包括当前由音乐内容接收终端 20 指定的时间连同附带信息和请求音乐内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括时间信息属性信息和类别信息。

[0282] 根据步骤 S5，在该实施例中，音乐内容接收终端 20 可按无线电接收器的形式来使用。如果向音乐内容接收终端 20 提供了所谓的最后存储器，则当响应于前一请求从内容分发服务器 10 接收内容分发时，发送到内容分发服务器 10 的内容提供请求包括时间信息和附带信息。

[0283] 在步骤 S6，CPU 201 接收响应于步骤 S5 中发送的内容提供请求从内容分发服务器 10 发送的音乐内容，并对该音乐内容执行流回放。

[0284] CPU 201 然后在步骤 S7 确定用户在流回放操作期间是否通过操作旋钮操作单元 23 改变了时间信息。如果在步骤 S7 发现时间信息已改变，则 CPU 201 前进到步骤 S8，以根据已改变的时间信息来改变时间轴光标 242 在时间轴指示器 241 中的位置。

[0285] 然后，CPU 201 在步骤 S9 通过确定用户是否在一预定时间段内停止了改变时间信息的操作，来确定是否作出了内容提供请求。如果在步骤 S9 确定尚未作出内容提供请求，且用户仍在执行操作，则 CPU 201 返回到步骤 S7，并重复步骤 S7 和各后续步骤。

[0286] 如果在步骤 S9 确定已作出了内容提供请求，则 CPU 201 前进到步骤 S 11 以通过在内容提供请求中包括指定的时间信息、附带信息以及请求内容分发服务器 10 发送音乐内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括关于指定的时间信息和类别信息的属性信息。

[0287] 然后，在步骤 S12，CPU 201 接收响应于步骤 S11 中发送的内容提供请求从内容分发服务器 10 发送的音乐内容，然后对该音乐内容内容执行流回放。

[0288] CPU 201 然后在步骤 S13 确定用户在流回放操作期间是否已通过操作类别改变操作按钮 25b 改变了类别。如果在步骤 S13 发现已改变了类别，则 CPU 201 前进到步骤 S14 以根据用户改变的类别改变显示屏 24 的类别显示栏 245 中显示的类别。

[0289] 在响应于步骤 S13 中的类别改变向内容分发服务器 10 发送新内容提供请求之前，CPU 201 在步骤 S15 确定步骤 S13 执行的按钮操作是否指示用户未指定任何类别。

[0290] 如果在步骤 S15 确定用户尚未指定任何类别，则 CPU 201 前进到步骤 S16 以通过在内容提供请求中包括指定的时间信息、连同附带信息和请求音乐内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括关于所指定时间信息和请求内容分发服务器 10 选择类别的信息的属性信息。

[0291] 如果在步骤 S 15 确定按钮操作指示用户已指定一个类别，则 CPU 201 前进到步骤 S17 以通过在内容提供请求中包括指定的时间信息、连同附带信息和请求音乐内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括关于所指定时间信息和已改变类别信息的属性信息。

[0292] 在步骤 S16 或 S17 之后，CPU 201 前进到步骤 S18，以接收响应于步骤 S16 或 S17 中发送的内容提供请求而从内容分发服务器 10 发送的音乐内容。如果在步骤 S13 确定未操作类别改变操作按钮 25b，则 CPU 201 前进到步骤 S18 以接收从内容分发服务器 10 发送的音乐内容，并对该音乐内容执行流回放。

[0293] 如果在步骤 S7 确定未改变时间信息，则 CPU 201 前进到步骤 S13。

[0294] 在步骤 S18 之后，CPU 201 前进到步骤 S21 以确定用户是否已通过操作时间属性改变操作按钮 25a 改变了时间信息属性信息。如果在步骤 S21 发现时间信息属性信息已改变，则 CPU 201 前进到步骤 S22 以根据已改变属性信息来改变显示屏 24 上的属性显示栏 244 中指示的时间信息属性信息。

[0295] 在响应于步骤 S21 中改变的属性信息向内容分发服务器 10 发送新的内容提供请求之前，CPU 201 在步骤 S23 确定步骤 S21 所执行的按钮操作是否指示用户未指定任何时间属性。

[0296] 如果在步骤 S23 确定用户未指定任何时间属性，则 CPU 201 前进到步骤 S24 以通过在内容提供请求中包括指定的时间信息、连同附带信息和请求音乐内容的信息来向内容

分发服务器 10 发送内容提供请求，该附带信息包括请求内容分发服务器 10 选择时间属性的信息和所指定的类别信息。

[0297] 如果在步骤 S23 确定按钮操作指示用户已指定时间属性，则 CPU 201 前进到步骤 S25 以通过在内容提供请求中包括指定的时间信息、连同附带信息和请求音乐内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括已改变的时间信息属性信息和所指定的类别信息。

[0298] 在步骤 S24 或 S25 之后，CPU 201 前进到步骤 S26 以接收响应于步骤 S24 或 S25 中发送的内容提供请求而从内容分发服务器 10 发送的音乐内容，并对该音乐内容执行流回放。如果在步骤 S21 确定未操作时间属性改变操作按钮 25a，则 CPU201 前进到步骤 S26 以接收从内容分发服务器 10 发送的音乐内容，并对该音乐内容执行流回放。

[0299] 然后，CPU 201 在步骤 S27 确定内容接收终端 20 是否断电。如果在步骤 S27 发现内容接收终端 20 未断电，则 CPU 201 返回到步骤 S7。如果在步骤 S27 发现内容接收终端 20 断电，则 CPU 201 前进到步骤 S28 以断开与内容分发服务器 10 的通信信道。然后，该处理例程完成。

[0300] 以下参考图 23 到 25 的流程图，在 AV 内容接收终端 30 的上下文中描述当内容分发服务器 10 在第四分发模式中分发内容时由内容接收终端执行的操作。在这一情况下，假定 AV 内容接收终端 30 在上述第四模式中发送内容提供请求。

[0301] 图 23 到 25 所示的处理是由 AV 内容接收终端 30 的 CPU 201 根据储存在程序 ROM 302 中的程序，通过使用 RAM 303 作为工作区来执行的。

[0302] 当 AV 内容接收终端 30 通电时，CPU 301 在步骤 S31 确定是否操作了菜单按钮 35。如果在步骤 S31 发现未操作菜单按钮 35，则 CPU 301 前进到步骤 S32 以执行其它处理。

[0303] 如果在步骤 S31 发现操作了菜单按钮 35，则 CPU 301 前进到步骤 S33 以在显示屏 34 上显示为 AV 内容接收终端 30 提供的功能的列表菜单。然后，CPU 301 在步骤 S34 确定是否选择了 AV 内容分发功能。

[0304] 如果在步骤 S34 发现选择了不同于 AV 内容分发功能的功能，则 CPU 301 前进到步骤 S35 以执行对应于所选择功能的其它处理。

[0305] 如果在步骤 S34 发现选择了 AV 内容分发功能，则 CPU 301 前进到步骤 S36 以读取储存在程序 ROM 302 中的内容分发服务器 10 的通信网络地址，以访问内容分发服务器 10。

[0306] 然后，CPU 301 向内容分发服务器 10 进行设备认证，并在步骤 S37 确定认证是否成功。如果在步骤 S37 认证未成功，则 CPU 301 前进到步骤 S38 以通知用户 :AV 内容接收终端 30 重试访问内容分发服务器 10。然后 CPU 301 返回到步骤 S36 以访问内容分发服务器 10。

[0307] 如果在步骤 S37 确定认证成功，则 CPU 301 前进到步骤 S39 以建立与内容分发服务器 10 的通信信道。在该实施例中，在建立了与内容分发服务器 10 的通信信道之后，AV 内容接收终端 30 经由所建立的通信信道恒定地连接到内容分发服务器 10，直到 AV 内容接收终端 30 断电。

[0308] 然后，在步骤 S40，CPU 301 显示用于通过使用时间信息来请求 AV 内容的操作输入屏幕。操作输入屏幕的一个示例在图 6 中示出。

[0309] CPU 301 然后在步骤 S41 确定用户是否已通过在操作输入屏幕上操作水平方向指

定按钮 33c 或 33d 改变了时间信息。如果在步骤 S41 发现时间信息已改变，则 CPU 301 前进到步骤 S42 以根据已改变时间信息改变时间轴光标 342 在时间轴指示器 341 中的位置。

[0310] CPU 301 然后在步骤 S51 确定类别是否已改变。如果在步骤 S51 确定类别未改变，或者在步骤 S52 之后，CPU 301 在步骤 S53 确定用户是否已通过操作时间属性改变操作按钮 32b 改变了时间信息属性信息。如果在步骤 S53 确定时间信息属性信息已改变，则 CPU 301 前进到步骤 S54 以根据用户改变的时间属性改变显示屏 34 上时间信息属性显示栏 344 中指示的时间信息属性信息。

[0311] 如果在步骤 S53 确定时间信息属性信息未改变，或者在步骤 S54 之后，CPU 301 在步骤 S55 确定用户是否已通过操作输入按钮 32a 或发送按钮 36 请求了内容临时分发。

[0312] 如果在步骤 S55 发现未请求内容临时分发，则 CPU 301 前进到步骤 S56 以确定是否操作了菜单按钮 35。

[0313] 如果在步骤 S56 发现未操作菜单按钮 35，则 CPU 301 返回到步骤 S41。如果操作了菜单按钮 35，则 CPU 301 前进到步骤 S57 以断开与内容分发服务器 10 的通信信道。CPU 301 然后返回到步骤 S33。

[0314] 如果在步骤 S55 确定用户通过操作输入按钮 32a 或发送按钮 36 请求了内容临时分发，则 CPU 301 向内容分发服务器 10 发送新的内容提供请求。然而，在发送内容提供请求之前，CPU 301 确定步骤 S55 中执行的按钮操作是否指示用户未指定任何类别或任何属性。

[0315] CPU 301 首先在步骤 S58 确定按钮操作指示用户未指定任何类别。如果用户未指定任何类别，则 CPU 301 前进到步骤 S59 以确定按钮操作是否指示用户未指定任何时间属性。

[0316] 如果在步骤 S59 确定用户未指定任何时间属性，则 CPU 301 前进到步骤 S60 以通过在内容提供请求中包括所指定的时间信息、连同附带信息和请求 AV 内容的信息来发送内容提供请求，该附带信息包括请求内容分发服务器 10 选择时间属性和类别的信息。

[0317] 如果在步骤 S59 确定按钮操作指示用户指定了时间属性，则 CPU 301 前进到步骤 S71，以通过在内容提供请求中包括所指定的时间信息、连同附带信息和请求 AV 内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括请求内容分发服务器 10 选择类别的信息以及所指定的时间信息属性信息。

[0318] 如果在步骤 S58 确定按钮操作指示用户已指定了类别，则 CPU 301 前进到步骤 S61 以确定按钮操作是否指示用户未指定任何时间属性。

[0319] 如果在步骤 S61 确定按钮操作指示用户未指定任何时间属性，则 CPU 301 前进到步骤 S62 以通过在内容提供请求中包括所指定的时间信息、连同附带信息和请求 AV 内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括所指定的类别和请求内容分发服务器 10 选择时间属性的信息。

[0320] 如果在步骤塞 1 确定按钮操作指示用户指定了时间属性，则 CPU 301 前进到步骤 S72 以通过在内容提供请求中包括所指定的时间信息、连同附带信息和请求 AV 内容的信息来向内容分发服务器 10 发送内容提供请求，该附带信息包括所指定的时间信息属性信息和所指定的类别。

[0321] 在步骤 S60、S62、S71 或 S72 之后，CPU 301 前进到步骤 S73 以接收响应于步骤 S60、

S62、S71 或 S72 中发送的内容提供请求从内容分发服务器 10 发送的 AV 内容项的列表和当前选择的内容的缩略图图像数据，并如图 15 那样在显示屏 34 上显示所接收的列表和缩略图图像。

[0322] 然后，CPU 301 在步骤 S74 确定对 AV 内容列表中的 AV 内容的选择是否已改变。如果在步骤 S74 确定对 AV 内容的选择已改变，则 CPU 301 前进到步骤 S75 以将光标的位置改为所选择的 AV 内容，并且还显示所选择 AV 内容的缩略图图像。

[0323] 如果在步骤 S74 确定对 AV 内容的选择未改变，或者在步骤 S75 之后，CPU 301 前进到步骤 S76 以确定用户是否已通过操作输入按钮 32a 或发送按钮 36 来请求内容最终分发。

[0324] 如果在步骤 S76 确定用户未请求内容最终分发，则 CPU 301 返回到步骤 S73。如果在步骤 S76 确定用户请求了内容最终分发，则 CPU 301 前进到步骤 S77，以向内容分发服务器 10 发送包括关于所选择 AV 内容的标识信息的最终分发请求。

[0325] 然后，在步骤 S78，CPU 301 接收通过最终分发从内容分发服务器 10 发送的 AV 内容数据，对该数据解码，然后对该数据执行流回放。CPU 301 然后在显示屏 34 上显示图像数据，并且还从扬声器输出音频数据。

[0326] CPU 301 然后在步骤 S79 确定用户是否完成了对内容的观看和收听。步骤 S79 不仅可在用户完成了对内容的观看和收听时执行，还可在用户正在观看或收听内容时执行。如果在步骤 S79 确定用户未完成对内容的观看或收听，则 CPU 301 返回到步骤 S78，并继续回放 AV 内容。如果在步骤 S79 确定用户已完成了该 AV 内容，则 CPU 301 前进到步骤 S80，以向内容分发服务器 10 发送内容完成消息。然后，CPU 301 返回到步骤 S40 以显示用于请求 AV 内容分发的操作输入屏幕。该处理例程如上所述地执行。

[0327] 在该示例中，内容完成消息在用户完成对内容的观看或收听之前不向内容分发服务器 10 发送。或者，如果在接收到通过最终分发从内容分发服务器 10 发送的 AV 内容之后已过去了一预定的时间段，则 CPU 301 可假定用户已完成了对内容的观看或收听，并向内容分发服务器 10 发送内容完成消息，然后返回到步骤 S40。

[0328] 在图 20 到 22 以及图 23 到 25 所示的示例中，在尚未指定类别或时间属性时，向内容分发服务器 10 发送请求内容分发服务器 10 选择类别或时间属性的信息。然而，可简单地向内容分发服务器 10 发送指示未指定类别或时间属性的信息。

[0329] 在这一情况下，内容分发服务器 10 可假定它可选择任何时间属性或类别，并将由推荐的类别或时间属性所指定的内容或由预定的类别或时间属性所指定的内容发送到内容提供终端。

[0330] 下文参考图 26 到 30 的流程图讨论由内容分发服务器 10 执行的操作的示例。在该示例中，内容分发服务器 10 在第一分发模式中分发音乐内容，并在第四分发模式中分发 AV 内容。其它类型的内容根据内容的特征在各分发模式中发送，然而此处省略了对其的解释。如果未指定诸如类别或时间信息属性等附带信息，则使用诸如类别信息或时间信息属性信息等预定的、推荐的属性信息。

[0331] 图 26 到 30 所示的处理是由 CPU 101 根据储存在程序 ROM 102 中的程序，通过使用 RAM 103 作为工作区来执行的。

[0332] 在步骤 S81，CPU 101 监视来自内容接收终端的访问，并确定是否从内容接收终端

接收到访问。如果接收到访问，则 CPU 101 前进到步骤 S82 以向所访问的内容接收终端进行设备认证，并确定设备认证是否成功。如果设备认证未成功，则 CPU 101 前进到步骤 S83，以通知内容接收终端认证失败，然后返回到步骤 S81。

[0333] 如果在步骤 S82 确定设备认证成功，则 CPU 101 前进到步骤 S84 以确定是否已从内容接收终端接收到内容提供请求。如果在步骤 S84 确定已接收到内容提供请求，则 CPU 101 前进到步骤 S85 以分析所接收的内容提供请求。

[0334] 然后，CPU 101 在步骤 S86 确定所请求的内容是否为音乐内容。如果在步骤 S86 请求了音乐内容，则 CPU 101 在第一分发模式中执行处理。

[0335] 更具体地，在步骤 S91 中，CPU 101 首先分析包含在内容提供请求中的附带信息，以确定分析结果是否指示用户未指定任何类别。如果在步骤 S91 确定分析结果指示用户指定了类别，则 CPU 101 前进到步骤 S92 以确定分析结果是否指示用户是否未指定任何时间属性。

[0336] 如果在步骤 S92 确定分析结果指示用户指定了时间属性，则 CPU 101 前进到步骤 S93 以基于所指定的类别、时间信息属性信息和时间信息生成搜索条件，并根据所生成的搜索条件搜索内容数据库 11。

[0337] 如果在步骤 S92 确定分析结果指示用户未指定任何时间属性，则 CPU 101 前进到步骤 S94 以基于所指定的类别、预定的、推荐的时间属性信息以及所指定的时间信息生成搜索条件，并根据所生成的搜索条件搜索内容数据库 11。

[0338] 如果在步骤 S91 确定分析结果指示用户未指定任何类别，则 CPU 101 前进到步骤 S101 以确定分析结果是否指示用户未指定任何时间属性。

[0339] 如果在步骤 S101 确定分析结果指示用户指定了时间属性，则 CPU 101 前进到步骤 S102 以基于预定的推荐的类别、所指定的时间信息属性信息和所指定的时间信息生成搜索条件，并根据所生成的搜索条件搜索内容数据库 11。

[0340] 如果在步骤 S101 确定分析结果指示用户未指定任何时间属性，则 CPU 101 前进到步骤 S103 以根据预定的推荐的类别和时间属性以及所指定的时间信息生成搜索条件，并根据所生成的搜索条件搜索内容数据库 11。

[0341] 在步骤 S93、S94、S102 或 S103 之后，CPU 101 前进到步骤 S95 以按随机的次序向内容接收终端顺序地发送音乐内容数据作为搜索结果。

[0342] 然后，CPU 101 在步骤 S96 确定是否从内容接收终端接收到断开通信信道的请求。如果在步骤 S96 确定未接收到断开通信信道的请求，则 CPU 101 在步骤 S97 确定是否从内容接收终端接收到新的内容提供请求。

[0343] 如果在步骤 S97 发现接收到新的内容提供请求，则 CPU 101 返回到步骤 S85。如果在步骤 S97 确定没有接收到新的内容提供请求，则 CPU 101 返回到步骤 S95，并继续分发当前的内容数据。

[0344] 如果在步骤 S96 确定从内容接收终端接收到断开通信信道的请求，则 CPU 101 前进到步骤 S98，以断开与内容接收终端的通信信道。然后，处理例程完成。

[0345] 如果在步骤 S86 确定所请求的内容不是音乐内容，则 CPU 101 前进到步骤 87 以确定所请求的内容是否为 AV 内容。如果在步骤 S87 发现所请求的内容不是 AV 内容，则 CPU 101 前进到步骤 S88 以在对应于所请求的内容类型的分发模式中执行处理。

[0346] 如果在步骤 S87 发现所请求的内容为 AV 内容，则 CPU 101 确定在步骤 S84 接收到的内容提供请求是否为临时分发请求，并在第四分发模式中执行处理。

[0347] 更具体地，在步骤 S111 中，CPU 101 分析包含在内容提供请求中的附带信息，以确定分析结果是否指示用户未指定任何类别。如果分析结果指示用户已指定类别，则 CPU 101 前进到步骤 S 112，以确定分析结果是否指示用户未指定任何时间属性。

[0348] 如果在步骤 S112 确定分析结果指示用户指定了时间属性，则 CPU 101 前进到步骤 S112 以基于所指定的类别、时间信息属性信息和时间信息生成搜索条件，并根据所生成的搜索条件来搜索内容数据库 11。

[0349] 如果在步骤 S112 确定分析结果指示用户未指定任何时间属性，则 CPU 101 前进到步骤 S114 以基于所指定的类别、预定的推荐的时间信息属性信息和所指定的时间信息生成搜索条件，并根据所生成的搜索条件搜索内容数据库 11。

[0350] 如果在步骤 S 111 确定分析结果指示用户未指定任何类别，则 CPU 101 前进到步骤 S131 以确定分析结果是否指示用户未指定任何时间属性。

[0351] 如果在步骤 S131 确定分析结果指示用户指定了时间属性，则 CPU 101 前进到步骤 S132 以基于预定的推荐的类别、所指定的时间信息属性信息和所指定的时间信息生成搜索条件，并根据所生成的搜索条件搜索内容数据库 11。

[0352] 如果在步骤 S131 确定分析结果指示用户未指定任何时间属性，则 CPU 101 前进到步骤 S133 以基于预定的推荐的类别和时间信息属性信息，以及所指定的时间信息来生成搜索条件，并根据所生成的搜索条件来搜索内容数据库 11。

[0353] 在步骤 S113、S114、S132 或 S133 之后，CPU 101 前进到步骤 S115 以向内容接收终端发送以随机次序排列的一个或多个内容项的列表、以及每一内容项的缩略图图像数据。

[0354] CPU 101 然后在步骤 S116 确定是否接收到通过最终分发提供从列表选择的一个内容项的请求。如果在步骤 S116 接收到这一最终分发请求，则 CPU 101 前进到步骤 S117 以从内容数据库 11 中读取由包括在最终分发请求中的标识信息所请求的 AV 内容数据，并将其发送到内容接收终端。

[0355] CPU 101 然后在步骤 S118 确定是否从内容接收终端接收到内容完成消息。如果未接收到内容完成消息，则 CPU 101 返回到步骤 S117 以继续分发内容。如果接收到内容完成消息，则 CPU 101 前进到步骤 S119 以确定是否从内容接收终端接收到断开通信信道的请求。如果未接收到断开通信信道的请求，则 CPU 101 返回到步骤 S84 以等待来自内容接收终端的新的内容提供请求。

[0356] 如果在步骤 S119 确定接收到断开通信信道的请求，则 CPU 101 前进到步骤 S121 以断开与内容接收终端的通信信道。然后，完成处理例程。

[0357] 如果在步骤 S116 确定未接收到发送特定 AV 内容的请求，则 CPU 101 前进到步骤 S120 以确定是否接收到断开通信信道的请求。如果未接收到断开通信信道的请求，则 CPU 101 返回到步骤 S116 以等待来自内容接收终端的最终分发请求。

[0358] 如果在步骤 S120 确定从内容接收终端接收到断开通信信道的请求，则 CPU101 前进到步骤 S121 以断开与内容接收终端的通信信道。然后，处理例程完成。

[0359] 在该示例中，内容分发服务器 10 通过从内容接收终端接收到内容完成消息来确定内容最终分发已结束。或者，如果在内容分发服务器 10 发送了全部内容数据之后过去了

一预定的时间段，则 CPU 101 可假定内容最终分发已结束，而不发送内容完成消息。

[0360] 修改示例

[0361] 在上述实施例中，在内容类别的上下文中时论了内容属性信息。然而，可指定其它内容属性来请求内容，在这一情况下，内容属性可在分层的结构中选择。例如，可首先选择诸如类别、艺术家（演员或角色）或作者等内容属性的类型，然后可选择所选属性类型的属性。例如，如果艺术家被选为内容属性的类型，则显示艺术家列表，且用户可从该列表中选择一特定艺术家。

[0362] 因此，在该实施例中，用户可请求特定艺术家的内容，例如特定年份的内容、特定日期发行的内容、或在特定年份或日期流行的内容。

[0363] 内容接收终端可以是用于请求具有诸如特定时间信息等特定属性信息的特定内容的专用终端。例如，音乐内容接收终端 20 可以是请求某一年或某一日期的流行曲调的专用终端。在这一情况下，该终端可自动地在内容提供请求中包括内容类型和诸如特定时间信息等特定属性信息。这使用户无需向终端输入除时间信息之外的信息。不必总是包括特定的属性信息，在这一情况下，可从内容分发服务器获得推荐的内容。

[0364] 尽管在该实施例中向内容接收终端提供了时间信息属性信息输入栏和类别信息输入栏，但可仅向这一专用终端提供用于时间信息的输入单元。在这一情况下，内容接收终端包括用于指定可被包括在内容提供请求中的期望内容的信息。

[0365] 在上述实施例中，内容接收终端通过将时间信息（如有必要，还有附带信息）与特定内容片段相关联来搜索该特定的内容片段。如果内容数据库中储存了多种类型的内容数据，则可通过指定时间信息（如有必要，还有附带信息）来请求多种类型的内容。

[0366] 此外，内容接收终端可在不指定内容类型的情况下请求内容。在这一情况下，内容接收终端可请求储存在内容分发服务器的内容数据库中的所有类型的内容。

[0367] 采用这一安排，通过指定年份或日期，用户可搜索对应于指定年份或日期的各种类型的内容，这对于搜索特定历史时期的内容是有用的。用户也可搜索用于创建他／她的个人历史的各种类型的内容。

[0368] 在上述实施例中，例如 AV 内容列表等列表信息是由与各个内容片段相关联的文本域构成的。然而，诸如盘封套图像或缩略图图像等图像可取代文本与其描述一起排列。

[0369] 如果所指定的时间具有时间范围，诸如 60 年代或 70 年代，则例如盘封套等作为搜索结果的内容项可在显示屏的深度方向上以编年顺序排列。

[0370] 在上述实施例中，讨论了使用诸如因特网等网络的内容提供系统。可在内容提供系统中使用家庭网络，诸如使用灯线的家庭网络或无线家庭网络。

[0371] 例如，在家庭网络中，具有内置或外置大容量记录介质的个人计算机可用作家庭服务器，且可为家庭服务器提供储存内容数据和属性信息的内容数据库。

[0372] 用户可将通过使用广播节目记录器记录的内容经由家庭网络储存在内容数据库中，或者从可移动且可写的记录介质中读取内容数据并将其储存在内容数据库中。

[0373] 用户还可通过使用个人计算机经由因特网访问外部源，以收集各种内容项并将它们储存在内容数据库中。

[0374] 在这一情况下，较佳的是向广播节目记录器提供向所记录的内容添加记录日期和向内容数据库发送内容的功能。可向广播节目记录器提供从电子节目指南 (EPG) 中提取广

播日期、以及将内容连同广播日期一起发送给内容数据库的功能。

[0375] 在这一家庭网络系统中，诸如便携式终端等内容接收终端可向家庭服务器发送通过上述处理创建的内容提供请求，然后接收内容。

[0376] 前述实施例的上述修改可应用于家庭网络系统。

[0377] 在上述实施例中，内容接收终端和内容分发服务器是不同的元件，且它们通过通信网络连接。然而，可提供同时具有内容接收终端的功能和内容分发服务器的功能的内容提供装置。

[0378] 在这一情况下，该内容提供装置具有内容数据库，还具有类似于内容接收终端的内容请求功能的功能、以及类似于内容分发服务器的内容分发功能的功能。

[0379] 即，在该修改中，用户可通过使用操作单元执行输入操作来请求内容，而无需从内容接收终端访问内容分发服务器，然后，在内容提供装置中自动搜索内容数据库。然后，在内容提供装置中执行根据第一到第四分发模式中的每一个对应于由内容分发服务器执行的处理的处理以及对应于由内容接收终端执行的处理的处理，从而可在内容提供装置中获得内容搜索结果。

[0380] 即，在该内容提供装置中，基于由用户通过操作单元执行的输入操作搜索内容数据库。然后，作为搜索结果，显示图像并回放声音。在这一情况下，作为声音回放单元的扬声器和耳机可外部连接到该内容提供装置，在这一情况下，该内容提供装置包括音频输出终端和视频输出终端。

[0381] 因此，该内容提供装置至少包括内容数据库、用于接收用户对时间信息的输入的时间信息输入接收器、用于根据基于由时间信息输入接收的时间信息和用于指定要通过使用该时间信息搜索的内容范围的附带信息的搜索条件搜索储存在内容存储单元中的至少一个内容项的搜索单元、以及用于向用户提供由搜索单元搜索的至少一个内容项的提供单元。

[0382] 如有必要，该内容提供装置包括用于输入时间信息属性信息的输入单元以及用于输入内容属性的输入单元。然而，如上所述，该内容提供装置可使用时间信息属性信息或内容属性信息作为搜索条件，而无需上述输入单元。

[0383] 前述实施例的上述修改可应用于该内容提供装置。

[0384] 在上述实施例中，搜索匹配所指定时间信息的内容项。如果所指定的时间信息非常精确，例如，秒、分、小时、日、月和年，则不仅可获得完全匹配所指定时间的内容项，还可获得该指定时间左右的内容项作为搜索结果。即使指定的时间信息不是非常精确，也可获得该指定时间左右的内容项作为搜索结果。

[0385] 这使得用户即使没有记住确切的时间也能够请求内容。即，用户可通过仅指定粗略的时间来获得内容项。采用这一安排，用户可获得期望内容的概率提高了。

[0386] 另外，在上述实施例中，在从内容分发服务器分发的同时对音乐内容或 AV 内容执行流回放。然而，每一内容数据都可被下载，然后被回放。在这一情况下，在该内容提供系统中，无需恒定地将内容接收终端与内容分发服务器连接。相反，每当完成下载时，就可断开内容接收终端和内容分发服务器之间的通信信道。

[0387] 在这一情况下，音乐内容接收终端 20 下载在向内容分发服务器 10 发送请求时首先获得的内容项。在配备了图 13 所示的下一按钮 25c 的终端中，当用户按下下一按钮 25c

时，具有与前一请求相同的搜索条件的内容提供请求被发送到内容分发服务器 10。然后，内容分发服务器 10 发送不同的内容项，因为当前请求的接收时间与前一请求的接收时间不同。

[0388] 本领域技术人员应当理解，可根据设计要求和其它因素进行各种修改、组合、子组合和改变，只要它们落入所附权利要求书或其等效技术方案的范围内即可。

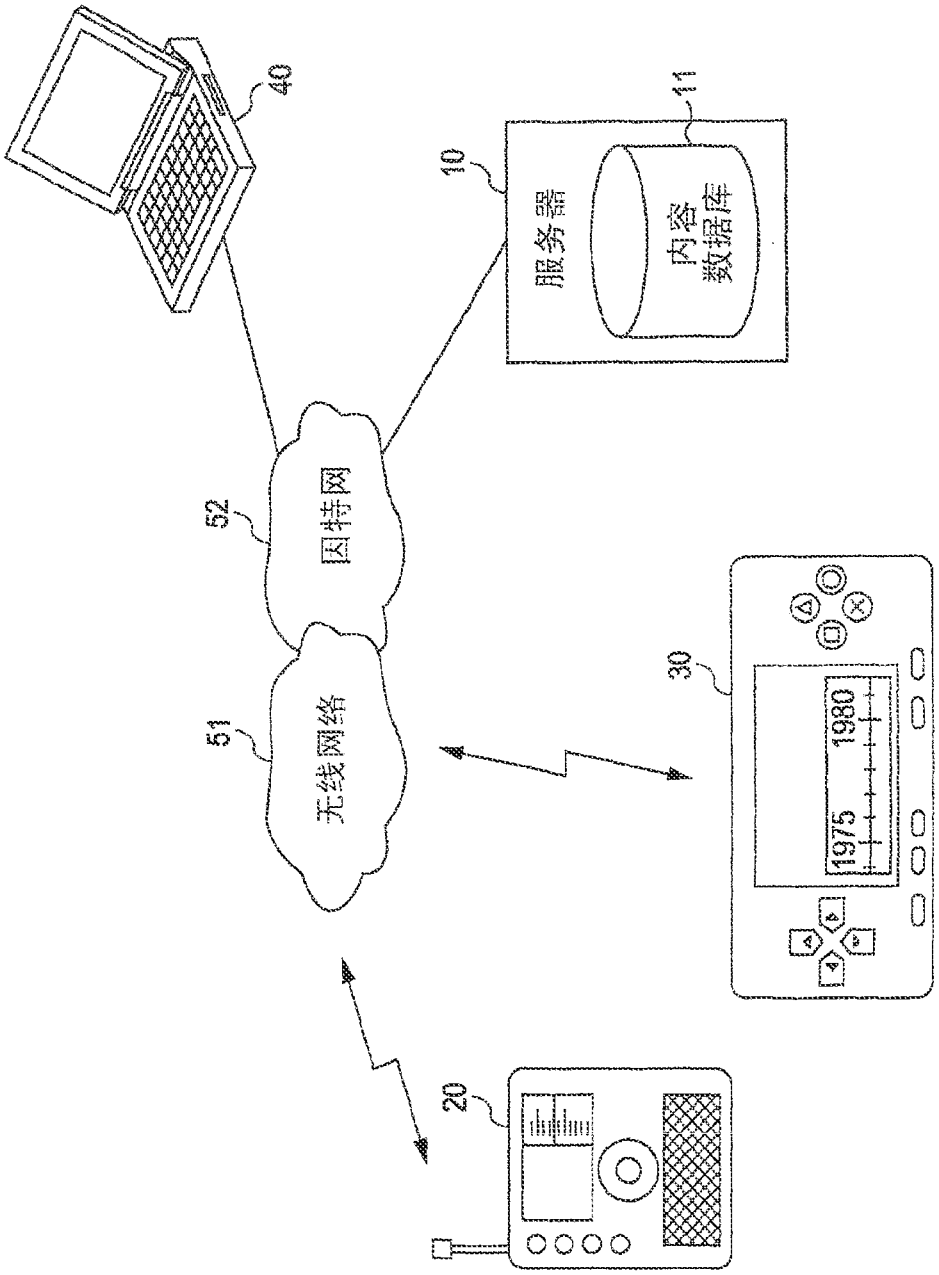


图 1

ID	类型	类别	标题	演员	时间信息1	时间信息2	时间信息3
					时间信息属性	时间信息属性	时间信息属性
1	音乐	流行	○○×○○	□□□□	1997年8月25日	1998年2月	1998年12月
					发行	进入前十名	生活在Budokan
⋮	⋮	⋮					
100	电影	恐怖	"○○×"	□×□×	1995年6月8日	1994年8月3日	1994年8月2日
					在日本上映	在美国上映	在电视上播出
⋮	⋮	⋮					
250	电视广播节目	娱乐	△△○○□	△△□□□	2001年1月1日	2002年2月28日	2003年4月1日
					广播	发行DVD	重播
⋮	⋮	⋮					
1001	新闻	一般	总统K就职	×□□×	2000年6月1日	2000年5月31日	2000年6月1日
					广播	发生事件	在报纸上发表
1002	新闻	体育	1, 2000 安全打	□□××	2004年8月20日	2004年8月19日	
					在报纸上发表	发生事件	
⋮	⋮	⋮					
2001	电子书籍	历史小说	"XX战争"	○○□□	1995年5月1日	1996年4月10日	1995年12月10日
					作为纸件书籍出版	作为电子书籍出版	列入最佳 销售列表
⋮	⋮	⋮					

图 2

39

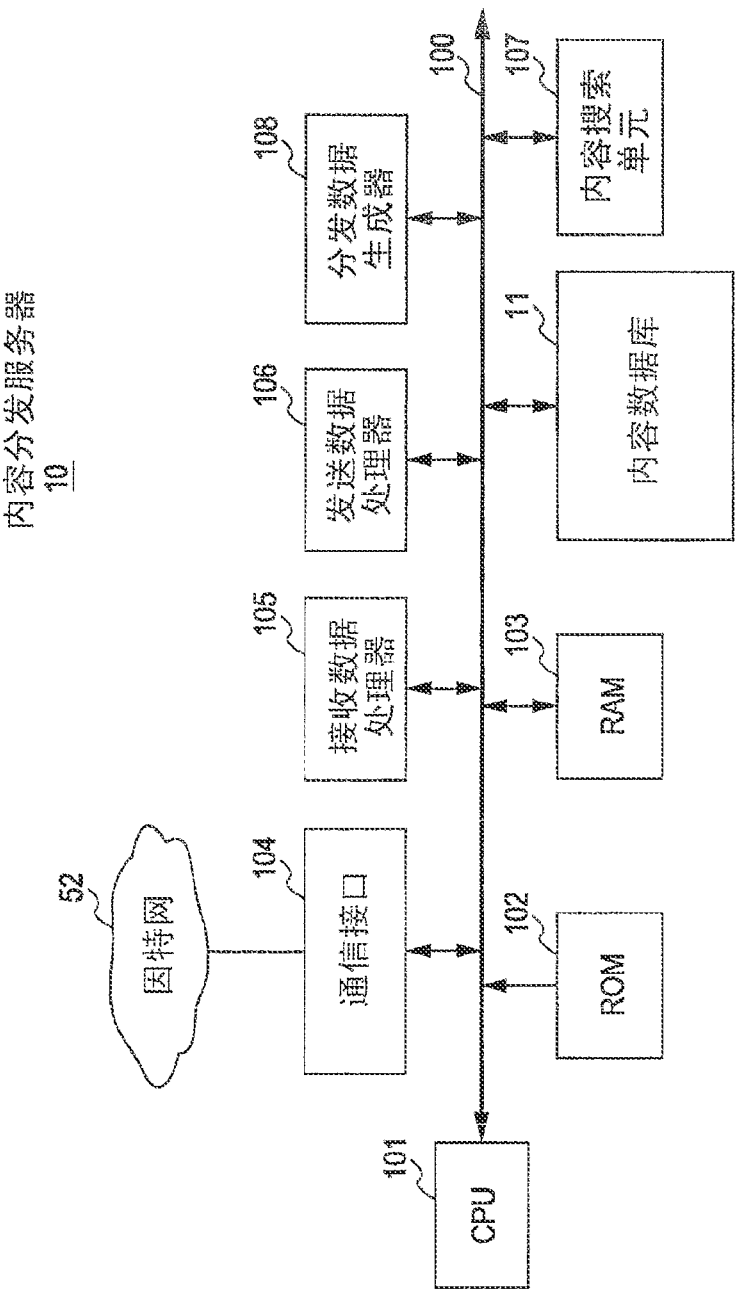

内容分发服务器
10
100
101
CPU
102
ROM
103
RAM
104
通信接口
105
接收数据处理器
106
发送数据处理器
107
内容搜索单元
108
分发数据生成器
11
内容数据库
52
因特网

图 3

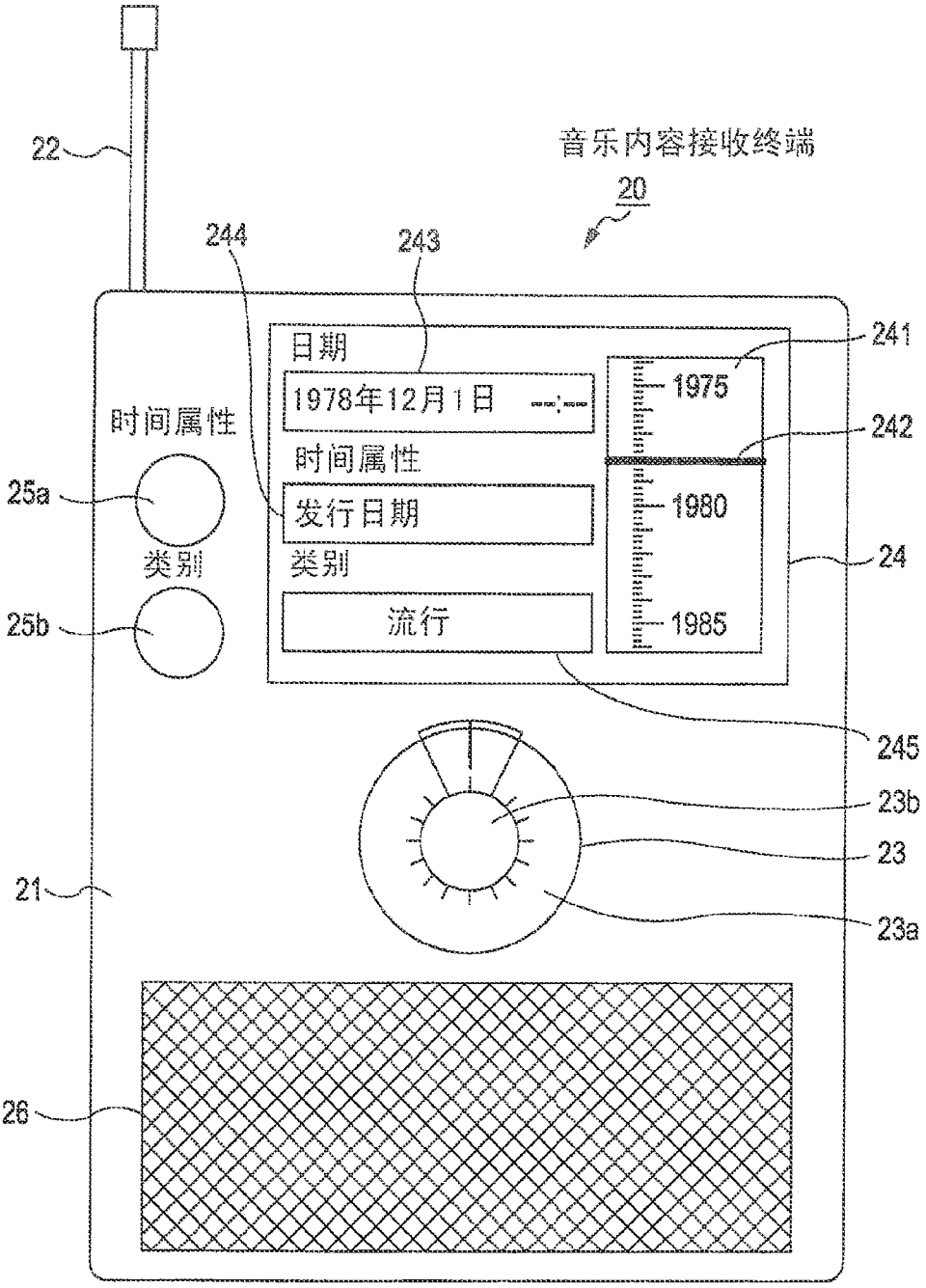

音乐内容接收终端
20
22
244
243
241
242
24
245
23b
23
23a
21
26
25a
25b
日期
1978年12月1日 --:--
时间属性
发行日期
类别
流行
时间属性
类别
1975
1980
1985

图 4

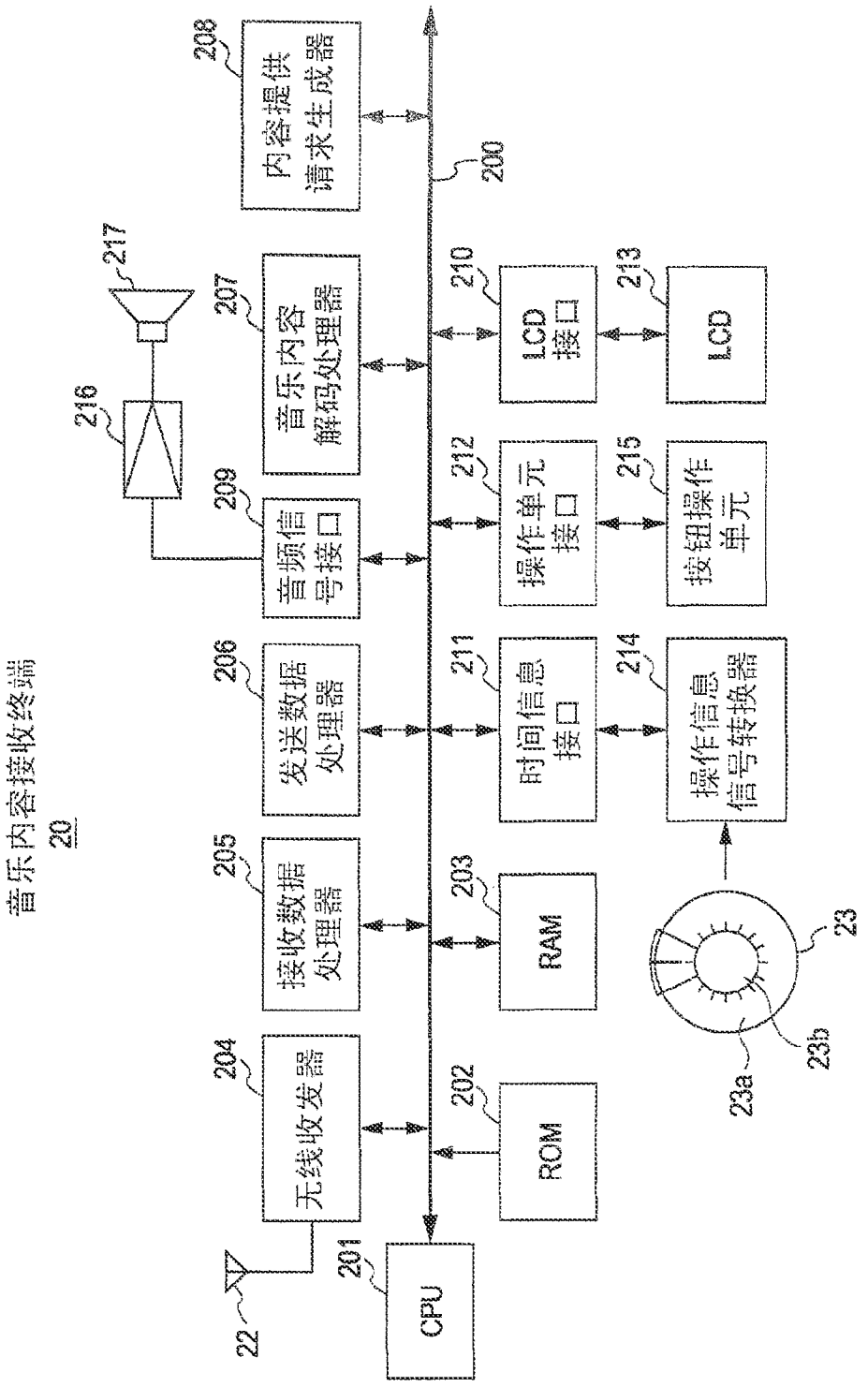

音乐内容接收终端
20
CPU
201
ROM
202
RAM
203
无线收发器
204
接收数据处理器
205
发送数据处理器
206
音乐内容解码处理器
207
内容提供请求生成器
208
音频信号接口
209
LCD接口
210
时间信息接口
211
操作单元接口
212
LCD
213
操作信息信号转换器
214
按钮操作单元
215
22
216
217
23
23a
23b
200

图 5

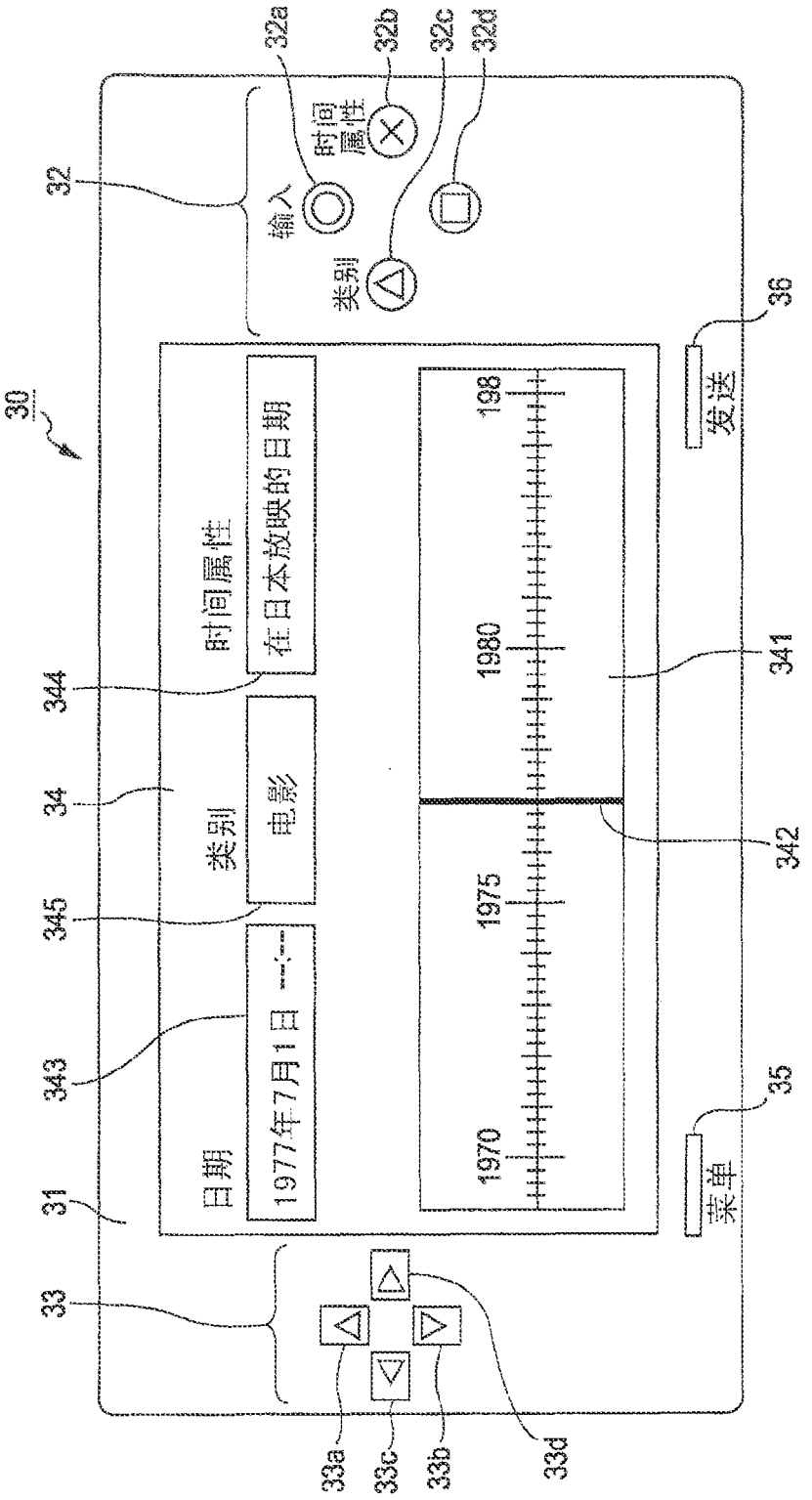

30
31
32
32a
32b
32c
32d
输入
时间属性
类别
33
33a
33b
33c
33d
34
341
342
343
344
345
日期
1977年7月1日 --:--
时间属性
在日本放映的日期
类别
电影
1970
1975
1980
198
35
菜单
36
发送

图 6

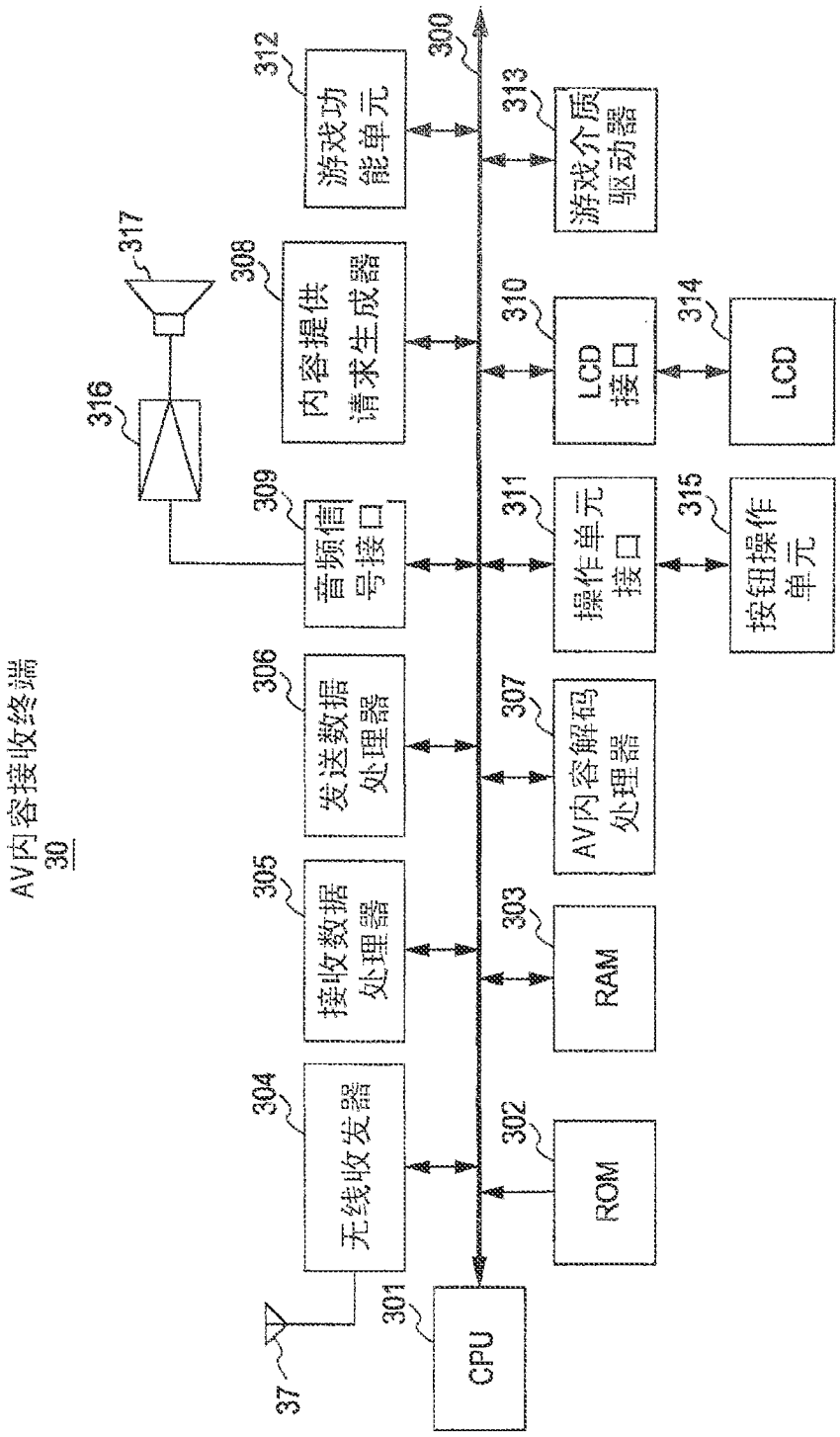

AV内容接收终端
30
CPU
301
ROM
302
RAM
303
无线收发器
304
接收数据处理器
305
发送数据处理器
306
AV内容解码处理器
307
内容提供请求生成器
308
音频信号接口
309
LCD接口
310
操作单元接口
311
游戏功能单元
312
游戏介质驱动器
313
LCD
314
按钮操作单元
315
316
317
37
300

图 7

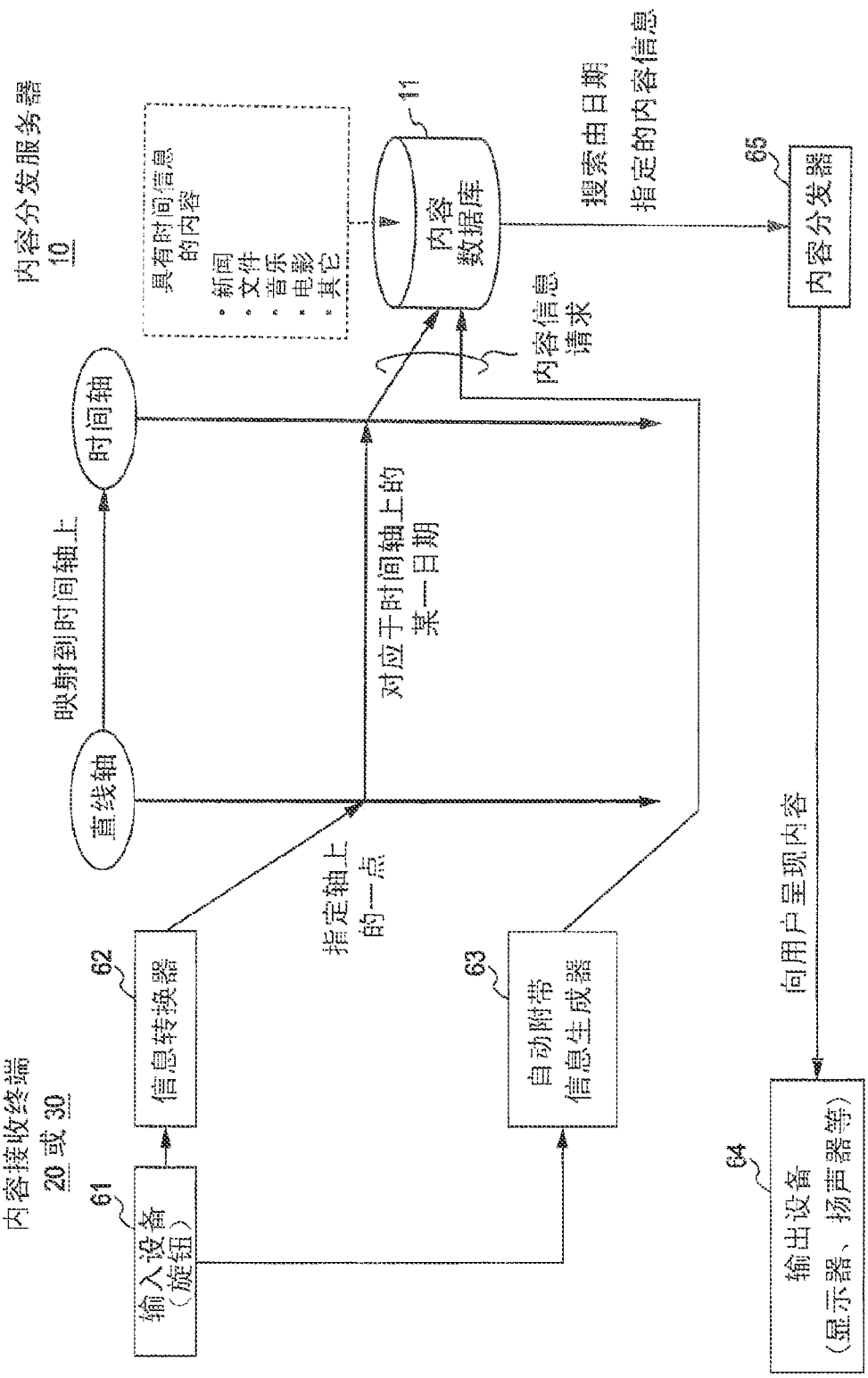

内容分发服务器
10
具有时间信息的内容
·新闻
·文件
·音乐
·电影
·其它
11
内容数据库
搜索由日期指定的内容信息
65
内容分发器
内容信息请求
时间轴
映射到时间轴上
对应于时间轴上的某一日期
直线轴
指定轴上的一点
内容接收终端
20 或 30
62
信息转换器
63
自动附带信息生成器
61
输入设备（旋钮）
向用户呈现内容
64
输出设备（显示器、扬声器等）

图 8

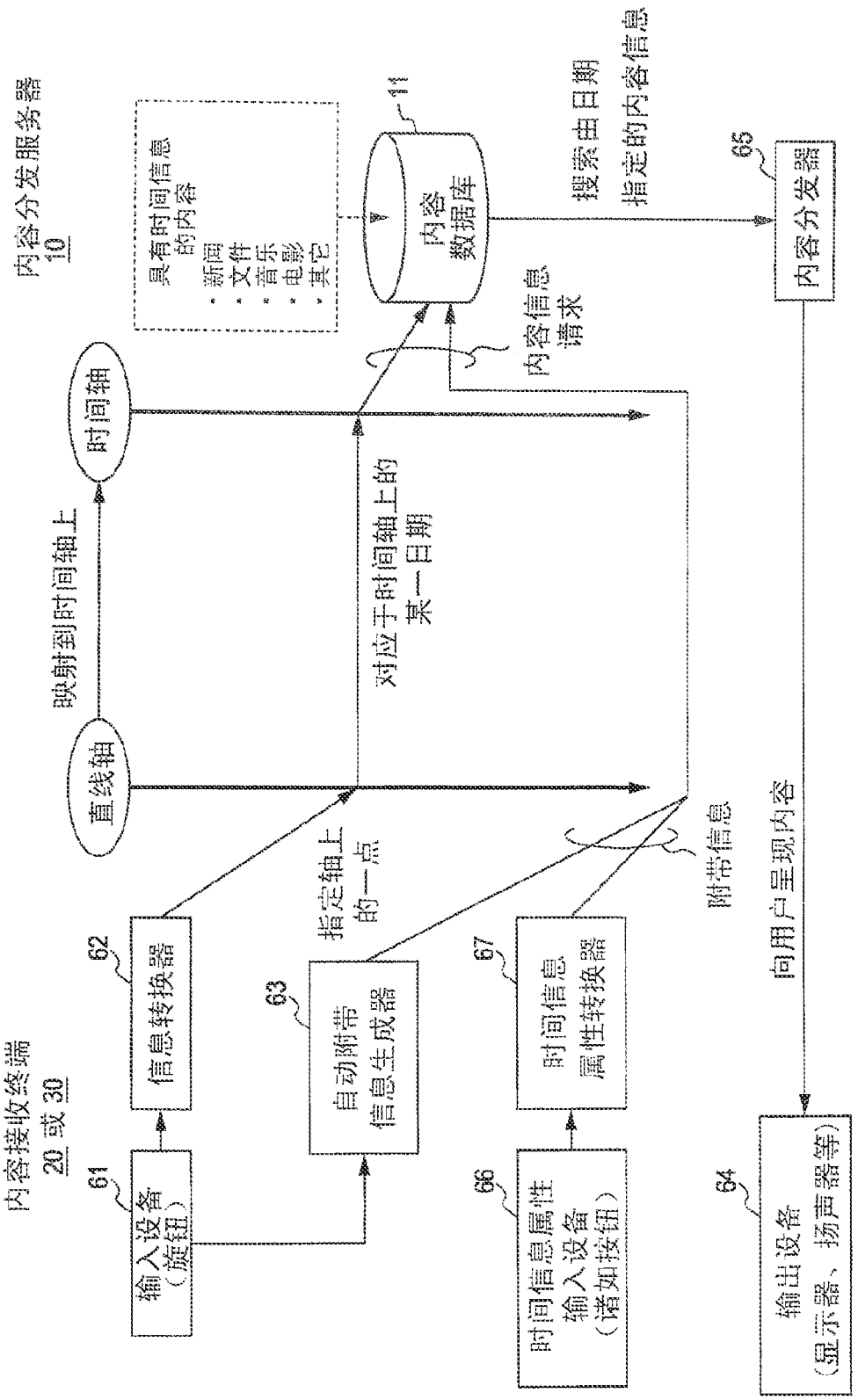

内容分发服务器
10
具有时间信息的内容
· 新闻
· 文件
· 音乐
· 电影
· 其它
11
内容数据库
搜索由日期指定的内容信息
65
内容分发器
内容信息请求
时间轴
映射到时间轴上
直线轴
对应于时间轴上的某一日期
指定轴上的一点
附带信息
向用户呈现内容
内容接收终端
20 或 30
62
信息转换器
63
自动附带信息生成器
67
时间信息属性转换器
61
输入设备（旋钮）
66
时间信息属性输入设备（诸如按钮）
64
输出设备（显示器、扬声器等）

图 9

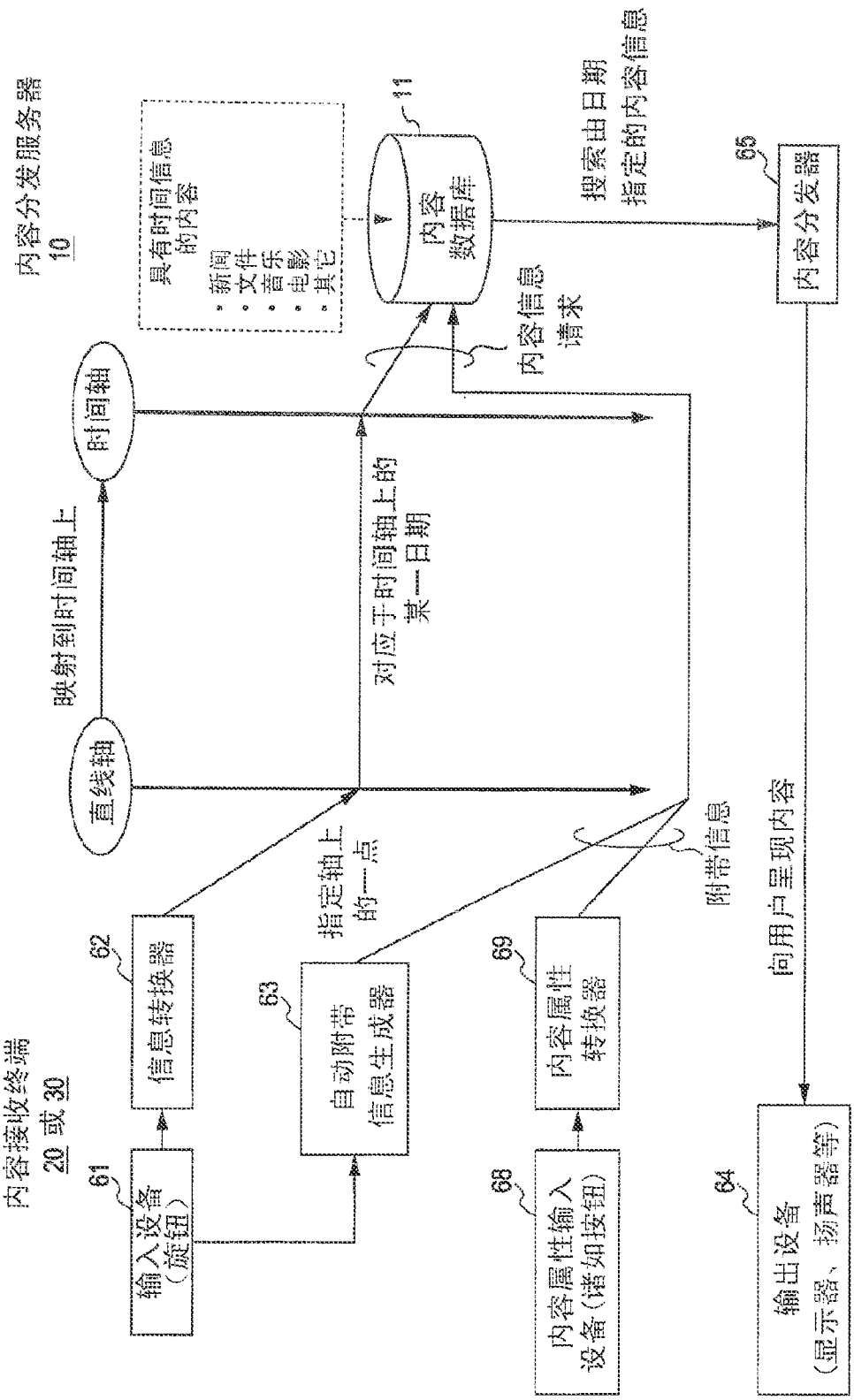

内容分发服务器
10
具有时间信息
的内容
• 新闻
• 文件
• 音乐
• 电影
• 其它
11
内容
数据库
搜索由日期
指定的内容信息
65
内容分发器
内容信息
请求
时间轴
映射到时间轴上
对应于时间轴上的
某一日期
直线轴
指定轴上
的一点
附带信息
向用户呈现内容
内容接收终端
20 或 30
62
信息转换器
63
自动附带
信息生成器
69
内容属性
转换器
61
输入设备
（旋钮）
68
内容属性输入
设备（诸如按钮）
64
输出设备
（显示器、扬声器等）

图 10

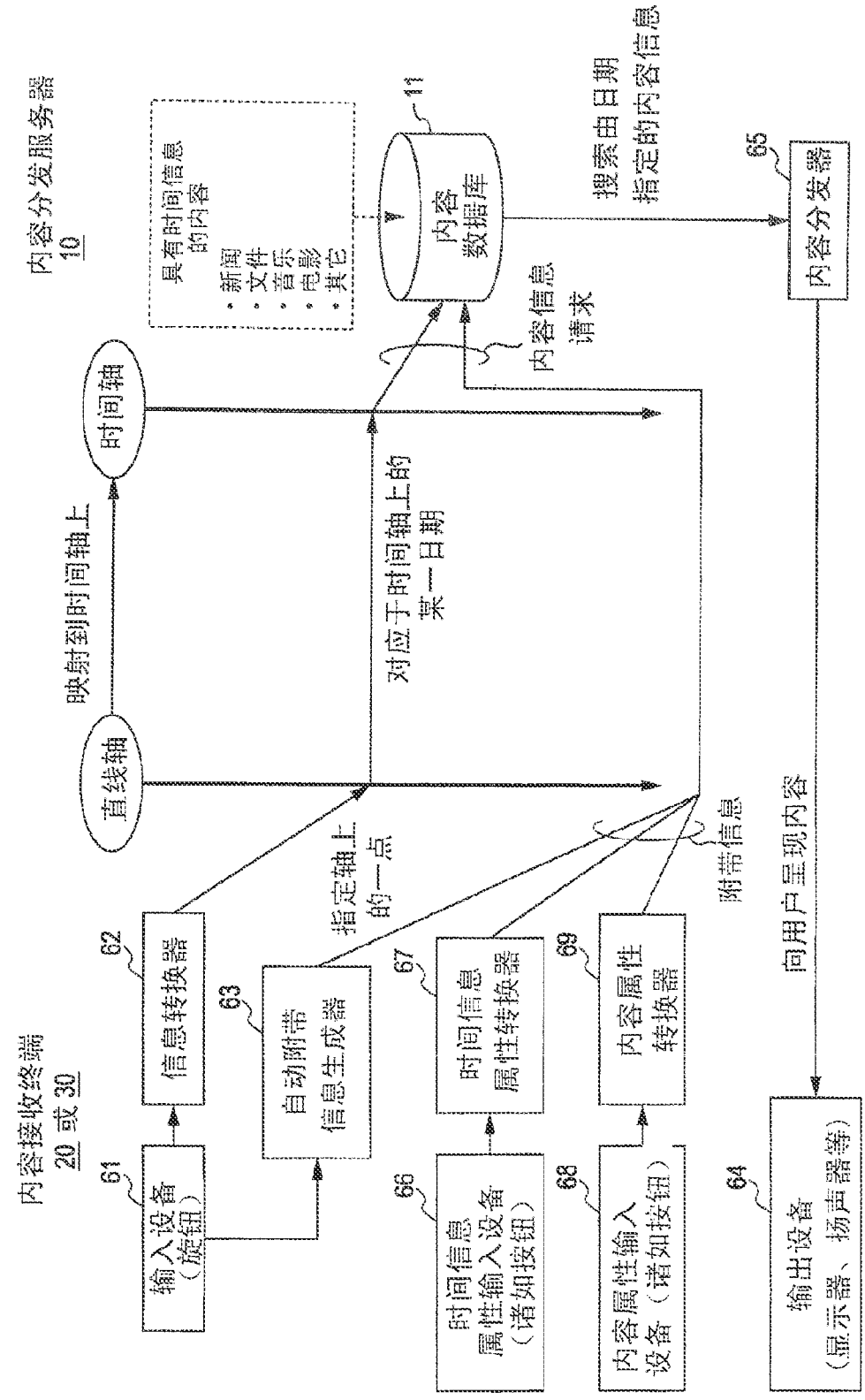

内容分发服务器
10
具有时间信息的内容
• 新闻
• 文件
• 音乐
• 电影
• 其它
11
内容数据库
搜索由日期指定的内容信息
65
内容分发器
内容信息请求
时间轴
映射到时间轴上
对应于时间轴上的某一日期
直线轴
内容接收终端
20 或 30
61
输入设备（旋钮）
62
信息转换器
63
自动附带信息生成器
指定轴上的一点
66
时间信息属性输入设备（诸如按钮）
67
时间信息属性转换器
68
内容属性输入设备（诸如按钮）
69
内容属性转换器
附带信息
64
输出设备（显示器、扬声器等）
向用户呈现内容

图 11

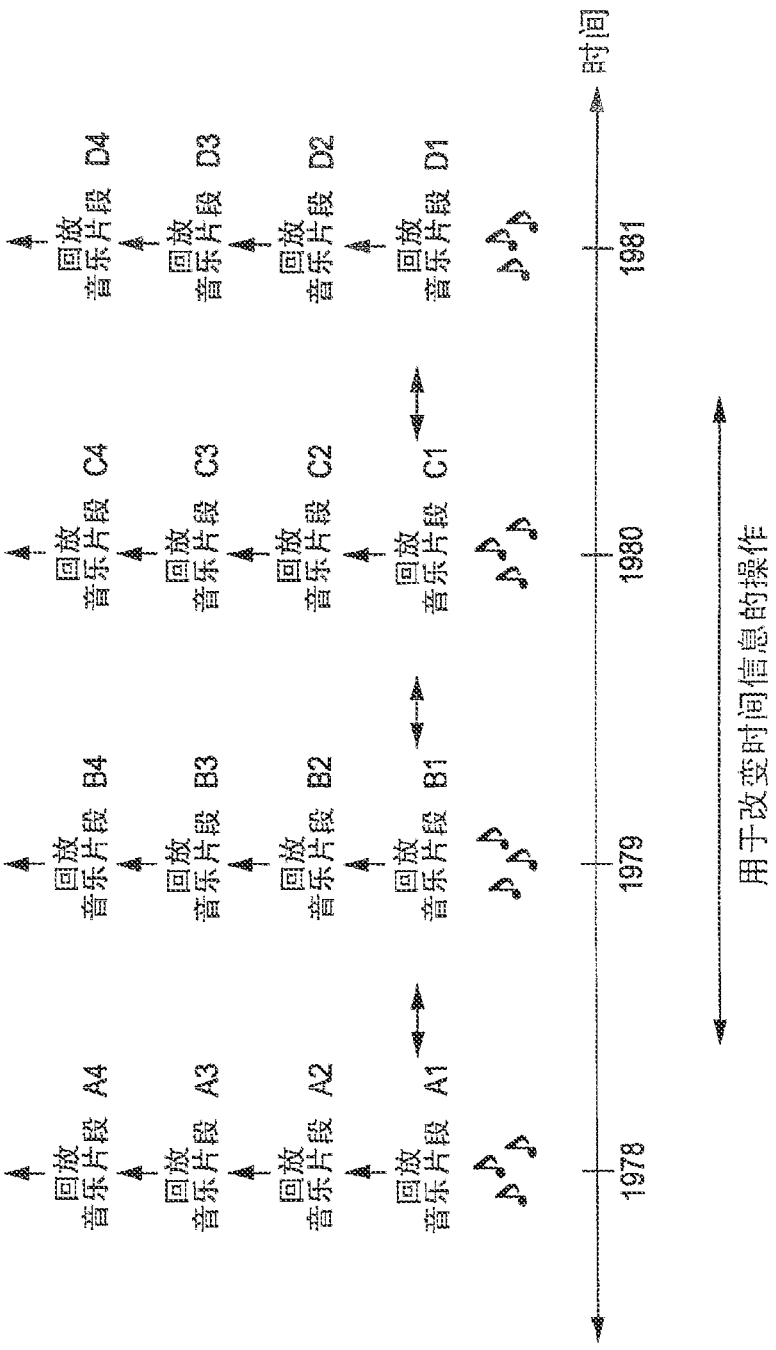


图 12

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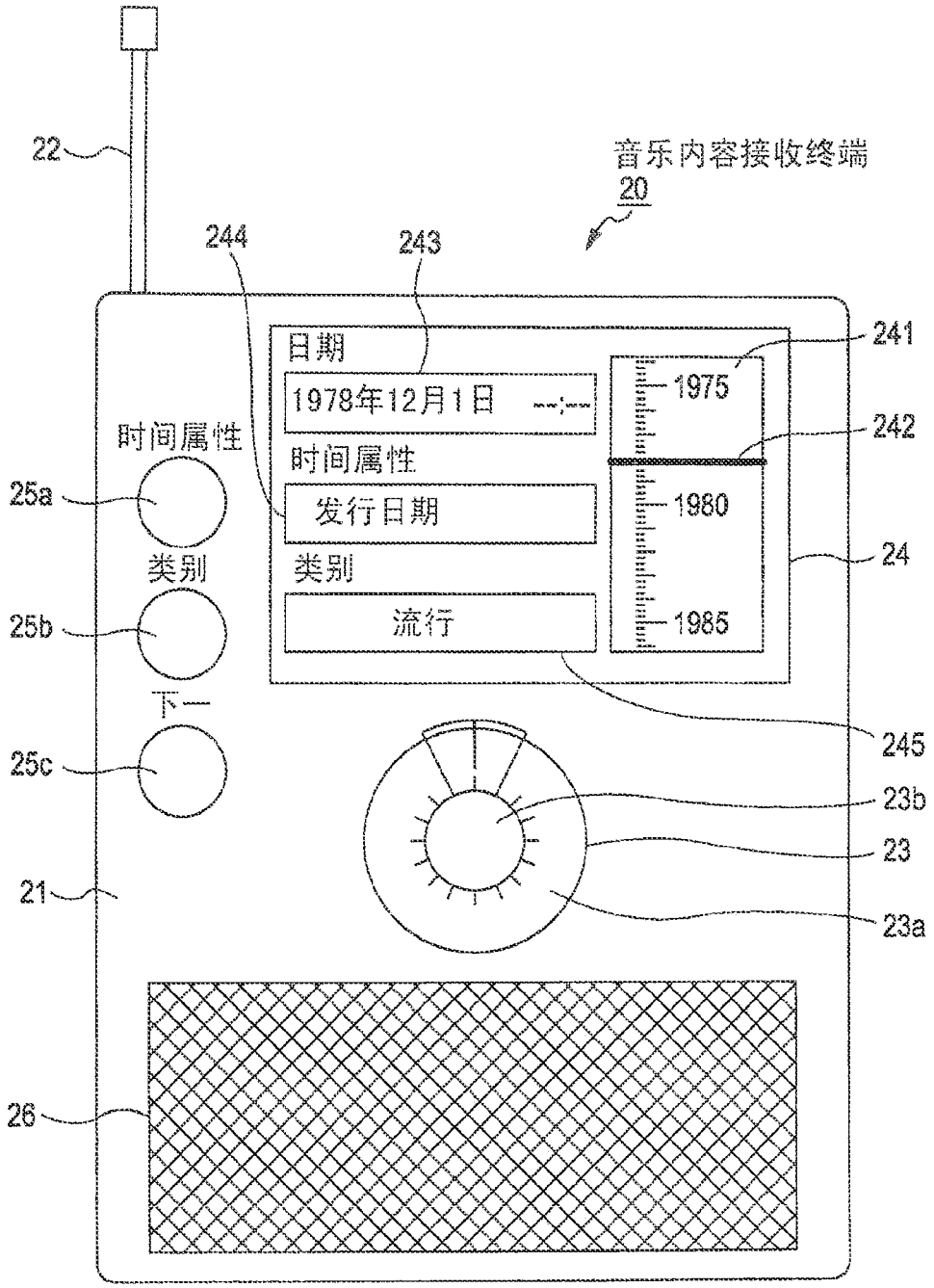

22
音乐内容接收终端
20
244
243
241
日期
1978年12月1日 --:--
1975
242
时间属性
时间属性
25a
发行日期
1980
24
类别
类别
25b
流行
1985
下一
245
25c
23b
23
21
23a
26

图 13

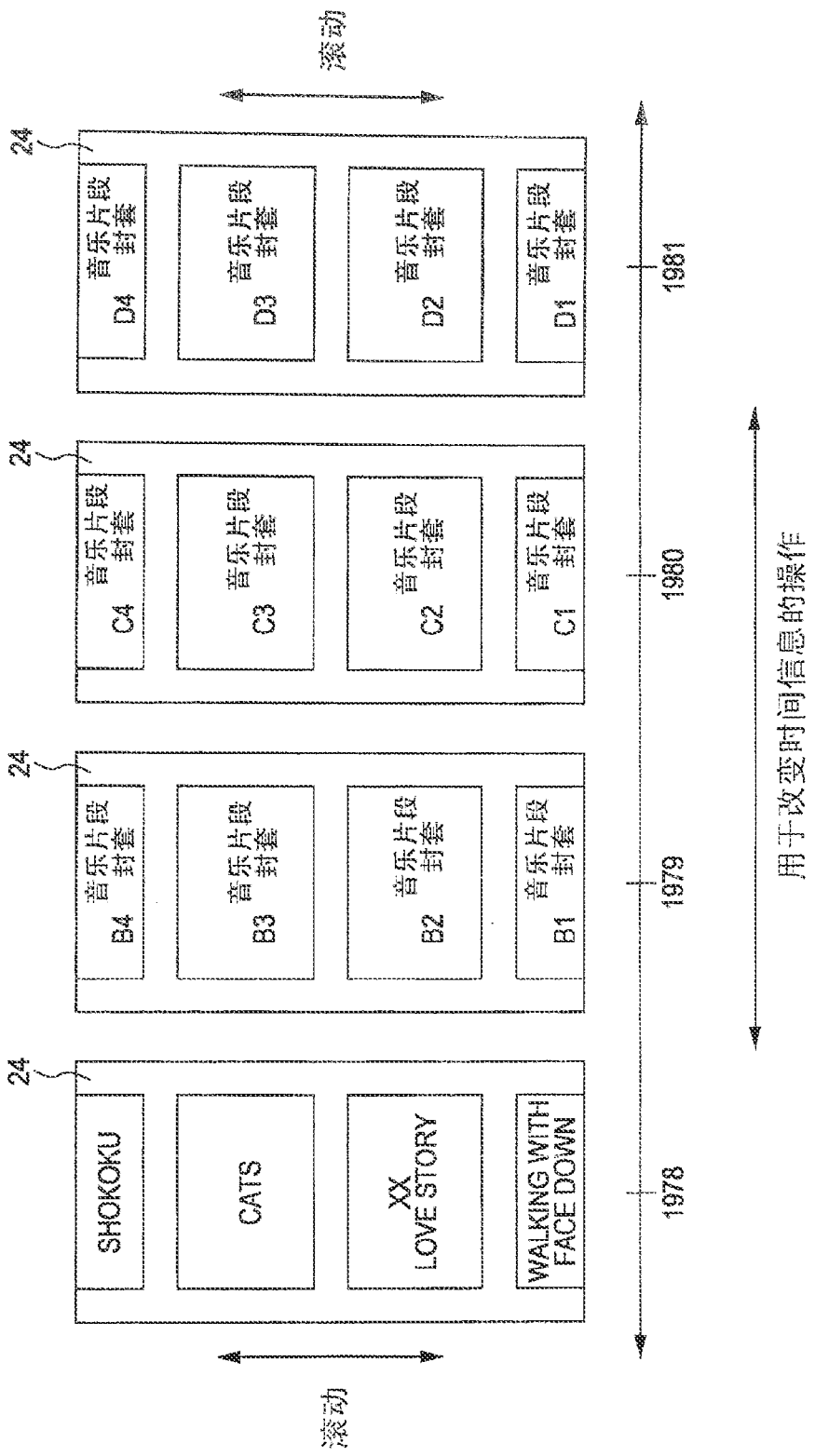

滚动
24
音乐片段 封套 D4
音乐片段 封套 D3
音乐片段 封套 D2
音乐片段 封套 D1
24
音乐片段 封套 C4
音乐片段 封套 C3
音乐片段 封套 C2
音乐片段 封套 C1
24
音乐片段 封套 B4
音乐片段 封套 B3
音乐片段 封套 B2
音乐片段 封套 B1
24
SHOKOKU
CATS
XX LOVE STORY
WALKING WITH FACE DOWN
滚动
1978
1979
1980
1981
用于改变时间信息的操作

图 14

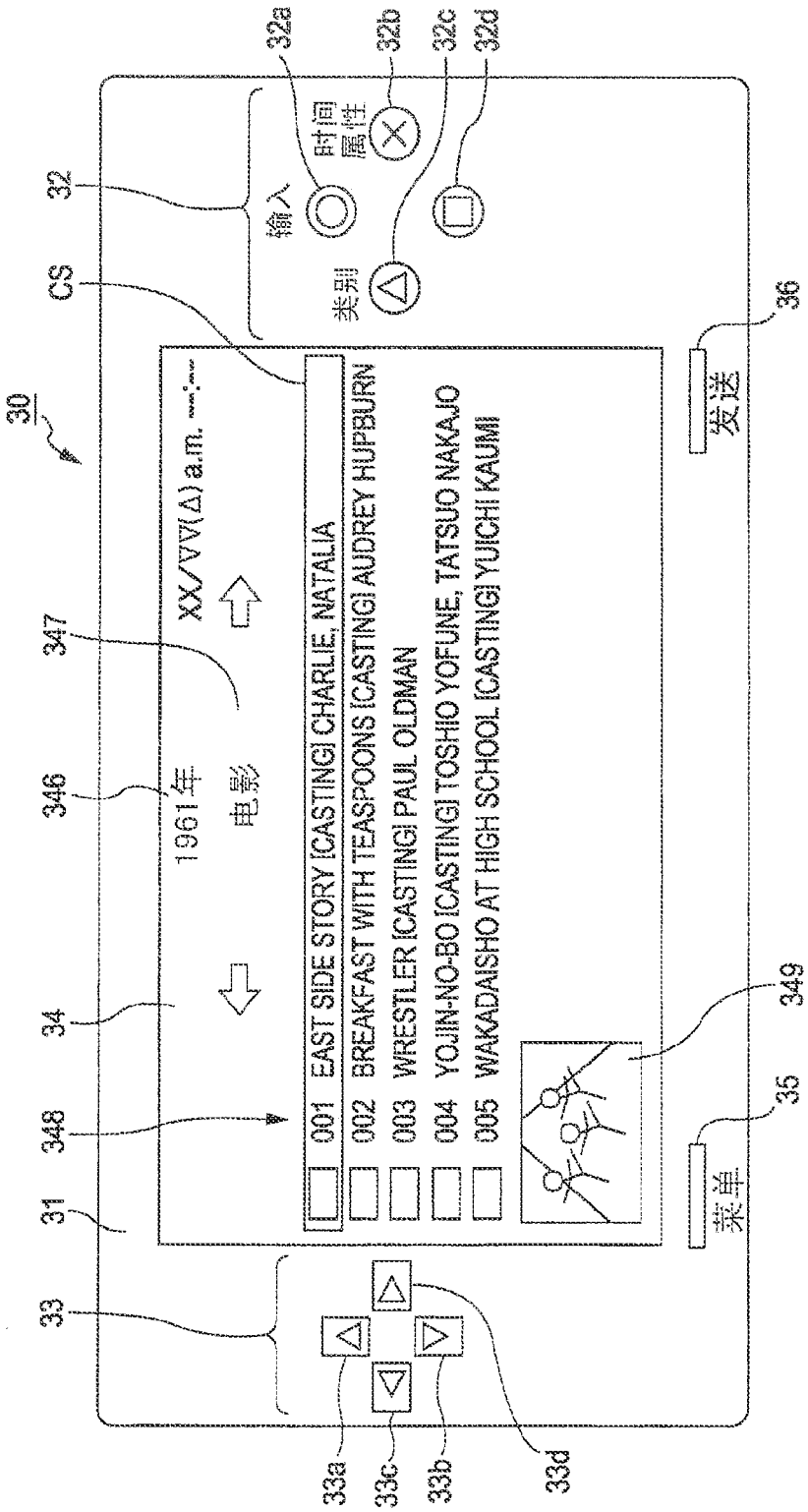

30
31
32
32a
32b
32c
32d
33
33a
33b
33c
33d
34
346
347
348
349
35
36
CS
输入
时间属性
类别
XX/VV(Δ) a.m. --:--
1961年
电影
001 EAST SIDE STORY [CASTING] CHARLIE, NATALIA
002 BREAKFAST WITH TEASPOONS [CASTING] AUDREY HUPBURN
003 WRESTLER [CASTING] PAUL OLDMAN
004 YOJIN-NO-BO [CASTING] TOSHIO YOFUNE, TATSUO NAKAJO
005 WAKADAISHO AT HIGH SCHOOL [CASTING] YUICHI KAUMI
发送
菜单

图 15

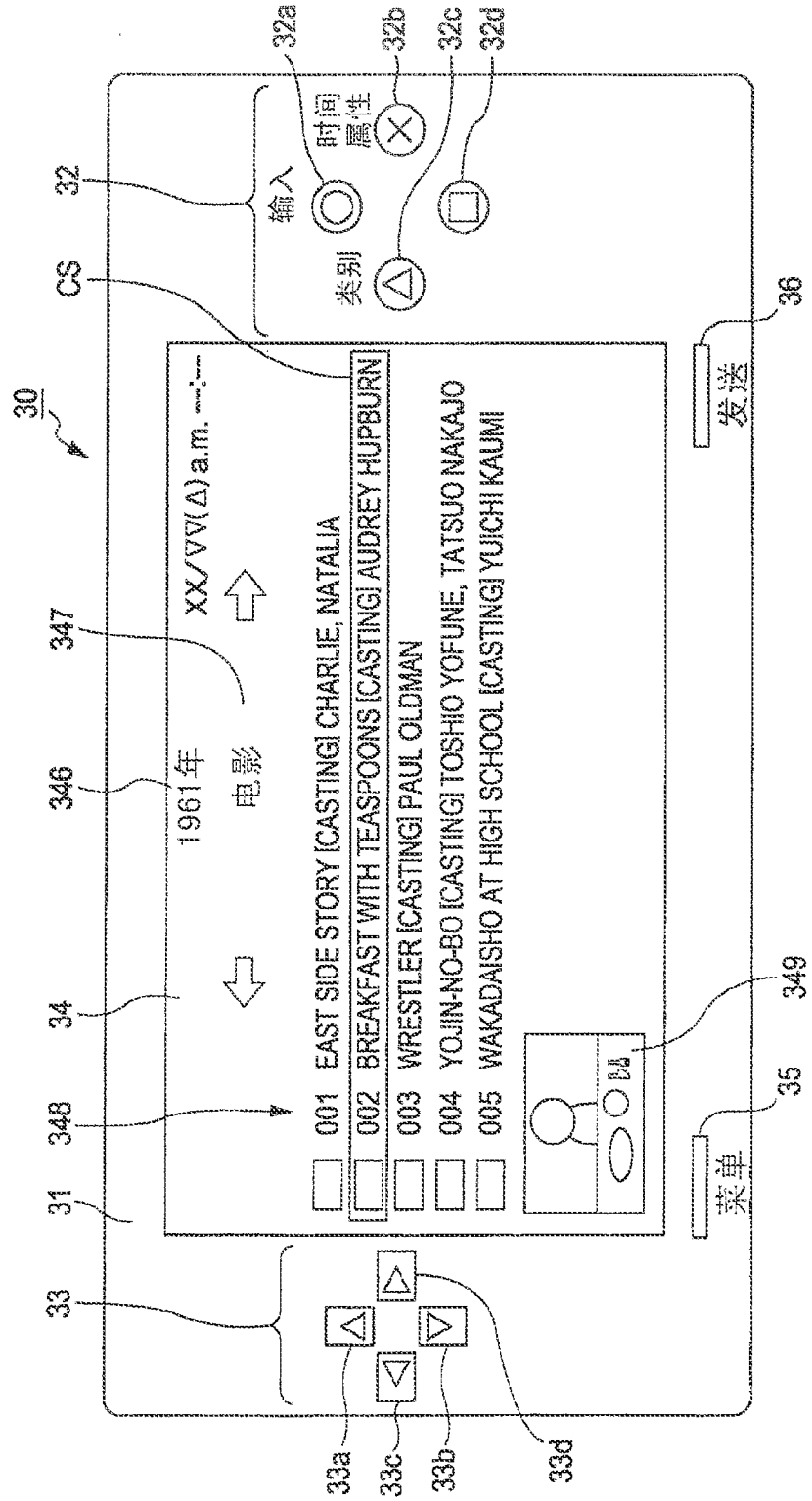

32a
32b
32c
32d
32
输入
时间
属性
类别
CS
30
36
发送
347
XX/VV(Δ) a.m. --:--
346
1961年
电影
34
001 EAST SIDE STORY [CASTING] CHARLIE, NATALIA
002 BREAKFAST WITH TEASPOONS [CASTING] AUDREY HUPBURN
003 WRESTLER [CASTING] PAUL OLDMAN
004 YOJIN-NO-BO [CASTING] TOSHIO YOFUNE, TATSUO NAKAJO
005 WAKADAISHO AT HIGH SCHOOL [CASTING] YUICHI KAUMI
348
31
349
队
35
菜单
33
33a
33c
33b
33d

图 16

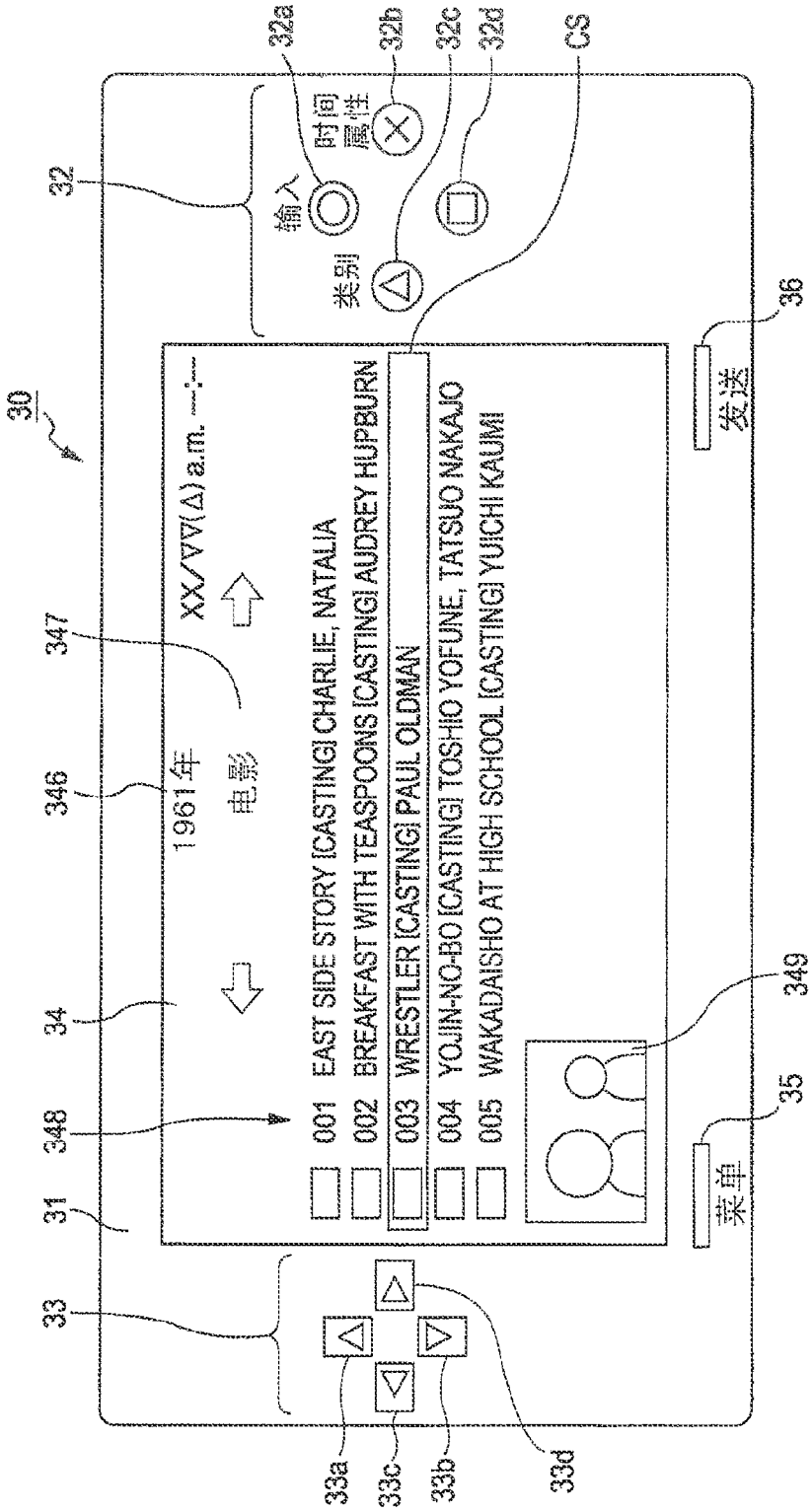

30
31
32
32a
32b
32c
32d
CS
33
33a
33b
33c
33d
34
346
347
348
349
35
36
输入
时间属性
类别
发送
菜单
1961年
电影
XX/VV(Δ) a.m. --:--
001 EAST SIDE STORY [CASTING] CHARLIE, NATALIA
002 BREAKFAST WITH TEASPOONS [CASTING] AUDREY HUPBURN
003 WRESTLER [CASTING] PAUL OLDMAN
004 YOJIN-NO-BO [CASTING] TOSHIO YOFUNE, TATSUO NAKAJO
005 WAKADAISHO AT HIGH SCHOOL [CASTING] YUICHI KAUMI

图 17

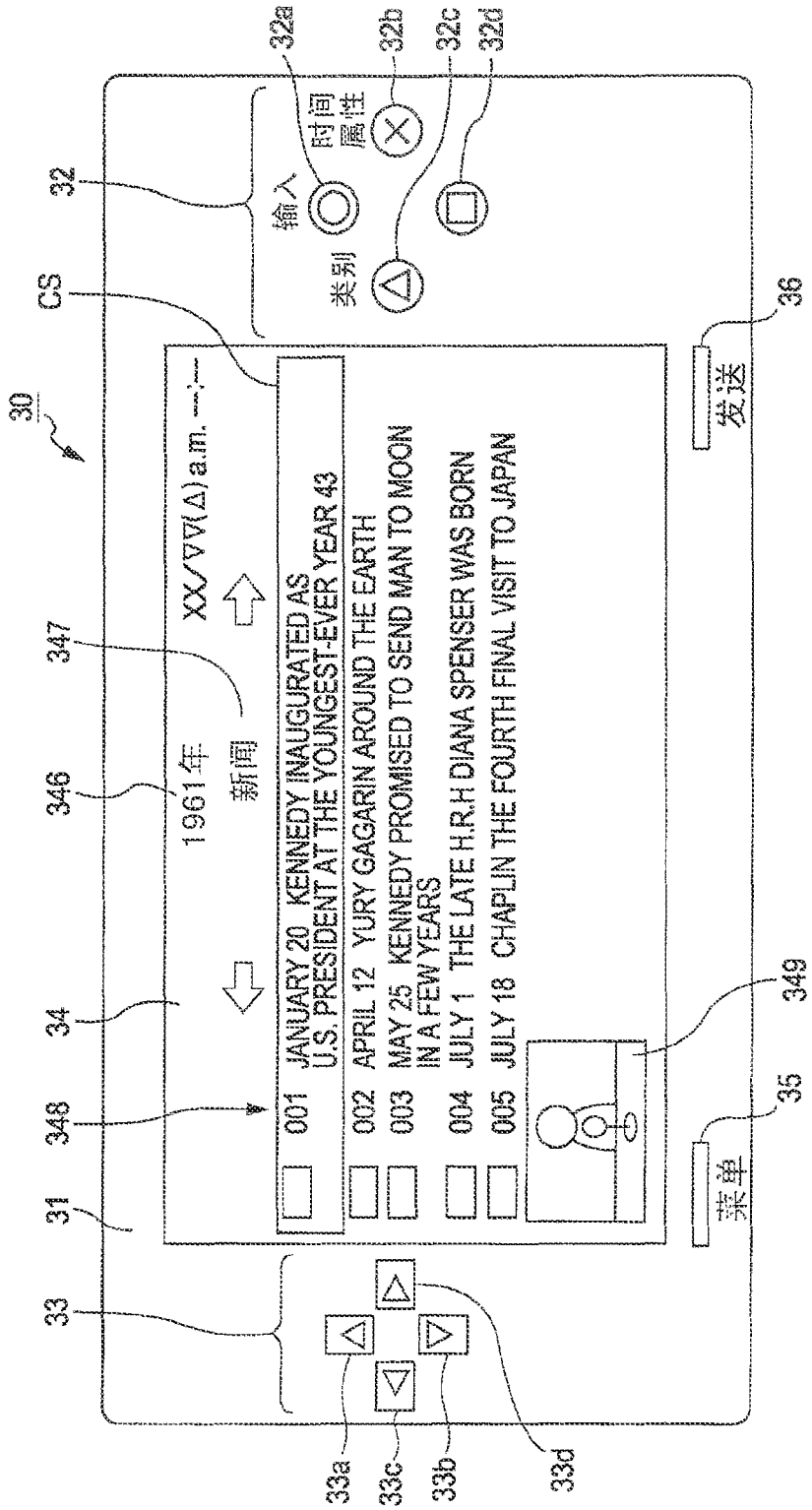

30
31
32
32a
32b
32c
32d
33
33a
33b
33c
33d
34
346
347
348
349
35
36
CS
输入
时间属性
类别
发送
菜单
1961年
新闻
XX/∇∇(Δ) a.m. --:--
001 JANUARY 20 KENNEDY INAUGURATED AS U.S. PRESIDENT AT THE YOUNGEST-EVER YEAR 43
002 APRIL 12 YURY GAGARIN AROUND THE EARTH
003 MAY 25 KENNEDY PROMISED TO SEND MAN TO MOON IN A FEW YEARS
004 JULY 1 THE LATE H.R.H DIANA SPENSER WAS BORN
005 JULY 18 CHAPLIN THE FOURTH FINAL VISIT TO JAPAN

图 18

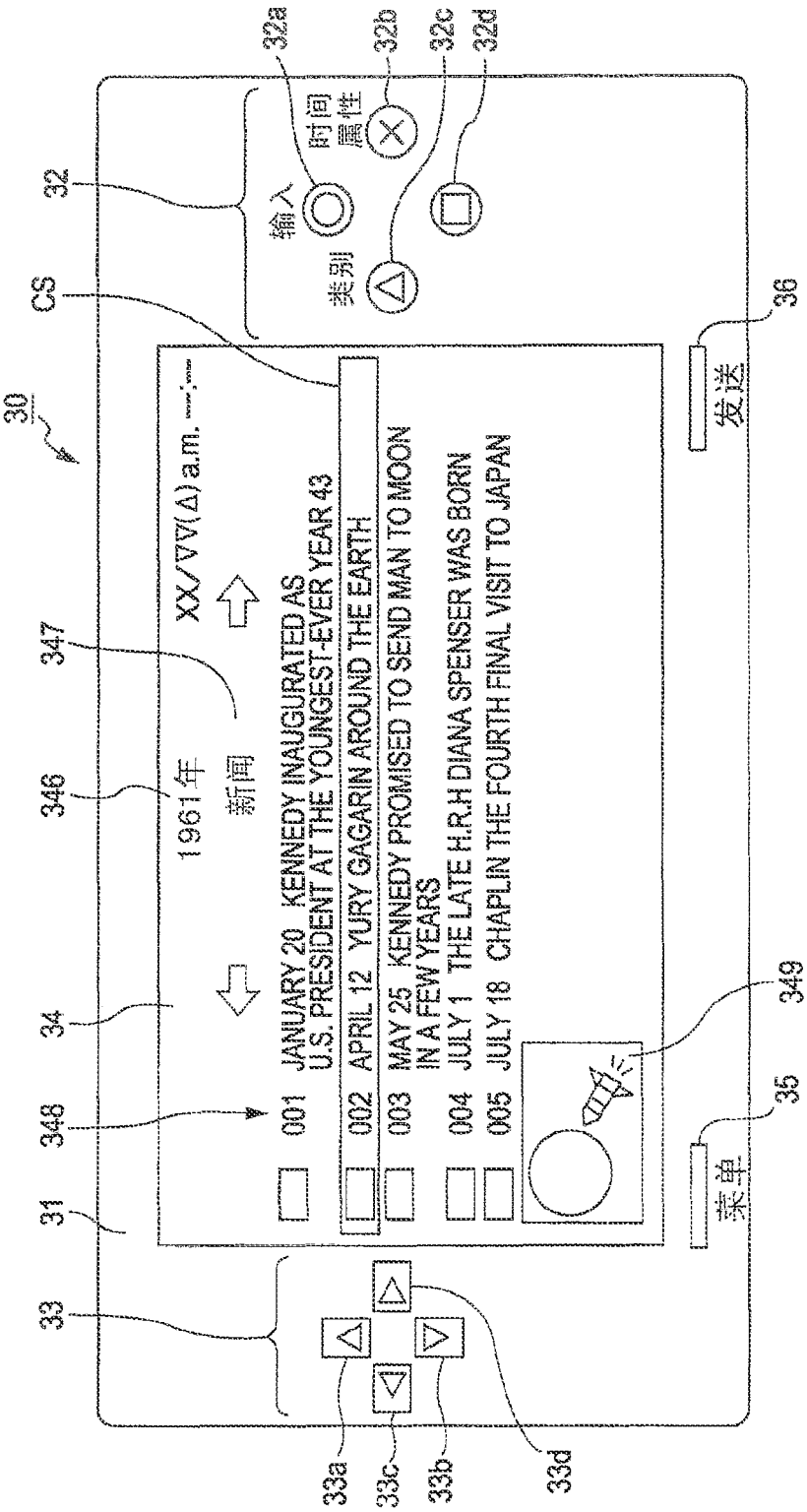

32a
32b
32c
32d
时间
属性
输入
类别
32
CS
30
347
346
34
348
31
33
XX/VV(Δ) a.m.
1961年
新闻
001 JANUARY 20 KENNEDY INAUGURATED AS U.S. PRESIDENT AT THE YOUNGEST-EVER YEAR 43
002 APRIL 12 YURY GAGARIN AROUND THE EARTH
003 MAY 25 KENNEDY PROMISED TO SEND MAN TO MOON IN A FEW YEARS
004 JULY 1 THE LATE H.R.H DIANA SPENSER WAS BORN
005 JULY 18 CHAPLIN THE FOURTH FINAL VISIT TO JAPAN
349
35
菜单
36
发送
33a
33c
33b
33d

图 19

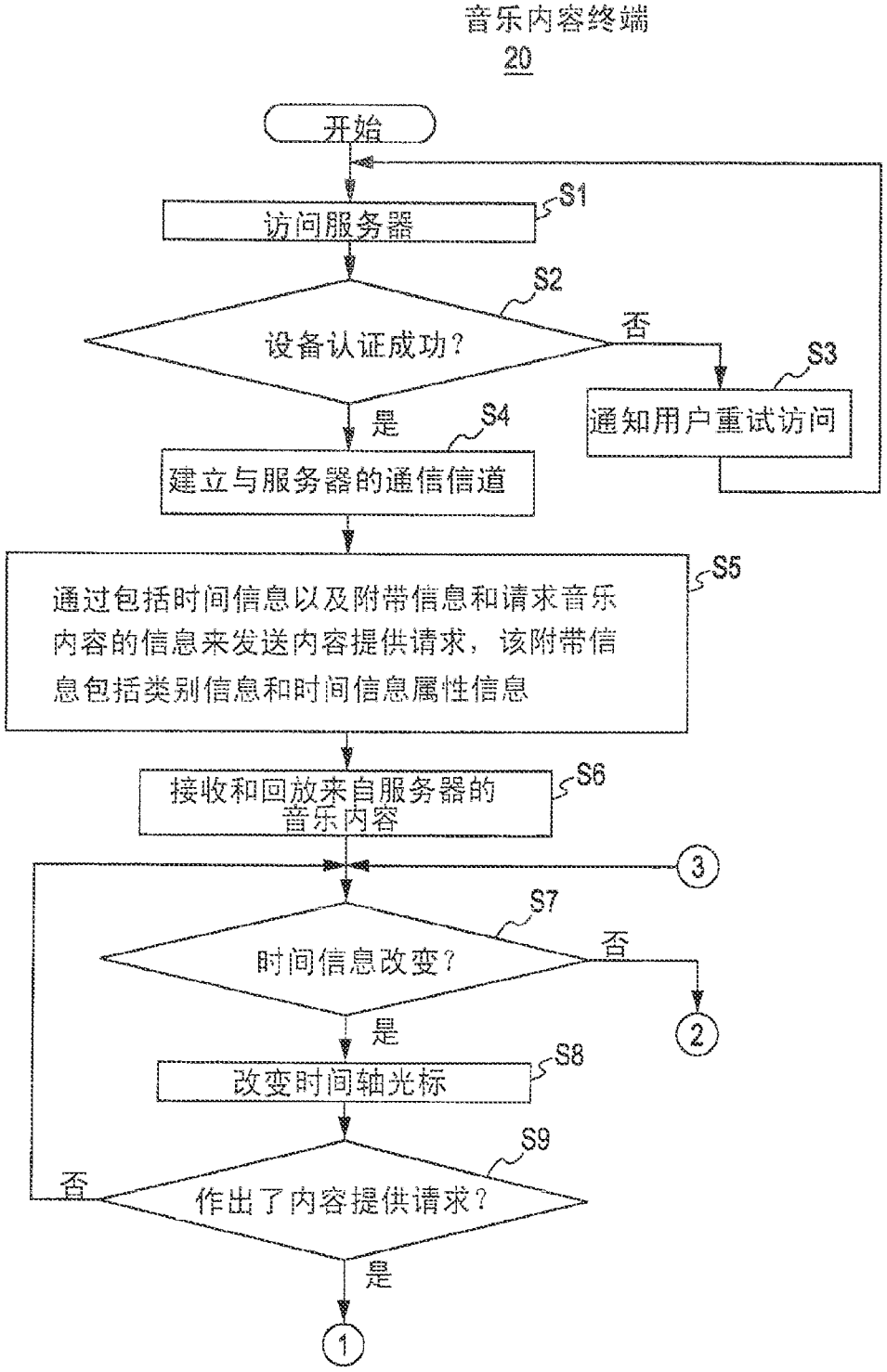

音乐内容终端
20
开始
S1
访问服务器
S2
设备认证成功？
否
S3
通知用户重试访问
是
S4
建立与服务器的通信信道
S5
通过包括时间信息以及附带信息和请求音乐内容的信息来发送内容提供请求，该附带信息包括类别信息和时间信息属性信息
S6
接收和回放来自服务器的音乐内容
3
S7
时间信息改变？
否
2
是
S8
改变时间轴光标
S9
作出了内容提供请求？
否
是
1

图 20

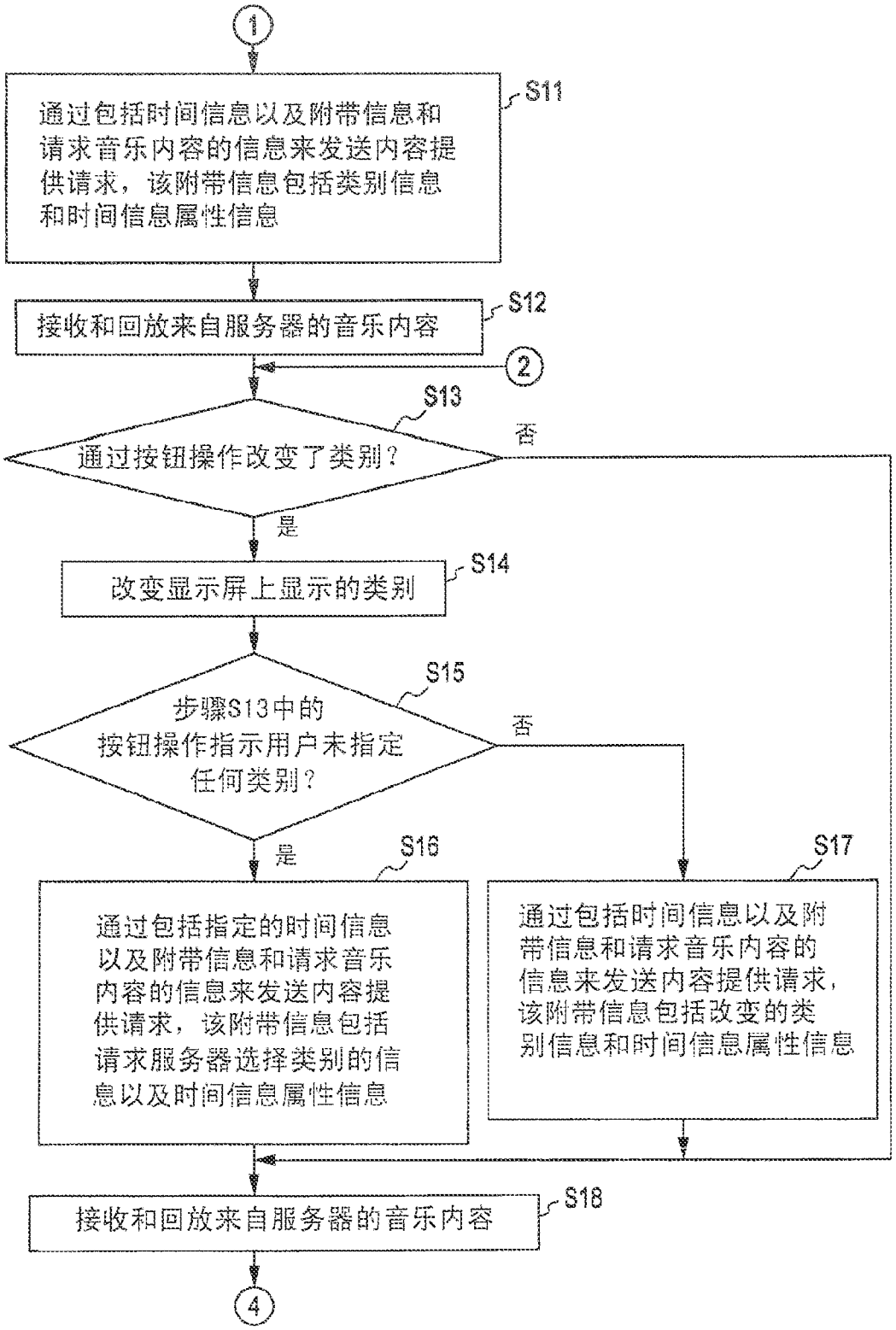

1
通过包括时间信息以及附带信息和请求音乐内容的信息来发送内容提供请求，该附带信息包括类别信息和时间信息属性信息
S11
接收和回放来自服务器的音乐内容
S12
2
S13
通过按钮操作改变了类别？
否
是
改变显示屏上显示的类别
S14
S15
步骤S13中的按钮操作指示用户未指定任何类别？
否
是
S16
通过包括指定的时间信息以及附带信息和请求音乐内容的信息来发送内容提供请求，该附带信息包括请求服务器选择类别的信息以及时间信息属性信息
S17
通过包括时间信息以及附带信息和请求音乐内容的信息来发送内容提供请求，该附带信息包括改变的类别信息和时间信息属性信息
接收和回放来自服务器的音乐内容
S18
4

图 21

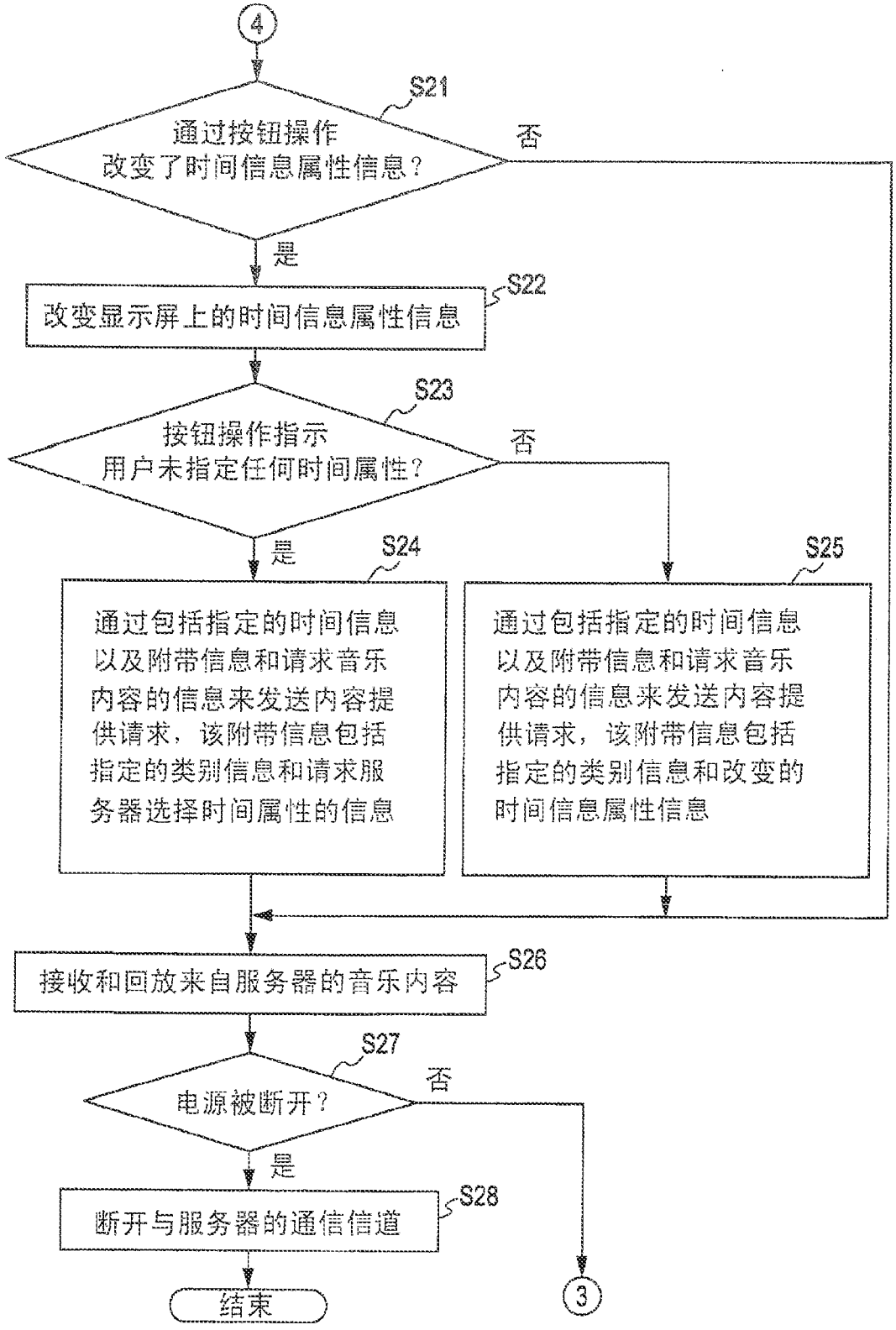

4
S21
通过按钮操作
改变了时间信息属性信息？
否
是
S22
改变显示屏上的时间信息属性信息
S23
按钮操作指示
用户未指定任何时间属性？
否
是
S24
通过包括指定的时间信息以及附带信息和请求音乐内容的信息来发送内容提供请求，该附带信息包括指定的类别信息和请求服务器选择时间属性的信息
S25
通过包括指定的时间信息以及附带信息和请求音乐内容的信息来发送内容提供请求，该附带信息包括指定的类别信息和改变的时间信息属性信息
S26
接收和回放来自服务器的音乐内容
S27
电源被断开？
否
是
S28
断开与服务器的通信信道
结束
3

图 22

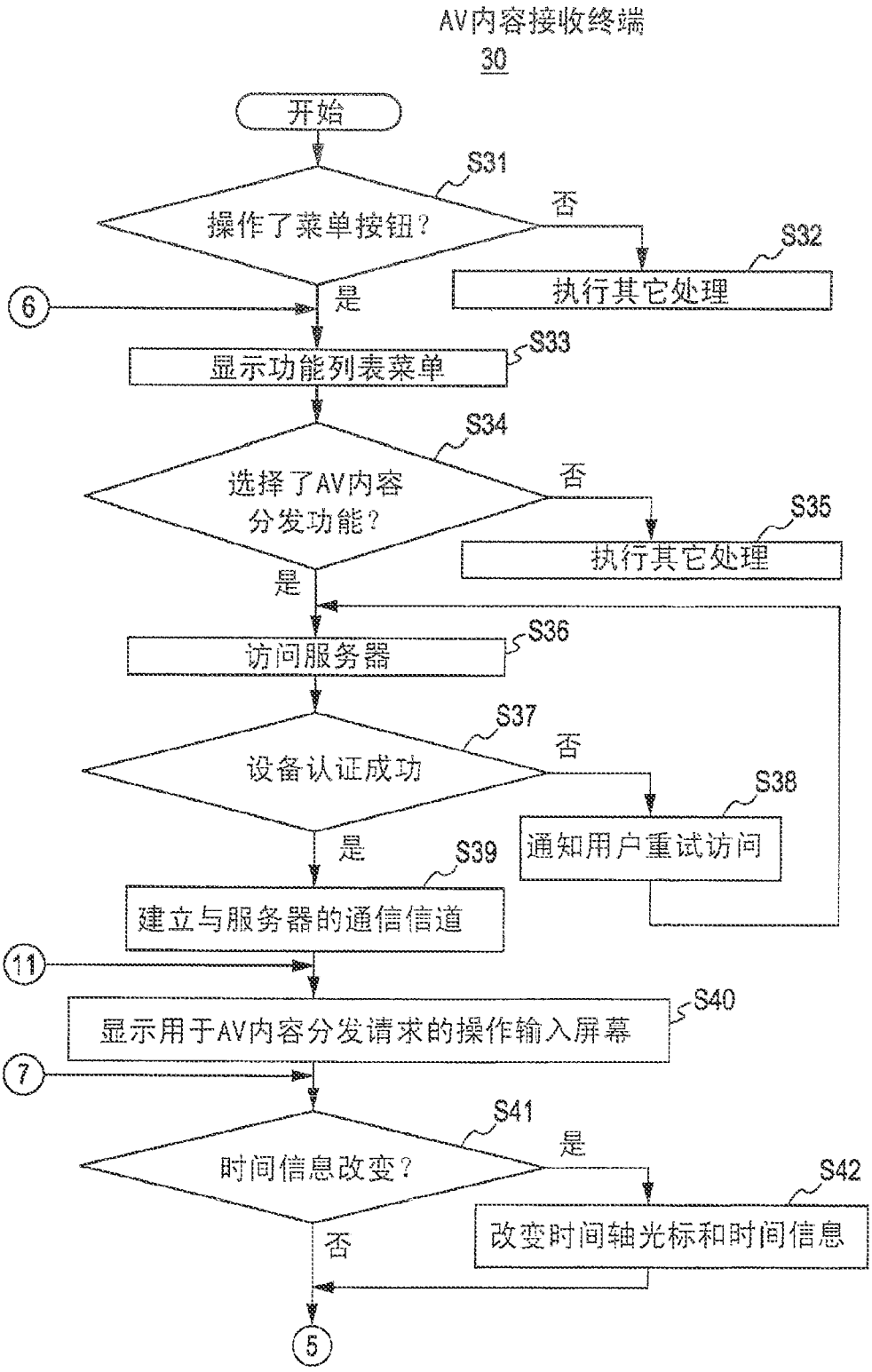

AV内容接收终端
30
开始
S31
操作了菜单按钮？
否
S32
执行其它处理
6
是
S33
显示功能列表菜单
S34
选择了AV内容
分发功能？
否
S35
执行其它处理
是
S36
访问服务器
S37
设备认证成功
否
S38
通知用户重试访问
是
S39
建立与服务器的通信信道
11
S40
显示用于AV内容分发请求的操作输入屏幕
7
S41
时间信息改变？
是
S42
改变时间轴光标和时间信息
否
5

图 23

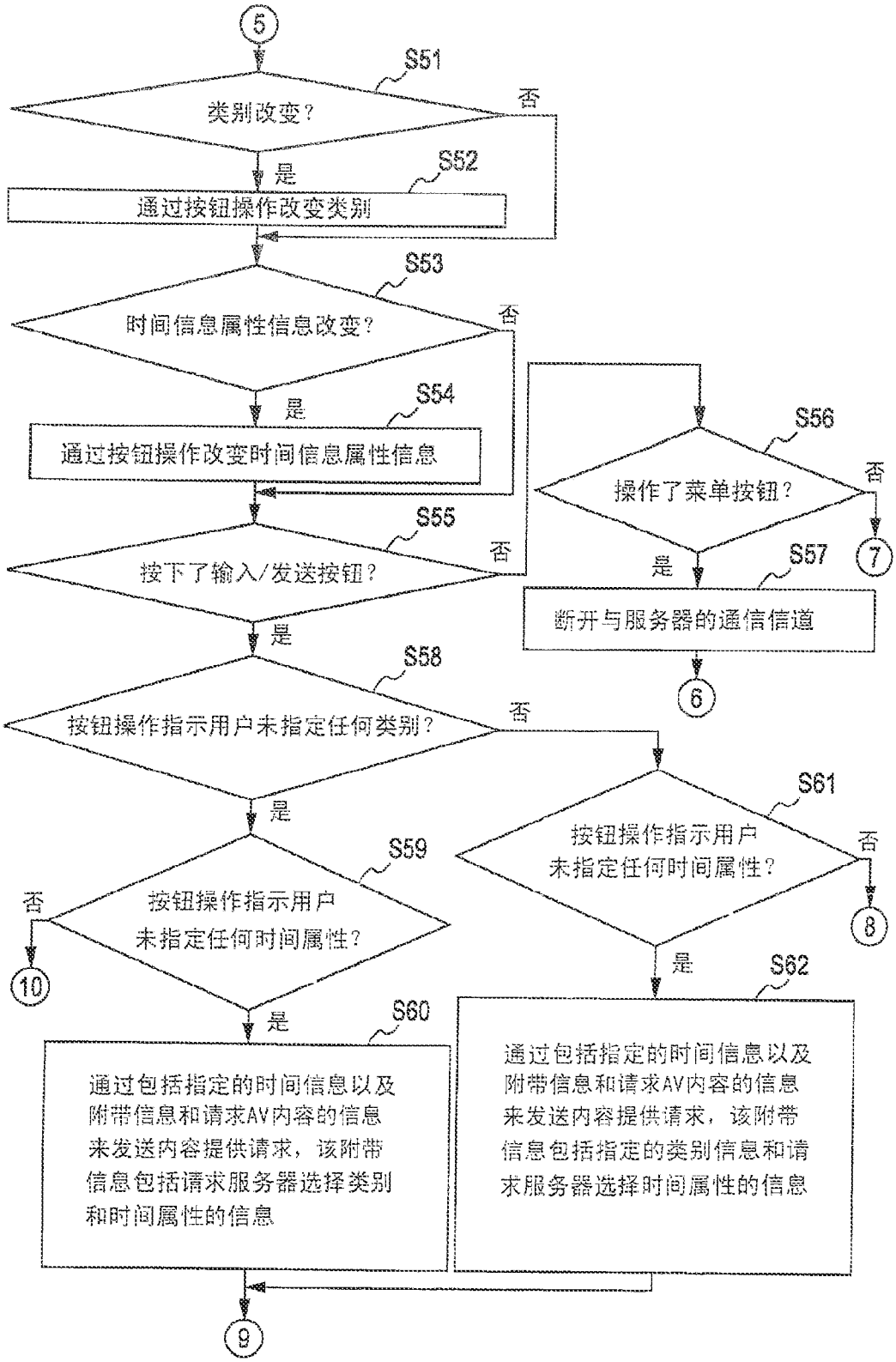

5
S51
类别改变？
否
是
S52
通过按钮操作改变类别
S53
时间信息属性信息改变？
否
是
S54
通过按钮操作改变时间信息属性信息
S55
按下了输入/发送按钮？
否
是
S56
操作了菜单按钮？
否
是
7
S57
断开与服务器的通信信道
6
S58
按钮操作指示用户未指定任何类别？
否
是
S59
按钮操作指示用户
未指定任何时间属性？
否
10
是
S60
通过包括指定的时间信息以及
附带信息和请求AV内容的信息
来发送内容提供请求，该附带
信息包括请求服务器选择类别
和时间属性的信息
S61
按钮操作指示用户
未指定任何时间属性？
否
8
是
S62
通过包括指定的时间信息以及
附带信息和请求AV内容的信息
来发送内容提供请求，该附带
信息包括指定的类别信息和请
求服务器选择时间属性的信息
9

图 24

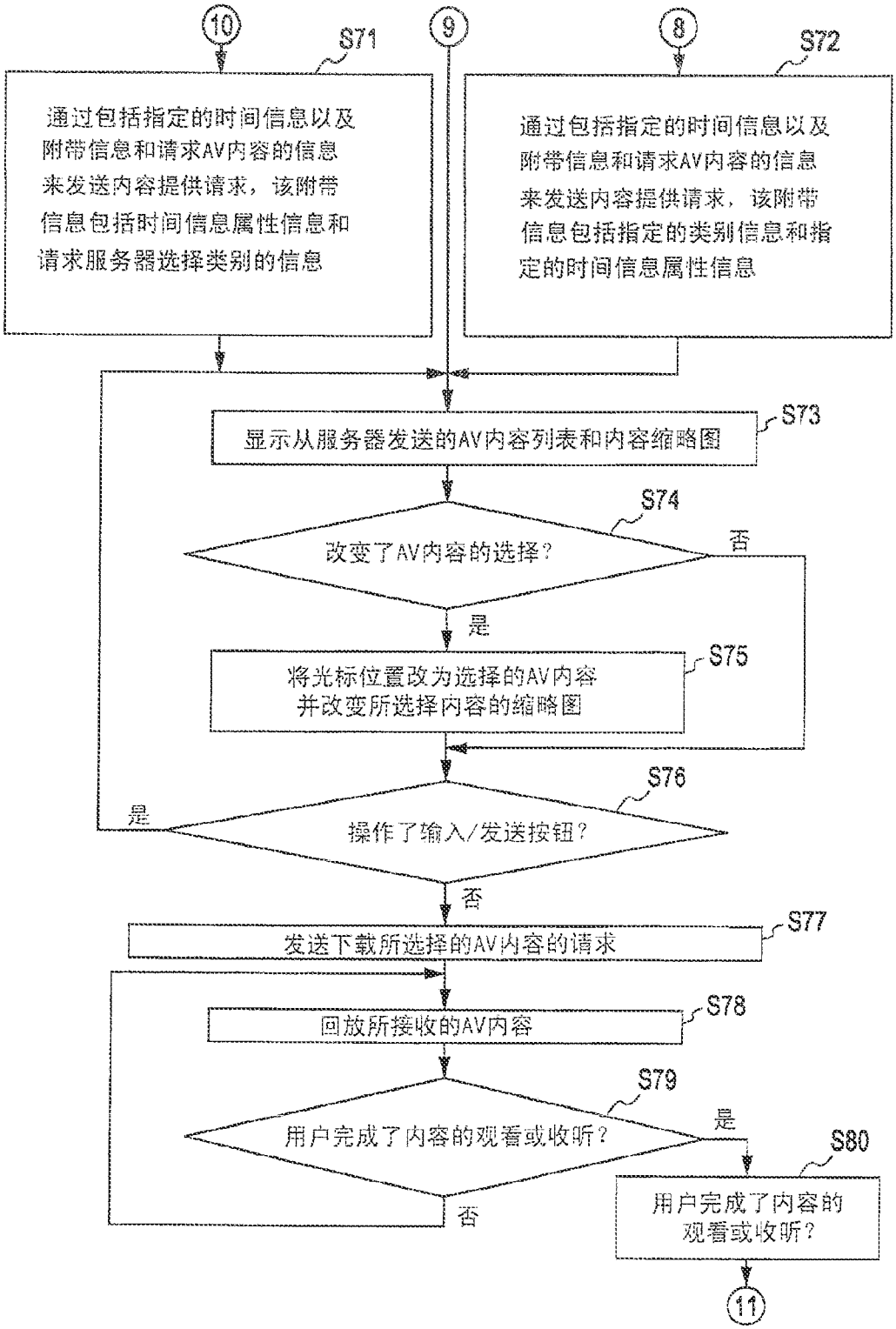

10
S71
9
8
S72
通过包括指定的时间信息以及附带信息和请求AV内容的信息来发送内容提供请求，该附带信息包括时间信息属性信息和请求服务器选择类别的信息
通过包括指定的时间信息以及附带信息和请求AV内容的信息来发送内容提供请求，该附带信息包括指定的类别信息和指定的时间信息属性信息
显示从服务器发送的AV内容列表和内容缩略图
S73
S74
改变了AV内容的选择？
否
是
将光标位置改为选择的AV内容并改变所选择内容的缩略图
S75
S76
是
操作了输入/发送按钮？
否
发送下载所选择的AV内容的请求
S77
回放所接收的AV内容
S78
S79
用户完成了内容的观看或收听？
是
S80
否
用户完成了内容的观看或收听？
11

图 25

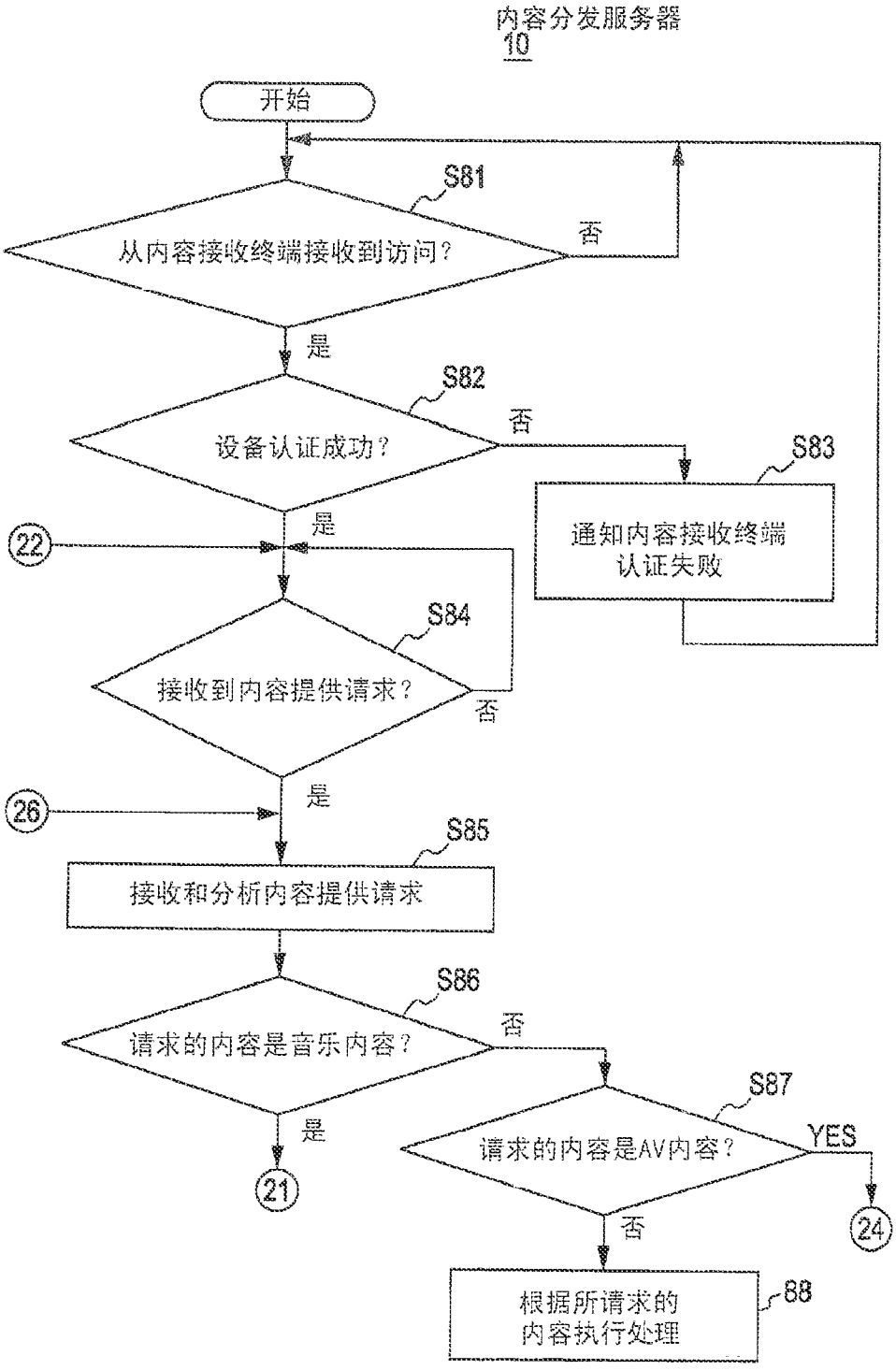

内容分发服务器
10
开始
S81
从内容接收终端接收到访问？
否
是
S82
设备认证成功？
否
S83
通知内容接收终端
认证失败
是
22
S84
接收到内容提供请求？
否
是
26
S85
接收和分析内容提供请求
S86
请求的内容是音乐内容？
否
是
21
S87
请求的内容是AV内容？
YES
24
否
根据所请求的
内容执行处理
88

图 26

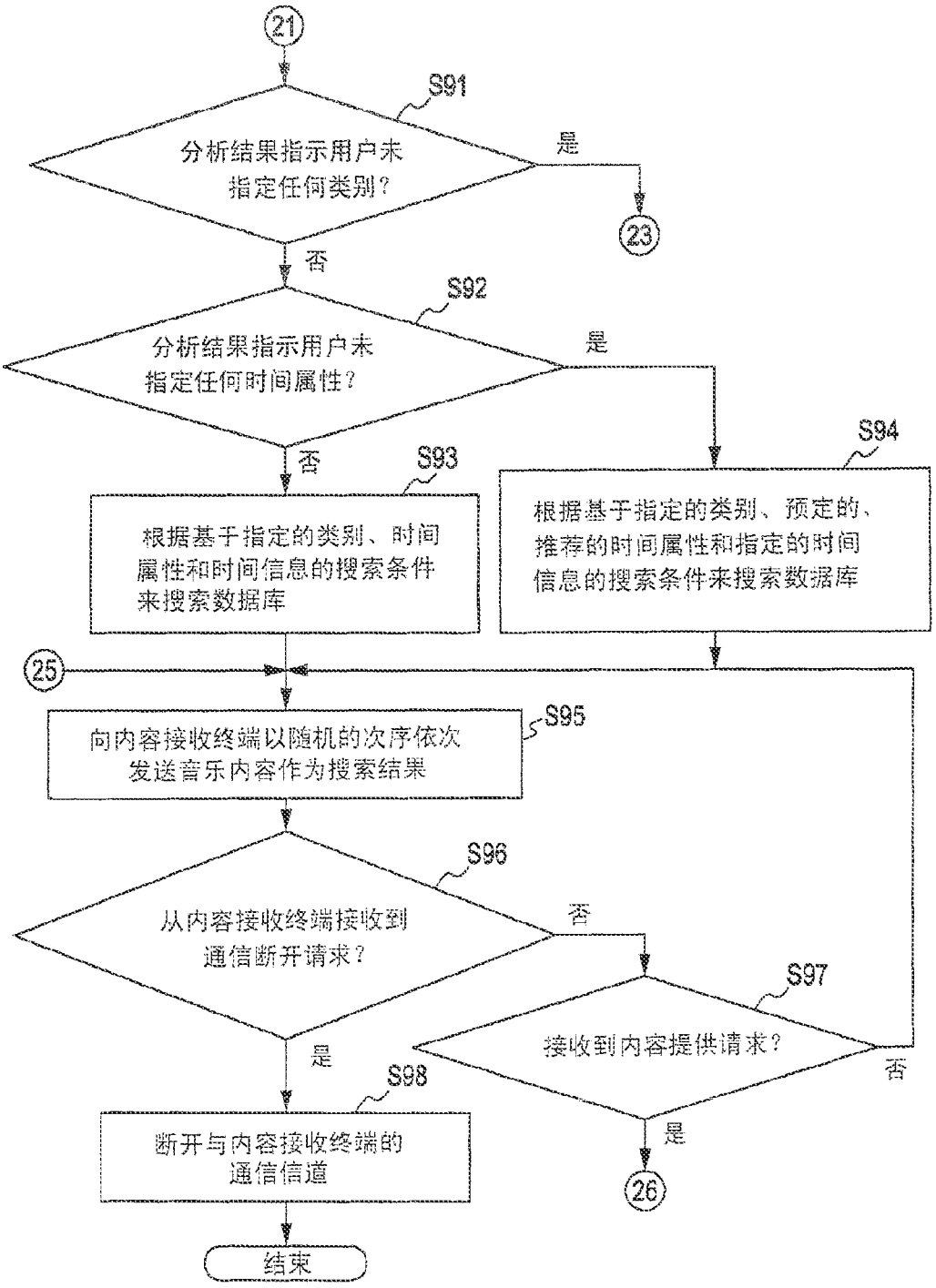

21
S91
分析结果指示用户未指定任何类别？
是
23
否
S92
分析结果指示用户未指定任何时间属性？
是
否
S93
根据基于指定的类别、时间属性和时间信息的搜索条件来搜索数据库
S94
根据基于指定的类别、预定的、推荐的时间属性和指定的时间信息的搜索条件来搜索数据库
25
S95
向内容接收终端以随机的次序依次发送音乐内容作为搜索结果
S96
从内容接收终端接收到通信断开请求？
否
S97
接收到内容提供请求？
否
是
是
S98
断开与内容接收终端的通信信道
26
结束

图 27

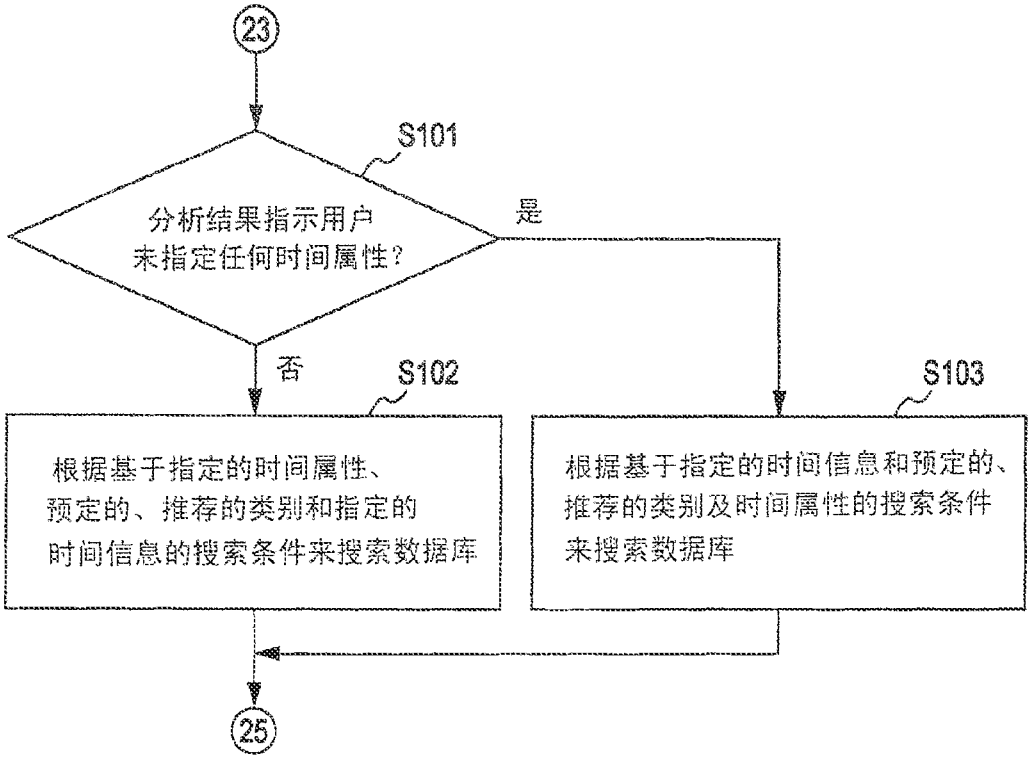

23
S101
分析结果指示用户
未指定任何时间属性?
是
否
S102
S103
根据基于指定的时间属性、
预定的、推荐的类别和指定的
时间信息的搜索条件来搜索数据库
根据基于指定的时间信息和预定的、
推荐的类别及时间属性的搜索条件
来搜索数据库
25

图 28

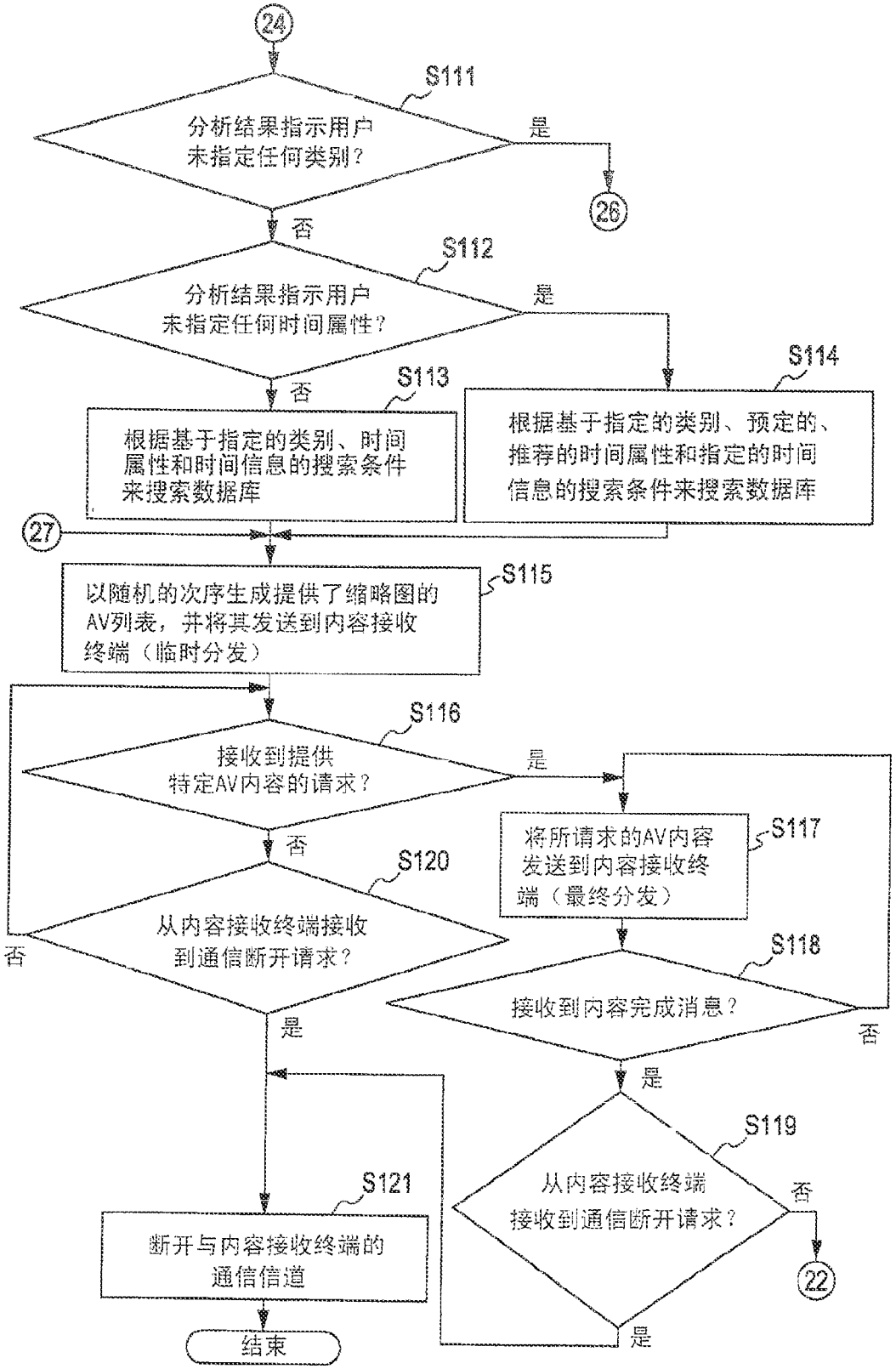

24
S111
分析结果指示用户未指定任何类别？
是
26
否
S112
分析结果指示用户未指定任何时间属性？
是
否
S113
根据基于指定的类别、时间属性和时间信息的搜索条件来搜索数据库
S114
根据基于指定的类别、预定的、推荐的时间属性和指定的时间信息的搜索条件来搜索数据库
27
S115
以随机的次序生成提供了缩略图的AV列表，并将其发送到内容接收终端（临时分发）
S116
接收到提供特定AV内容的请求？
是
否
S117
将所请求的AV内容发送到内容接收终端（最终分发）
S120
从内容接收终端接收到通信断开请求？
否
是
S118
接收到内容完成消息？
否
是
S119
从内容接收终端接收到通信断开请求？
否
22
是
S121
断开与内容接收终端的通信信道
结束

图 29

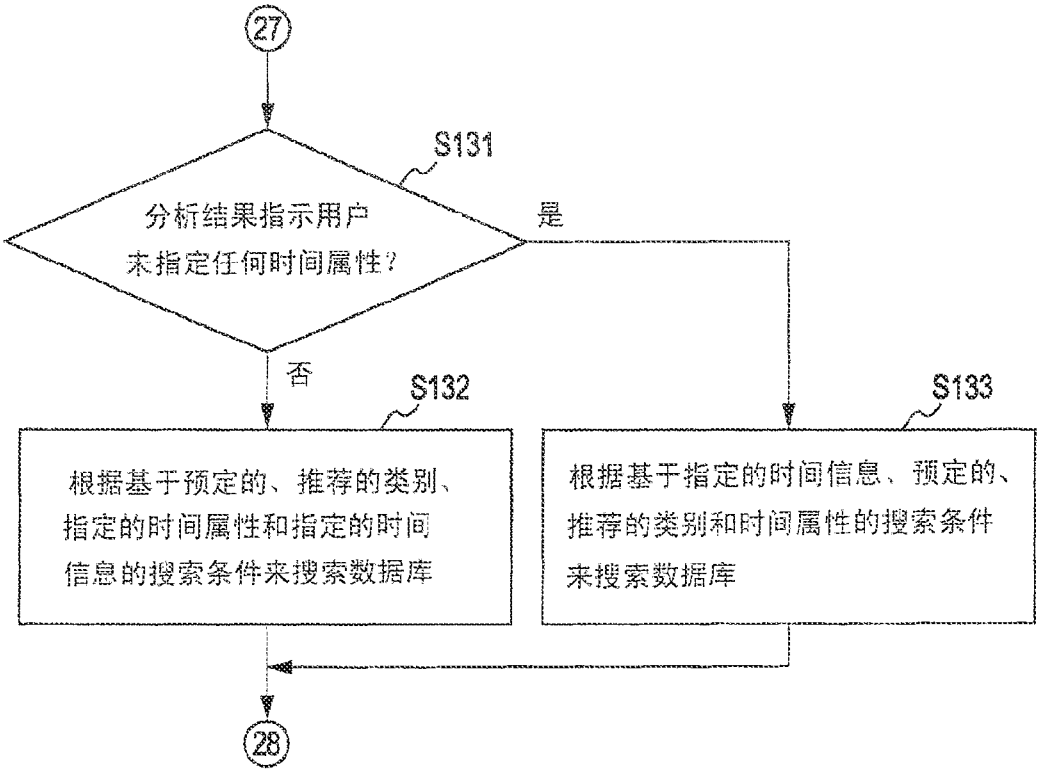
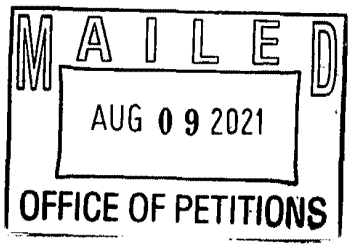

27
S131
分析结果指示用户
未指定任何时间属性?
是
否
S132
S133
根据基于预定的、推荐的类别、
指定的时间属性和指定的时间
信息的搜索条件来搜索数据库
根据基于指定的时间信息、预定的、
推荐的类别和时间属性的搜索条件
来搜索数据库
28

图 30

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701 FIFTH AVE
SUITE 5400
SEATTLE WA WASHINGTON 98104



In re Application of	:	
Thinh Tran	:	
Application No. 16/988,413	:	DECISION GRANTING PETITION
Filed: August 7, 2020	:	UNDER 37 CFR 1.313(c)(2)
Attorney Docket No. **110306.401C2**	:	

This is a decision on the petition under 37 CFR 1.313(c)(2), filed August 3, 2021, to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED**.

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). *See* 37 CFR 1.313(c)(2).

Petitioner is advised that the issue fee paid on July 20, 2021 cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.[1]

Telephone inquiries should be directed to Terri Johnson at (571) 272-2991.

This application is being referred to Technology Center AU 2145 for processing of the request for continued examination under 37 CFR 1.114 and consideration of the concurrently filed Information Disclosure Statement.

/Terri Johnson/
Terri Johnson
Paralegal Specialist
Office of Petitions

[1] *The request to apply the issue fee to the new Notice may be satisfied by completing and returning the new Part B – Fee(s) Transmittal Form (along with any balance due at the time of submission). Petitioner is advised that the Issue Fee Transmittal Form* ***must*** *be completed and timely submitted to avoid abandonment of the application.*



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Sale Accounting Date:08/11/2021

Sale Item Reference Number	Effective Date
16988413	08/04/2021

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I20218AC45540454	2806	SUBMISSION- INFORMATION DISCLOSURE STMT	$130.00	Deposit Account

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/988,413	08/07/2020	Thinh Tran	110306.401C2	9294

500 7590 08/16/2021

SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
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SEATTLE, WA 98104

EXAMINER	
BARRETT, RYAN S	

ART UNIT	PAPER NUMBER
2145	

NOTIFICATION DATE	DELIVERY MODE
08/16/2021	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOeAction@SeedIP.com
pairlinkdktg@seedip.com

Corrected ***Notice of Allowability***	**Application No.** 16/988,413	**Applicant(s)** Tran, Thinh	
	Examiner RYAN BARRETT	**Art Unit** 2145	**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 8/4/2021.
   ☐ 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 1-8,10-14 and 17-21 . 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. ☐ 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 _____.

/Ryan Barrett/
Primary Examiner, Art Unit 2145

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE **INFORMATION DISCLOSURE STATEMENT** (Use several sheets if necessary)	ATTY. DOCKET NO. 110306.401C2	APPLICATION NO. 16/988,413
	FIRST NAMED INVENTOR Thinh Tran	
	FILING DATE August 7, 2020	GROUP ART UNIT 2145

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	NAME	FILING DATE IF APPROPRIATE
	1	2012/0209902	A1	8/16/2012	Outerbridge	

FOREIGN PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	KIND CODE	DATE	COUNTRY	TRANSLATION YES	TRANSLATION NO
	1	1252573	A	5/10/2000	CN (with English abstract)		X
	2	1892880	B	6/16/2010	CN (with English abstract)		X
	3	102339202	A	2/1/2012	CN (with English abstract)		X
	4	103220396	A	7/24/2013	CN (with English abstract)		X
	5	103677415	A	3/26/2014	CN (with English abstract)		X
	6	104216651	A	12/17/2014	CN (with English abstract)		X

NON-PATENT LITERATURE DOCUMENTS *(Including Author, Title, Date, Pertinent Pages, Etc.)*

	1		

EXAMINER /Ryan Barrett/	DATE CONSIDERED 08/11/2021

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

8117512_1 August 4, 2021

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /RB/



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08/04/2021	16988413	$1,000.00

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I20218GB00260306	2820	RCE- 2ND AND SUBSEQUENT REQUEST	$1,000.00	DA	191090



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Sale Adjustment Accounting Date:08/17/2021

Effective Date	Sale Accounting Date	Sale Item Reference Number
08/04/2021	08/17/2021	16988413

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I20218GB00260306	2820	RCE- 2ND AND SUBSEQUENT REQUEST	$1,000.00	DA

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/988,413	10/05/2021	11137878	110306.401C2	9294

500 7590 09/15/2021

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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 0 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 Data Management (ODM) at (571)-272-4200.

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

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