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(12) **United States Patent**
**Grim, III et al.**

(10) **Patent No.: US 9,270,950 B2**
(45) **Date of Patent: Feb. 23, 2016**

(54) **IDENTIFYING A LOCALE FOR CONTROLLING CAPTURE OF DATA BY A DIGITAL LIFE RECORDER BASED ON LOCATION**

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(73) Assignee: **International Business Machines Corporation**, Armonk, NY (US)

( * ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1203 days.

(21) Appl. No.: **12/130,549**

(22) Filed: **May 30, 2008**

(65) **Prior Publication Data**

US 2009/0295911 A1 Dec. 3, 2009

**Related U.S. Application Data**

(63) Continuation-in-part of application No. 11/968,772, filed on Jan. 3, 2008, now Pat. No. 8,014,573.

(51) **Int. Cl.**
***H04N 7/18*** (2006.01)
***H04N 5/913*** (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ..... ***H04N 7/181*** (2013.01); ***H04N 5/913*** (2013.01); ***H04N 21/442*** (2013.01); ***H04N 21/4524*** (2013.01); ***H04N 21/4542*** (2013.01); ***H04N 21/4627*** (2013.01); ***H04N 21/8355*** (2013.01)

(58) **Field of Classification Search**
USPC ..... 709/223; 348/46–50, 61, 113–115, 348/143–159, 207.11, 211.99, 348/211.1–211.14, 231.5, 376; 340/573.1–573.4, 576, 5.1–5.3, 8.1, 340/9.1; 386/227–230, 239–241, 248, 341; 726/4, 26; 707/756
See application file for complete search history.

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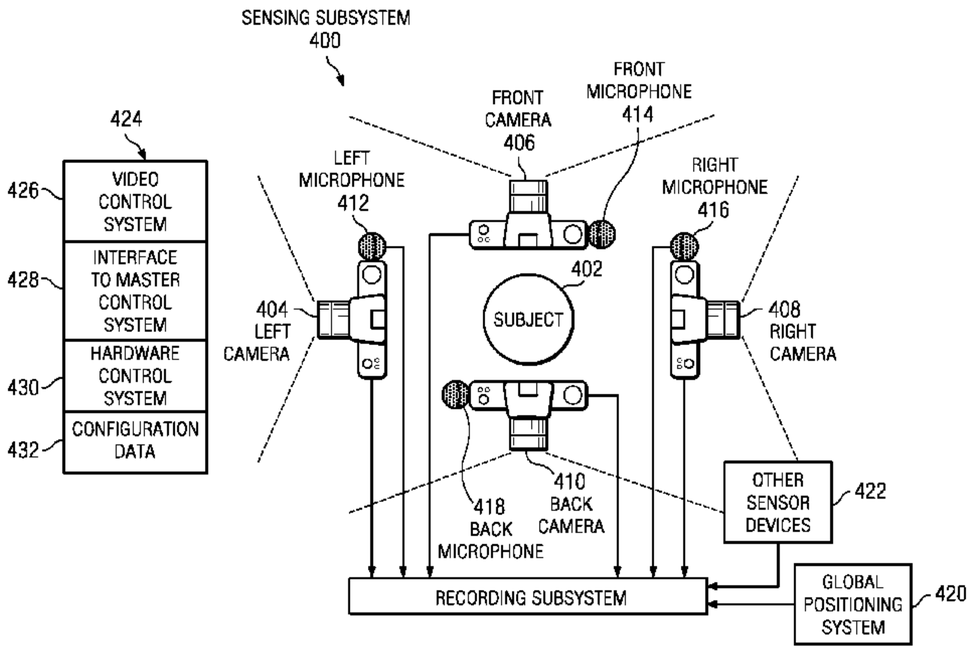
*Primary Examiner* — Greg C Bengzon
(74) *Attorney, Agent, or Firm* — Yee & Associates, P.C.; Maeve L. McCarthy

(57) **ABSTRACT**

The illustrative embodiments described herein provide a computer implemented method, apparatus, and computer program product controlling a capture of data. In one embodiment, the process identifies a location from locale identifier data to form an identified location in response to receiving the locale identifier data. The locale identifier data is associated with a location of the digital life recorder. In addition, the identified location is associated with a set of usage policies. The process then determines whether the set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the set of usage policies restricts playback of the data by a playback system. Thereafter, the process disables a set of sensors while the digital life recorder is in the presence of the locale identifier in response to determining that the set of usage policies restricts the capture of data.

**17 Claims, 25 Drawing Sheets**



(51) **Int. Cl.**

| | |
|---|---|
| ***H04N 21/442*** | (2011.01) |
| ***H04N 21/45*** | (2011.01) |
| ***H04N 21/454*** | (2011.01) |
| ***H04N 21/4627*** | (2011.01) |
| ***H04N 21/8355*** | (2011.01) |

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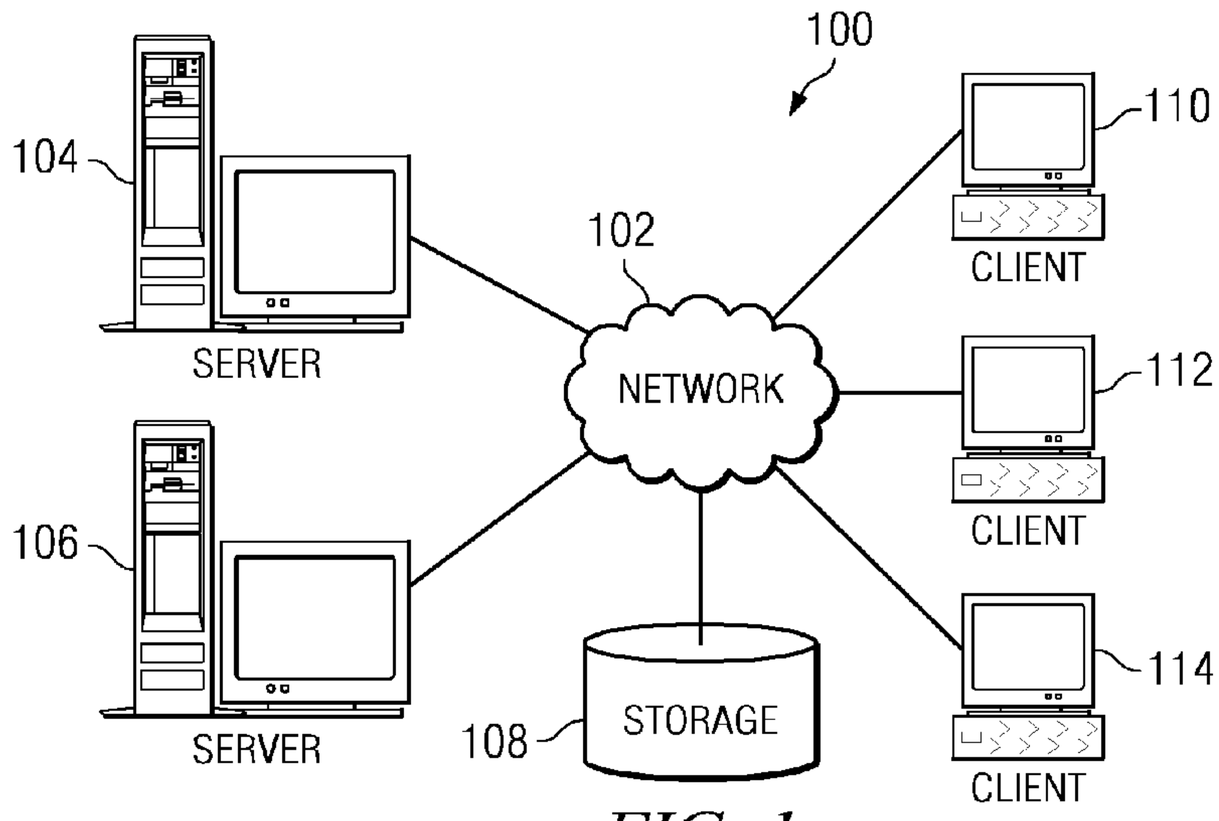
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104
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102
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110
CLIENT
112
CLIENT
106
SERVER
108
STORAGE
114
CLIENT

*FIG. 1*

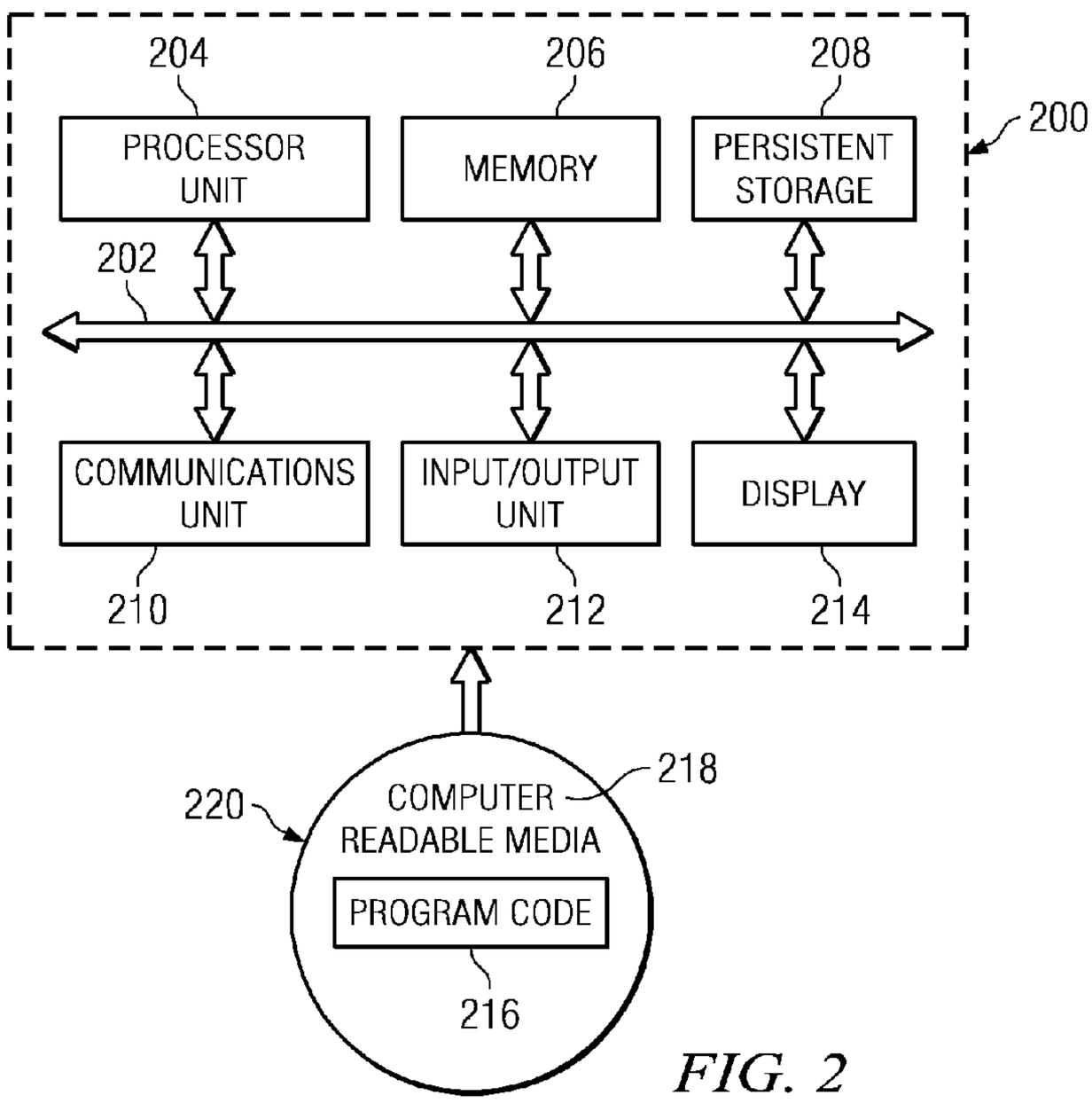

204
206
208
200
PROCESSOR UNIT
MEMORY
PERSISTENT STORAGE
202
COMMUNICATIONS UNIT
INPUT/OUTPUT UNIT
DISPLAY
210
212
214
218
220
COMPUTER READABLE MEDIA
PROGRAM CODE
216

*FIG. 2*

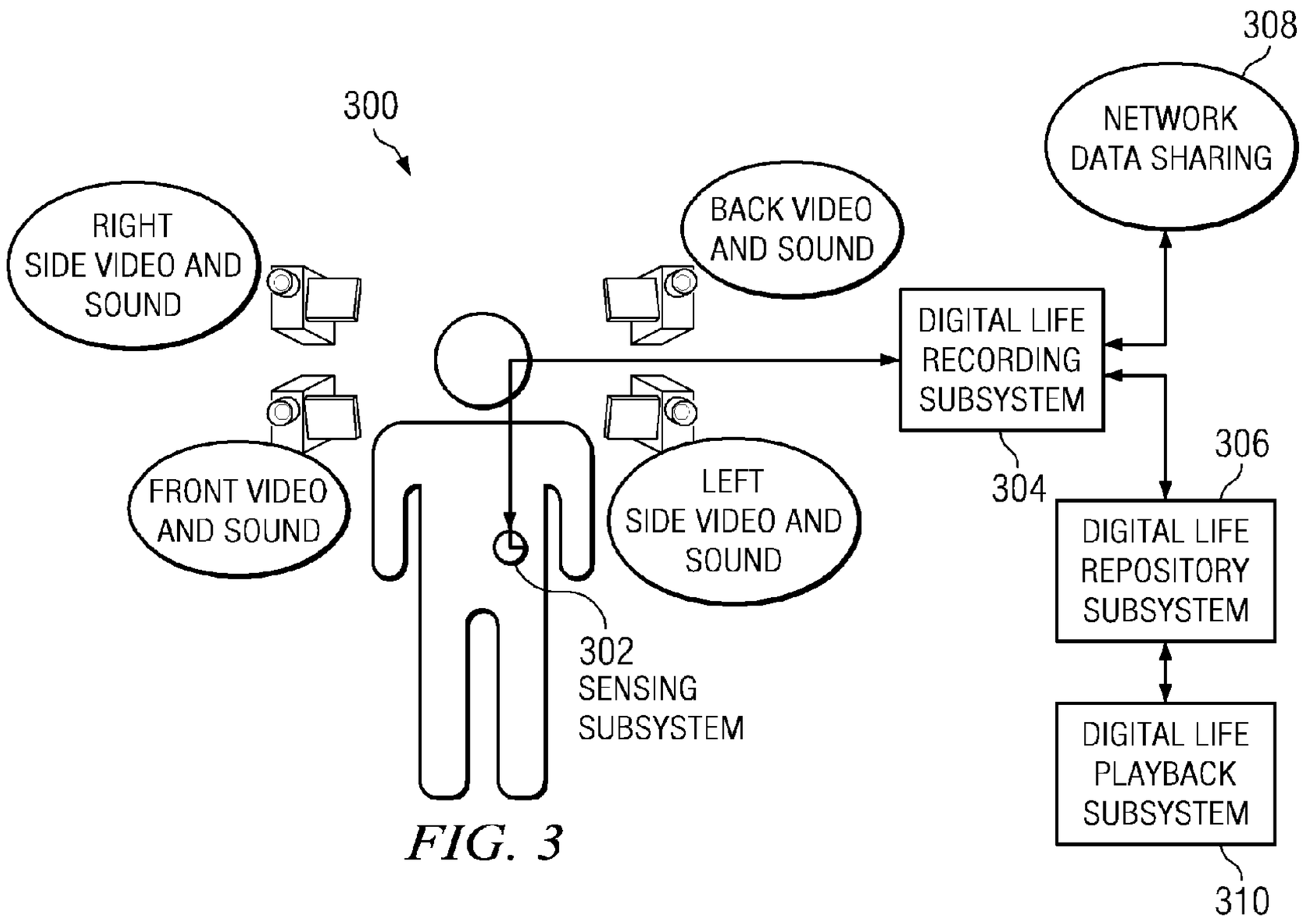

300
308
NETWORK DATA SHARING
RIGHT SIDE VIDEO AND SOUND
BACK VIDEO AND SOUND
DIGITAL LIFE RECORDING SUBSYSTEM
304
306
DIGITAL LIFE REPOSITORY SUBSYSTEM
FRONT VIDEO AND SOUND
LEFT SIDE VIDEO AND SOUND
302 SENSING SUBSYSTEM
DIGITAL LIFE PLAYBACK SUBSYSTEM
310

*FIG. 3*

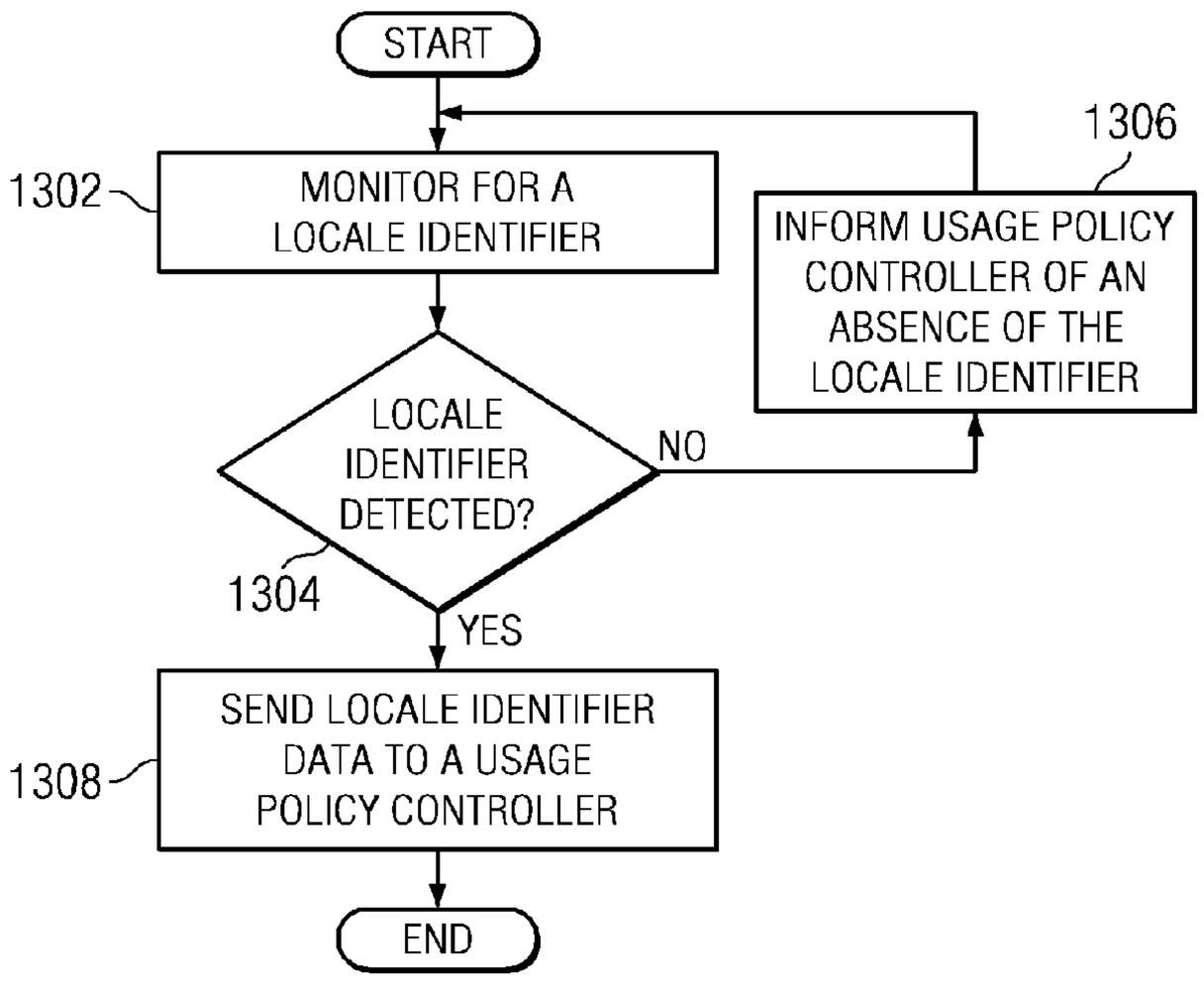

START
1306
1302
MONITOR FOR A LOCALE IDENTIFIER
INFORM USAGE POLICY CONTROLLER OF AN ABSENCE OF THE LOCALE IDENTIFIER
LOCALE IDENTIFIER DETECTED?
NO
1304
YES
SEND LOCALE IDENTIFIER DATA TO A USAGE POLICY CONTROLLER
1308
END

*FIG. 13*

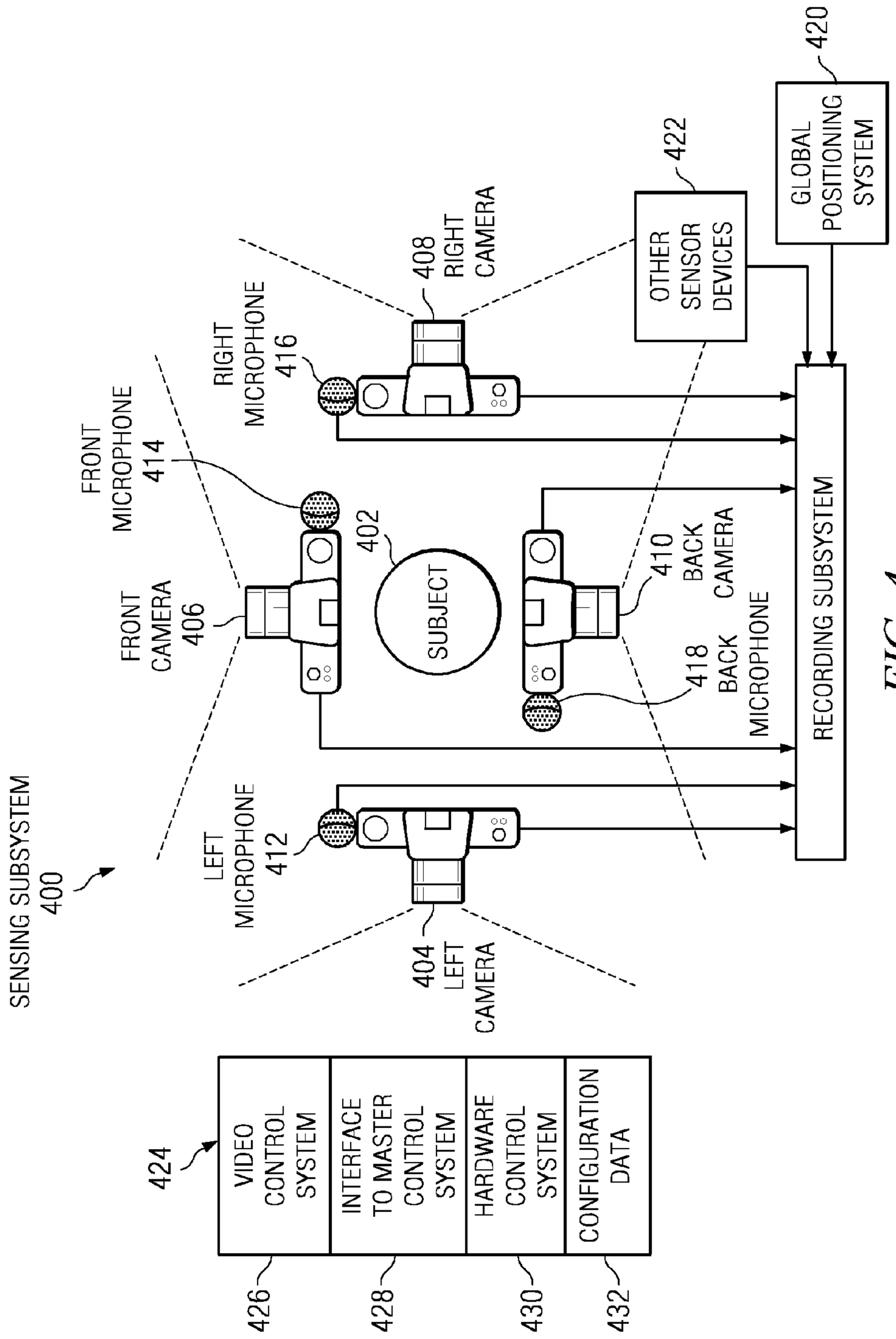

SENSING SUBSYSTEM
400
LEFT MICROPHONE
412
LEFT CAMERA
404
FRONT CAMERA
406
FRONT MICROPHONE
414
RIGHT MICROPHONE
416
RIGHT CAMERA
408
SUBJECT
402
BACK CAMERA
410
BACK MICROPHONE
418
OTHER SENSOR DEVICES
422
GLOBAL POSITIONING SYSTEM
420
RECORDING SUBSYSTEM
C
424
VIDEO CONTROL SYSTEM
INTERFACE TO MASTER CONTROL SYSTEM
HARDWARE CONTROL SYSTEM
CONFIGURATION DATA
426
428
430
432

*FIG. 4*

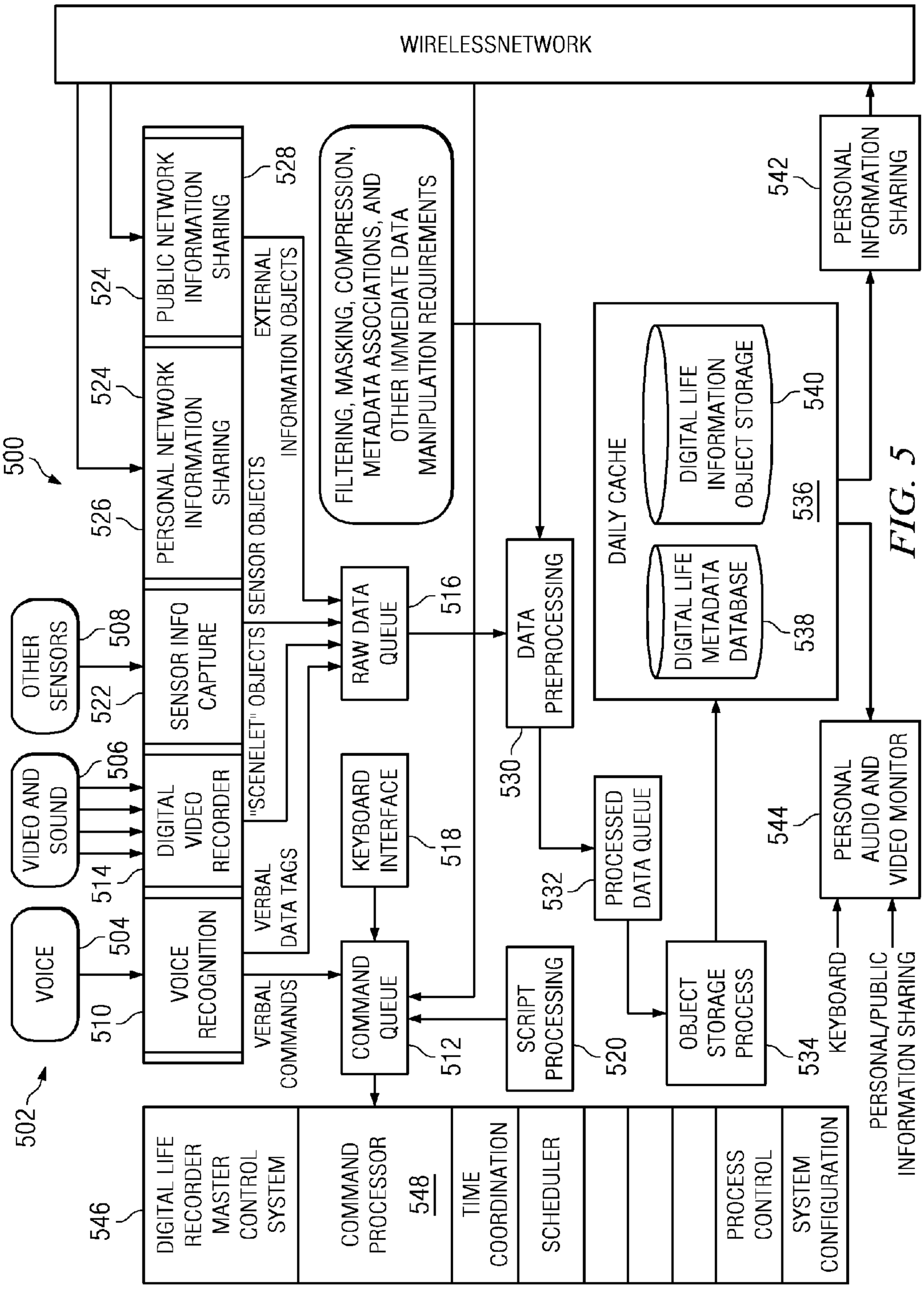

WIRELESSNETWORK
500
502
VOICE
504
VIDEO AND SOUND
506
OTHER SENSORS
508
VOICE RECOGNITION
510
DIGITAL VIDEO RECORDER
514
SENSOR INFO CAPTURE
522
PERSONAL NETWORK INFORMATION SHARING
524
526
PUBLIC NETWORK INFORMATION SHARING
528
VERBAL DATA TAGS
"SCENELET" OBJECTS
SENSOR OBJECTS
EXTERNAL INFORMATION OBJECTS
VERBAL COMMANDS
KEYBOARD INTERFACE
518
COMMAND QUEUE
512
RAW DATA QUEUE
516
FILTERING, MASKING, COMPRESSION, METADATA ASSOCIATIONS, AND OTHER IMMEDIATE DATA MANIPULATION REQUIREMENTS
DATA PREPROCESSING
530
SCRIPT PROCESSING
520
PROCESSED DATA QUEUE
532
DAILY CACHE
DIGITAL LIFE INFORMATION OBJECT STORAGE
540
536
DIGITAL LIFE METADATA DATABASE
538
OBJECT STORAGE PROCESS
534
542
PERSONAL INFORMATION SHARING
544
PERSONAL AUDIO AND VIDEO MONITOR
KEYBOARD
PERSONAL/PUBLIC INFORMATION SHARING
546
DIGITAL LIFE RECORDER MASTER CONTROL SYSTEM
COMMAND PROCESSOR
548
TIME COORDINATION
SCHEDULER
PROCESS CONTROL
SYSTEM CONFIGURATION

*FIG. 5*

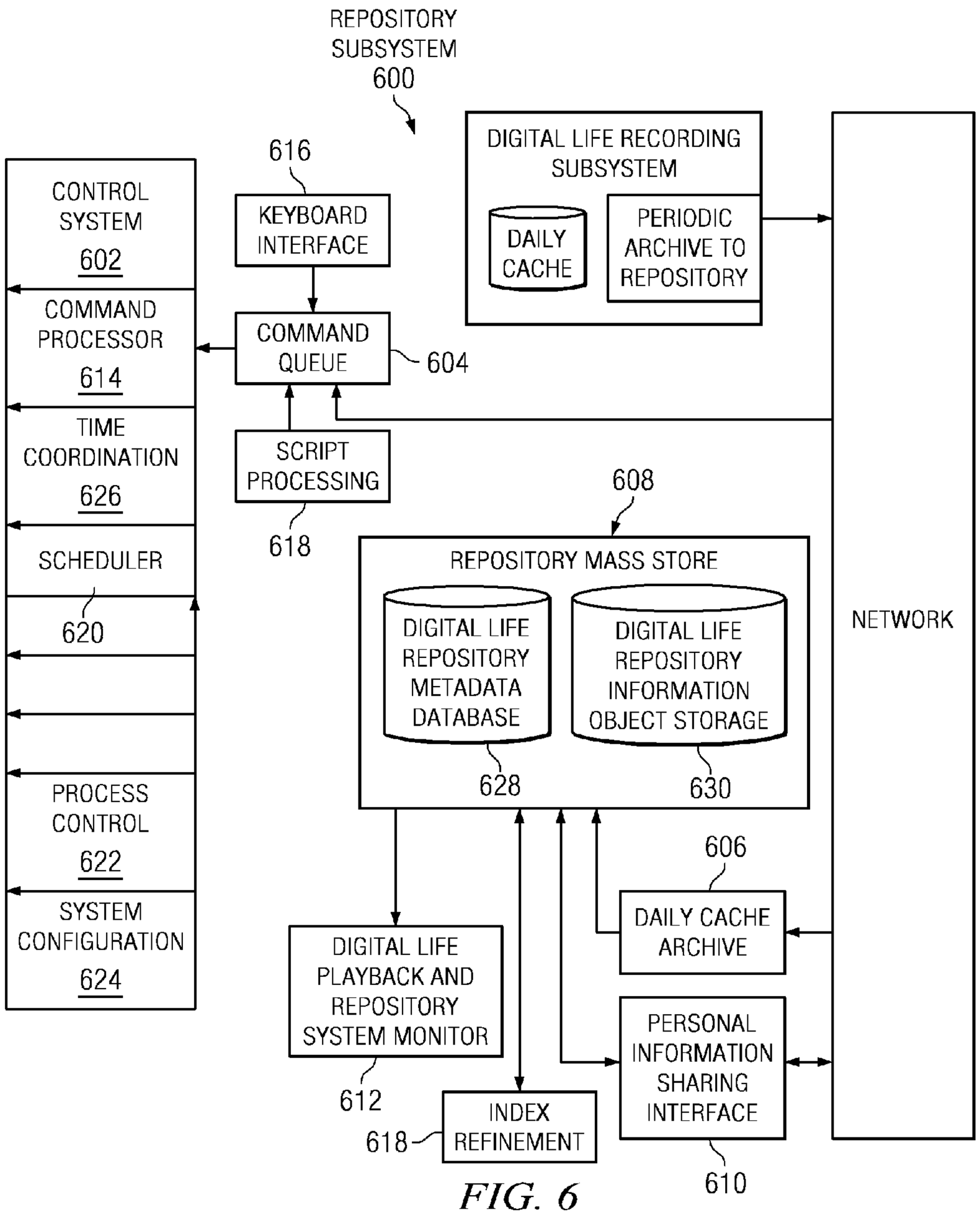
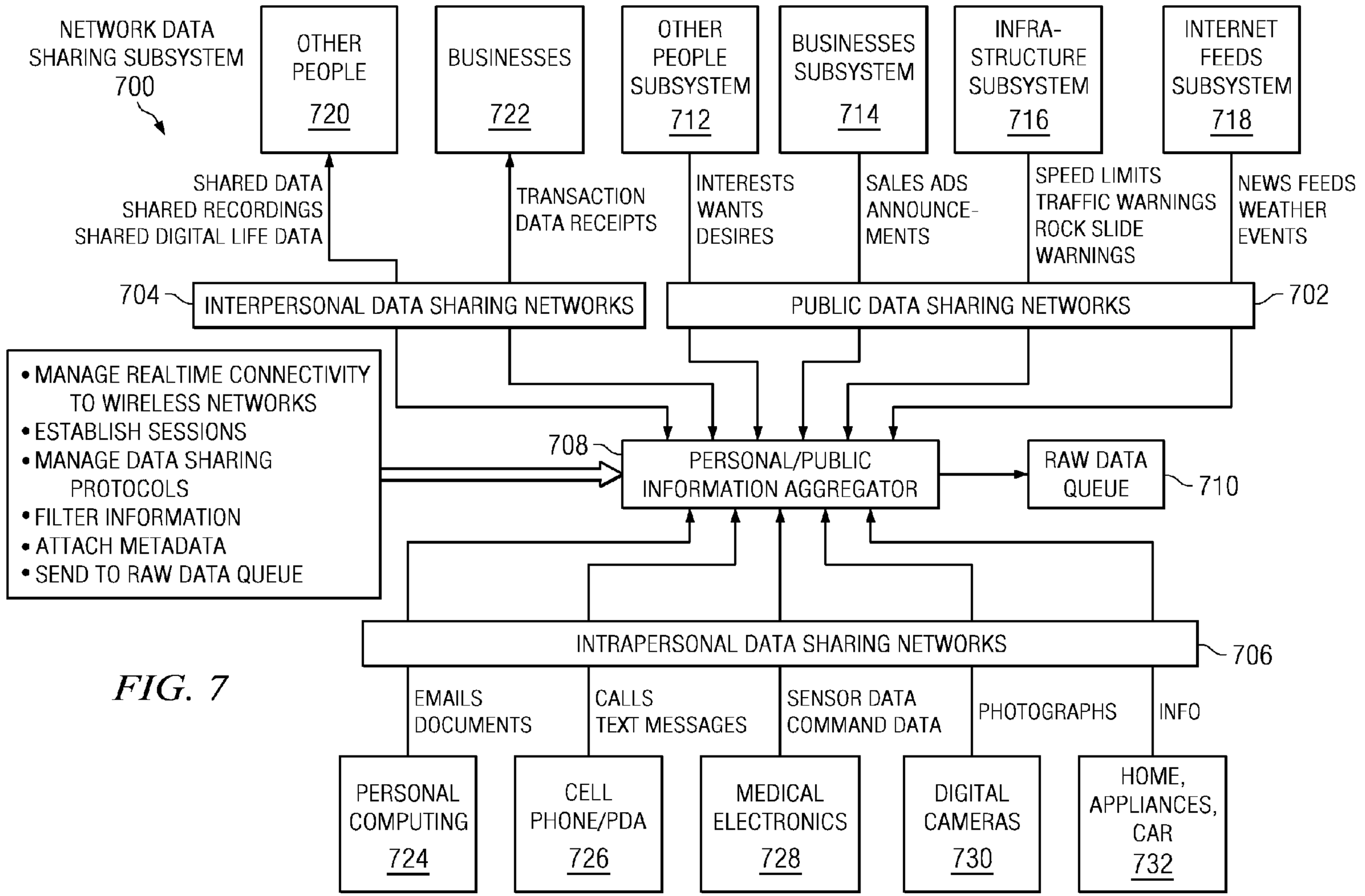

REPOSITORY SUBSYSTEM 600
616
KEYBOARD INTERFACE
DIGITAL LIFE RECORDING SUBSYSTEM
DAILY CACHE
PERIODIC ARCHIVE TO REPOSITORY
CONTROL SYSTEM 602
COMMAND PROCESSOR 614
COMMAND QUEUE
604
TIME COORDINATION 626
SCRIPT PROCESSING
618
608
SCHEDULER
620
REPOSITORY MASS STORE
DIGITAL LIFE REPOSITORY METADATA DATABASE
DIGITAL LIFE REPOSITORY INFORMATION OBJECT STORAGE
628
630
NETWORK
PROCESS CONTROL 622
SYSTEM CONFIGURATION 624
606
DAILY CACHE ARCHIVE
DIGITAL LIFE PLAYBACK AND REPOSITORY SYSTEM MONITOR
612
INDEX REFINEMENT
618
PERSONAL INFORMATION SHARING INTERFACE
610

*FIG. 6*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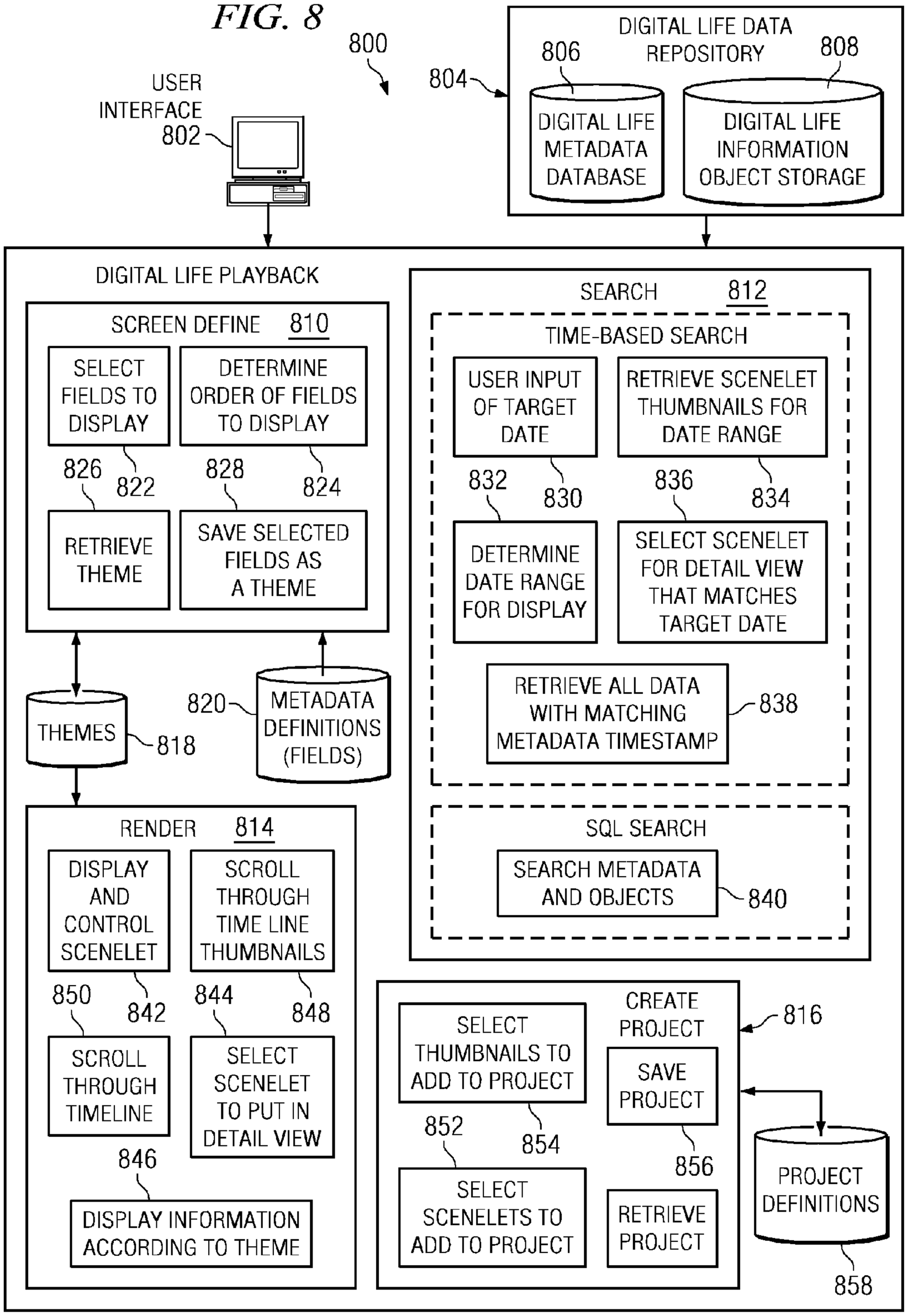
OTHER PEOPLE 720
BUSINESSES 722
OTHER PEOPLE SUBSYSTEM 712
BUSINESSES SUBSYSTEM 714
INFRA-STRUCTURE SUBSYSTEM 716
INTERNET FEEDS SUBSYSTEM 718
SHARED DATA
SHARED RECORDINGS
SHARED DIGITAL LIFE DATA
TRANSACTION DATA RECEIPTS
INTERESTS
WANTS
DESIRES
SALES ADS
ANNOUNCE-MENTS
SPEED LIMITS
TRAFFIC WARNINGS
ROCK SLIDE WARNINGS
NEWS FEEDS
WEATHER
EVENTS
704
INTERPERSONAL DATA SHARING NETWORKS
PUBLIC DATA SHARING NETWORKS
702
• MANAGE REALTIME CONNECTIVITY TO WIRELESS NETWORKS
• ESTABLISH SESSIONS
• MANAGE DATA SHARING PROTOCOLS
• FILTER INFORMATION
• ATTACH METADATA
• SEND TO RAW DATA QUEUE
708
PERSONAL/PUBLIC INFORMATION AGGREGATOR
RAW DATA QUEUE
710
INTRAPERSONAL DATA SHARING NETWORKS
706
EMAILS
DOCUMENTS
CALLS
TEXT MESSAGES
SENSOR DATA
COMMAND DATA
PHOTOGRAPHS
INFO
PERSONAL COMPUTING 724
CELL PHONE/PDA 726
MEDICAL ELECTRONICS 728
DIGITAL CAMERAS 730
HOME, APPLIANCES, CAR 732

*FIG. 7*

*FIG. 8*


800
804
DIGITAL LIFE DATA REPOSITORY
806
808
DIGITAL LIFE METADATA DATABASE
DIGITAL LIFE INFORMATION OBJECT STORAGE
USER INTERFACE
802
DIGITAL LIFE PLAYBACK
SCREEN DEFINE 810
SELECT FIELDS TO DISPLAY
DETERMINE ORDER OF FIELDS TO DISPLAY
826
822
828
824
RETRIEVE THEME
SAVE SELECTED FIELDS AS A THEME
THEMES
818
820
METADATA DEFINITIONS (FIELDS)
RENDER 814
DISPLAY AND CONTROL SCENELET
SCROLL THROUGH TIME LINE THUMBNAILS
850
842
844
848
SCROLL THROUGH TIMELINE
SELECT SCENELET TO PUT IN DETAIL VIEW
846
DISPLAY INFORMATION ACCORDING TO THEME
SEARCH 812
TIME-BASED SEARCH
USER INPUT OF TARGET DATE
RETRIEVE SCENELET THUMBNAILS FOR DATE RANGE
832
830
836
834
DETERMINE DATE RANGE FOR DISPLAY
SELECT SCENELET FOR DETAIL VIEW THAT MATCHES TARGET DATE
RETRIEVE ALL DATA WITH MATCHING METADATA TIMESTAMP
838
SQL SEARCH
SEARCH METADATA AND OBJECTS
840
CREATE PROJECT
816
SELECT THUMBNAILS TO ADD TO PROJECT
SAVE PROJECT
852
854
856
SELECT SCENELETS TO ADD TO PROJECT
RETRIEVE PROJECT
PROJECT DEFINITIONS
858

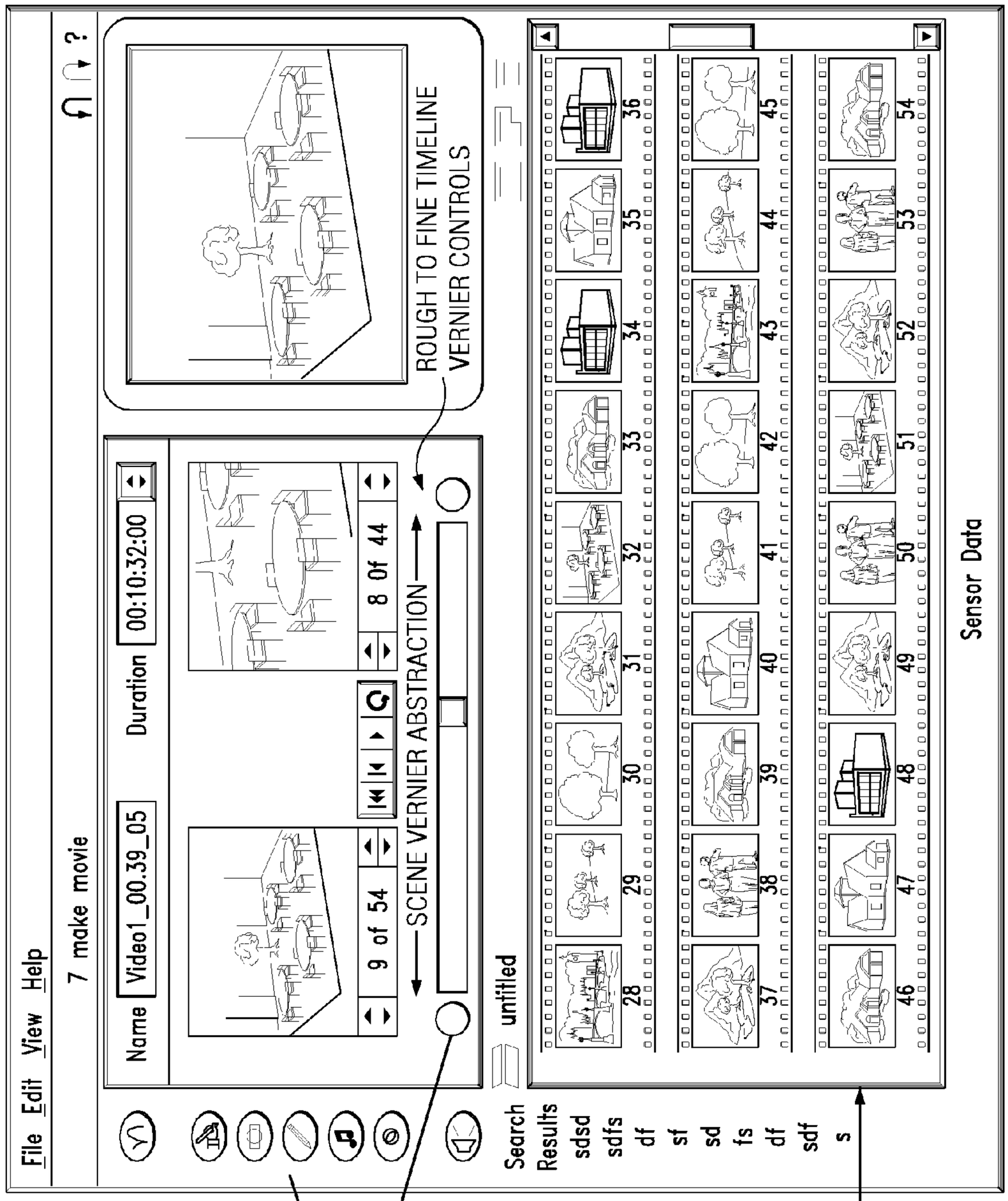

File Edit View Help
7 make movie
Name Video1_00.39_05
Duration 00:10:32:00
9 of 54
8 Of 44
SCENE VERNIER ABSTRACTION
ROUGH TO FINE TIMELINE VERNIER CONTROLS
untitled
Search Results
sdsd
sdfs
df
sf
sd
fs
df
sdf
s
Sensor Data
900
904
DIGITAL LIFE DATA REPOSITORY
DIGITAL LIFE METADATA DATABASE
906
908
DIGITAL LIFE INFORMATION OBJECT STORAGE
SCENELETS
PLAYBACK SUBSYSTEM
902
STREAM VIDEO AND SOUND

*FIG. 9*

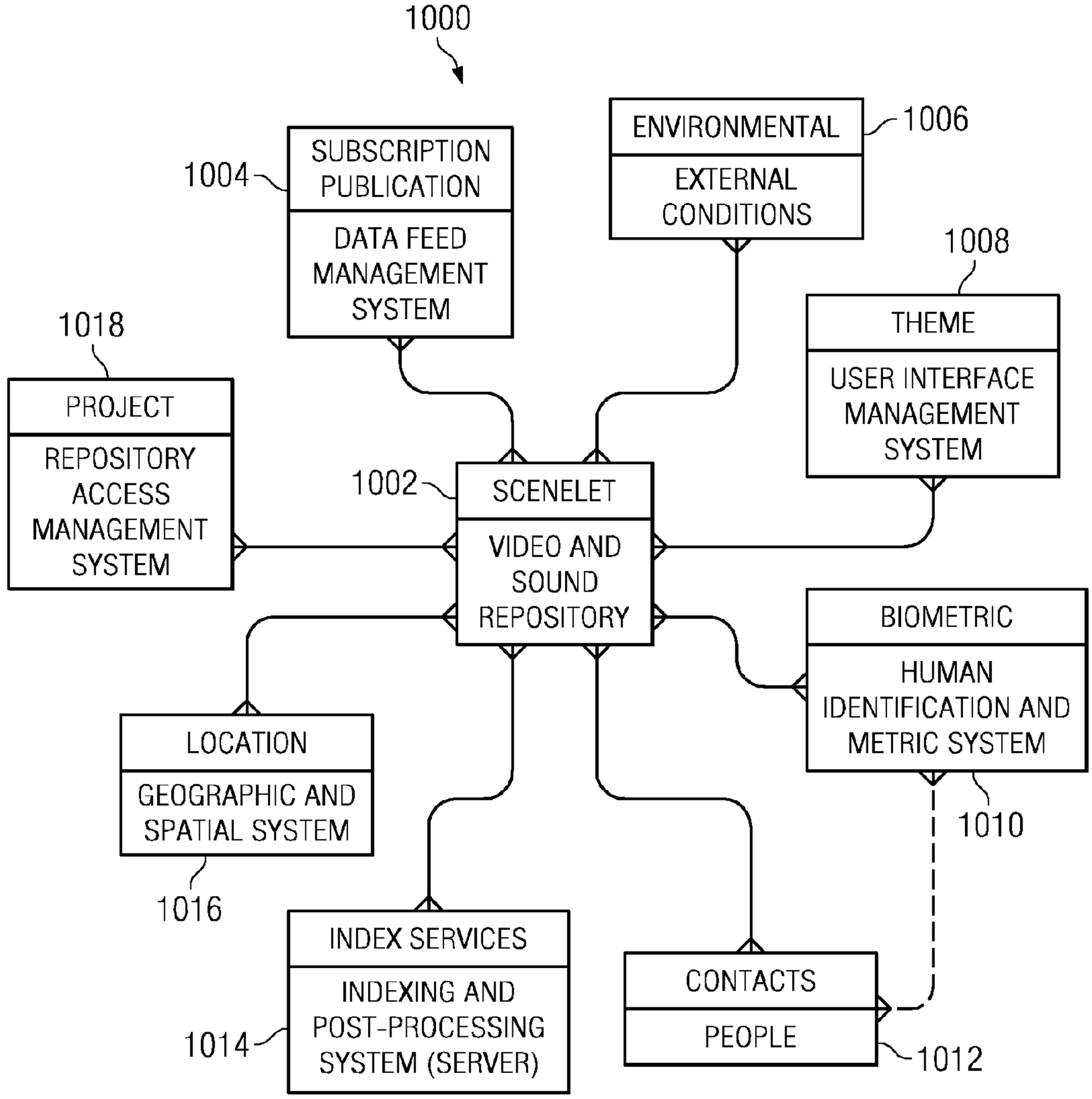

1000
SUBSCRIPTION PUBLICATION
DATA FEED MANAGEMENT SYSTEM
1004
ENVIRONMENTAL
EXTERNAL CONDITIONS
1006
1008
THEME
USER INTERFACE MANAGEMENT SYSTEM
1018
PROJECT
REPOSITORY ACCESS MANAGEMENT SYSTEM
1002
SCENELET
VIDEO AND SOUND REPOSITORY
BIOMETRIC
HUMAN IDENTIFICATION AND METRIC SYSTEM
1010
LOCATION
GEOGRAPHIC AND SPATIAL SYSTEM
1016
INDEX SERVICES
INDEXING AND POST-PROCESSING SYSTEM (SERVER)
1014
CONTACTS
PEOPLE
1012

*FIG. 10*

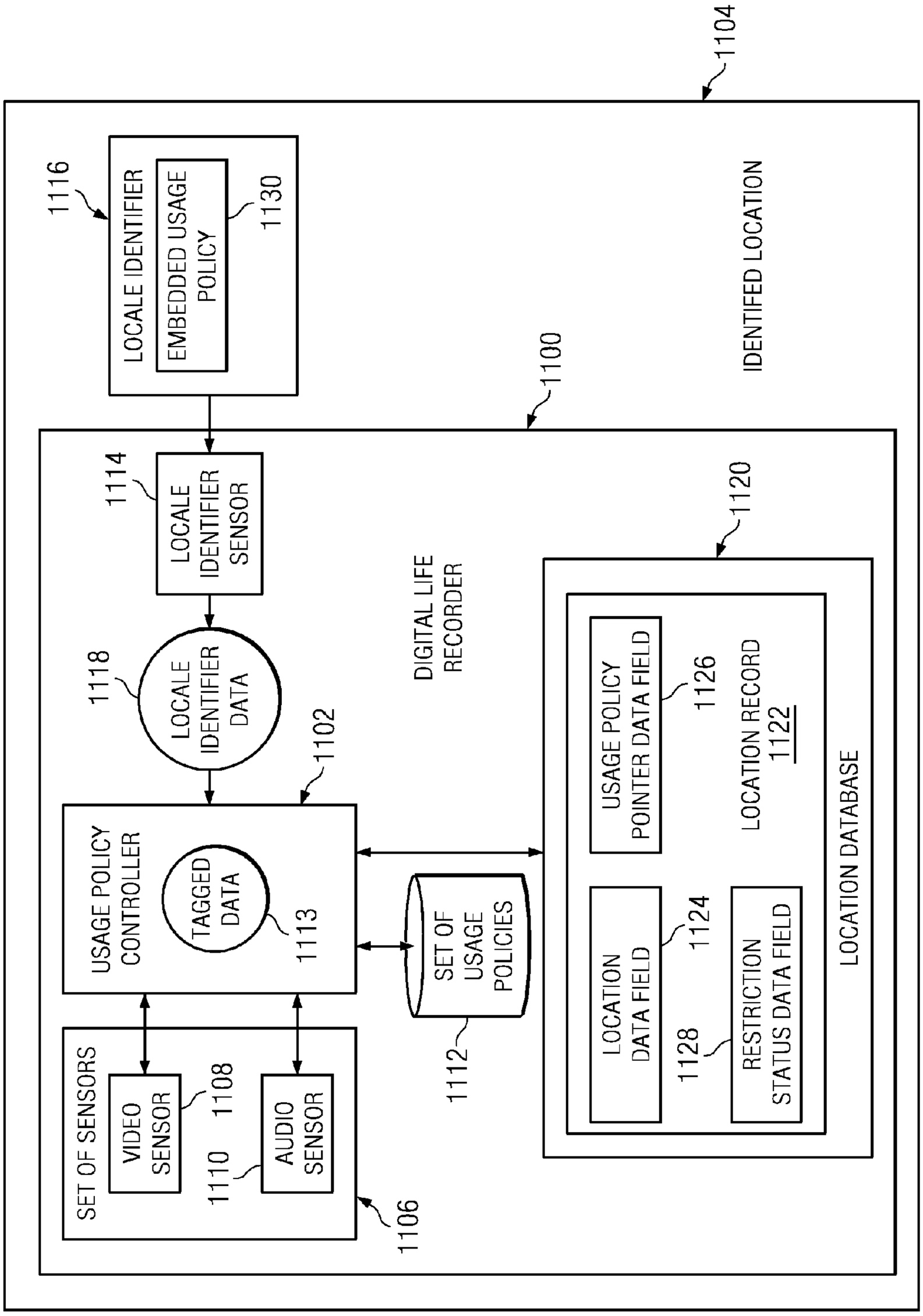

1104
1116
LOCALE IDENTIFIER
EMBEDDED USAGE POLICY
1130
1100
IDENTIFED LOCATION
1114
LOCALE IDENTIFIER SENSOR
1120
1118
LOCALE IDENTIFIER DATA
DIGITAL LIFE RECORDER
1102
USAGE POLICY CONTROLLER
TAGGED DATA
1113
USAGE POLICY POINTER DATA FIELD
1126
LOCATION RECORD
1122
SET OF USAGE POLICIES
1112
LOCATION DATA FIELD
1124
1128
RESTRICTION STATUS DATA FIELD
LOCATION DATABASE
SET OF SENSORS
VIDEO SENSOR
1108
1110
AUDIO SENSOR
1106

*FIG. 11*

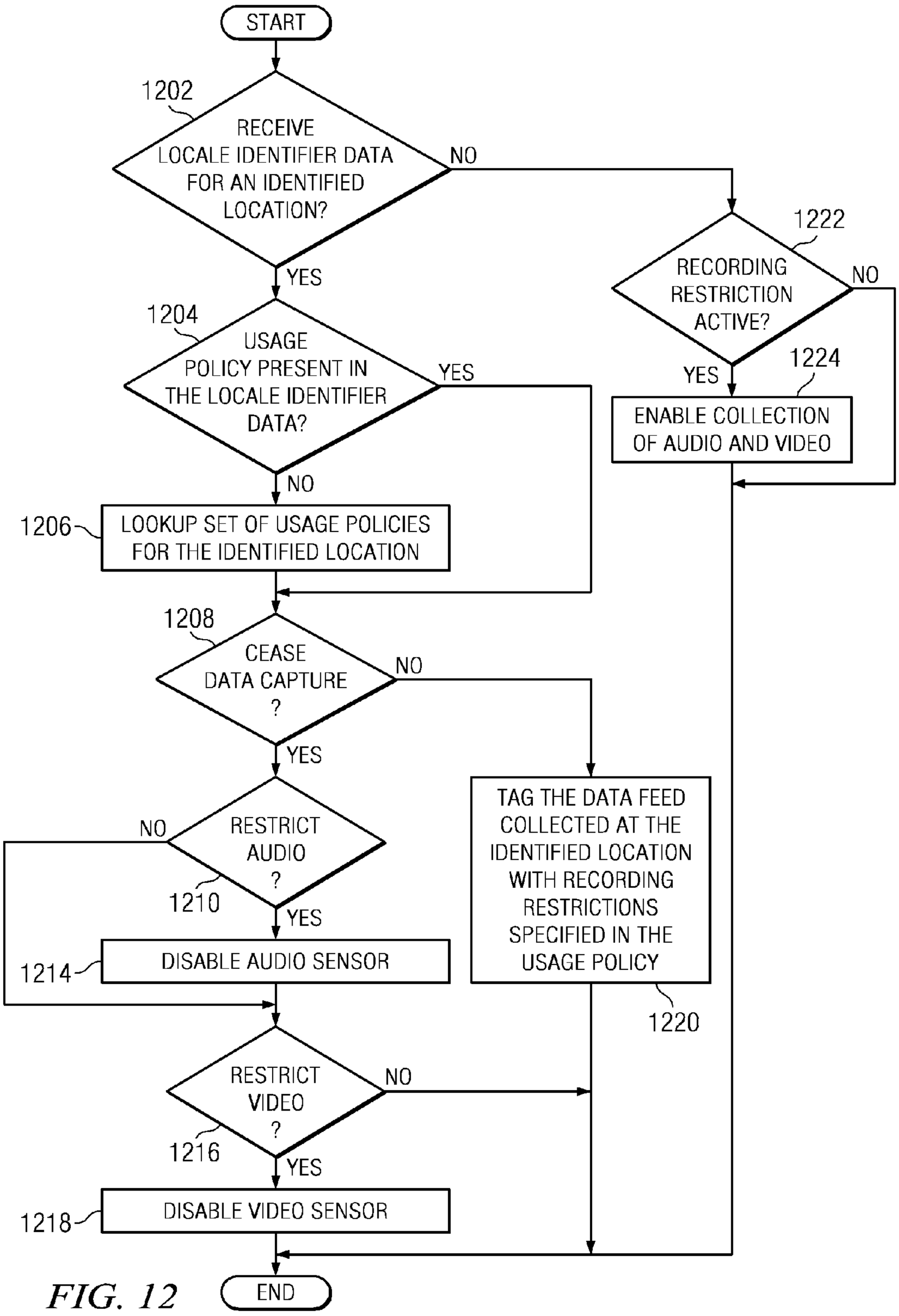

START
1202
RECEIVE LOCALE IDENTIFIER DATA FOR AN IDENTIFIED LOCATION?
NO
YES
1204
USAGE POLICY PRESENT IN THE LOCALE IDENTIFIER DATA?
YES
NO
1206
LOOKUP SET OF USAGE POLICIES FOR THE IDENTIFIED LOCATION
1208
CEASE DATA CAPTURE ?
NO
YES
NO
RESTRICT AUDIO ?
1210
YES
1214
DISABLE AUDIO SENSOR
RESTRICT VIDEO ?
NO
1216
YES
1218
DISABLE VIDEO SENSOR
TAG THE DATA FEED COLLECTED AT THE IDENTIFIED LOCATION WITH RECORDING RESTRICTIONS SPECIFIED IN THE USAGE POLICY
1220
1222
RECORDING RESTRICTION ACTIVE?
NO
YES
1224
ENABLE COLLECTION OF AUDIO AND VIDEO
END

*FIG. 12*

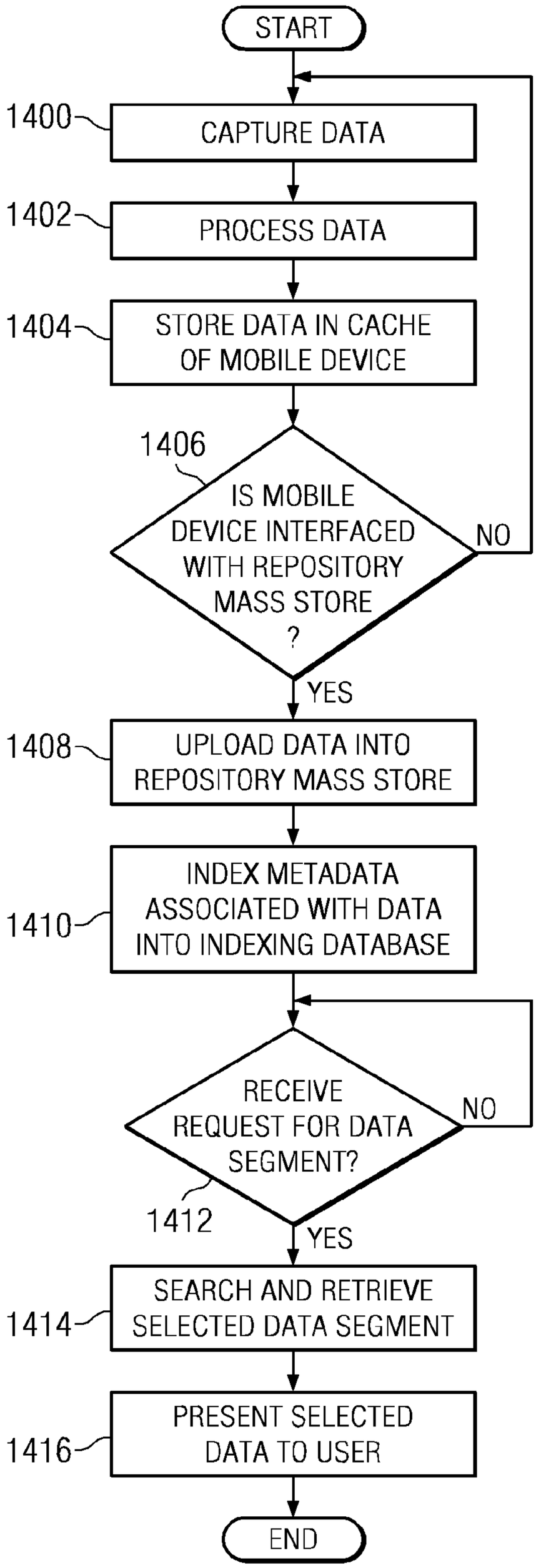

START
1400
CAPTURE DATA
1402
PROCESS DATA
1404
STORE DATA IN CACHE OF MOBILE DEVICE
1406
IS MOBILE DEVICE INTERFACED WITH REPOSITORY MASS STORE ?
NO
YES
1408
UPLOAD DATA INTO REPOSITORY MASS STORE
1410
INDEX METADATA ASSOCIATED WITH DATA INTO INDEXING DATABASE
RECEIVE REQUEST FOR DATA SEGMENT?
NO
1412
YES
1414
SEARCH AND RETRIEVE SELECTED DATA SEGMENT
1416
PRESENT SELECTED DATA TO USER
END

*FIG. 14*

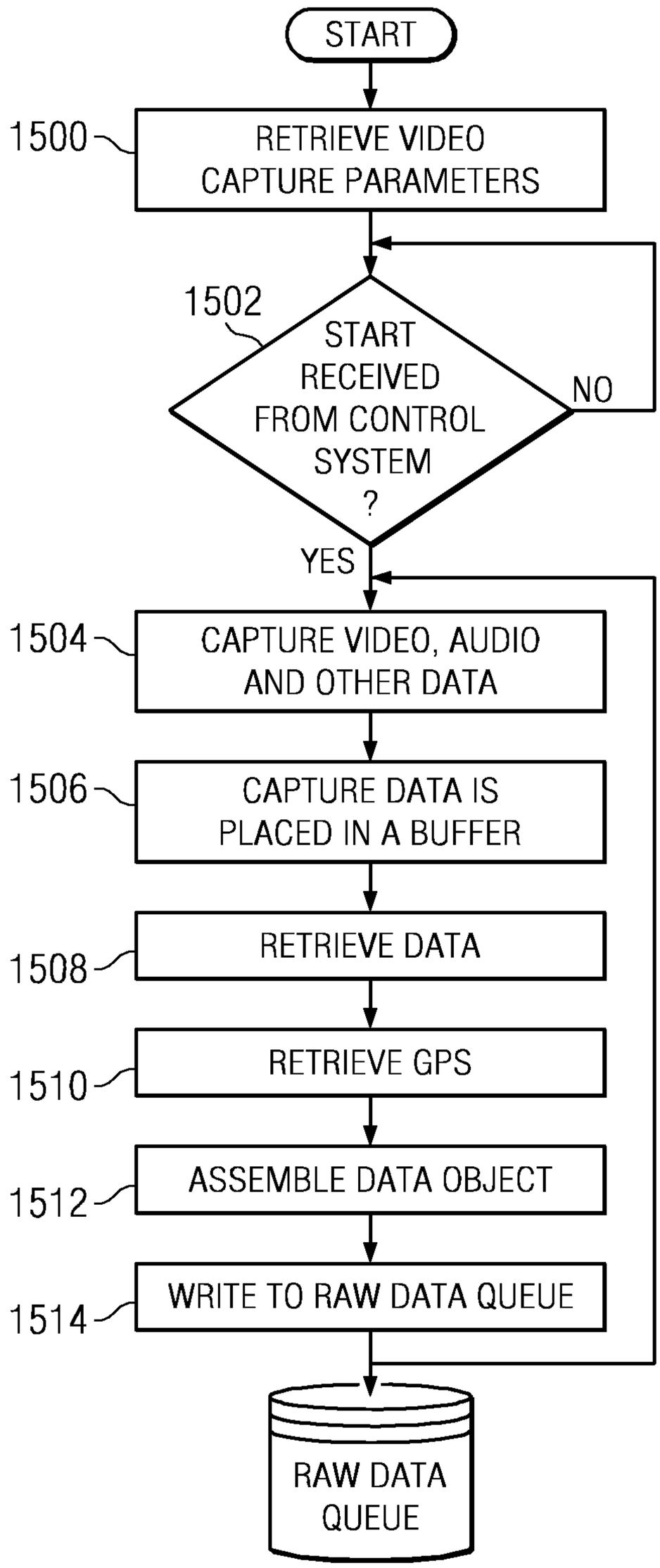

START
1500
RETRIEVE VIDEO CAPTURE PARAMETERS
1502
START RECEIVED FROM CONTROL SYSTEM ?
NO
YES
1504
CAPTURE VIDEO, AUDIO AND OTHER DATA
1506
CAPTURE DATA IS PLACED IN A BUFFER
1508
RETRIEVE DATA
1510
RETRIEVE GPS
1512
ASSEMBLE DATA OBJECT
1514
WRITE TO RAW DATA QUEUE
RAW DATA QUEUE

*FIG. 15*

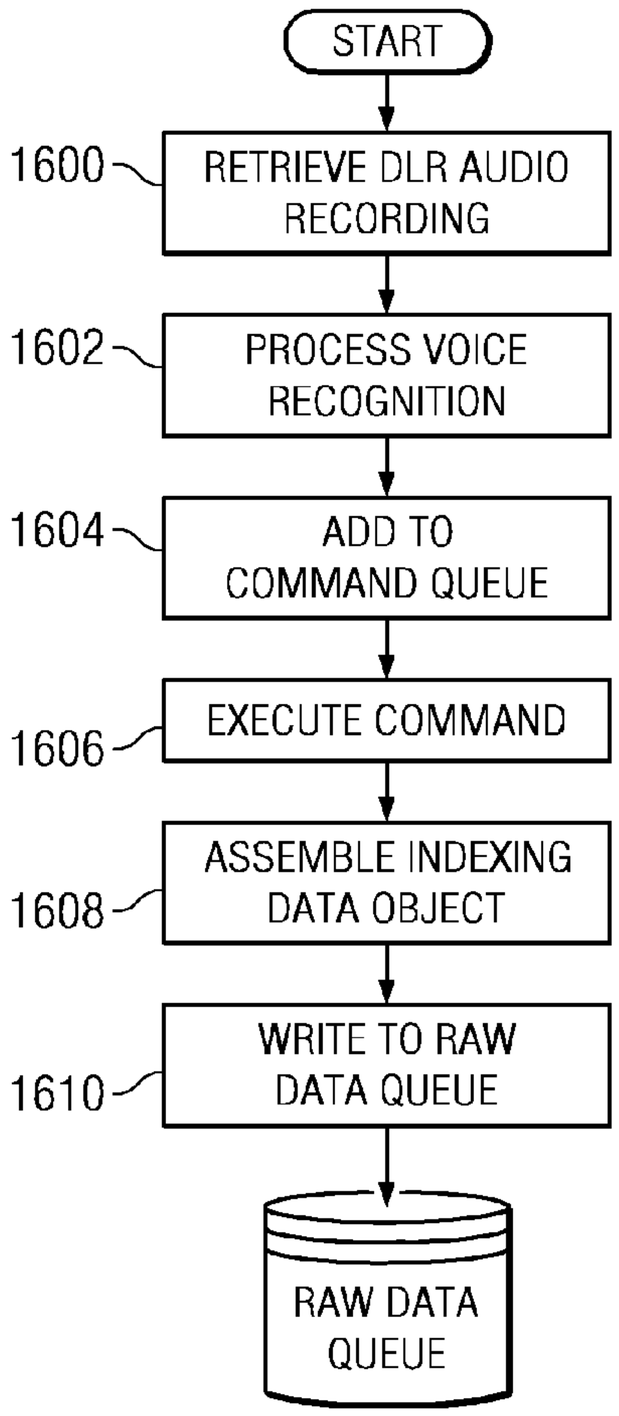

START
1600
RETRIEVE DLR AUDIO RECORDING
1602
PROCESS VOICE RECOGNITION
1604
ADD TO COMMAND QUEUE
1606
EXECUTE COMMAND
1608
ASSEMBLE INDEXING DATA OBJECT
1610
WRITE TO RAW DATA QUEUE
RAW DATA QUEUE

*FIG. 16*

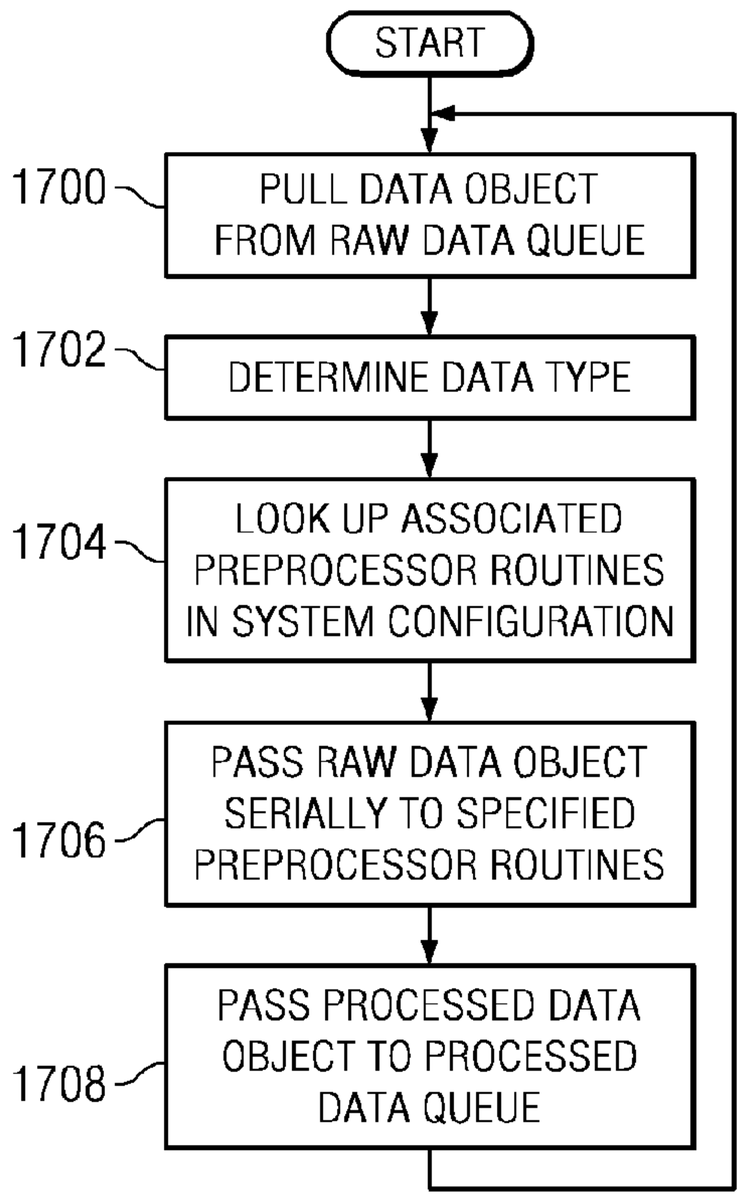

START
1700
PULL DATA OBJECT FROM RAW DATA QUEUE
1702
DETERMINE DATA TYPE
1704
LOOK UP ASSOCIATED PREPROCESSOR ROUTINES IN SYSTEM CONFIGURATION
1706
PASS RAW DATA OBJECT SERIALLY TO SPECIFIED PREPROCESSOR ROUTINES
1708
PASS PROCESSED DATA OBJECT TO PROCESSED DATA QUEUE

*FIG. 17*

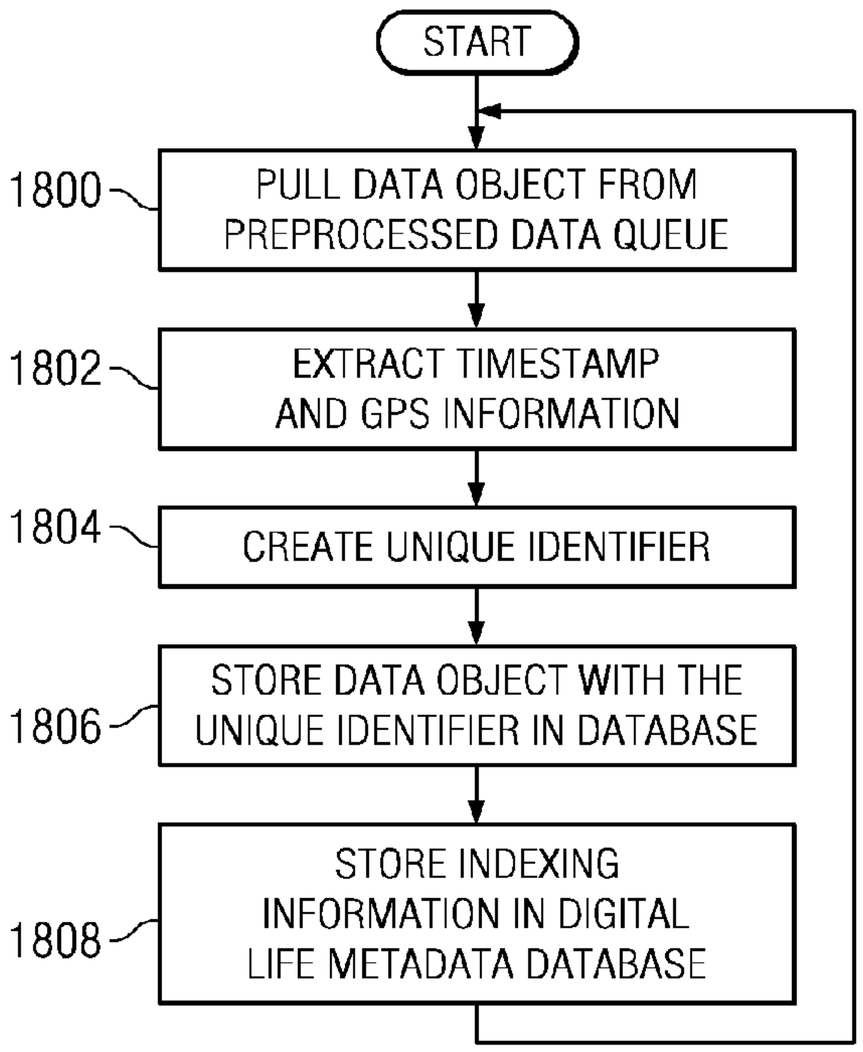

START
1800
PULL DATA OBJECT FROM PREPROCESSED DATA QUEUE
1802
EXTRACT TIMESTAMP AND GPS INFORMATION
1804
CREATE UNIQUE IDENTIFIER
1806
STORE DATA OBJECT WITH THE UNIQUE IDENTIFIER IN DATABASE
1808
STORE INDEXING INFORMATION IN DIGITAL LIFE METADATA DATABASE

*FIG. 18*

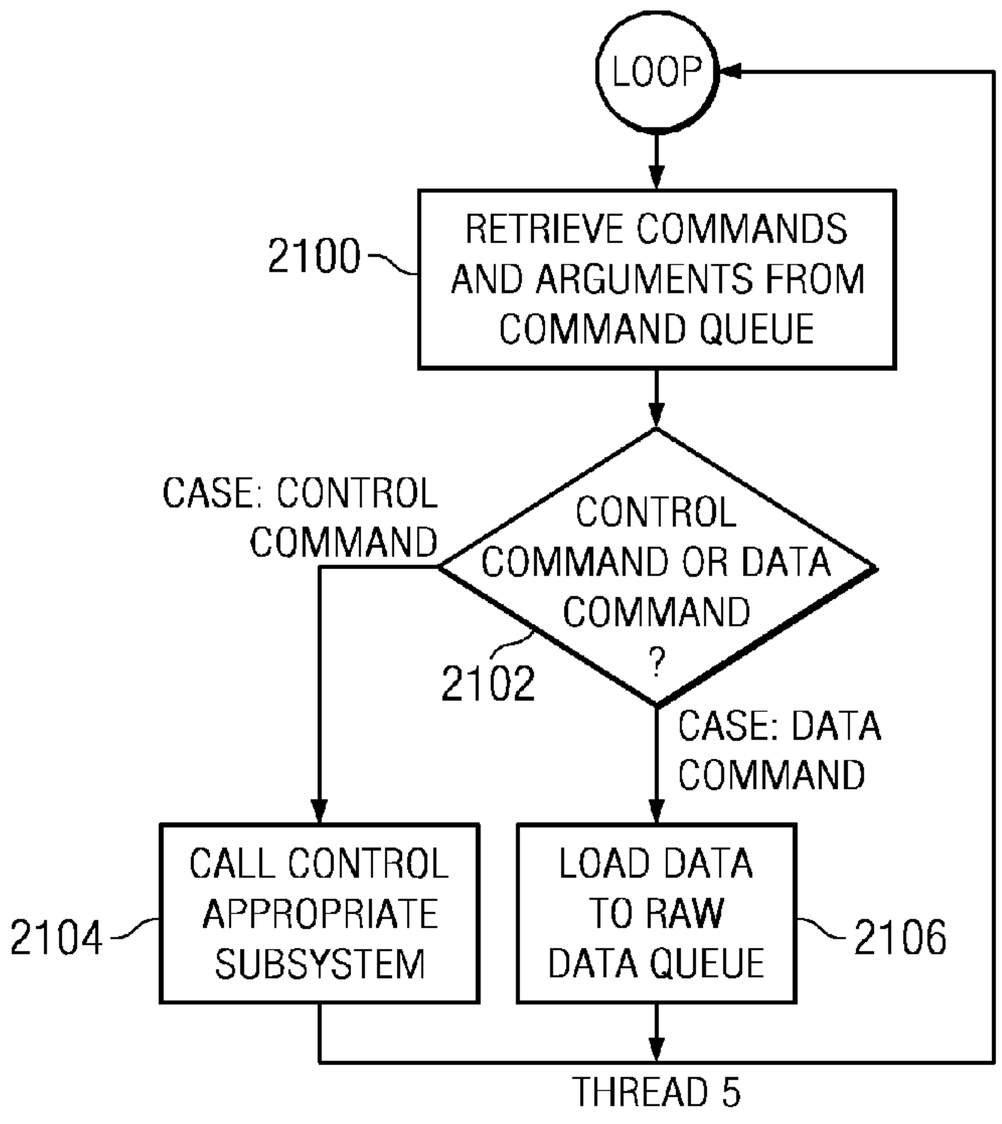

LOOP
2100
RETRIEVE COMMANDS AND ARGUMENTS FROM COMMAND QUEUE
CONTROL COMMAND OR DATA COMMAND ?
2102
CASE: CONTROL COMMAND
CASE: DATA COMMAND
2104
CALL CONTROL APPROPRIATE SUBSYSTEM
LOAD DATA TO RAW DATA QUEUE
2106
THREAD 5

*FIG. 21*

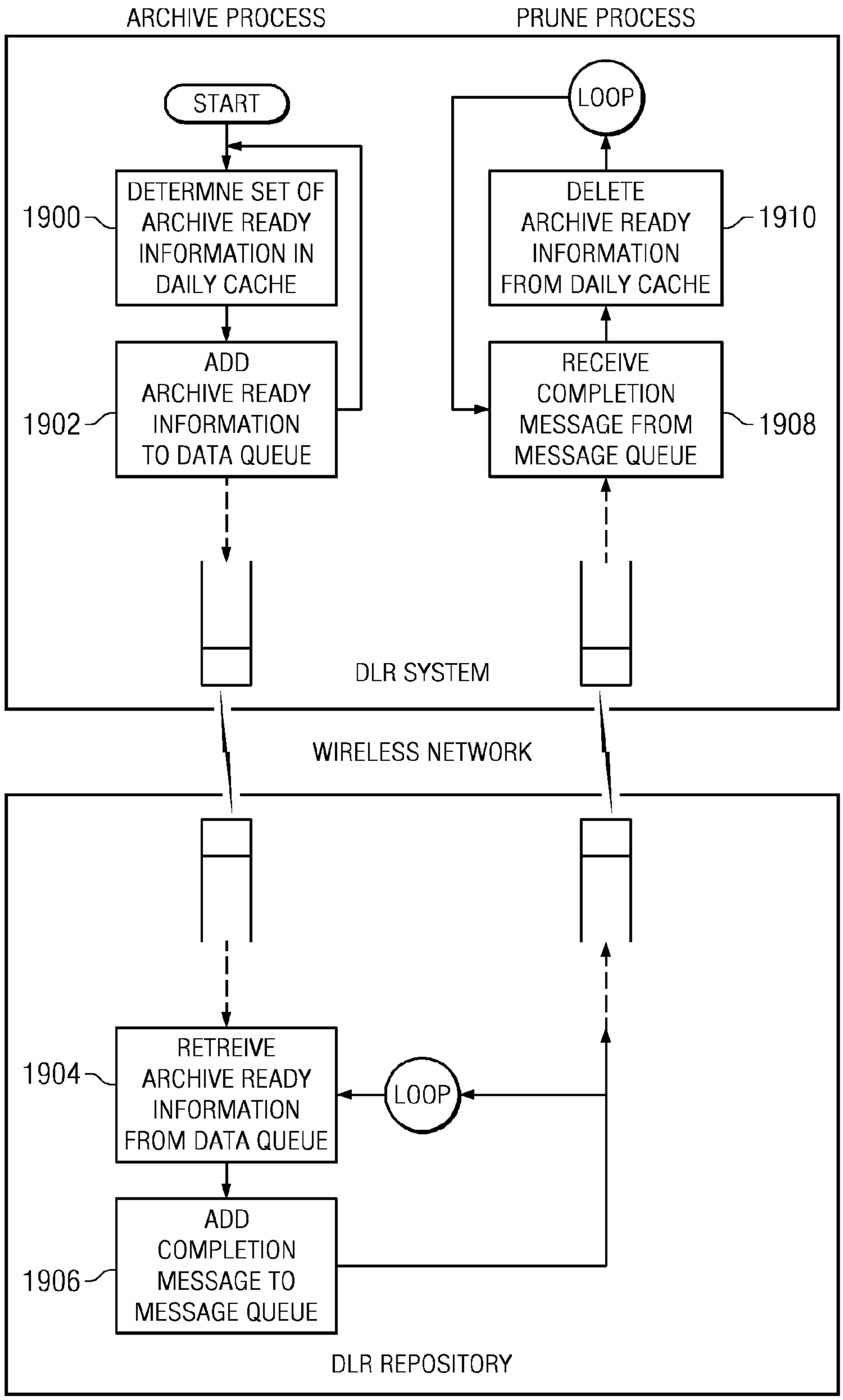

ARCHIVE PROCESS
PRUNE PROCESS
START
LOOP
1900
DETERMNE SET OF ARCHIVE READY INFORMATION IN DAILY CACHE
DELETE ARCHIVE READY INFORMATION FROM DAILY CACHE
1910
1902
ADD ARCHIVE READY INFORMATION TO DATA QUEUE
RECEIVE COMPLETION MESSAGE FROM MESSAGE QUEUE
1908
DLR SYSTEM
WIRELESS NETWORK
1904
RETREIVE ARCHIVE READY INFORMATION FROM DATA QUEUE
LOOP
1906
ADD COMPLETION MESSAGE TO MESSAGE QUEUE
DLR REPOSITORY

*FIG. 19*

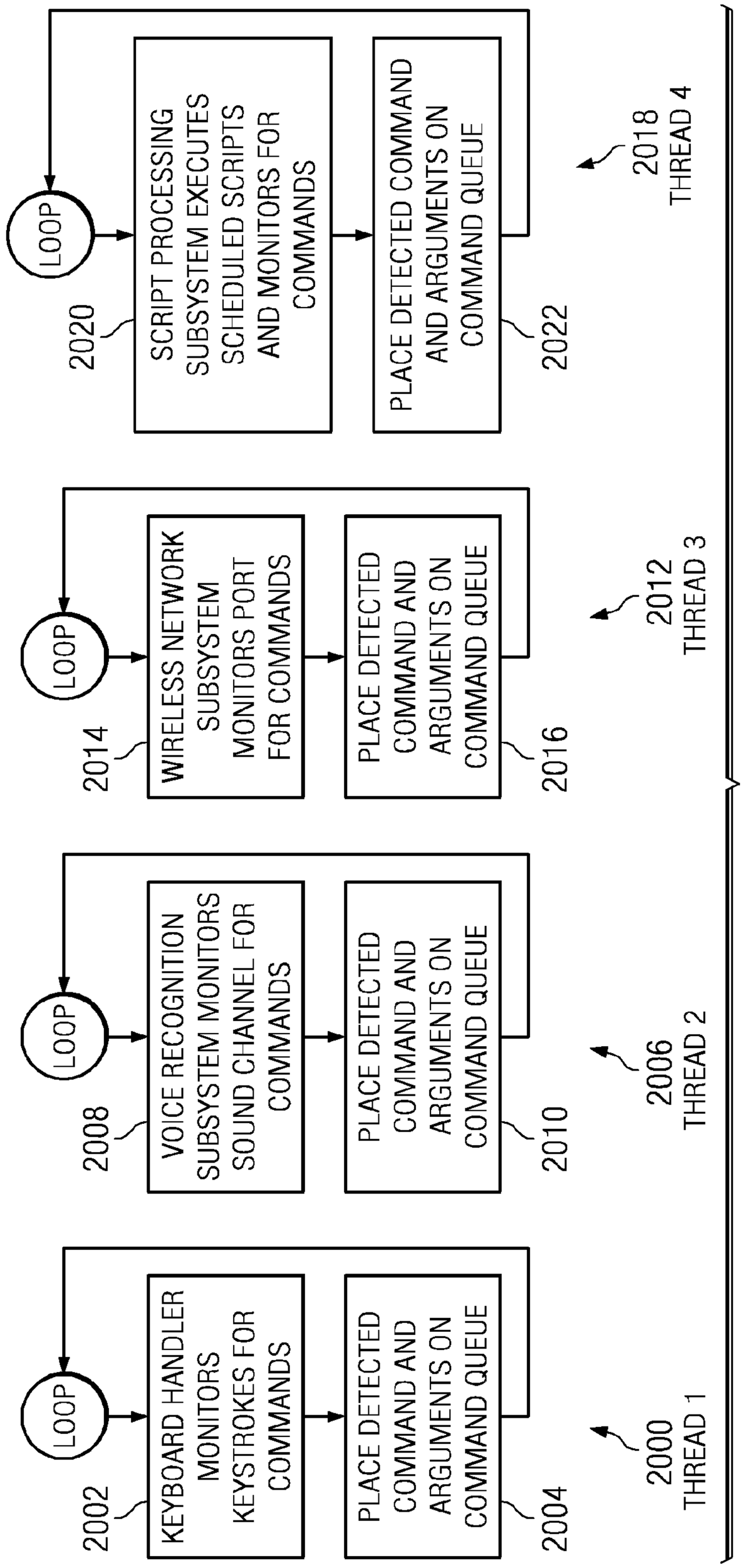

2018
THREAD 4
LOOP
2020
SCRIPT PROCESSING SUBSYSTEM EXECUTES SCHEDULED SCRIPTS AND MONITORS FOR COMMANDS
PLACE DETECTED COMMAND AND ARGUMENTS ON COMMAND QUEUE
2022
2012
THREAD 3
LOOP
2014
WIRELESS NETWORK SUBSYSTEM MONITORS PORT FOR COMMANDS
PLACE DETECTED COMMAND AND ARGUMENTS ON COMMAND QUEUE
2016
2006
THREAD 2
LOOP
2008
VOICE RECOGNITION SUBSYSTEM MONITORS SOUND CHANNEL FOR COMMANDS
PLACE DETECTED COMMAND AND ARGUMENTS ON COMMAND QUEUE
2010
2000
THREAD 1
LOOP
2002
KEYBOARD HANDLER MONITORS KEYSTROKES FOR COMMANDS
PLACE DETECTED COMMAND AND ARGUMENTS ON COMMAND QUEUE
2004

*FIG. 20*

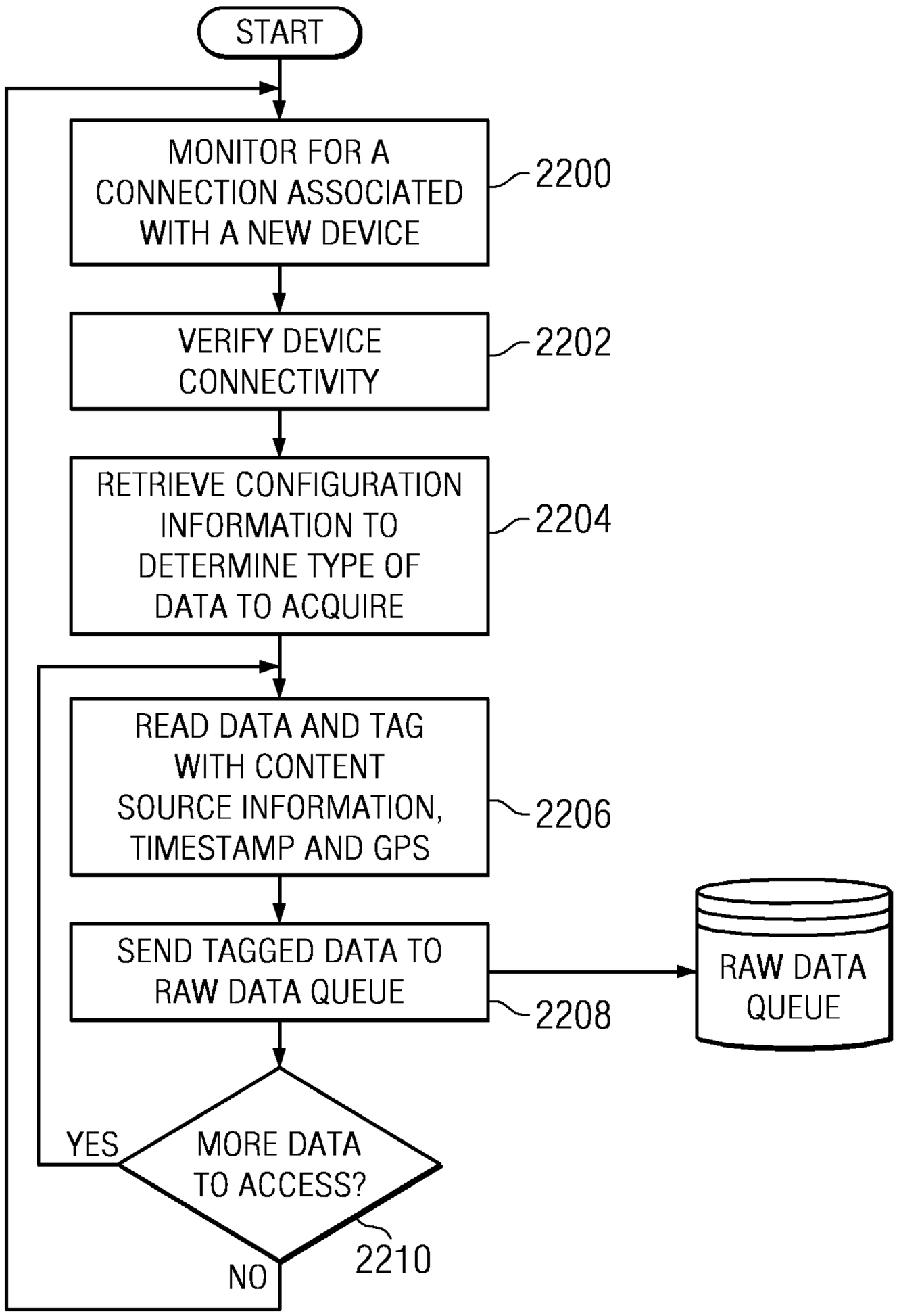

START
MONITOR FOR A CONNECTION ASSOCIATED WITH A NEW DEVICE
2200
VERIFY DEVICE CONNECTIVITY
2202
RETRIEVE CONFIGURATION INFORMATION TO DETERMINE TYPE OF DATA TO ACQUIRE
2204
READ DATA AND TAG WITH CONTENT SOURCE INFORMATION, TIMESTAMP AND GPS
2206
SEND TAGGED DATA TO RAW DATA QUEUE
2208
RAW DATA QUEUE
YES
MORE DATA TO ACCESS?
2210
NO

*FIG. 22*

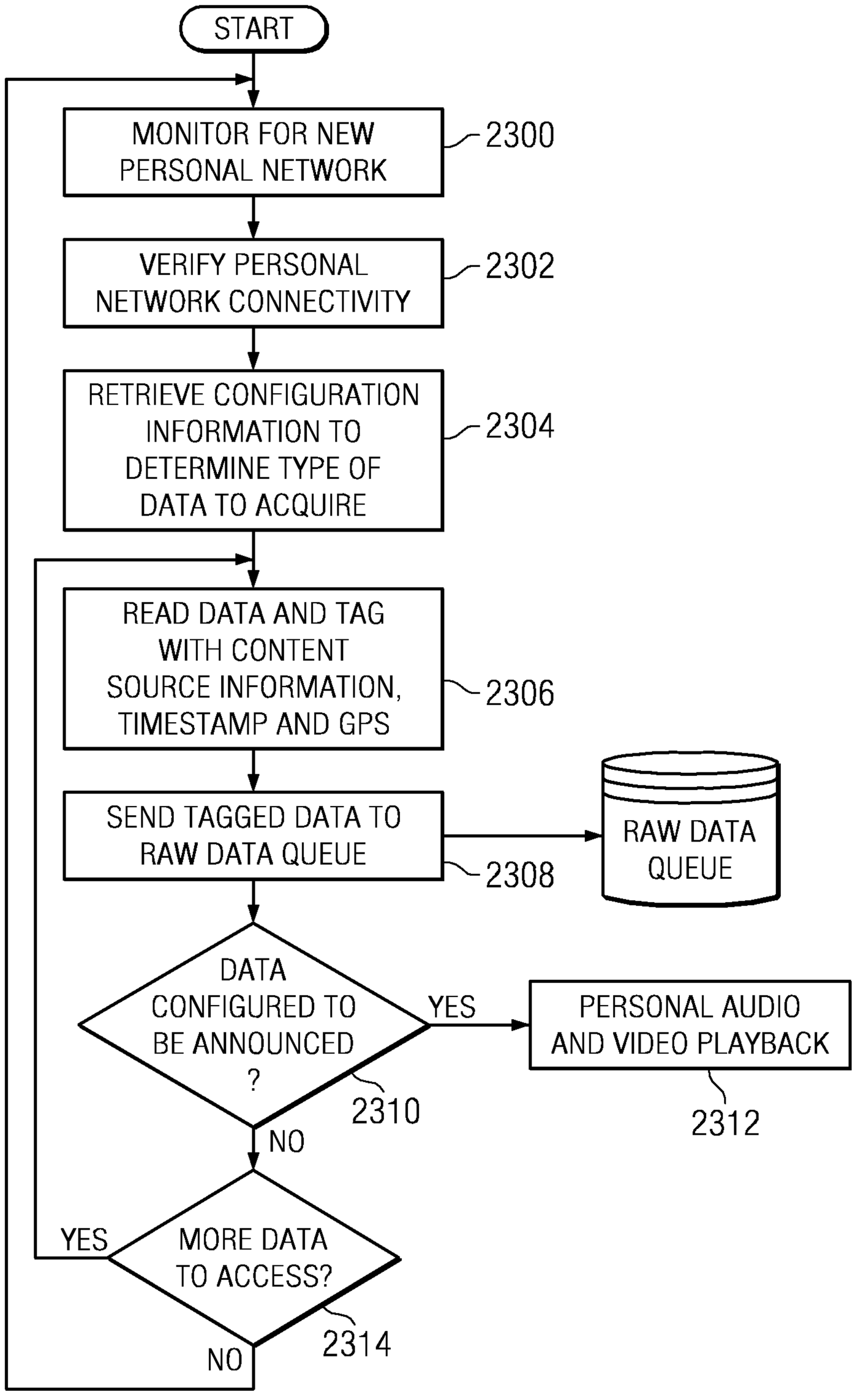

START
MONITOR FOR NEW PERSONAL NETWORK
2300
VERIFY PERSONAL NETWORK CONNECTIVITY
2302
RETRIEVE CONFIGURATION INFORMATION TO DETERMINE TYPE OF DATA TO ACQUIRE
2304
READ DATA AND TAG WITH CONTENT SOURCE INFORMATION, TIMESTAMP AND GPS
2306
SEND TAGGED DATA TO RAW DATA QUEUE
2308
RAW DATA QUEUE
DATA CONFIGURED TO BE ANNOUNCED ?
YES
PERSONAL AUDIO AND VIDEO PLAYBACK
2310
2312
NO
YES
MORE DATA TO ACCESS?
2314
NO

*FIG. 23*

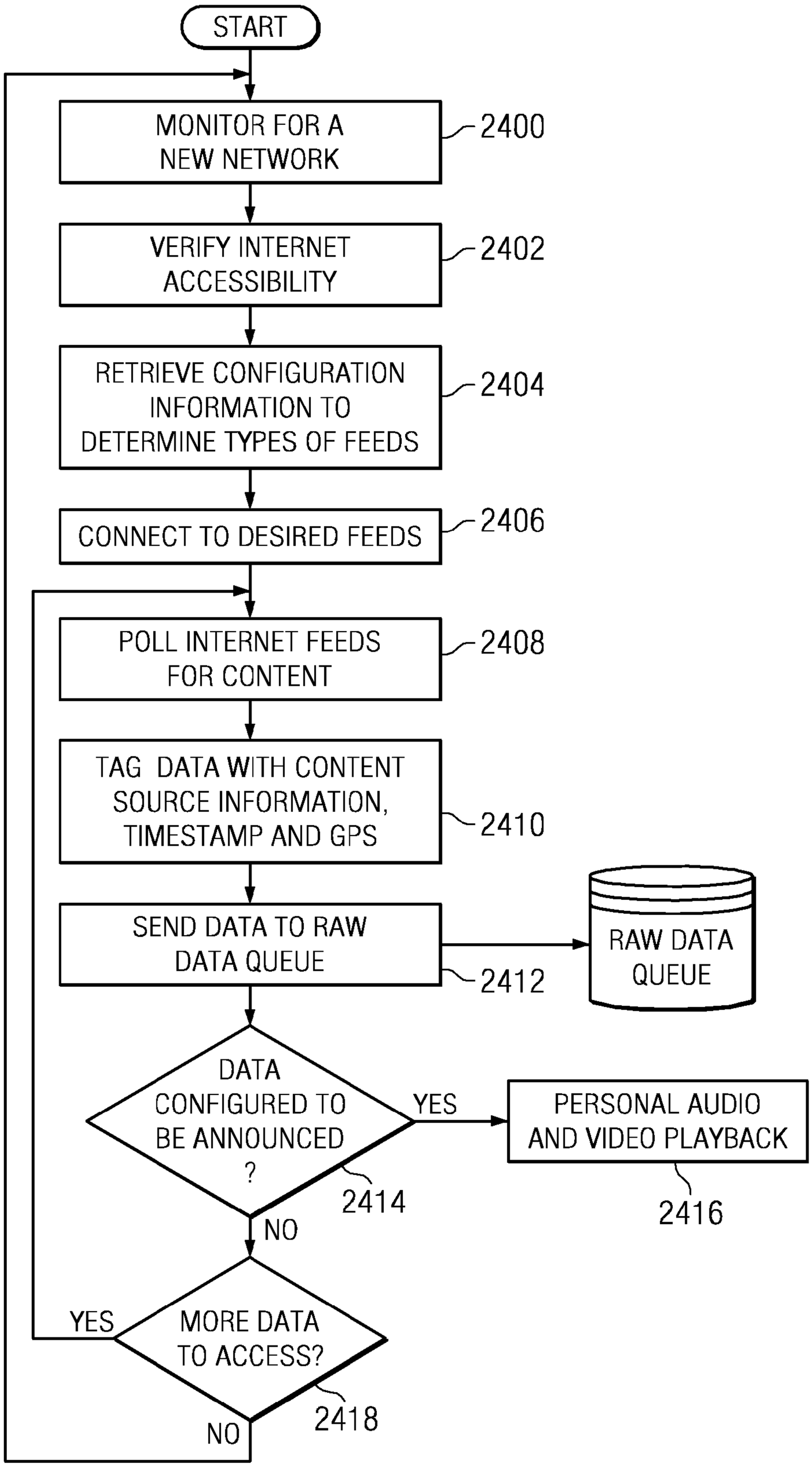

START
MONITOR FOR A NEW NETWORK
2400
VERIFY INTERNET ACCESSIBILITY
2402
RETRIEVE CONFIGURATION INFORMATION TO DETERMINE TYPES OF FEEDS
2404
CONNECT TO DESIRED FEEDS
2406
POLL INTERNET FEEDS FOR CONTENT
2408
TAG DATA WITH CONTENT SOURCE INFORMATION, TIMESTAMP AND GPS
2410
SEND DATA TO RAW DATA QUEUE
2412
RAW DATA QUEUE
DATA CONFIGURED TO BE ANNOUNCED ?
YES
2414
PERSONAL AUDIO AND VIDEO PLAYBACK
2416
NO
YES
MORE DATA TO ACCESS?
2418
NO

*FIG. 24*

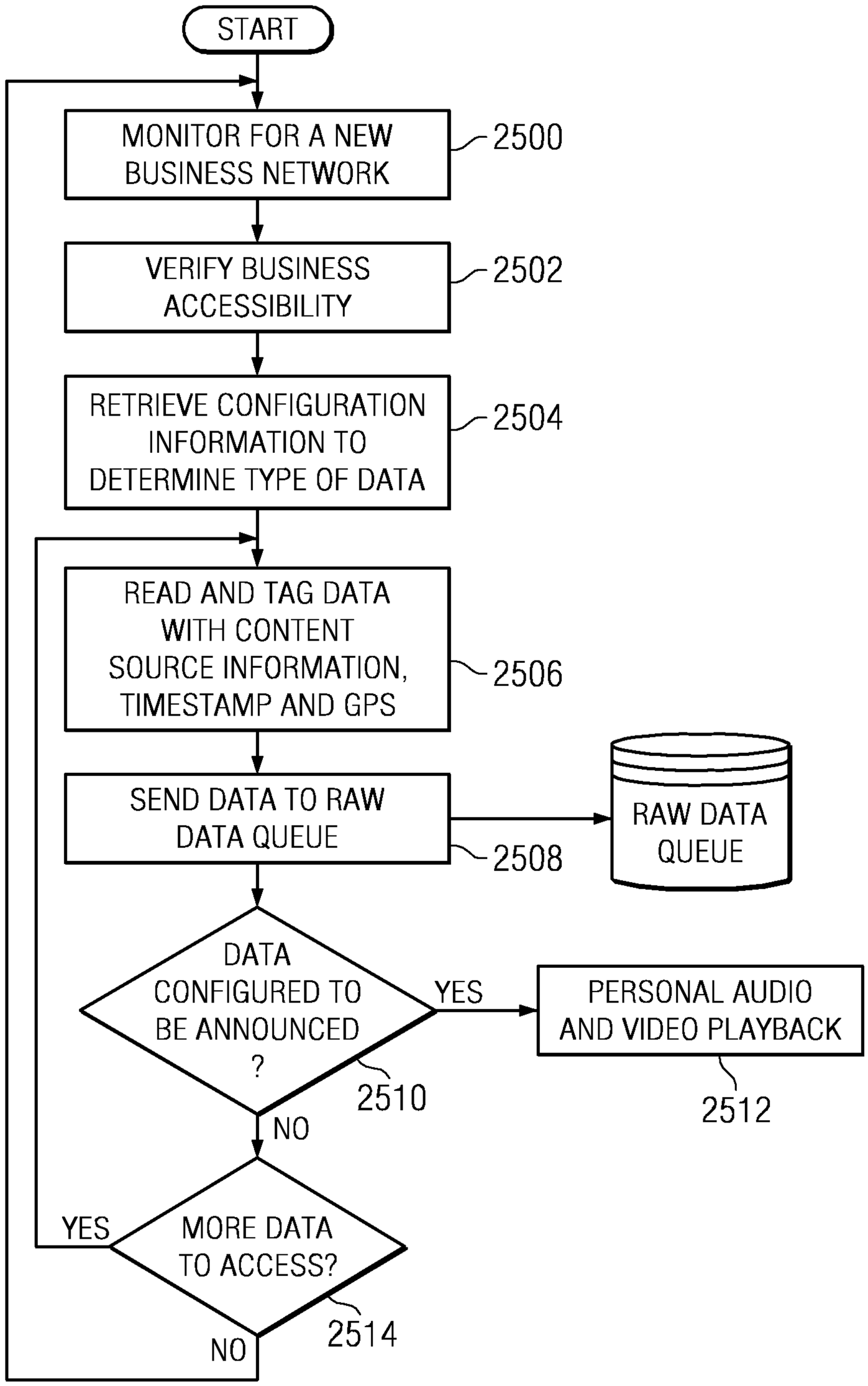

START
MONITOR FOR A NEW BUSINESS NETWORK
2500
VERIFY BUSINESS ACCESSIBILITY
2502
RETRIEVE CONFIGURATION INFORMATION TO DETERMINE TYPE OF DATA
2504
READ AND TAG DATA WITH CONTENT SOURCE INFORMATION, TIMESTAMP AND GPS
2506
SEND DATA TO RAW DATA QUEUE
2508
RAW DATA QUEUE
DATA CONFIGURED TO BE ANNOUNCED ?
YES
PERSONAL AUDIO AND VIDEO PLAYBACK
2510
2512
NO
YES
MORE DATA TO ACCESS?
2514
NO

*FIG. 25*

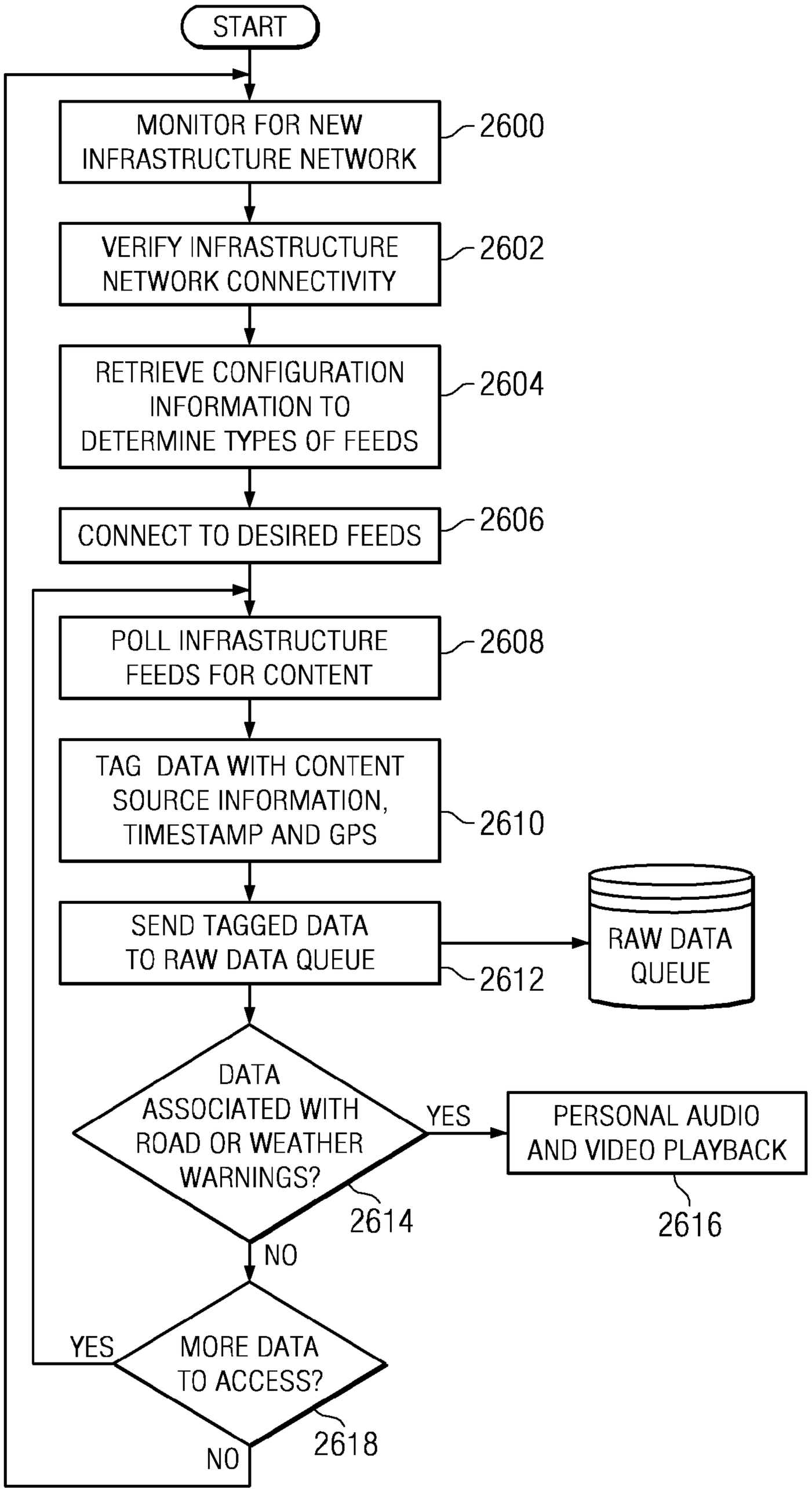

START
MONITOR FOR NEW INFRASTRUCTURE NETWORK
2600
VERIFY INFRASTRUCTURE NETWORK CONNECTIVITY
2602
RETRIEVE CONFIGURATION INFORMATION TO DETERMINE TYPES OF FEEDS
2604
CONNECT TO DESIRED FEEDS
2606
POLL INFRASTRUCTURE FEEDS FOR CONTENT
2608
TAG DATA WITH CONTENT SOURCE INFORMATION, TIMESTAMP AND GPS
2610
SEND TAGGED DATA TO RAW DATA QUEUE
2612
RAW DATA QUEUE
DATA ASSOCIATED WITH ROAD OR WEATHER WARNINGS?
2614
YES
PERSONAL AUDIO AND VIDEO PLAYBACK
2616
NO
YES
MORE DATA TO ACCESS?
2618
NO

*FIG. 26*

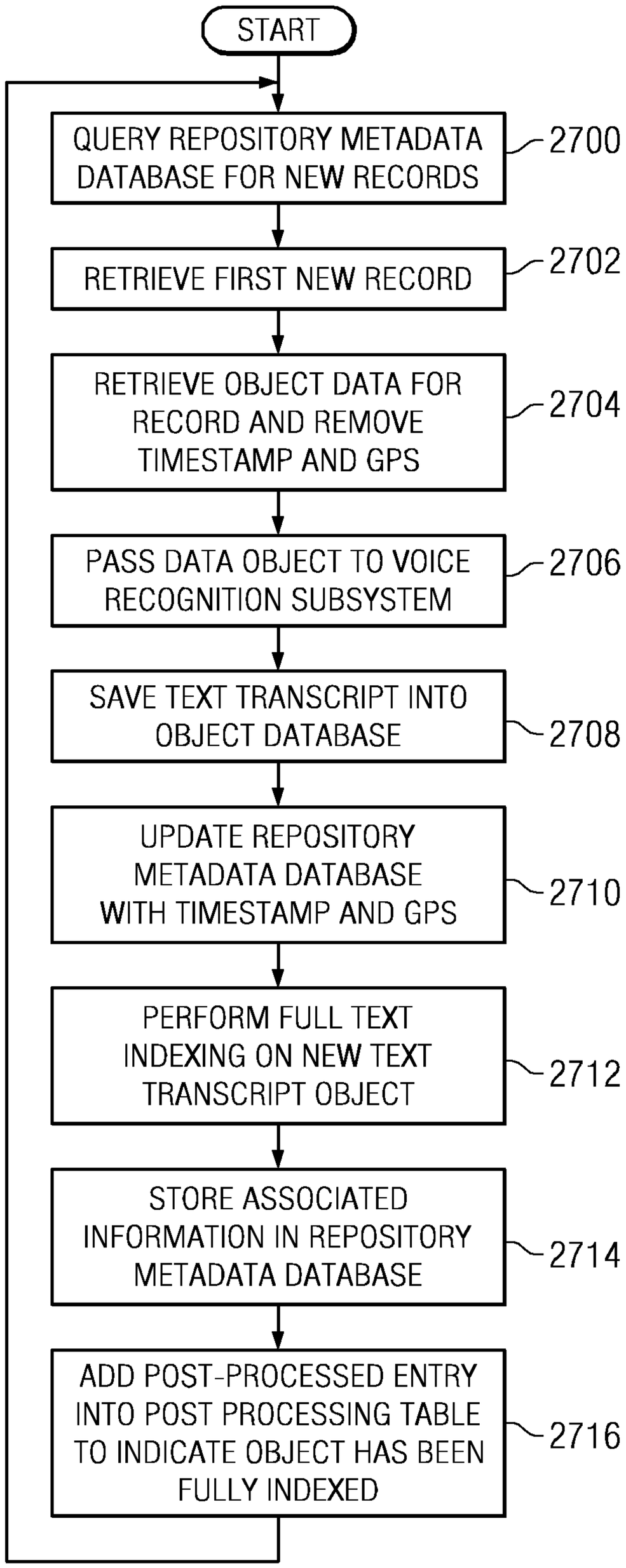

START
QUERY REPOSITORY METADATA DATABASE FOR NEW RECORDS
2700
RETRIEVE FIRST NEW RECORD
2702
RETRIEVE OBJECT DATA FOR RECORD AND REMOVE TIMESTAMP AND GPS
2704
PASS DATA OBJECT TO VOICE RECOGNITION SUBSYSTEM
2706
SAVE TEXT TRANSCRIPT INTO OBJECT DATABASE
2708
UPDATE REPOSITORY METADATA DATABASE WITH TIMESTAMP AND GPS
2710
PERFORM FULL TEXT INDEXING ON NEW TEXT TRANSCRIPT OBJECT
2712
STORE ASSOCIATED INFORMATION IN REPOSITORY METADATA DATABASE
2714
ADD POST-PROCESSED ENTRY INTO POST PROCESSING TABLE TO INDICATE OBJECT HAS BEEN FULLY INDEXED
2716

*FIG. 27*

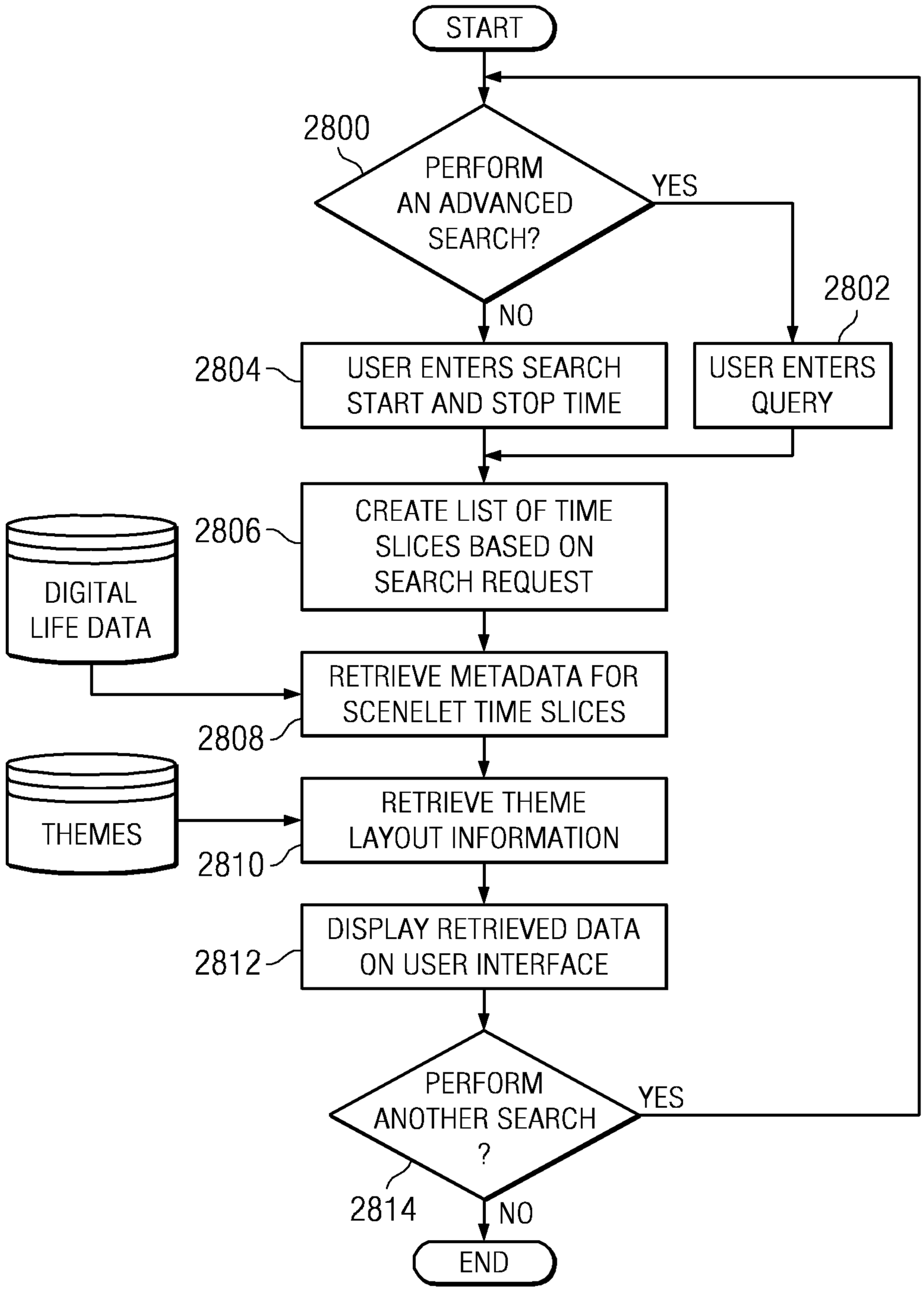

START
2800
PERFORM AN ADVANCED SEARCH?
YES
NO
2802
USER ENTERS QUERY
2804
USER ENTERS SEARCH START AND STOP TIME
2806
CREATE LIST OF TIME SLICES BASED ON SEARCH REQUEST
DIGITAL LIFE DATA
2808
RETRIEVE METADATA FOR SCENELET TIME SLICES
THEMES
2810
RETRIEVE THEME LAYOUT INFORMATION
2812
DISPLAY RETRIEVED DATA ON USER INTERFACE
PERFORM ANOTHER SEARCH ?
YES
2814
NO
END

*FIG. 28*

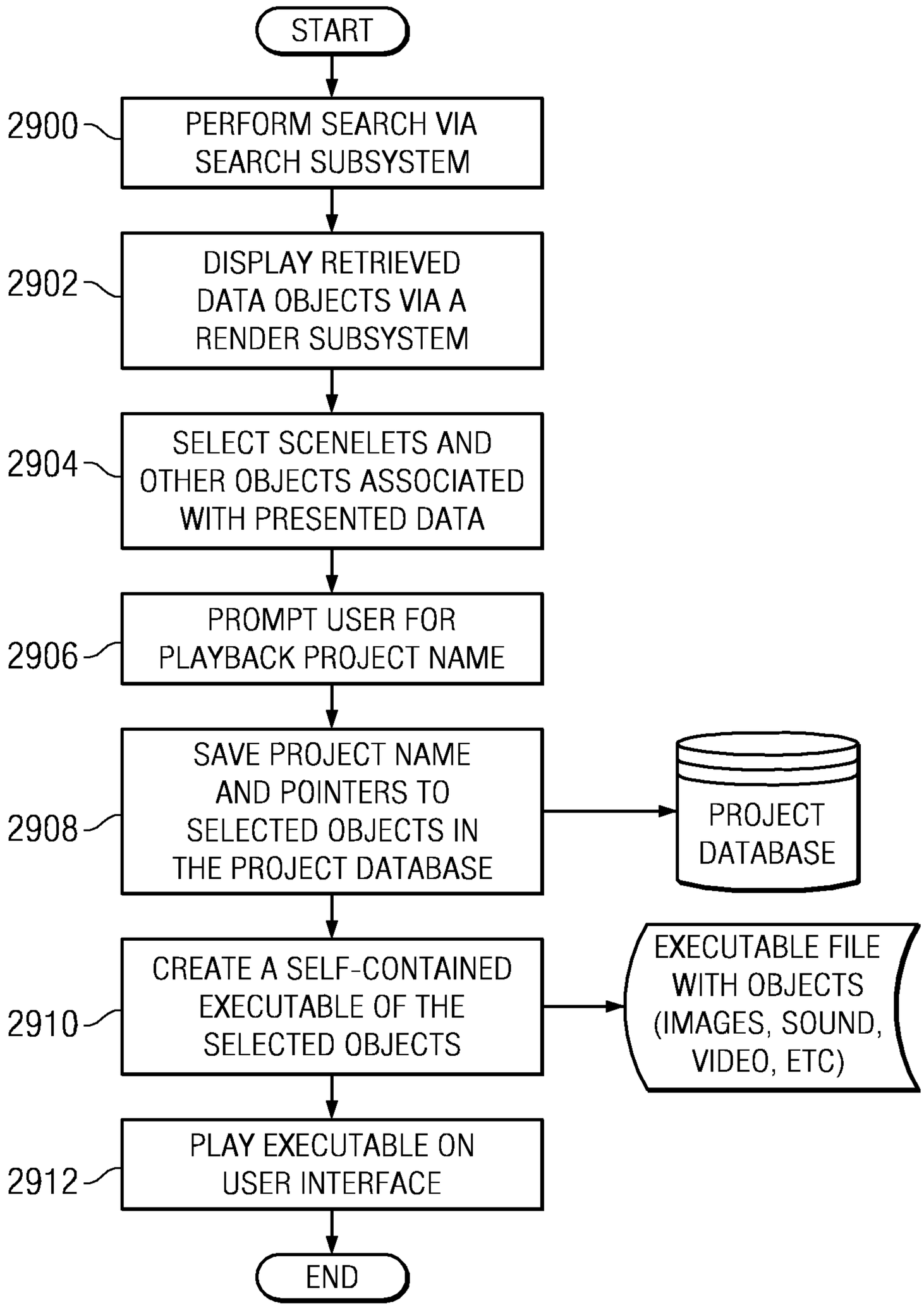

START
2900
PERFORM SEARCH VIA SEARCH SUBSYSTEM
2902
DISPLAY RETRIEVED DATA OBJECTS VIA A RENDER SUBSYSTEM
2904
SELECT SCENELETS AND OTHER OBJECTS ASSOCIATED WITH PRESENTED DATA
2906
PROMPT USER FOR PLAYBACK PROJECT NAME
2908
SAVE PROJECT NAME AND POINTERS TO SELECTED OBJECTS IN THE PROJECT DATABASE
PROJECT DATABASE
2910
CREATE A SELF-CONTAINED EXECUTABLE OF THE SELECTED OBJECTS
EXECUTABLE FILE WITH OBJECTS (IMAGES, SOUND, VIDEO, ETC)
2912
PLAY EXECUTABLE ON USER INTERFACE
END

*FIG. 29*

# IDENTIFYING A LOCALE FOR CONTROLLING CAPTURE OF DATA BY A DIGITAL LIFE RECORDER BASED ON LOCATION

## CROSS REFERENCE TO RELATED APPLICATION

The present invention is related to the following patent application: entitled "Method and Apparatus for Digital Life Recording and Playback", Ser. No. 11/968,772, filed Jan. 3, 2008, assigned to the same assignee, and incorporated herein by reference.

## BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates generally to an improved data processing system and in particular to a method and apparatus for controlling the operation of a digital life recorder. Still more particularly, the present invention relates to a computer implemented method, apparatus, and computer program product for implementing a locale identifier and an associated locale identifier sensor for controlling a capture of data by sensing components of a digital life recorder.

2. Description of the Related Art

Advancements in technology have drastically changed the way people do things. Gone are the days of printed encyclopedias. These paper based resources have been replaced by a plethora of information readily available on the World Wide Web. Instead of taking a roll of film to a photo shop to be developed, digital images are stored on computers, laptops, and even in digital photo frames. Additionally, because taking a digital picture does not cost anything, more digital photos are taken than was previously taken by conventional means. The photos represent memories of special or even obscure events. However, searching for a particular photo out of the hundreds or thousands of images stored on a computer is a difficult task. In addition, numerous events in our daily lives are never captured on film. Furthermore, photos do not capture the spoken words, feelings, or environmental factors associated with everyday activities.

Accordingly, there exists a need for a mechanism for dynamically capturing, storing, and presenting data associated with all aspects of daily activities in an efficient manner.

## SUMMARY OF THE INVENTION

The illustrative embodiments described herein provide a computer implemented method, apparatus, and computer program product for managing data. In one embodiment, the process identifies a location from locale identifier data to form an identified location in response to receiving the locale identifier data. The locale identifier data is associated with a location of the digital life recorder. In addition, the identified location is associated with a set of usage policies. The process then determines whether the set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the set of usage policies restricts playback of the data by a playback system. Thereafter, the process disables a set of sensors while the digital life recorder is in the presence of the locale identifier in response to determining that the set of usage policies restricts the capture of data.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a pictorial representation of a network of data processing systems in which illustrative embodiments may be implemented;



FIG. **2** is a block diagram of a data processing system in which illustrative embodiments may be implemented;

FIG. **3** is a diagram of components for a digital life recorder in accordance with an illustrative embodiment;

FIG. **4** is a diagram of components in a sensing subsystem in accordance with an illustrative embodiment;

FIG. **5** is a block diagram illustrating the data flow between components of a sensing subsystem and the components of a recording subsystem in accordance with an illustrative embodiment;

FIG. **6** is a block diagram illustrating the relationship between a recording subsystem and the components of a repository subsystem in accordance with an illustrative embodiment;

FIG. **7** is a block diagram illustrating the relationship between components of a network data sharing subsystem in accordance with an illustrative embodiment;

FIG. **8** is a block diagram illustrating the components of a playback subsystem in accordance with an illustrative embodiment;

FIG. **9** is a user interface associated with a playback subsystem in accordance with an illustrative embodiment;

FIG. **10** is a diagram depicting a data model in accordance with an illustrative embodiment;

FIG. **11** is a block diagram showing the operation of a digital life recorder in an identified location in accordance with an illustrative embodiment;

FIG. **12** is a flowchart of a process for controlling the operation of a digital life recorder in an identified location in accordance with an illustrative embodiment;

FIG. **13** is a flowchart of a process for capturing data of a locale identifier in accordance with an illustrative embodiment;

FIG. **14** is a high-level flowchart of a process for capturing, storing, and presenting data in accordance with an illustrative embodiment;

FIG. **15** is a flowchart of a process for capturing life data in accordance with an illustrative embodiment;

FIG. **16** is a flowchart of a process for improving the indexing of the stored data by tagging life data objects in accordance with an illustrative embodiment;

FIG. **17** is a flowchart of a process for preprocessing raw recorded data in accordance with an illustrative embodiment;

FIG. **18** is a flowchart of a process for creating a unique identifier for indexing and storing data objects in accordance with an illustrative embodiment;

FIG. **19** is a flowchart of a process for archiving data objects in accordance with an illustrative embodiment;

FIG. **20** illustrates different processes for adding commands to a command queue in accordance with an illustrative embodiment;

FIG. **21** is a flowchart of a process for processing commands in accordance with an illustrative embodiment;

FIG. **22** is a flowchart illustrating a process for acquiring and organizing personal device data in accordance with an illustrative embodiment;

FIG. **23** is a flowchart of a process for acquiring and organizing personal network data in accordance with an illustrative embodiment;

FIG. **24** is a flowchart of a process for acquiring and organizing data from the internet in accordance with an illustrative embodiment;

FIG. **25** is a flowchart of a process for acquiring and organizing data from business networks in accordance with an illustrative embodiment;

FIG. **26** is a flowchart of a process for acquiring and organizing data from infrastructure networks in accordance with an illustrative embodiment;

FIG. **27** is a flowchart of a process for improving the indexing of data stored in the repository mass store in accordance with an illustrative embodiment;

FIG. **28** is a flowchart of a process for searching, retrieving, and rendering data in accordance with an illustrative embodiment; and

FIG. **29** is a flowchart of a process for organizing and presenting data in accordance with an illustrative embodiment.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

As will be appreciated by one skilled in the art, the present invention may be embodied as a system, method, or computer program product. Accordingly, the present invention may take the form of an entirely hardware embodiment, an entirely software embodiment (including firmware, resident software, micro-code, etc.) or an embodiment combining software and hardware aspects that may all generally be referred to herein as a "circuit," "module," or "system." Furthermore, the present invention may take the form of a computer program product embodied in any tangible medium of expression having computer usable program code embodied in the medium.

Any combination of one or more computer usable or computer readable medium(s) may be utilized. The computer-usable or computer-readable medium may be, for example but not limited to, an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or propagation medium. More specific examples (a non-exhaustive list) of the computer-readable medium would include the following: an electrical connection having one or more wires, a portable computer diskette, a hard disk, a random access memory (RAM), a read-only memory (ROM), an erasable programmable read-only memory (EPROM or Flash memory), an optical fiber, a portable compact disc read-only memory (CDROM), an optical storage device, a transmission media, such as those supporting the Internet or an intranet, or a magnetic storage device. Note that the computer-usable or computer-readable medium could even be paper or another suitable medium upon which the program is printed, as the program can be electronically captured, via, for instance, optical scanning of the paper or other medium, then compiled, interpreted, or otherwise processed in a suitable manner, if necessary, and then stored in a computer memory. In the context of this document, a computer-usable or computer-readable medium may be any medium that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device. The computer-usable medium may include a propagated data signal with the computer-usable program code embodied therewith, either in baseband or as part of a carrier wave. The computer usable program code may be transmitted using any appropriate medium, including, but not limited to wireless, wireline, optical fiber cable, RF, etc.

Computer program code for carrying out operations of the present invention may be written in any combination of one or more programming languages, including an object oriented programming language, such as Java, Smalltalk, C++ or the like and conventional procedural programming languages, such as the "C" programming language or similar programming languages. The program code may execute entirely on the user's computer, partly on the user's computer, as a stand-alone software package, partly on the user's computer and partly on a remote computer or entirely on the remote computer or server. In the latter scenario, the remote computer may be connected to the user's computer through any type of network, including a local area network (LAN) or a wide area network (WAN), or the connection may be made to an external computer (for example, through the Internet using an Internet Service Provider).

The present invention is described below with reference to flowchart illustrations and/or block diagrams of methods, apparatus (systems), and computer program products according to embodiments of the invention. It will be understood that each block of the flowchart illustrations and/or block diagrams, and combinations of blocks in the flowchart illustrations and/or block diagrams, can be implemented by computer program instructions.

These computer program instructions may be provided to a processor of a general purpose computer, special purpose computer, or other programmable data processing apparatus to produce a machine, such that the instructions, which execute via the processor of the computer or other programmable data processing apparatus, create means for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks. These computer program instructions may also be stored in a computer-readable medium that can direct a computer or other programmable data processing apparatus to function in a particular manner, such that the instructions stored in the computer-readable medium produce an article of manufacture including instruction means which implement the function/act specified in the flowchart and/or block diagram block or blocks.

The computer program instructions may also be loaded onto a computer or other programmable data processing apparatus to cause a series of operational steps to be performed on the computer or other programmable apparatus to produce a computer implemented process such that the instructions which execute on the computer or other programmable apparatus provide processes for implementing the functions/acts specified in the flowchart and/or block diagram block or blocks.

With reference now to the figures, and in particular, with reference to FIGS. **1** and **2**, exemplary diagrams of data processing environments are provided in which illustrative embodiments may be implemented. It should be appreciated that FIGS. **1** and **2** are only exemplary and are not intended to assert or imply any limitation with regard to the environments in which different embodiments may be implemented. Many modifications to the depicted environments may be made.

FIG. **1** depicts a pictorial representation of a network of data processing system in which illustrative embodiments may be implemented. Network data processing system **100** is a network of computers in which the illustrative embodiments may be implemented. Network data processing system **100** contains network **102**, which is the medium used to provide communications links between various devices and computers connected together within network data processing system **100**. Network **102** may include connections, such as wire, wireless communication links, or fiber optic cables.

In the depicted example, server **104** and server **106** connect to network **102** along with storage unit **108**. In addition, clients **110**, **112**, and **114** connect to network **102**. Clients **110**, **112**, and **114** may be, for example, personal computers or network computers. In the depicted example, server **104** provides data, such as boot files, operating system images, and applications to clients **110**, **112**, and **114**. Clients **110**, **112**, and **114** are clients to server **104** in this example. Network data processing system **100** may include additional servers, clients, and other devices not shown.

The illustrative embodiments may be used as a digital life recorder for capturing still images, video, audio, biometric information, and other types of data associated with the daily activities of a person. The activities may be recorded on a continuous basis or may be periodically captured. For example, FIG. **1** depicts a recording subsystem **116**. Recording subsystem **116** receives data captured from a plurality of data capturing devices. The data capturing devices may include, but are not limited to, video cameras. The captured data is processed by a mobile device associated with the person and is stored as raw data within a cache of the mobile device. Upon interfacing with a repository mass store, such as client **110**, the stored data within the cache of the mobile device is uploaded to the repository mass store. Client **110** manages the data within the repository mass store and presents the data in response to a user request. Additional details of recording subsystem **116** and the repository mass store will be described below.

In the depicted example, network data processing system **100** is the Internet with network **102** representing a worldwide collection of networks and gateways that use the Transmission Control Protocol/Internet Protocol (TCP/IP) suite of protocols to communicate with one another. At the heart of the Internet is a backbone of high-speed data communication lines between major nodes or host computers, consisting of thousands of commercial, governmental, educational, and other computer systems that route data and messages. Of course, network data processing system **100** also may be implemented as a number of different types of networks, such as for example, an intranet, a local area network (LAN), or a wide area network (WAN). FIG. **1** is intended as an example, and not as an architectural limitation for the different illustrative embodiments.

With reference now to FIG. **2**, a block diagram of a data processing system is shown in which illustrative embodiments may be implemented. Data processing system **200** is an example of a computer, such as server **104** or client **110** in FIG. **1**, in which computer-usable program code or instructions implementing the processes may be located for the illustrative embodiments. Data processing system **200** may also be implemented as a computing device on-board an electric vehicle, such as electric vehicle **116** in FIG. **1**.

In this illustrative example, data processing system **200** includes communications fabric **202**, which provides communications between processor unit **204**, memory **206**, persistent storage **208**, communications unit **210**, input/output (I/O) unit **212**, and display **214**. Processor unit **204** serves to execute instructions for software that may be loaded into memory **206**. Processor unit **204** may be a set of processors. As used herein, the term "set" may refer to one or more. Thus, a set of processors may be one or more processors. In addition, processor unit **204** may be a multi-processor core, depending on the particular implementation. Further, processor unit **204** may be implemented using one or more heterogeneous processor systems in which a main processor is present with secondary processors on a single chip. As another illustrative example, processor unit **204** may be a symmetric multi-processor system containing multiple processors of the same type.

Memory **206**, in these examples, may be, for example, a random access memory or any other suitable volatile or non-volatile storage device. Persistent storage **208** may take various forms depending on the particular implementation. For example, persistent storage **208** may contain one or more components or devices. In another example, persistent storage **208** may be a hard drive, a flash memory, a rewritable optical disk, a rewritable magnetic tape, or some combination of the above. The media used by persistent storage **208** also may be removable. For example, a removable hard drive may be used for persistent storage **208**.

Communications unit **210**, in these examples, provides for communications with other data processing systems or devices. In these examples, communications unit **210** is a network interface card. Communications unit **210** may provide communications through the use of either or both physical and wireless communications links.

Input/output unit **212** allows for input and output of data with other devices that may be connected to data processing system **200**. For example, input/output unit **212** may provide a connection for user input through a keyboard and mouse. Further, input/output unit **212** may send output to a printer. Display **214** provides a mechanism to display information to a user.

Instructions for the operating system and applications or programs are located on persistent storage **208**. These instructions may be loaded into memory **206** for execution by processor unit **204**. The processes of the different embodiments may be performed by processor unit **204** using computer implemented instructions, which may be located in a memory, such as memory **206**. These instructions are referred to as program code, computer-usable program code, or computer-readable program code that may be read and executed by a processor in processor unit **204**. The program code in the different embodiments may be embodied on different physical or tangible computer-readable media, such as memory **206** or persistent storage **208**.

Program code **216** is located in a functional form on computer-readable media **218** that is selectively removable and may be loaded onto or transferred to data processing system **200** for execution by processor unit **204**. Program code **216** and computer-readable media **218** form computer program product **220** in these examples. In one example, computer-readable media **218** may be in a tangible form, such as, for example, an optical or magnetic disc that is inserted or placed into a drive or other device that is part of persistent storage **208** for transfer onto a storage device, such as a hard drive that is part of persistent storage **208**. In a tangible form, computer-readable media **218** also may take the form of a persistent storage, such as a hard drive, a thumb drive, or a flash memory that is connected to data processing system **200**. The tangible form of computer-readable media **218** is also referred to as computer-recordable storage media. In some instances, computer-recordable media **218** may not be removable.

Alternatively, program code **216** may be transferred to data processing system **200** from computer-readable media **218** through a communications link to communications unit **210** and/or through a connection to input/output unit **212**. The communications link and/or the connection may be physical or wireless in the illustrative examples. The computer-readable media also may take the form of non-tangible media, such as communications links or wireless transmissions containing the program code.

The different components illustrated for data processing system **200** are not meant to provide architectural limitations to the manner in which different embodiments may be implemented. The different illustrative embodiments may be implemented in a data processing system including components in addition to or in place of those illustrated for data processing system **200**. Other components shown in FIG. **2** can be varied from the illustrative examples shown.

As one example, a storage device in data processing system **200** is any hardware apparatus that may store data. Memory **206**, persistent storage **208**, and computer-readable media **218** are examples of storage devices in a tangible form.

In another example, a bus system may be used to implement communications fabric **202** and may be comprised of one or more buses, such as a system bus or an input/output bus. Of course, the bus system may be implemented using any suitable type of architecture that provides for a transfer of data between different components or devices attached to the bus system. Additionally, a communications unit may include one or more devices used to transmit and receive data, such as a modem or a network adapter. Further, a memory may be, for example, memory **206** or a cache, such as found in an interface and memory controller hub that may be present in communications fabric **202**.

A digital life recorder system enables users to capture data describing the totality of events that occur while the digital life recorder system is in operation. Without a mechanism for controlling the sensors of a digital life recorder system, possibilities arise where sensitive, confidential, private, or proprietary audio or video data may be collected and stored. For example, users of a digital life recorder system attending a concert may record songs of musicians in violation of their intellectual property rights. In addition, users of a digital life recorder system may wish to keep confidential details of a contract negotiation private.

Thus, the illustrative embodiments described herein provide a computer implemented method, apparatus, and computer program product for controlling the operation of a digital life recorder. In one embodiment, the process identifies a location from locale identifier data to form an identified location in response to receiving the locale identifier data. The locale identifier data is associated with a location of the digital life recorder. In addition, the identified location is associated with a set of usage policies. The process then determines whether the set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the set of usage policies restricts playback of the data by a playback system. Thereafter, the process disables a set of sensors while the digital life recorder is in the presence of the locale identifier in response to determining that the set of usage policies restricts the capture of data.

With reference now to FIG. **3**, a diagram of components for a digital life recorder is depicted in accordance with an illustrative embodiment. In this example, digital life recording system **300** comprises of a sensing subsystem **302**, a digital life recording subsystem **304**, digital life repository subsystem **306**, network data sharing **308**, and digital life playback subsystem **310**. Sensing subsystem **302** and digital life recording subsystem **304** may be implemented in a recording subsystem, such as recording subsystem **116** as shown in FIG. **1**. Digital life repository subsystem **306**, network data sharing **308**, and digital life playback subsystem **310** may be implemented in a data processing system, such as data processing system **200** as shown in FIG. **2** and client **110** as shown in FIG. **1**.

Sensing subsystem **302** comprises of data capturing devices for capturing data. The data capturing devices may comprise, for example, without limitation video capturing devices, audio capturing devices, biometric capturing devices, global positioning devices, environmental sensor devices, and other suitable devices for digital life recording. The data captured by the devices of sensing subsystem **302** is referred to as digital life recording data.

As depicted in FIG. **3**, the video capturing devices are positioned on the person to capture a 360-degree field of view around the person. Additionally, a set of audio capturing devices may be positioned around the person. A set of biometric sensors captures physiological data associated with the person, such as, but not limited to, the heart rate of the person. A set, as referenced herein, may be comprised of one or more objects. Global positioning system devices coupled to the person captures the location and the precise time that data is captured. A set of environmental sensor devices captures environmental variables, such as, but not limited to, temperature, wind speed, barometric pressure, and humidity. In addition, the set of environmental sensor devices may detect environmental hazards, such as, but not limited to, detecting the electric field, radiation, and carbon monoxide. Other data capturing devices that may associated with the person may include, but are not limited to, medical devices, cellular telephones, and radio-frequency identification devices.

The data capturing devices for capturing data may be hidden in common apparel, such as glasses, a hat, clothing, or jewelry. In another illustrative embodiment, some or all of the capturing devices may be medically implanted into the person's body.

Sensing subsystem **302** also comprises of a computer for processing the data captured by the devices into a raw data queue. Further details of sensing subsystem **302** are described in FIG. **4** below.

Sensing subsystem **302** transmits the raw data captured by the data capturing devices to digital life recording subsystem **304**. Digital life recording subsystem **304** processes the raw data into a processed data queue and stores the data from the processed data queue into a daily cache of a mobile device associated with the person. The details of digital life recording subsystem **304** will be described in FIG. **5**.

Digital life repository subsystem **306** manages the long-term storage and cataloging of the information representing the person's "digital life" that accumulates over time. On a periodic basis, digital life repository subsystem **306** interfaces with digital life recording subsystem **304** and uploads data stored in the cache of the mobile device. Additionally, details of digital life repository subsystem **306** will be described in FIG. **6**.

Network data sharing **308** is a component of digital life recording system **300**. Network data sharing **308** provides functions, such as aggregating, organizing, formats, and attaching metadata to data acquired via public, inter-personal, and intra-personal data sharing networks. The resultant aggregate is fed into digital life recording subsystem **304** in these examples. Network data sharing **308** is further described in FIG. **7** below.

Digital life playback subsystem **310** is responsible for the user interface that organizes and presents the information, stored in the digital life repository subsystem **306**, to a user for review and further processing. Additional details of digital life playback subsystem **310** will be described in FIG. **8**.

With reference now to FIG. **4**, a diagram of components in a sensing subsystem is depicted in accordance with an illustrative embodiment. Sensing subsystem **400** comprises of a plurality of data capturing devices associated with a person **402**.

In this illustrative example, the data capturing devices comprises of a left camera **404**, a front camera **406**, a right camera **408**, and a back camera **410**. Additionally, a left microphone **412**, a front microphone **414**, a right microphone **416**, and back microphone **418** are used for capturing audio data. A global positioning system **420** and other sensor devices **422** may also be associated with person **402**. Other sensor devices **422** may include, but are not limited to, a set of biometric devices and a set of environmental sensor devices.

Data model **424** depicts the software components associated with managing sensing subsystem **400**. Data model **424** comprises of a video control system **426**, an interface to

master control system **428**, a hardware control system **430**, and configuration data **432**. The data captured by the data capturing devices is transmitted to a recording subsystem, as will be described below in FIG. **5**.

FIG. **5** is a block diagram illustrating the data flow between components of a sensing subsystem and the components of a recording subsystem in accordance with an illustrative embodiment. The components of recording subsystem **500** may be implemented in a data processing system, such as data processing system **200** as shown in FIG. **2**.

Recording subsystem **500** processes inputs and commands from all the different sources and stores the data in a daily cache. In this illustrative example, recording subsystem **500** comprises of a voice recognition component **510**, a command queue **512**, a digital video recorder **514**, a raw data queue **516**, a keyboard interface **518**, a script processing **520**, a sensor information capture **522**, a data preprocessing component **530**, a processed data queue **532**, an object storage process **534**, and a daily cache **536**.

Recording subsystem **500** receives input from sensing subsystem **502**. Sensing subsystem **502** depicts inputs received from data capturing devices in accordance with an illustrative embodiment of a sensing subsystem, such as sensing subsystem **302** in FIG. **3**. Sensing subsystem **502** is responsible for capturing video and sound, voice commands, time and location, environmental details like temperature, biometric information, and any other information that can be imagined to be useful and for which sensors exist. In this example, inputs captured by sensing subsystem **502** includes voice input **504**, video and sound input **506**, and input from other sensors **508**.

Digital life recorder master control system **546** directs the control of sensing subsystem **502**. Master control system **546** passes the captured data on to recording subsystem **500** for further processing.

Recording subsystem **500** sends data received from voice input **504** to voice recognition component **510**. Voice recognition component **510** processes the data received from voice input **504** to interpret voice commands. The voice commands are forwarded to command queue **512**. Command queue **512** may also receive other types of input, such as, but not limited to, input from a cellular phone (not depicted), keyboard interface **518**, or inputs received from script processing **520**. A script is a set of commands written in an interpreted language to automate certain application tasks. Command queue **512** sends commands to master control system **546**. These commands are executed by a command processor **548**. The commands can be used to get feedback through headphones and/or display and allows the user to control and configure the system in near real-time.

Recording subsystem **500** passes data from video and sound input **506** to digital video recorder **514**. Digital video recorder **514** converts analog data to digital data and organizes the data into data segments. Digital video recorder **514** also takes in metadata from the data capturing devices. Metadata is data that describes the content, quality, condition, origin, and other characteristics of data. The metadata includes a timestamp and location captured by a global positioning system device, such as global positioning system **420** shown in FIG. **4**.

The data segments are tagged with the timestamp and location of when and where each data segment was captured prior to sending the data segments to raw data queue **516**. In addition, data is captured from other sensors **508** and processed by sensor information capture **522** prior to relaying the data to raw data queue **516**.

Additionally, raw data queue **516** includes external information data gathered from a network data sharing component **524**. Network data sharing component **524** aggregates, organizes, formats, and attaches metadata to data acquired via public, inter-personal, and intra-personal data sharing networks. Network data sharing component **524** includes a personal network information sharing component **526** and a public network information sharing component **528**. Network data sharing component **524** is described in more detail in FIG. **7** below.

Data preprocessing component **530** filters, masks, compresses, applies metadata associations, and processes other immediate data manipulation functions. Data preprocessing component **530** reads information from raw data queue **516** and passes the pre-processed data along to processed data queue **532**. Recording subsystem **500** uses processed data queue **532** to temporarily store the data before passing the data along to the object storage process **534**. Object storage process **534** places the data into daily cache **536**. The data is placed into two separate databases within daily cache **536**; digital life metadata database **538** and digital life information object database **540**. Daily cache **536** has enough storage capacity to hold the captured data until recording subsystem **500** interfaces with a repository mass store.

Recording subsystem **500** uses a personal information sharing subsystem **542**, as will be further described in FIG. **7**, to broadcast information from digital life metadata database **538** and digital life information object database **540**, within daily cache **536**, to authorized users via a wireless or Bluetooth network. Recording subsystem **500** also uses a personal audio and video monitor subsystem **544** to provide a user interface to the data in daily cache **536**. Recording subsystem **500** provides a keyboard, which can be used to enter commands and access the user interface functions. Recording subsystem **500** also provides a method to describe and connect to network data sharing component **524**.

With reference now to FIG. **6**, a block diagram illustrating the relationship between a recording subsystem and the components of a repository subsystem is depicted in accordance with an illustrative embodiment. The recording subsystem may be, for example, recording subsystem **500** shown in FIG. **5**. The components of repository subsystem **600** illustrated in FIG. **6** may be implemented in a data processing system, such as data processing system **200** as shown in FIG. **2**.

Repository subsystem **600** includes a control system **602**, a command queue **604**, a network interface (not depicted), a relational storage means called the repository (repository database **608**), personal information sharing interface **610**, and an interface to the playback subsystem (digital life playback and repository system monitor **612**).

Control system **602** contains a command processor **614**, which interprets and executes commands generated by either a keyboard interface **616**, remote operation via the network, or scripts, which are executed (script processing **618**) according to a scheduler **620**. In addition, control system **602** manages, processes and threads (process control **622**, system configuration **624**, and any time coordination **626** that might be required.

Recording subsystem **500**, as shown in FIG. **5**, interfaces with a network, such as network **102** shown in FIG. **1**, to upload data stored in the daily cache to repository subsystem **600**. Repository subsystem **600** interfaces to the network to download the daily cache archive **606** previously stored by the recording subsystem.

Repository subsystem **600** stores the data into repository database **608**. Repository database **608** includes two databases, digital life repository metadata database **628**, and digi-

tal life repository information object storage **630**, for long term storage and use. Digital life repository information object storage **630** stores the captured life data objects. Digital life repository metadata database **628** stores metadata used to index and describe the actual captured information objects that the digital life recording subsystem acquires during the life recording process. Additionally, repository database **608** may include information obtained through personal information sharing interface **610**. Additional details of the network data sharing subsystem are described in more detail in FIG. **7** below.

On an ongoing basis, the indexing information in digital life repository metadata database **628** may be enhanced and refined by processes that study the captured data in the repository and update the index information (ongoing data and index refinement **629**). An example of the refinement process includes analyzing audio data within an object to recognize words associated with the captured object. These words are then used as part of a full text search capability where the identified words are used as index information that points to the data objects that contains those words.

An interface, such as digital life playback and repository system monitor **612**, exists between repository subsystem **600** and a playback subsystem. Digital life playback and repository system monitor **612** allows the playback subsystem to access the data existing in repository database **608** based on various searching techniques. The playback subsystem manages displaying of the data to a user. Digital life playback and repository system monitor **612** also manages the status and manipulation of the repository subsystem **600**. Additional details of a playback subsystem are described in more detail in FIG. **8** below.

With reference now to FIG. **7**, a block diagram illustrating the relationship between components of a network data sharing subsystem is depicted in accordance with an illustrative embodiment. The components of network data sharing subsystem **700** illustrated in FIG. **7** may be implemented in a data processing system, such as data processing system **200** as shown in FIG. **2**.

Network data sharing subsystem **700** includes public data sharing network **702**, interpersonal data sharing network **704**, intrapersonal data sharing network **706**, and a personal/public information aggregator **708**.

Public data sharing network **702** provides connectivity to information that is being locally broadcast as well as predefined Internet feeds. The system may be composed of wireless networks configured to connect automatically when detected. Hard networks may also be used to capture additional information.

Additionally, public data sharing network **702** captures nearby information, from other people broadcasting information about themselves, via the other people subsystem **712**. This information might be information about their interests and desires. Public data sharing network **702** also captures business information from nearby business broadcasts, such as, but not limited to, sales and advertisements via the businesses subsystem **714**.

Additionally, public data sharing network **702** captures public and private infrastructure broadcasts via the infrastructure subsystem **716**. The public and private infrastructure information may include, but are not limited to, speed limits, traffic conditions/warnings, and weather condition warnings. Public data sharing network **702** supports any network connectivity that allows Internet access via the Internet Feeds subsystem **718**. Internet Feeds subsystem **718** is used to receive web based information, such as, but not limited to, news, weather, entertainment, and sports results.

Interpersonal data sharing network **704** is more specific to the person being monitored than is public data sharing network **702**. Interpersonal data sharing network **704** does not receive broadcasts. Instead, interpersonal data sharing network **704** negotiates connections with other people **720** and businesses **722** to receive transaction oriented information for recording. For example, transaction information associated with transactions that occur between businesses and the person are recorded. The transaction information may include information about purchases, such as, but not limited to, price, model numbers, serial numbers, warranties, and receipts. Information shared from other people's digital life recording system is captured using a subsystem, such as other people **720**.

Intrapersonal data sharing network **706** aggregates personal information about the person's life for recording. The personal information may be aggregated from a plurality of sources including, but not limited to, personal computing **724**, cell phone/personal digital assistants (PDA) **726**, medical electronics **728**, digital cameras **730**, and home appliances/car **732**. The information captured from personal computing **724** may include, but is not limited to, emails, computer files, and computer-based communications like instant messages or voice over IP (VoIP). Bluetooth or other wireless/wired connectivity may be used for interfacing the data to the digital life recorder.

Intrapersonal data sharing network **706** may also capture cell phone conversations and PDA usage from cell phone/PDA **726** using Bluetooth connectivity or other transmission means. Additionally, intrapersonal data sharing network **706** may record the command and data associated with medical electronics **728**. Images may also be captured from digital cameras **730**. Digital cameras **730** include cameras that are not already associated with the sensing subsystem. Other data may include information associated with home appliances/car **732**.

Personal/public information aggregator **708** aggregates, organizes, formats, and attaches metadata to data acquired via public data sharing network **702**, interpersonal data sharing network **704**, and intrapersonal data sharing network **706**. The resultant aggregate is fed into the raw data queue **710** of a recording subsystem, such as recording subsystem **500** in FIG. **5**.

Turning now to FIG. **8**, a block diagram illustrating the components of a playback subsystem is depicted in accordance with an illustrative embodiment. The components of playback subsystem **800** illustrated in FIG. **8** may be implemented in a data processing system, such as data processing system **200** as shown in FIG. **2**.

In this example, playback subsystem **800** comprises of several subsystems, such as, but not limited to, screen define subsystem **810**, search subsystem **812**, render subsystem **814**, and create project subsystem **816**. Additionally, playback subsystem **800** includes a user interface **802** associated with the digital life recording system. User interface **802** may be used to organize and present information stored in a data repository, such as repository database **608** shown in FIG. **6**. Playback subsystem **800** interfaces with digital life data repository **804**. Digital life data repository **804** includes digital life metadata database **806** and digital life information object storage database **808**. Digital life data repository **804** may be similarly implemented as repository database **608** shown in FIG. **6**.

Screen define subsystem **810** provides an interface to receive user inputs, such as, but not limited to, selecting the type of information a user wants to view. The type of information may include, but is not limited to, video information,

sound information, temperature sensor information, or any of the other information captured by the recording system or network data sharing system. The definition for these types of information and their mapping to the digital life data database is managed through the metadata definitions database **820**. The information can be organized on user interface **802** and then saved in a themes database **818** using the function save selected fields as a theme (block **828**). Saved themes may be retrieved from themes database **818** using the retrieve theme (block **826**) functionality. Other functionality provided by screen define subsystem **810** may include, but is not limited to, computer usable program code that allows a user to select fields to display (block **822**), and to determine order of fields to display (block **824**).

Search subsystem **812** allows a user to input a date/time range to select the data that the user wants to view (block **830**). Search subsystem **812** determines the initial date range to display on the user interface (block **832**) prior to searching digital life data repository **804**. Search subsystem **812** retrieves the scenelet thumbnails from digital life information object storage database **808** for the time slices within the date range (block **834**). A scenelet is a snippet of a scene. Additional details about a selected scenelet may be viewed (block **836**).

For all non-video information or metadata that is to be displayed on the screen, such as, but not limited to, sound and temperature, similar searching is performed and summaries retrieved for each time slice (block **838**). Detailed information for the requested date/time will also be retrieved. Similarly, a generic searching capability is provided that uses standard search language queries, such as Structured Query Language (SQL), to allow access to any aspect of the digital life data repository **804** (block **840**).

Render subsystem **814** is used to render the information retrieved, using search subsystem **812**, on user interface **802**. As stated above, the layout of user interface **802** is defined using screen define subsystem **810** and stored in themes database **818**. Render subsystem **814** provides functionality to display, manipulate, and control a scenelet (block **842**), select a scenelet for a detail view (block **844**), display information according to theme (block **846**), scroll through time line of thumbnails (block **848**), and scroll through time line (block **850**).

Create project subsystem **816** is used to support the creation of a saved set of information found in digital life data repository **804**. A user may, using user interface **802**, select either scenelets (block **852**) or thumbnails (block **854**), from the render subsystem **814** and save the group of items as a project (block **856**) in a project definitions database **858**. Additionally, previously saved projects may be retrieved from the project definitions database **858** using user interface **802**.

With reference now to FIG. **9**, a user interface associated with a playback subsystem is depicted in accordance with an illustrative embodiment. Playback subsystem **902** uses data acquired from a digital life data repository **904**. Digital life data repository **904** contains digital life metadata database **906** and digital life information object storage database **908**. Digital life data repository **904** may be similarly implemented as repository database **608** shown in FIG. **6**.

The results associated with a search are depicted on the left hand side of user interface **900**. Additionally, user interface **900** provides a mechanism for adjusting the timeline vernier. The timeline vernier controls the precision of time. Thus, a user can adjust from a rough timeline vernier to a more precise/fine timeline vernier. Scenelets associated with a selected result is presented in the bottom half of user interface **900**.

FIG. **10** is a diagram of a data model in accordance with an illustrative embodiment. Digital life conceptual data model **1000** may include, but is not limited to, the following subsystems: scenelet **1002**, subscription/publication **1004**, environmental **1006**, theme **1008**, biometric **1010**, contacts **1012**, index services **1014**, location **1016**, and project **1018**.

Scenelet **1002** organizes and manages the image and sound files. Subscription/publication **1004** manages the external data feeds into and out of the digital life system, such as digital life recording system **300** shown in FIG. **3**. Environmental **1006** captures and manages environmental characteristics related to the scenelet data. Theme **1008** allows users to customize and manage their digital life system interfaces and experiences. Biometric **1010** captures and manages biometric information associated with human contacts within the scenelets. Contacts **1012** is a repository of known contacts. Index services **1014** provides post processing capability to further analyze and categorize scenelet data. Location **1016** captures and manages specific location related details during a scenelet. Project **1018** provides an access management system that allows users to customize data retrieval.

FIG. **11** is a block diagram showing the operation of a digital life recorder in an identified location in accordance with an illustrative embodiment. Digital life recorder **1100** is a digital life recorder, such as the digital life recorder in digital life recording system **300** in FIG. **3**.

Digital life recorder **1100** includes usage policy controller **1102**. Usage policy controller **1102** is a software component for controlling the capture of data at identified location **1104**. Identified location **1104** is any location in which a user of digital life recorder **1100** may be present. Identified location **1104** may be, for example, an indoor or outdoor music venue, a building, a room within a building, an underground parking garage, an interior of a vehicle, or any other location.

Usage policy controller **1102** controls the capture of data at identified location **1104** by disabling and/or enabling the operation of set of sensors **1106** based upon a location of digital life recorder **1100**. Set of sensors **1106** are sensors of a sensing subsystem of digital life recorder **1100**. Set of sensors **1106** includes audio sensors **1110** and video sensors **1108**. Audio sensors **1110** is a set of one or more sensors, such as microphones **412**, **414**, **416**, and **418** in FIG. **4**. Audio sensors **1110** detects and records sounds and other forms of audio-based information. Video sensors **1108** is a set of one or more sensors, such as cameras **404**, **406**, **408**, and **410** in FIG. **4**. Video sensors **1108** detects and records images and other visual-based information. Thus, usage policy controller controls the capture of data at identified location **1104** by disabling and/or enabling at least one of audio sensor **1110** and video sensors **1108**. In other words, usage policy controller may disable either audio sensors **1110**, video sensors **1108**, or both.

Usage policy controller **1102** controls set of sensors **1106** with reference to set of usage policies **1112**. Set of usage policies **1112** is one or more rules that instruct usage policy controller **1102** whether and when set of sensors **1106** may collect data at identified location **1104**. For example, set of usage policies **1112** may include a rule preventing the collection of any data in a selected room of a house for protecting the privacy of a user of digital life recorder **1100**. Set of usage policies **1112** may also include a rule that prevents the collection of audio data at a concert. Another rule of set of usage policies **1112** may prevent the collection of video data at a studio in which photographs are taken. Other rules may be

included within set of usage policies **1112** for specifying locations in which data may be collected and the types of data that may be collected.

In an alternate embodiment, set of usage policies **1112** may instruct usage policy controller **1102** to tag a data feed collected at identified location **1104** for restricted playback to form tagged data **1113**. Tagged data **1113** is data collected at identified location **1104** tagged with one or more recording restrictions specified by set of usage policies **1112**. Tagged data **1113** may include audio data and video data. In this embodiment, the capture of data at identified location **1104** is not restricted. On the contrary, all data may be captured at identified location **1104**. However, rules set forth in set of usage policies **1112** may prohibit playback of certain aspects of tagged data **1113**. For example, set of usage policies **1104** may allow playback of audio data captured at identified location **1104** but may prohibit playback of video data captured at identified location **1104**. Thus, as set of sensors **1106** captures data at identified location **1104**, usage policy controller **1102** may tag the video data collected at identified location **1104** form tagged data **1113**. When a playback subsystem encounters tagged data **1113**, the playback subsystem prevents a presentation of the video data collected at identified location **1104**. Tagged data may be selectively replayed if the requisite authority is obtained. In one example, authority may be obtained from the owner of identified location **1104**, or from a court of law.

Usage policy controller **1102** controls the capture of data at identified location **1104** based upon a type or identity of identified location **1104**. Usage policy controller **1102** utilizes locale identifier sensor for determining a type or identity of a location in which digital life recorder **1100** is present to form identified location **1104**. Locale identifier sensor **1114** is a sensing device configured to detect locale identifier **1116**. Locale identifier **1116** is an identifier usable to distinguish a location in which locale identifier **1116** is located. For example, locale identifier **1116** may be a bar code, a radio frequency identification tag, a device emitting a specific audio frequency, a light source emitting a particular wavelength of light, or any other object or device included in identified location **1104**.

Thus, where locale identifier **1116** is a bar code, locale identifier sensor **1114** is a bar code scanner that detects and reads locale identifier **1116**. Similarly, locale identifier **1116** may be a radio frequency identification tag and locale identifier sensor **1114** may be a radio frequency identification tag reader. Locale identifier sensor **1114** may detect the presence of locale identifier **1116** when digital life recorder **1100** enters identified location **1104**. In other embodiments, locale identifier **1116** may also be a unique wall color of a location, a selected arrangement of objects in a location, an odor of a location, or any other characteristic of a location that may be detected by locale identifier sensor **1114**. In these embodiments, locale identifier sensor **1114** is a sensing device capable of detecting locale identifier **1116**.

Locale identifier sensor **1114** detects the presence of locale identifier **1116** and generates locale identifier data **1118** for use by usage policy controller **1102** for controlling the capture of data at identified location **1104**. Locale identifier data **1118** is data describing or otherwise associated with the type or identity of identified location **1104**. Locale identifier data **1118** is data derived from locale identifier **1116**. For example, if identified location **1104** is a kitchen, then locale identifier data **1118** may notify usage policy controller **1102** that identified location **1104** is a generic kitchen. In another embodiment, usage policy controller **1102** may identify a particular location using locale identifier data **1118**. In this embodiment, locale identifier data **1118** may be an alphanumeric string of text identifying a particular kitchen. Thus, usage policy controller **1102** may identify a particular kitchen in a location having multiple kitchens, such as in a resort hotel. By using locale identifier data **1118**, usage policy controller **1102** may control the operation of set of sensors **1106** by a generic location type, or by a unique set of restrictions governing a specific location.

In the absence of locale identifier **1116**, locale identifier sensor **1114** may generate locale identifier data **1118** to inform usage policy controller **1102** that a location of digital life recorder **1100** is not an identified location. In one embodiment, unidentified locations are not subject to recording restrictions. Alternatively, unidentified locations may be subject to a generic or default locale restriction from set of usage policies **1112**.

Data used by usage policy controller **1102** for controlling the capture of data at identified location **1104** is stored in location database **1120**. Location database **1120** is a data structure, such as, for example, a relational database, a table, an array, or other form of data structure. The data stored in location database **1120** is maintained in location records, such as location record **1122**. Location record **1122** is an entry of location database **1120** corresponding to identified location **1104**. Location record **1122** may be generic and apply to more than one identified location. Alternatively, location record **1122** may apply to only a specific location. For example, location record **1122** may apply to all concert halls, or location record **1122** may apply to a selected concert hall.

Location record **1122** is an entry in location database **1120** corresponding to identified location **1104**. Location record **1122** includes location data field **1124**. Location data field **1124** is a data field of location record **1122** that corresponds to identified location **1104**. Location data field **1124** may serve as a primary key differentiating location records from one another. In one embodiment, location data field **1124** stores a type of location or a unique identifier associated with a particular location. For example, location data field **1124** may include a word corresponding to the type of location to which location record **1122** applies. Thus, location data field **1124** may include words, such as "kitchen," "garage," "concert hall," "pool," or any other location type. Alternatively, location data field **1124** may store an alphanumeric identifier corresponding to a particular location. For example, the alphanumeric identifier may specify that location record **1122** applies to a particular pool at a hotel or a specific parking garage at a mall.

Location record **1122** may include usage policy pointer data field **1126**. Usage policy pointer data field **1126** is a data field storing a pointer identifying recording restrictions from a set of usage policies that apply to identified location **1104**. Usage policy controller **1102** may reference pointers stored in usage policy pointer data field **1126** to locate the recording restrictions governing the capture of data at identified location **1104**.

Location record **1122** may also include restriction status data field **1128**. Restriction status data field **1128** is a data field storing information pertaining to recording restrictions of identified location **1104**, which are active, inactive, or temporarily disabled. For example, restriction status data field **1128** may include information indicating that audio recording at identified location **1104** is prohibited, but that video recording is permitted. Usage policy controller **1102** may populate this field with information in the first instance that digital life recorder **1100** enters identified location **1104**. In addition, usage policy controller **1102** may update this field as recording restrictions are updated. Usage policy controller

1102 may then reference information stored in restriction status data field 1128 for controlling the capture of data at identified location 1104 in the event that locale identifier 1116 is undetectable. For example, if a user of digital life recorder 1100 is in identified location 1104 and locale identifier 1116 is a bar code in identified location 1104 that has been obstructed, then usage policy controller 1102 may continue to control data collection at identified location 1104 using the data stored in restriction status data field 1128.

In another embodiment, usage policy controller 1102 may control the capture of data from identified location 1104 using embedded usage policy 1130. Embedded usage policy 1130 is a usage policy specified by locale identifier 1116. Embedded usage policy 1130 specifies the provisions governing the collection of data at identified location 1104, or alternatively, the types of data for tagging and selective playback. The provisions of embedded usage policy 1130 may be passed to usage policy controller 1102 in locale identifier data 1118. Consider an example where locale identifier 1116 is a radio frequency identification tag and locale identifier sensor 1114 is a radio frequency identification tag reader. Locale identifier 1116 is encoded with information that forms embedded usage policy 1130. When locale identifier 1116 receives a radio frequency signal from locale identifier sensor 1114, locale identifier 1116 returns embedded usage policy 1130 to locale identifier sensor 1114. Locale identifier sensor 1114 may transmit the provisions of embedded usage policy 1130 to usage policy controller 1102 in locale identifier data 1118.

In an illustrative embodiment, a user operating digital life recorder 1100 enters a location. In the absence of locale identifier 1116, usage policy controller 1102 may allow unrestricted data capture. Alternatively, usage policy controller 1102 may invoke a default usage policy that may limit the capture of some data at the location.

If the user operating digital life recorder 1100 enters identified location 1104 having locale identifier 1116, then the capture of data by digital life recorder 1100 may be limited according to one or more usage policies. If locale identifier 1116 includes embedded usage policy 1130, then locale identifier sensor 1114 sends the provisions of embedded usage policy 1130 to usage policy controller 1102 in locale identifier data 1118. Usage policy controller 1102 then limits the capture of data at identified location 1104 according to the provisions of embedded usage policy 1130.

However, if locale identifier 1116 does not include embedded usage policy 1130, then usage policy controller 1102 searches set of usage policies 1112 for a usage policy applicable to identified location 1104. Usage policy controller 1102 may locate the applicable usage policy by first locating location record 1122. Location record 1122 includes usage policy pointer data field 1126 that identifies the usage policy from set of usage policies that applies to identified location 1104. Usage policy controller 1102 may locate location record 1122 by associating data included in locale identifier data 1118 with data stored in location data field 1126.

Usage policies governing the capture of data at identified location 1104 may restrict the capture of data or may instruct usage policy controller 1102 to tag certain types of data for selective playback. If usage policies applicable to identified location 1104 restrict the capture of data, then usage policy controller 1102 may disable audio sensor 1110 and/or video sensor 1108. If usage policies restrict playback of types of data, then set of sensors are allowed to capture data at identified location. Restricted data types are tagged by usage policy controller 1102 during or after collection. A playback system, such as digital life playback subsystem 310 in FIG. 3, may then present to a user any data that has not previously been tagged.

FIG. 12 is a flowchart of a process for controlling the operation of a digital life recorder in an identified location in accordance with an illustrative embodiment. The process of FIG. 12 may be may be implemented in a digital life recording system, such as digital life recording system 300 shown in FIG. 3. In particular, the process in FIG. 12 may be implemented by a usage policy controller, such as usage policy controller 1102 in FIG. 11.

The process begins by making the determination as to whether locale identifier data has been received for an identified location (step 1202). The locale identifier data may be received from a locale identifier sensor, such as locale identifier sensor 1114 in FIG. 11.

The process then makes the determination as to whether the usage policy is present in the locale identifier data (step 1204). If the process makes the determination that the usage policy is not present in the locale identifier data, then the process performs a lookup of the set of usage policies for the identified location (step 1206). The process then makes the determination as to whether the set of usage policies instructs the process to cease data capture (step 1208). If the process makes the determination that the set of usage policies instructs the process to cease data capture, then the process makes the determination as to whether the set of usage policies restrict the collection of audio (step 1210). If the set of usage policies restricts the collection of audio, then the process disables the audio sensor (step 1214). The process then makes the determination as to whether the set of usage policies restrict the collection of video (step 1216). If the process makes the determination that the set of usage policies requests restriction of video, then the process disables the video sensor (step 1218) and then the process terminates.

Returning now to step 1210, if the process makes the determination that a restriction of audio is not requested, then the process continues to step 1216. Similarly, if at step 1216, the process makes the determination that a restriction of video is required, then the process terminates.

With reference to step 1204, if the process makes the determination that a usage policy is present in the locale identifier data, then the process continues to step 1208.

At step 1208, if the process makes the determination that the set of usage policies does not request the process to cease collection of data, then the process tags the data feed collected at the identified location with recording restrictions specified in the usage policy (step 1220), and the process terminates.

With reference to step 1202, if the process makes the determination that location data is not received, then the process makes the determination as to whether a recording restriction is active (step 1222). If the process makes the determination that a recording restriction is not active, then the process terminates. However, if the process makes the determination that a recording restriction is active, in the absence receiving location data, then the process enables collection of audio and video (step 1224). The process terminates thereafter.

FIG. 13 is a flowchart of a process for capturing data of a locale identifier in accordance with an illustrative embodiment. The process of FIG. 13 may be may be implemented in a digital life recording system, such as digital life recording system 300 shown in FIG. 3. In particular, the process in FIG. 13 may be implemented in a locale identifier sensor, such as locale identifier sensor 1114 in FIG. 11.

The process begins by monitoring for a locale identifier (step 1302). The locale identifier is a locale identifier, such as

locale identifier **1116** in FIG. **11**. The process then makes the determination as to whether a locale identifier has been detected (step **1304**).

If the process makes the determination that the locale identifier has not been detected, then the process informs the usage policy controller of an absence of the locale identifier (step **1306**). The usage policy controller is a usage policy controller, such as usage policy controller **1102** in FIG. **11**. Thereafter, the process returns to step **1302**.

Returning now to step **1304**, if the process makes the determination that a locale identifier is detected, then the process sends the locale identifier to the usage policy controller (step **1308**) and the process terminates. In another embodiment, rather than terminating, the process in FIG. **13** may return to step **1302** in response to sending the locale identifier to the usage policy controller. In this manner, the process may continually monitor for a locale identifier for presenting to a usage policy controller up-to-date data for use in controlling the operation a set of sensors of a digital life recorder.

With reference now to FIG. **14**, a high-level flowchart is presented illustrating a process for capturing, storing, and presenting data in accordance with an illustrative embodiment. The process illustrated in FIG. **14** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by capturing data associated with daily activities of a person using data capturing devices (step **1400**). The captured data is processed by a mobile device associated with the person (step **1402**). The data is then stored in a cache of the mobile device (step **1404**). The process monitors the mobile device to determine when the mobile device is interfaced with a repository mass store (step **1406**). Interfacing may occur when the mobile device is in the vicinity of the repository mass store and connection is established via a wireless transmission link. Interfacing may also occur when the mobile device is docked to a repository mass store. The process continues the process of capturing (step **1400**), processing (step **1402**), and storing (step **1404**) the data until a determination is made that the mobile device is interfaced with a repository mass store.

In response to interfacing the mobile device to a repository mass store, the process uploads the data stored in the cache of the mobile device into the repository mass store (step **1408**). Metadata associated with the data, is indexed into an indexing database (step **1410**). The process monitors for a request, from a user, to retrieve a selected data segment (step **1412**). In response to receiving a request for a selected data segment, the process performs a search and retrieves the selected data segment from the repository mass store (step **1414**). The process presents the selected data segment to the user (step **1416**), with the process terminating thereafter.

With reference now to FIG. **15**, a flowchart illustrating a process for capturing life data is depicted in accordance with an illustrative embodiment. The process illustrated in FIG. **15** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by retrieving the video capture parameters (step **1500**). The process monitors for start request from the control system (step **1502**). In response to receiving a start request from the control system, the process captures the video, audio, and other data from the data capturing devices associated with a person (step **1504**). The captured data is placed in a buffer for temporary storage (step **1506**). The process retrieves data from the buffer (step **1508**). Additionally, the process retrieves data associated with a global positioning system device (step **1510**). The process assembles a data object by associating the data associated with a global positioning system device with the data retrieved from the buffer (step **1512**). The process writes the data object to a raw data queue (step **1514**). The process repeats steps **1504-1514** until all the data in the buffer is written to the raw data queue.

FIG. **16** is a flowchart of a process for improving the indexing of the stored data by tagging life data objects in accordance with an illustrative embodiment. The process illustrated in FIG. **16** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by retrieving audio recording associated with a digital life recording system (step **1600**). The audio recording is processed through a voice recognition subsystem to interpret voice commands (step **1602**). The process adds the voice commands to a command queue (step **1604**). Commands may also be added to the command queue using a mouse or keyboard. The tagging command includes a timestamp and a descriptive text index tag string. The process executes the commands stored in the command queue (step **1606**). The process assembles the descriptive text index tag string and timestamp into an indexing data object (step **1608**). The process writes the tagged data object to a raw data queue (step **1610**) for later placement into the metadata database, with the process terminating thereafter.

FIG. **17** is a flowchart of a process for preprocessing raw recorded data in accordance with an illustrative embodiment. The process illustrated in FIG. **17** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by pulling a data object from the raw data queue (step **1700**). The process determines the data type of pulled data object (step **1702**). The process looks up the associated preprocessor routines in system configuration (step **1704**). The process passes the raw data object serially to the specified preprocessor routines (step **1706**). The specified preprocessor routines return the processed data object to the process. The process then passes the processed data object to a processed data queue (step **1708**). The process loops and repeats steps **1700-1708**.

FIG. **18** is a flowchart of a process for creating a unique identifier for indexing and storing data objects in accordance with an illustrative embodiment. The process illustrated in FIG. **18** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by pulling a data object from the preprocessed data queue (step **1800**). The process extracts the timestamp and global positioning system (GPS) information from the data object (step **1802**). The process creates a unique identifier for identifying the data object (step **1804**). The process then stores the data object along with the unique identifier in a digital life information object storage database (step **1806**), such as digital life repository information object storage **630** shown in FIG. **6**. The process stores indexing information, such as, but not limited to, a timestamp, global positioning system information, the unique identifier, and the physical location of where the data object is stored in the digital life information object storage database, in a digital life repository metadata database (step **1808**), such as digital life repository metadata database **628** shown in FIG. **6**. The process loops and repeats steps **1800-1808**.

FIG. **19** is a flowchart of a process for archiving data objects in accordance with an illustrative embodiment. The process illustrated in FIG. **19** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by determining a set of archive ready information stored in the daily cache of a mobile device (DLR system) (step **1900**). The mobile device is associated with a person being recorded. The archive ready information comprises of the stored data objects, metadata, and other data associated with the captured data. The process adds the set of archive ready information to a data queue (step **1902**). The process loops and repeats the steps of determining (step **1900**) and adding (step **1902**) archive ready information to a data queue until there is no more archive ready information.

In response to the mobile device interfacing with a repository mass store, the process retrieves the set of archive ready information from the data queue (step **1904**). The process inserts the set of archive ready information into the repository mass store, such as repository database **608** shown in FIG. **6**. The process then adds a completion message to a message queue (step **1906**). The process loops and repeats the steps of retrieving (step **1904**) and inserting (step **1906**) archive ready information into the repository mass store until all archive ready information is stored in the repository mass store.

The process receives completion messages from the message queue (step **1908**). In response to receiving the completion messages from the message queue, the process deletes the set of archive ready information from the daily cache (step **1910**). The process loops and repeats the steps of receiving completion messages from the message queue (step **1908**) and deleting the set of archive ready information from the daily cache (step **1910**).

FIG. **20** is illustrates different processes for adding commands to a command queue in accordance with an illustrative embodiment. The processes illustrated in FIG. **20** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

In process **2000**, a keyboard handler monitors keystrokes for commands (step **2002**). In response to detecting a command, the detected command along with the associated arguments is placed on the command queue (step **2004**). Process **2000** loops and continues monitoring (step **2002**) and adding detected commands (step **2004**) to the command queue.

In process **2006**, a voice recognition subsystem monitors the sound channels for commands (step **2008**). In response to detecting a command, the detected command along with the associated arguments is placed on the command queue (step **2010**). Process **2006** loops and continues monitoring (step **2008**) and adding detected commands (step **2010**) to the command queue.

In process **2012**, a wireless network subsystem monitors the ports for commands (step **2014**). In response to detecting a command, the detected command along with the associated arguments is placed on the command queue (step **2016**). Process **2012** loops and continues monitoring (step **2014**) and adding detected commands (step **2016**) to the command queue.

In process **2018**, a script processing subsystem executes scheduled scripts and monitors for commands (step **2020**). In response to detecting a command, the detected command along with the associated arguments is placed on the command queue (step **2022**). Process **2018** loops and continues monitoring (step **2020**) and adding detected commands (step **2022**) to the command queue.

With reference to FIG. **21**, a flowchart a process for processing commands is depicted in accordance with an illustrative embodiment. The process illustrated in FIG. **21** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by retrieving commands and their associated arguments from a command queue (step **2100**), such as command queue **512** shown in FIG. **5**. The process interprets the retrieved command to determine if the retrieved command is a control command or a data command (step **2102**). A control command is a command that modifies the operation of the digital life recording system. A data command is command request to select data associated with the digital life recording system.

In response to determining that the retrieved command is a control command, the process calls the control appropriate subsystem for processing the command (step **2104**). In response to determining that the retrieved command is a data command, the process loads selected data to the raw data queue (step **2106**). The process loops and repeats steps **2100**-**2106** for all commands in the command queue.

With reference to FIG. **22**, a flowchart illustrating a process for acquiring and organizing personal device data is depicted in accordance with an illustrative embodiment. The process illustrated in FIG. **22** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by monitoring for a connection associated with a new device (step **2200**). The connection may be established either wirelessly, such as, but not limited to, Bluetooth enabled devices, or the connection may be established through a physical connection, such as, but not limited to, universal serial bus (USB) devices. The devices may include, but are not limited to, cellular phones, personal digital assistants (PDAs), and digital cameras. Responsive to detecting a connection, the process verifies the device connectivity (step **2202**).

The process retrieves configuration information to determine the type of data to acquire from the connected device (step **2204**). The process then reads data from the connected device(s) and tags the data with the content source information, a timestamp, and global positioning system location (step **2206**). The process sends the tagged data to the raw data queue (step **2208**). The process determines whether more data exists in the connected device (step **2210**). In response to a determination that more data exists in the connected device, the process repeats the steps of reading and tagging the data (step **2206**), and sending the tagged data to the raw data queue (step **2208**). In response to a determination that more data does not exist in the connected device, the process returns to the step of monitoring for a connection associated with a new device (step **2200**).

FIG. **23** is a flowchart of a process for acquiring and organizing personal network data in accordance with an illustrative embodiment. The process illustrated in FIG. **23** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by monitoring for a connection associated with a new personal network (step **2300**). The connection may be established either by wired or wireless means. In response to detecting a connection, the process verifies the personal network connectivity (step **2302**). The process retrieves configuration information to determine the type of data to acquire from the connected personal network (step **2304**).

The process then reads data from the connected personal network and tags the data with the content source information, a timestamp, and global positioning system location (step **2306**). The process sends the tagged data to the raw data queue (step **2308**).

The process determines whether the data is configured to be announced (step **2310**). Responsive to a determination that the data is configured to be announced, the data is forwarded to a personal audio and video playback subsystem for

announcing the data to the person (step **2312**). The process determines whether more data exists in the connected personal network (step **2314**).

In response to a determination that more data exists in the connected personal network, the process repeats the steps of reading and tagging the data (step **2306**), sending the tagged data to the raw data queue (step **2308**), and determining whether the data is configured to be announced (step **2310**). In response to a determination that more data does not exist in the connected personal network, the process returns to the step of monitoring for a connection associated with a new personal network (step **2300**).

FIG. **24** is a flowchart of a process for acquiring and organizing data from the Internet in accordance with an illustrative embodiment. The process illustrated in FIG. **24** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by monitoring for a connection associated with a new network (step **2400**). The connection may be established either by wired or wireless means. In response to detecting a connection, the process verifies internet accessibility (step **2402**). The process then retrieves configuration information to determine the types of feeds to acquire (step **2404**). A feed is data created by a party and broadcast over the internet to others. The process connects to the desired feeds (step **2406**) and polls the internet feeds for content (step **2408**). In response to receiving data/content from the internet feeds, the data is tagged with the content source information, a timestamp, and global positioning system location (step **2410**). The process sends the tagged data to the raw data queue (step **2412**).

The process determines whether the data is configured to be announced (step **2414**). Responsive to a determination that the data is configured to be announced, the data is forwarded to a personal audio and video playback subsystem for announcing the data to the person (step **2416**). The process determines whether more data exists in the connected internet feeds (step **2418**).

In response to a determination that more data exist in the connected internet feeds, the process repeats the steps of polling (step **2408**) and tagging the data (step **2110**), sending the tagged data to the raw data queue (step **2412**), and determining whether the data is configured to be announced (step **2414**). In response to a determination that more data does not exist in the connected internet feeds, the process returns to the step of monitoring for a connection associated with a new network (step **2100**).

FIG. **25** is a flowchart of a process for acquiring and organizing data from business networks in accordance with an illustrative embodiment. The process illustrated in FIG. **25** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by monitoring for a connection associated with a new business network (step **2500**). The connection may be established either by wired or wireless means. In response to detecting a connection, the process verifies the business network connectivity (step **2502**). The process retrieves configuration information to determine the type of data to acquire from the connected business network (step **2504**). The process then reads data from the connected business network and tags the data with the content source information, a timestamp, and global positioning system location (step **2506**). The process sends the tagged data to the raw data queue (step **2508**).

The process determines whether the data is configured to be announced (step **2510**). Responsive to a determination that the data is configured to be announced, the data is forwarded to a personal audio and video playback subsystem for announcing the data to the person (step **2512**). The process determines whether more data exist in the connected business network (step **2514**).

In response to a determination that more data exists in the connected business network, the process repeats the steps of reading and tagging the data (step **2506**), sending the tagged data to the raw data queue (step **2508**), and determining whether the data is configured to be announced (step **2510**). In response to a determination that more data does not exist in the connected business network, the process returns to the step of monitoring for a connection associated with a new business network (step **2500**).

FIG. **26** is a flowchart of a process for acquiring and organizing data from infrastructure networks in accordance with an illustrative embodiment. The process illustrated in FIG. **26** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by monitoring for a connection associated with a new infrastructure network (step **2600**). The connection may be established either by wired or wireless means. In response to detecting a connection, the process verifies infrastructure network connectivity (step **2602**). The process then retrieves configuration information to determine the types of feeds to acquire (step **2604**). The types of feeds may include, but are not limited to, feeds containing data associated with weather conditions and feeds containing data associated with road conditions.

The process connects to the desired feeds (step **2606**) and polls the infrastructure feeds for content (step **2608**). In response to receiving data/content from the infrastructure feeds, the data is tagged with the content source information, a timestamp, and global positioning system location (step **2610**). The process sends the tagged data to the raw data queue (step **2612**).

The process determines whether the retrieved data contains data associated with road warnings or weather warnings related to the current location of the person (step **2614**). In response to a determination that the retrieved data contains data associated with road warnings or weather warnings related to the current location of the person, the road warning/weather warning is sent to a personal audio and video playback subsystem for announcing the warning(s) to the person (step **2616**).

The process determines whether more data exists in the connected infrastructure feeds (step **2618**). In response to a determination that more data exists in the connected infrastructure feeds, the process repeats the steps of polling (step **2608**) and tagging the data (step **2610**), sending the tagged data to the raw data queue (step **2612**), and determining whether the data contains data associated with road warnings or weather warnings related to the current location of the person (step **2614**).

In response to a determination that more data does not exist in the connected infrastructure feeds, the process returns to the step of monitoring for a connection associated with a new infrastructure network (step **2600**).

With reference now to FIG. **27**, a flowchart of a process for improving the indexing of data stored in the repository mass store is depicted in accordance with an illustrative embodiment. The process illustrated in FIG. **27** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by querying a repository metadata database, such as digital life metadata database **538** shown in FIG. **5**, for new records (step **2700**). In response to a determination that new records exist, the process retrieves the first

new record (step **2702**). The process retrieves the object data associated with the new record and retrieves the global positioning system (GPS) timestamp and location from the object data (step **2704**). The process passes the data object to a voice recognition subsystem to generate a text transcript of the object data (step **2706**).

The process saves the text transcript into an object database (step **2708**), such as digital life information object database **540** shown in FIG. **5**. The process then updates the repository metadata database with the global positioning system (GPS) timestamp and location, a unique identifier that points to the physical location of the text object (step **2710**). The process then performs full text indexing on the new text transcript object (step **2712**). The process stores the information associated with the full text indexing in the repository metadata database (step **2714**). The process adds a post-processed entry, for the text transcript object, into a post processing table to indicate that the associated text transcript object has been fully indexed (step **2716**). The process loops and queries the repository metadata database for a new record (step **2700**).

With reference now to FIG. **28**, a flowchart of a process for searching, retrieving, and rendering data is depicted in accordance with an illustrative embodiment. The process illustrated in FIG. **28** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by determining whether the user has selected an option to perform an advance search (step **2800**). In an advance search, the process receives a query request from a user to query the repository database (step **2802**). The query uses a database querying language, such as, but not limited to, structured query language (SQL). For a regular search, the process receives a request from a user containing a starting date/time and an ending date/time (step **2804**). The process creates a list of time slices based on the search request (step **2806**).

The process retrieves metadata for the scenelet time slices from a digital life data repository (step **2808**), such as digital life data repository **804** shown in FIG. **8**. The process also retrieves metadata for non-video information, such as, but not limited to, audio and temperature. The process then retrieves theme layout information from a themes database (step **2810**), such as themes database **818** shown in FIG. **8**. The process displays the retrieved data on a user interface (step **2812**), such as user interface **900** shown in FIG. **9**. The process then determines whether another search request is to be performed (step **2814**). In response to determining that another search request is to be performed, the process loops back to step **2800**.

With reference now to FIG. **29**, a flowchart of a process for organizing and presenting data is depicted in accordance with an illustrative embodiment. The process illustrated in FIG. **29** may be implemented in a digital life recording system, such as digital life recording system **300** shown in FIG. **3**.

The process begins by performing a search for data objects via a search subsystem (step **2900**), such as search subsystem **812** shown in FIG. **8**. The process displays the retrieved data objects via a render subsystem (step **2902**), such as render subsystem **814** shown in FIG. **8**. The process selects scenelets and other objects associated with presented data (step **2904**).

The process then prompts a user for a playback project name (step **2906**). In response to receiving a project name from a user, the process saves the project name and pointers to the selected objects in a project definitions database (step **2908**), such as project definitions database **858** shown in FIG. **8**. A pointer is a variable that holds the address of a data object or function.

The process then creates a self-contained executable of the selected objects (step **2910**). The self-contained executable may be emailed, posted to a web-site, or saved in non-volatile memory, such as on a hard drive. In response to a receiving a request to execute the self-contained executable of the selected objects, the process plays the self-contained executable on a user interface (step **2912**), such as user interface **900** shown in FIG. **9**.

Thus, the illustrative embodiments described herein provide a computer implemented method, apparatus, and computer program product for controlling the capture of data at an identified location. In one embodiment, the process identifies a location from locale identifier data to form an identified location in response to receiving the locale identifier data. The locale identifier data is associated with a location of the digital life recorder. In addition, the identified location is associated with a set of usage policies. The process then determines whether the set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the set of usage policies restricts playback of the data by a playback system. Thereafter, the process disables a set of sensors while the digital life recorder is in the presence of the locale identifier in response to determining that the set of usage policies restricts the capture of data.

The illustrative embodiments depict a system for dynamically capturing event data generated by users of a digital life recorder during the performance of daily activities. In addition, data may be captured from external sources, such as, without limitation, peer digital life recorder systems, public and private internet feeds, and information captured from broadcasts associated with businesses. The capture of data or the playback of data may be controlled by implementing a usage policy controller that governs the operation of components of a sensing subsystem of digital life recorder system. Thus, a user of the digital life recorder system may control the type of data that may be collected, stored, or replayed. In this manner, sensitive, confidential, or proprietary event data may be excluded from collection or presentation.

The flowchart and block diagrams in the Figures illustrate the architecture, functionality, and operation of possible implementations of systems, methods, and computer program products according to various embodiments of the present invention. In this regard, each block in the flowchart or block diagrams 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 alternative implementations, the functions noted in the block may occur out of the order noted in the figures. For example, two blocks shown in succession may, in fact, be executed substantially concurrently, or the blocks may sometimes be executed in the reverse order, depending upon the functionality involved. It will also be noted that each block of the block diagrams and/or flowchart illustration, and combinations of blocks in the block diagrams and/or flowchart illustration, can be implemented by special purpose hardware-based systems that perform the specified functions or acts, or combinations of special purpose hardware and computer instructions.

The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of the invention. As used herein, the singular forms "a," "an," and "the" are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition

of one or more other features, integers, steps, operations, elements, components, and/or groups thereof.

The corresponding structures, materials, acts, and equivalents of all means or step plus function elements in the claims below are intended to include any structure, material, or act for performing the function in combination with other claimed elements as specifically claimed. The description of the present invention has been presented for purposes of illustration and description, but is not intended to be exhaustive or limited to the invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art without departing from the scope and spirit of the invention. The embodiment was chosen and described in order to best explain the principles of the invention and the practical application, and to enable others of ordinary skill in the art to understand the invention for various embodiments with various modifications as are suited to the particular use contemplated.

The invention can take the form of an entirely hardware embodiment, an entirely software embodiment or an embodiment containing both hardware and software elements. In a preferred embodiment, the invention is implemented in software, which includes but is not limited to firmware, resident software, microcode, etc.

Furthermore, the invention can take the form of a computer program product accessible from a computer-usable or computer-readable medium providing program code for use by or in connection with a computer or any instruction execution system. For the purposes of this description, a computer-usable or computer readable medium can be any tangible apparatus that can contain, store, communicate, propagate, or transport the program for use by or in connection with the instruction execution system, apparatus, or device.

The medium can be an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system (or apparatus or device) or a propagation medium. Examples of a computer-readable medium include a semiconductor or solid-state memory, magnetic tape, a removable computer diskette, a random access memory (RAM), a read-only memory (ROM), a rigid magnetic disk and an optical disk. Current examples of optical disks include compact disk-read only memory (CD-ROM), compact disk-read/write (CD-R/W) and DVD.

A data processing system suitable for storing and/or executing program code will include at least one processor coupled directly or indirectly to memory elements through a system bus. The memory elements can include local memory employed during actual execution of the program code, bulk storage, and cache memories, which provide temporary storage of at least some program code in order to reduce the number of times code must be retrieved from bulk storage during execution.

Input/output or I/O devices (including but not limited to keyboards, displays, pointing devices, etc.) can be coupled to the system either directly or through intervening I/O controllers.

Network adapters may also be coupled to the system to enable the data processing system to become coupled to other data processing systems or remote printers or storage devices through intervening private or public networks. Modems, cable modem and Ethernet cards are just a few of the currently available types of network adapters.

The description of the present invention has been presented for purposes of illustration and description, and is not intended to be exhaustive or limited to the invention in the form disclosed. Many modifications and variations will be apparent to those of ordinary skill in the art. The embodiment was chosen and described in order to best explain the principles of the invention, the practical application, and to enable others of ordinary skill in the art to understand the invention for various embodiments with various modifications as are suited to the particular use contemplated.

What is claimed is:

**1**. A computer implemented method for controlling a capture of data by a digital life recorder, the computer implemented method comprising:

responsive to receiving locale identifier data, from a locale identifier sensor within a set of sensors comprising a sensing subsystem related to a user, associated with a location of the digital life recorder, identifying the location and a type of location by one or more processors of a data processing system, using the locale identifier data to form an identified location, wherein the identified location is associated with a predetermined set of usage policies, and wherein the predetermined set of usage policies assigned to the identified location is applied to the type of location identified;

the one or more processors determining whether the predetermined set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the predetermined set of usage policies restricts playback of the data by a playback system;

the one or more processors, responsive to determining that the predetermined set of usage policies restricts the capture of data, disabling a set of sensors while the digital life recorder is in a presence of a locale identifier; and

tagging the data captured at the identified location, by the one or more processors, with recording restrictions specified in the predetermined set of usage policies to form tagged data, wherein a presentation of the tagged data is restricted by the playback system, and wherein the tagging, by the one or more processors, further comprises:

identifying the data captured with at least one of a content source information, a timestamp of when a data segment was captured and a global positioning system location of a location of where the data segment was captured;

forwarding the identified data to a raw data queue;

determining whether retrieved data is configured; and

responsive to determining that the retrieved data is configured, announcing the retrieved data to an audio and a video playback subsystem.

**2**. The computer implemented method of claim **1**, further comprising:

converting analog data to digital data and organizing the data captured into data segments and to receiving metadata from data capturing devices, by the one or more processors, wherein the metadata comprises data including data that describes a content, a quality, and a condition, of the data captured.

**3**. The computer implemented method of claim **1**, wherein the predetermined set of usage policies comprises an embedded usage policy specified by the locale identifier, and wherein the locale identifier distinguishes a particular location in which the locale identifier is located and includes sources comprising a bar code, a radio frequency identification tag, a device emitting a specific audio frequency, a light source emitting a particular wavelength of light, a unique wall color of the particular location, a selected arrangement of objects in the particular location, an odor of the particular location or another predefined characteristic of the particular location for which the locale identifier sensor is attuned.

4. The computer implemented method of claim 1, further comprising:

the one or more processors enabling the set of sensors in an absence of the locale identifier.

5. A non-transitory computer readable storage medium having computer executable instructions stored thereon for controlling a capture of data by a digital life recorder, when executed by one or more processors of a computer, the computer executable instructions comprising:

computer executable instructions for identifying a location and a type of location using locale identifier data, from a locale identifier sensor within a set of sensors comprising a sensing subsystem related to a user, to form an identified location in response to receiving the locale identifier data, wherein the locale identifier data is associated with the location of the digital life recorder, wherein the identified location is associated with a predetermined set of usage policies, and wherein the predetermined set of usage policies assigned to the identified location is applied to the type of location identified;

computer executable instructions for determining whether the predetermined set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the predetermined set of usage policies restricts playback of the data by a playback system;

computer executable instructions for disabling a set of sensors while the digital life recorder is in a presence of the locale identifier in response to determining that the predetermined set of usage policies restricts the capture of data; and

computer executable instructions for tagging the data captured at the identified location, by the one or more processors, with recording restrictions specified in the predetermined set of usage policies to form tagged data, wherein a presentation of the tagged data is restricted by the playback system, and wherein the computer executable instructions for tagging further comprise:

computer executable instructions for identifying the data captured with at least one of a content source information, a timestamp of when a data segment was captured and a global positioning system location of a location of where the data segment was captured;

computer executable instructions for forwarding the identified data to a raw data queue; computer executable instructions for determining whether retrieved data is configured; and

computer executable instructions responsive to determining that the retrieved data is configured, for announcing the retrieved data to an audio and a video playback subsystem.

6. The non-transitory computer readable storage medium of claim 5, further comprising:

computer executable instructions for converting analog data to digital data and organizing the data captured into data segments and to receiving metadata from data capturing devices, wherein the metadata comprises data including data that describes a content, a quality, and a condition, of the data captured.

7. The non-transitory computer readable storage medium of claim 5, wherein the predetermined set of usage policies comprises an embedded usage policy specified by the locale identifier, and wherein the locale identifier distinguishes a particular location in which the locale identifier is located and includes sources comprising a bar code, a radio frequency identification tag, a device emitting a specific audio frequency, a light source emitting a particular wavelength of light, a unique wall color of the particular location, a selected arrangement of objects in the particular location, an odor of the particular location or another predefined characteristic of the particular location for which the locale identifier sensor is attuned.

8. The non-transitory computer readable storage medium of claim 5, further comprising:

computer executable instructions for enabling the set of sensors in an absence of the locale identifier.

9. An apparatus for controlling a capture of data by a digital life recorder, the apparatus comprising:

a bus system;

a memory connected to the bus system, wherein the memory includes computer usable program code; and

one or more processors connected to the bus system, wherein the one or more processors execute the computer usable program code to:

identify a location and a type of location using locale identifier data from a locale identifier sensor within a set of sensors comprising a sensing subsystem related to a user, to form an identified location in response to receiving the locale identifier data, wherein the locale identifier data is associated with the location of the digital life recorder, wherein the identified location is associated with predetermined a set of usage policies, and wherein the predetermined set of usage policies assigned to the identified location is applied to the type of location identified;

determine whether the predetermined set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the predetermined set of usage policies restricts playback of the data by a playback system;

disable a set of sensors while the digital life recorder is in a presence of the locale identifier in response to determining that the predetermined set of usage policies restricts the capture of data; and

tag the data captured at the identified location, by the one or more processors, with recording restrictions specified in the predetermined set of usage policies to form tagged data, wherein a presentation of the tagged data is restricted by the playback system, and wherein the tagging by the one or more processors further comprises to:

identify the data captured with at least one of a content source information, a timestamp of when a data segment was captured and a global positioning system location of a location of where the data segment was captured;

forward the identified data to a raw data queue;

determine whether retrieved data is configured; and

responsive to a determination that the retrieved data is configured, announce the retrieved data to an audio and a video playback subsystem.

10. The apparatus of claim 9, wherein the one or more processors further execute the computer usable program code to convert analog data to digital data and organize the data captured into data segments and to receive metadata from data capturing devices and wherein the metadata comprises data including data that describes content, quality, and a condition of the data captured.

11. The apparatus of claim 9, wherein the predetermined set of usage policies comprises an embedded usage policy specified by the locale identifier, and wherein the locale identifier distinguishes a particular location in which the locale identifier is located and includes sources comprising a bar code, a radio frequency identification tag, a device emitting a specific audio frequency, a light source emitting a particular

wavelength of light, a unique wall color of the particular location, a selected arrangement of objects in the particular location, an odor of the particular location or another predefined characteristic of the particular location for which the locale identifier sensor is attuned.

**12**. The apparatus of claim **9**, wherein the one or more processors further execute the computer usable program code to enable the set of sensors in an absence of the locale identifier.

**13**. A system for controlling a capture of data by a digital life recorder, the system comprising:

a locale identifier sensor, wherein the locale identifier sensor, within a set of sensors comprising a sensing subsystem related to a user, detects a presence of a locale identifier, and wherein the locale identifier is present in an identified location;

a usage policy controller, wherein the usage policy controller:

identifies a location from locale identifier data to form an identified location in response to receiving the locale identifier data from the locale identifier sensor, wherein the locale identifier data is associated with a location of the digital life recorder, and wherein the identified location is associated with a predetermined set of usage policies, and wherein the predetermined set of usage policies assigned to the identified location is applied to a type of location identified;

determines whether the predetermined set of usage policies restricts the capture of data by the digital life recorder at the identified location or whether the predetermined set of usage policies restricts playback of the data by a playback system;

disables a set of sensors while the digital life recorder is in a presence of the locale identifier in response to determining that the predetermined set of usage policies restricts the capture of data; and

tags the data captured at the identified location with recording restrictions specified in the predetermined set of usage policies to form tagged data, wherein a presentation of the tagged data is restricted by the playback system, and wherein the tagging further comprises:

identifying the data captured with at least one of a content source information, a timestamp of when a data segment was captured and a global positioning system location of a location of where the data segment was captured;

forwarding the identified data to a raw data queue;

determining whether retrieved data is configured; and

responsive to determining that the retrieved data is configured, announcing the retrieved data to an audio and a video playback subsystem.

**14**. The system of claim **13**, wherein the usage policy controller converts, analog data to digital data and organizes the data captured into data segments and receives metadata from data capturing devices, and wherein the metadata comprises data including data that describes a content, a quality, and a condition, of the data captured.

**15**. The system of claim **13**, wherein the predetermined set of usage policies comprises an embedded usage policy specified by the locale identifier, and wherein the locale identifier distinguishes a particular location in which the locale identifier is located and includes sources comprising a bar code, a radio frequency identification tag, a device emitting a specific audio frequency, a light source emitting a particular wavelength of light, a unique wall color of the particular location, a selected arrangement of objects in the particular location, an odor of the particular location or another predefined characteristic of the particular location for which the locale identifier sensor is attuned.

**16**. The system of claim **13**, wherein the usage policy controller enables the set of sensors in an absence of the locale identifier.

**17**. The system of claim **13**, wherein the locale identifier is a radio frequency identification tag, and wherein the locale identifier sensor is a radio frequency identification tag reader.

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