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(54) **Title**: SYSTEM AND METHOD FOR SHARING COLLABORATIVE DIGITAL PHOTO ALBUMS

(57) **Abstract**: A system and method for optimizing the creation and use of a collaborative digital photo album, to permit the sharing of digital photos among members associated with the collaborative digital album. It refers to a streamlined solution for a photo taking member, designated as a "sending party", to automatically send a digital photo into the collaborative album with a single action, simultaneously with the taking the photo. It also provides an automated solution for persons associated with the collective digital album, designated as the "receiving parties", to receive the photos automatically and without having to take any action. All persons associated can act as a "sending party" and also be a "receiving party", those persons associated with a particular collaborative digital album being considered members of the collaborative group who have agreed to contribute to and/or receive copies of digital photo's placed in their particular collaborative album.

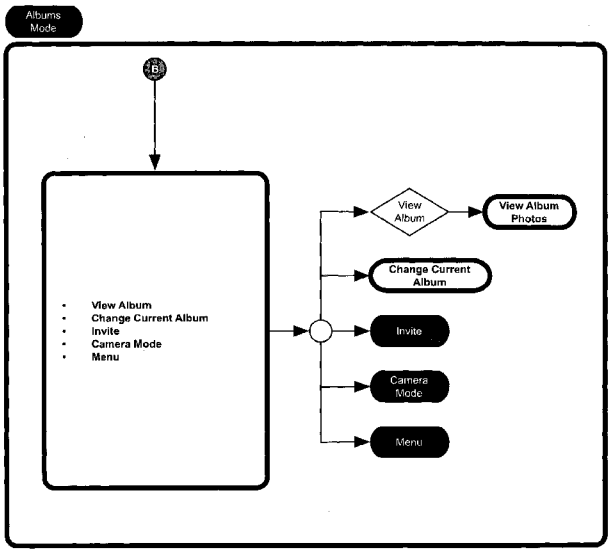

FIG.3

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SYSTEM AND METHOD FOR SHARING COLLABORATIVE DIGITAL PHOTO ALBUMS

Field Of The Invention

The present invention relates to a system and method that automates the use of collaborative digital photo albums.

Background Of The Invention

With the advent of digital photography, mobile devices and the internet, people have become accustomed to sending their photos to family and friends. Some of the advances on the internet, namely in special photoblogs and social networks, allowed for one way distribution of such digital photos automatically.

That said, digital photo albums mostly belong to a single user, and those albums, even though they might be viewable by other friends and family, are still mostly closed from receiving photo's from users other than the owner/user. Some solutions allow control over access to the user's digital photo album, but this is often the exception and not the rule and by and large, the existing systems are not designed with this problem in mind. So, there is no easy solution for providing a collaborative shared album with a simple system dedicated to solving this problem.

Therefore, there is no existing dedicated system capable of providing a streamlined process for creating and using collaborative digital photo albums, from the perspective of sending and receiving photos to and from a collaborative album, with ease. This is the problem this invention solves.

Summary Of The Invention

The present invention refers to a system and method for optimizing the creation and use of a collaborative digital photo album, to permit the sharing of digital photos among members associated with the collaborative digital album.

One object of the present invention is a streamlined solution for a photo taking member, designated as a "sending party", to automatically send a digital

photo into the collaborative album with a single action, simultaneously with the taking the photo.

Another object of the present invention is to provide an automated solution for persons associated with the collective digital album, designated as the "receiving parties", to receive the photos automatically and without having to take any action.

Further, within the present invention, all persons associated can act as a "sending party" and also be a "receiving party", those persons associated with a particular collaborative digital album being considered members of the collaborative group who have agreed to contribute to and/or receive copies of digital photo's placed in their particular collaborative album.

Such a system and method works to optimize and simplify the sending and receiving of photos by and from members of a collaborative album group. More particularly, this system and method is dedicated to the problem of creating and using a collaborative photo album.

Brief Description Of The Drawings

FIG. 1 illustrates the main functionalities regarding the present invention. Those are: the user activates the collaborative photo album application and sets the current album. As the system is started, the user may select an album mode that mainly shows the user his albums, or set other actions, such as a camera mode from where the user might take photos, or select the menu button from where the user can access other screens and options, or select the invite function, to share albums by inviting collaborators.

FIG. 2 illustrates how the system automatically assigns a current album as it is initialized. If the user is being invited to a new album, this new album is validated and set as current. Else, if the user has an album previously set as current this one is set by the system. If the user does not have a previously set current album and is not being invited to one, in other words he has no album in

the system, he is directed to the menu. With this, a user cannot take pictures without a current album set.

FIG. 3 illustrates the view of the user's albums and correspondent actions. The user can view the album's content, change his current album set on the system, invite other users to join his current album, enter the camera mode where he can take photos, or return to the menu.

FIG. 4 illustrates the camera functionality. There, the user can take pictures, view his current album identification and shared users, access his current album content, or return to the list of albums. Once a picture is taken, the system assigns the user's current album to it and inserts it in the upload list. The upload list holds a cue of photos taken by the user to be uploaded to the server, each photo with its correspondent current album. From the upload list, photos are uploaded to the server with the user identification and correspondent current album.

FIG. 5 illustrates the functions contained on the main menu. Those are information of the user's current album and a shortcut to see it's contents, access to the list of the user's albums, an option to create a new album, a timeline view where the user can visualize his photos according to a selected criteria such as chronologically, access to options to configure his personal preferences and settings on the system.

FIG. 6 illustrates a method to invite another person, or group of people, to collaborate on the album by sending this person, or group of people, the album identifier via a communications message. Thus, giving this person, or group of people, permissions on the system to act within the album by sending and receiving photos, and other individual permissions such as inviting other people to collaborate on the album and deleting their own photos.

FIG. 7 illustrates other functionalities that support the system. Those are validating a permission to join an album by a user, showing the photos contained in a particular album to the user, changing the current album on the

system, creating a new album, the upload list that organizes upload communication from the device to the server, the synchronization of the user's album's content on the server with the device done in the background, the timeline view of the user's photos, and the options settings for personal configurations and preferences.

FIG. 8 illustrates how the system might require a password to grant permissions on an album if it is configured to require a password.

FIG. 9 illustrates the visualization of an album's photos. The system fetches the update album's photos identification from the server. With this identification the system retrieves the photos' thumbnails, both stored locally and stored on the server to display. The thumbnails represent the photos on this particular album. The user can return to the previous screen, invite another person to join this album, access the camera mode, or view the photo individually. If a photo is not stored locally, the system retrieves it from the server.

FIG. 10 illustrates how the user can change his current album by choosing a different one from his current. This new choice is then set by the system as the current album.

FIG. 11 illustrates how the system allows for the creation of a new album. The new album requires an user to be registered on the system with an external validation method such as email and password, social network login or any other uniquely identifiable registration, and logged into this registered account for the creation of a new album. The user then can name and invite other people to collaborate on the album.

FIG. 12 illustrates the upload list that takes care of uploading the user's taken photos to the server on the background of the application use. A photo is uploaded with correspondent user and current album information assigned to it, as its main identifiers. Other information might be assigned to the picture such as a time stamp, a location information or device settings and the likes.

FIG. 13 illustrates the automatic synchronization of the user's albums photos on the server with the device. This happens in the background of the application without action required by the user. This allows for the photos stored on the server in the user's albums, photos taken by the user or other members of the album, to be synchronized to the user's device automatically. With this, the photos in an album are automatically delivered to every member of the album without any action required by them for this to happen.

FIG. 14 illustrates the functionality of visualizing an user's associated photos according to some selection criteria such as time, all of person's photos and other customizable sets.

FIG. 15 illustrates the options that might be available to the user regarding his personal preferences and settings on the system.

Detailed Description Of The Invention

The invention involves a real-time multi-user shared digital photo album, using mobile devices, where as pictures are taken by members of a group, the digital images are automatically uploaded to an album and shared with the group, so that rather than a user having to take one or more photo's and creating an album and then just sharing this with selected individuals, or just sending one photo to selected friends, a group member simply takes the photo and it is automatically uploaded to the designated album and shared with other album group members. All group members associated with a particular collaborative photo album can contribute to the album, and get immediate access to photos of others in the group. Of course, persons can be associated with more than one albums, and be a member of more than one collaborative group, such that a user can then share photo's with different groups, and contribute digital photo's to different collaborative photo albums, and receive photo's from different collaborative groups. For example, one group may share sports photo's in one album, nature photo's in another, and family photo's in another, etc, .

In the operation of the system, digital images will be taken by a user, with a local application on the phototaking device then transmitting the digital image to the designated cooperative album, which can be stored on a host server. An album creation and support application receives the digital image, tags and processes it for association with the one or more designated albums to which the user has joined as a member of the collaborative group. At the same time as the digital image is associated with the one or more albums, the application then automatically routes copies of the digital photo image to the other members of the collaborative group delivered to their designated local device, which can be a mobile phone, tablet computer, laptop computer or other device capable of displaying the digital image.

For example, a person who wants to create a collaborative photo album may use a device to access a host computing device via the Internet, the host computing device having a processor and memory means capable of running the collaborative photo album application. The user registers with the host server to join or create a group album, setting the parameters associated with the album, i.e. selected users to invite, topic, etc., with the host server then inviting others to join the group. The user then takes a digital photo with an image capturing device, which is uploaded automatically to the designated album storage location on the host server. The host tags the image for association with the destination album, the host application reviews, formats and stores the image and then distributes via internet or other communication means to each group members designated receiving device.

"Members" are unique users associated with a particular collaborative photo album hosted on the system.

"Albums" are a collection of digital photo images taken by members of that album's collaborative group.

"Current Album" is the album assigned by the member to inform the system as to which album the member has selected for automatic insertion of a taken photo.

"Devices" can be any apparatus capable of taking and/or sending and/or receiving data, in this particular case, usually digital photos.

A "photo", when using the system, is immediately and automatically assigned to the current album as it is taken, and then transferred to a central server which upon receiving this photo and current album information automatically synchronizes this data among all members of such album.

All members of an album, by this system, can send and receive photos for the albums that they belong to. By using this system, a digital copy of every photo taken by every member of a given album is automatically synchronized to all members of such album.

Assignment of a photo to a current album is an automated task. Once assigned a current album, the member has only to take photos and the system assigns such photos to its current album and then automatically synchronizes it with other members of such current album. This is accomplished by the system always having a current album assigned, chosen by the member, and assigning this album information to the photo when presenting it to the central server.

The system allows for the inclusion of new members to an album. Those new members, upon accepting to join the album, have their devices automatically synchronize with the central server receiving all the photos belonging to such album and are allowed to take photos, using this album as their current album, that will be synchronized to other member's devices as well.

The system allows for an user to create an account on the system, and with this the user is assigned a unique identifier. This unique identifier will associate this user's to his albums, photos and permissions.

Users of the system with an account can create multiple albums. Albums are assigned to this user as the creator, and the albums might have a private or public nature, as determined by the creator.

A member of an album can invite other people to join the album by giving them access to the album identifier, which might be transferred via telecommunications, electronic communication, proximity or geographic communication, and any other forms that are capable of transmitting such information. Private albums might require a password for access or some other validation technique.

If a person does not have an account in the system, this person can request to join in an album and the identification in the album may be done by using a device identifier, a phone number, or another form of unique identification that does not require the creation of an account.

Users that are members of more than one album can select a current album among the ones that they are member of, and change it any time they want to take photos inside another album. The system requires a current album to always be set. This information listing the current album allows for the system to automate the sending of the taken photo to the correct album.

The system provides for a shortcut to the camera mode of camera embedded devices.

When a member takes a photo, the system automatically assigns its current album information to that photo making this an automated step.

The system allows for users to see the albums that they are members of.

The system also allows for a member of an album to access the stored contents of the album and review the various photos that belong to the album, in addition to receiving photo's as they are actually taken.

The system allows for the members of an album to know who the other members of the group are who are collaborating on a particular album.

The system allows for members of an album to delete their own photos from an album. Permission to delete other member's photo might be allowed in certain cases, for example, the album creator may require photo's to be deleted after a designated time interval to maintain the album at a reasonable size, or require archiving photo's or provide some other oversight, for example of public albums to remove inappropriate material.

The system uses an additional internet service to display albums and photos and offer further settings, like control over permissions, for its users.

The system generally uses the internet for communication and transmission, and to display albums and photos and offer further settings, like control over permissions, for its users. A web site may be used to provide access for the registration of users/members, for users/members to locate particular albums, or to create or join a collaborative album group.

Users might have different permissions such as permission to invite other members, permission to exclude other members from an album, permission to send photos to an album, permission to delete photos from an album, etc..

The central server organizes the different sets of members, albums and photos, as well as receiving and synchronizing of photos on devices. It also stores and serves the photos for the internet service.

The method of using the system may involve one or more of the following steps:

1- member creates an album on a device

2- album creator member invites other members to collaborate in contributing digital photo images to such album

3- members who accept the invitation link to the album with their devices

4- system accepts member instructions and assigns members to the album

5- members take photos with their devices with the photo's automatically transmitted to the system

6- photos are assigned to the appropriate album by the system

7- system uploads and stores photos on the central server

8- central server synchronizes photos to such album on every member device

9- members optionally may link to multiple albums

10- members optionally select and set their current album on the system

11- members optionally may invite other members to join albums

CLAIMS

1. System for sharing collaborative digital photo albums, comprising a device to create a collaborative digital photo album, said device communicates with a host computing device via the internet, said host computing device receives data from the device and distributes the data to other devices linked to the created collaborative digital photo album, wherein each and every member of a collaborative digital photo album may share data with the others members automatically, and wherein the system automates every function of receiving, allocating, saving, distributing, displaying, sending the data to one another.

2. The system, according to claim 1, wherein the device can be any apparatus capable of taking and/or sending and/or receiving data, such as a mobile phone, tablet computer, laptop computer.

3. The system, according to claim 1, wherein the host computing device refers to a computer server that receives, allocates, saves, distributes, displays, sends the data from and to the devices, synchronized to a determined album.

4. The system, according to claims 2 and 3, wherein mentioned data can be messages, texts, icons and preferably digital photos.

5. The system, according to claim 1, wherein the album creator member may define the settings of the album, such as the nature of the album, either private or public, permissions of each member, invitations for new members, exclusions of members, exclusion of digital photos.

6. The system, according to claims 1 and 3, wherein the host computing device may control the settings of the submitted digital photos, such as size, format, dimensions and nature, if inappropriate.

7. The system, according to claim 1, wherein each user may create and have in your personal device multiple digital photo albums.

8. The system, according to claims 1 and 7, wherein the user may set any album as current album, allowing the system to send and receive data from and to the correct album.

9. The system, according to claim 1, wherein any new member invited to an existing album will automatically receive all digital photos belonging to such album, after accepting the invitation to the album.

10. Method of using the system for sharing collaborative digital photo albums, comprising the following steps:

1- member creates an album on a device;

2- album creator member invites other members to collaborate in contributing digital photo images to such album;

3- members who accept the invitation link to the album with their devices;

4- system accepts member instructions and assigns members to the album;

5- members take photos with their devices with the photo's automatically transmitted to the system;

6- photos are assigned to the appropriate album by the system;

7- system uploads and stores photos on the central server;

8- central server synchronizes photos to such album on every member device.

11. The method, according to claim 10, wherein members optionally may link to multiple albums.

12. The method, according to claim 10, wherein members optionally select and set their current album on the system.

13. The method, according to claim 10, wherein members optionally may invite other members to join albums.

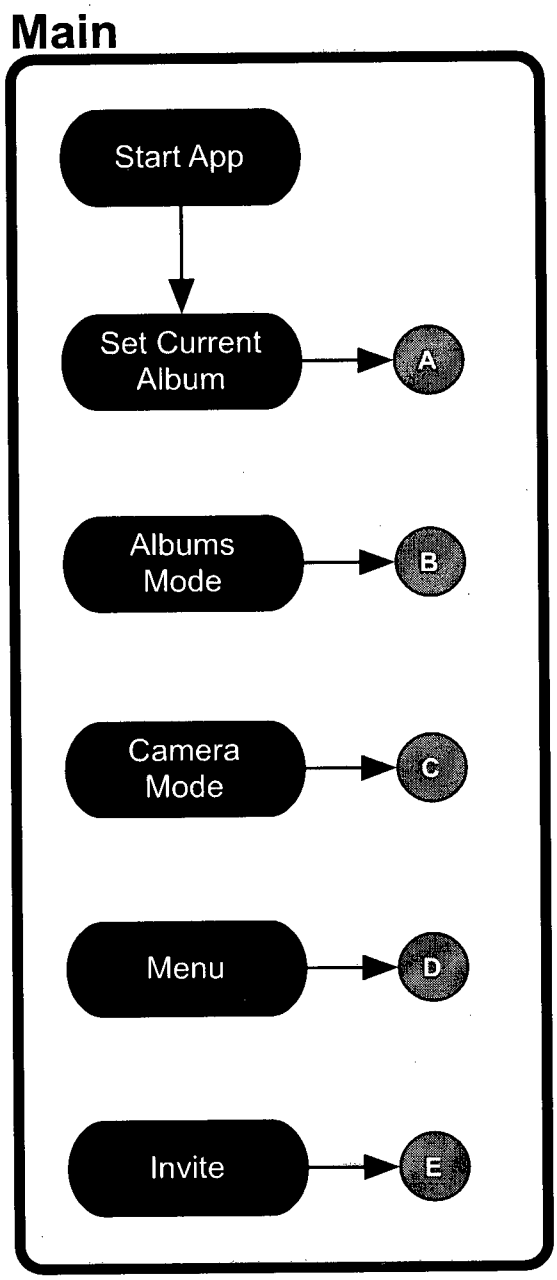
Main
Start App
Set Current Album
A
Albums Mode
B
Camera Mode
C
Menu
D
Invite
E

FIG.1

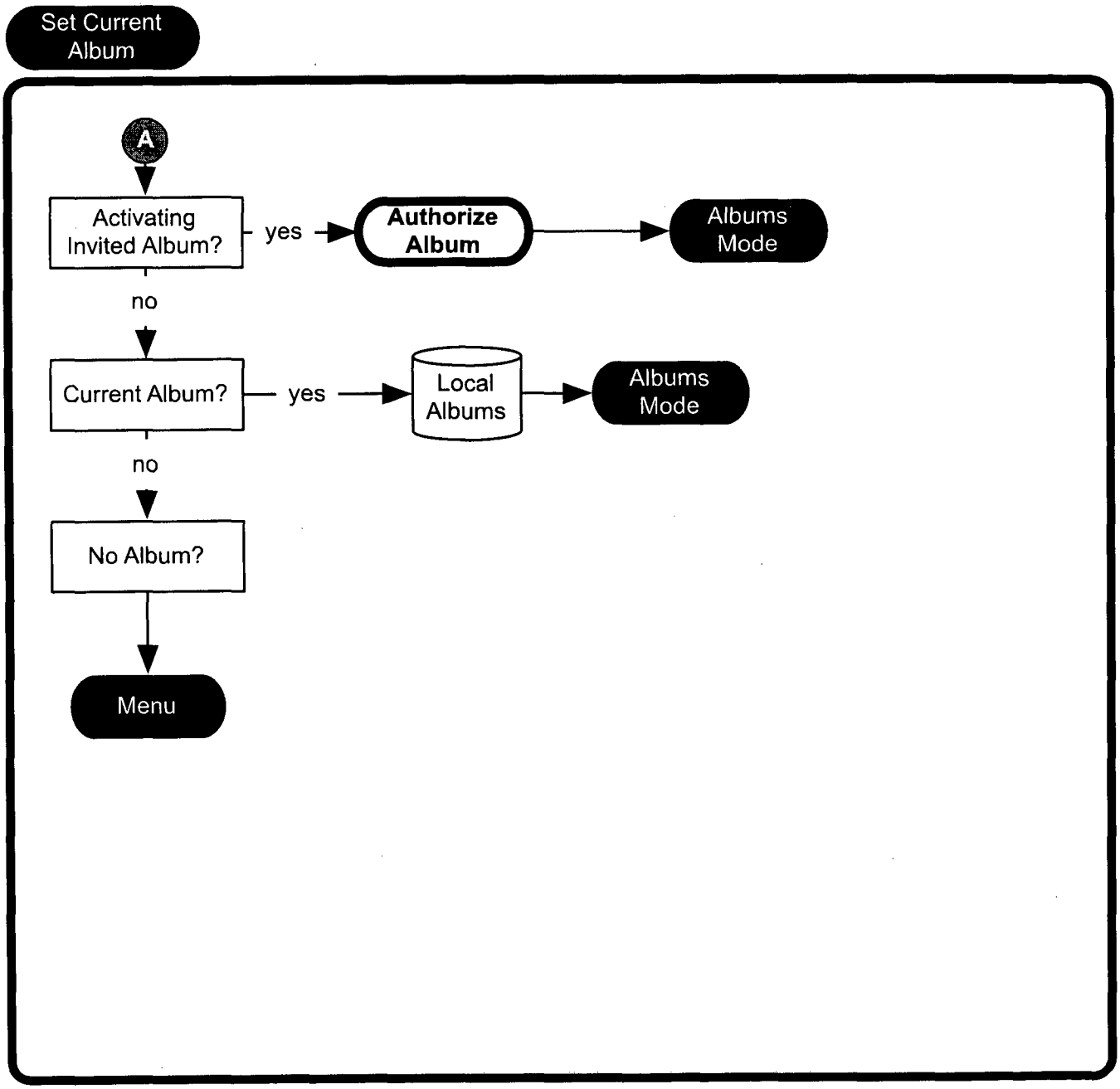
Set Current Album
A
Activating Invited Album?
yes
Authorize Album
Albums Mode
no
Current Album?
yes
Local Albums
Albums Mode
no
No Album?
Menu

FIG.2

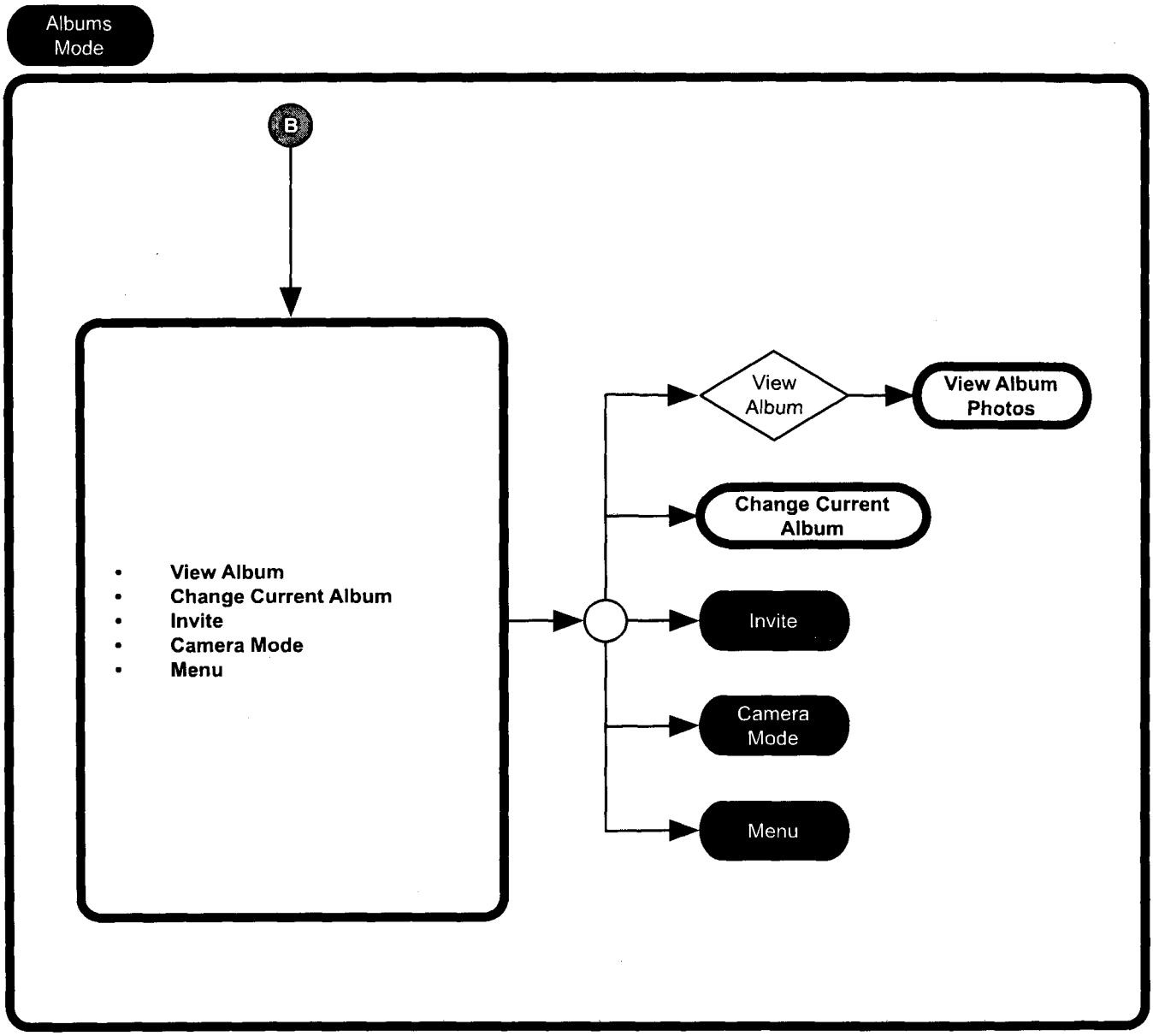
Albums Mode
B
View Album
View Album Photos
Change Current Album
View Album
Change Current Album
Invite
Camera Mode
Menu
Invite
Camera Mode
Menu

FIG.3

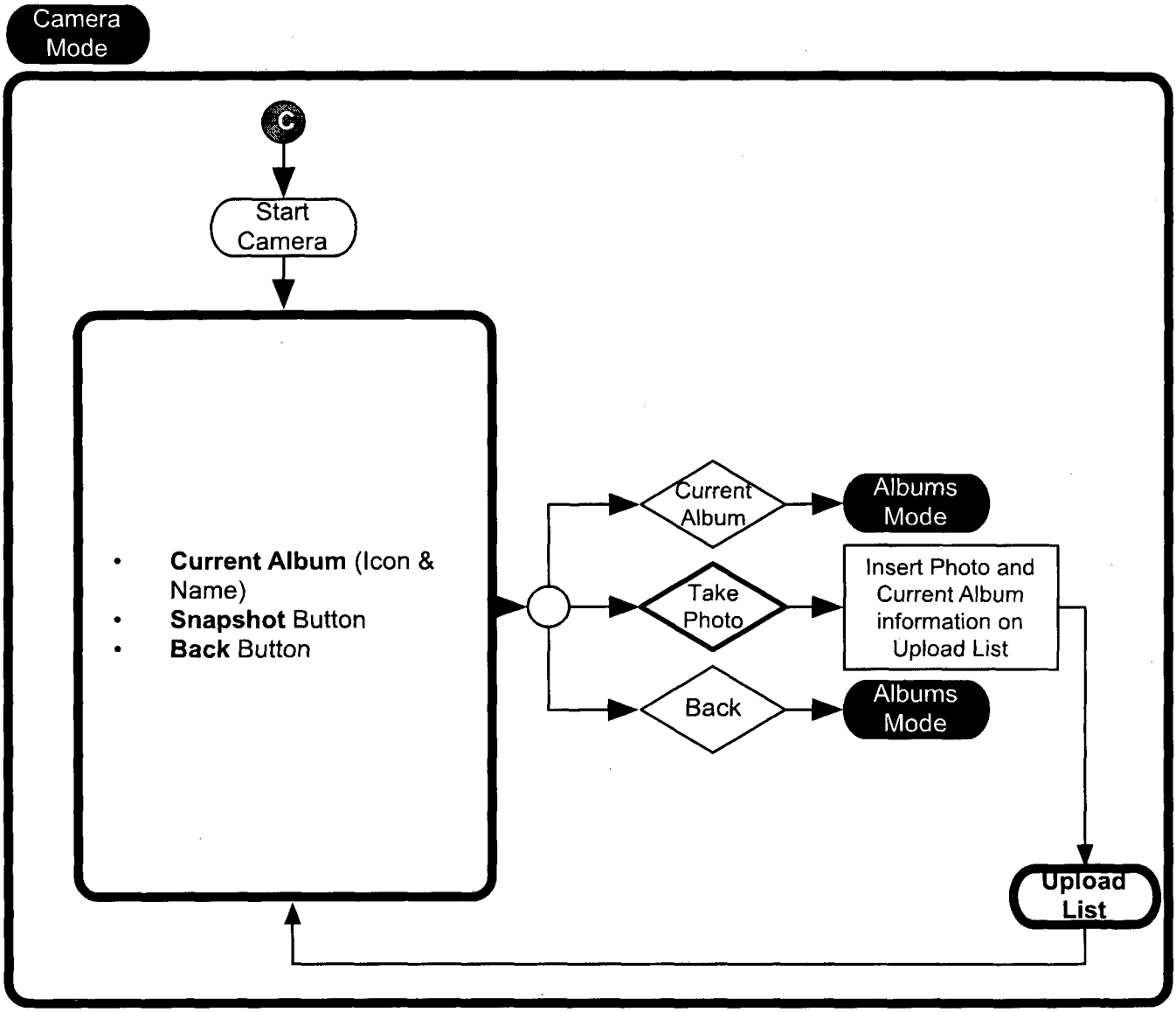
Camera Mode
C
Start Camera
• Current Album (Icon & Name)
• Snapshot Button
• Back Button
Current Album
Albums Mode
Take Photo
Insert Photo and Current Album information on Upload List
Back
Albums Mode
Upload List

FIG.4

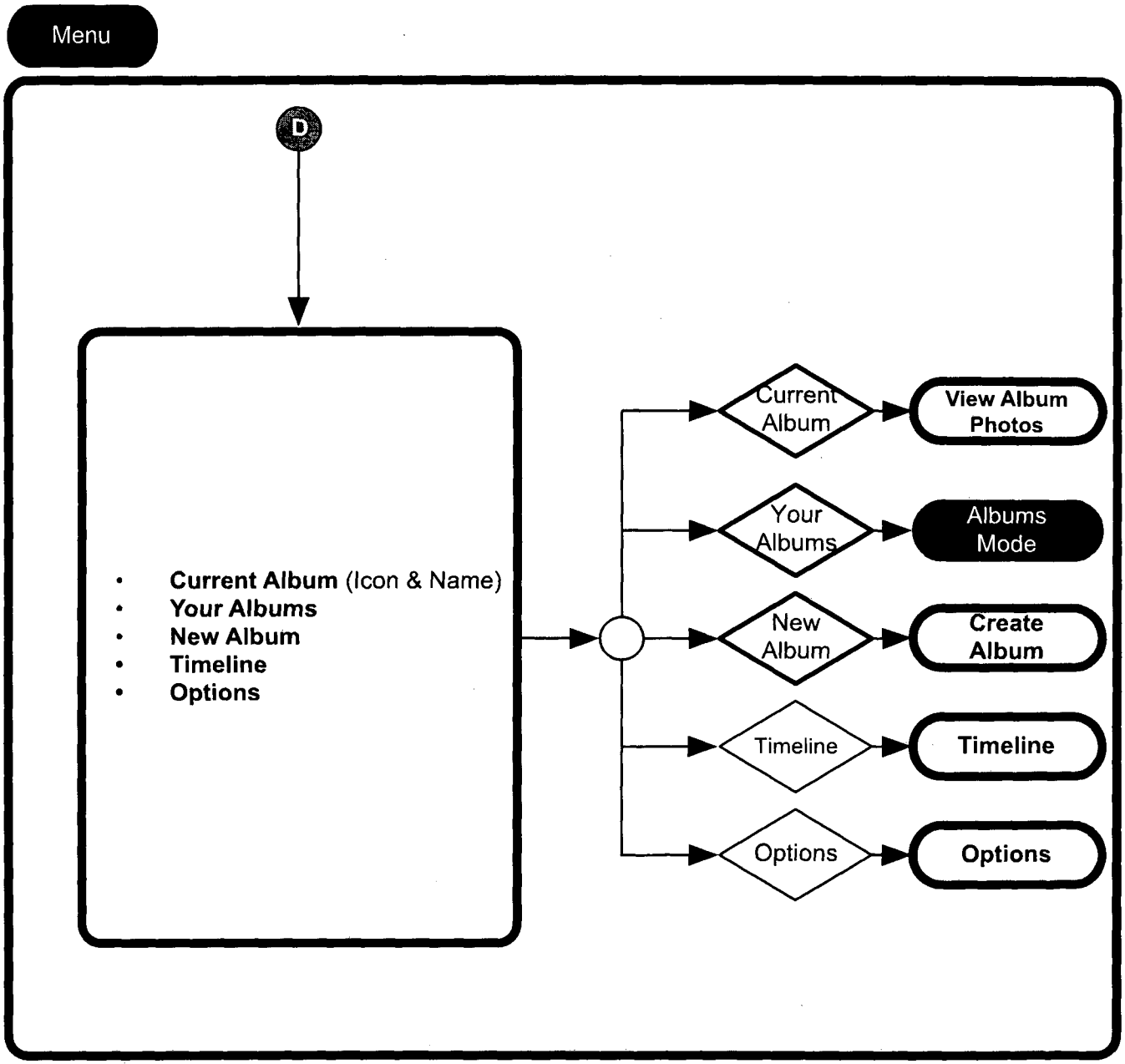
Menu
D
Current Album (Icon & Name)
Your Albums
New Album
Timeline
Options
Current Album
View Album Photos
Your Albums
Albums Mode
New Album
Create Album
Timeline
Timeline
Options
Options

FIG.5

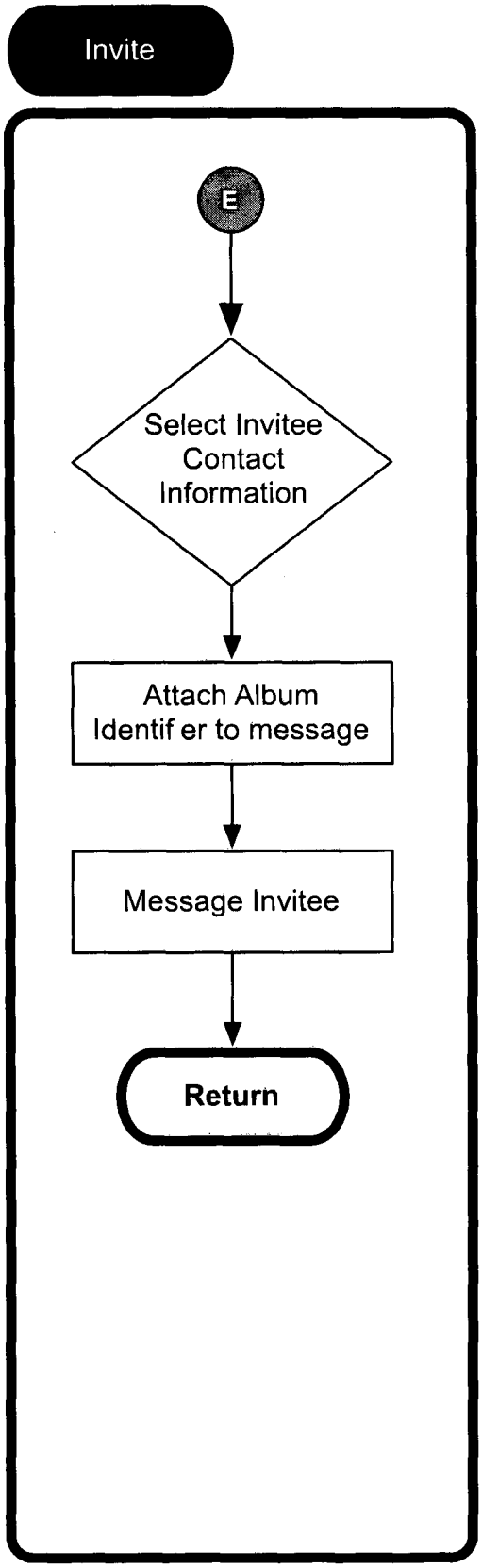
Invite
E
Select Invitee Contact Information
Attach Album Identif er to message
Message Invitee
Return

FIG.6

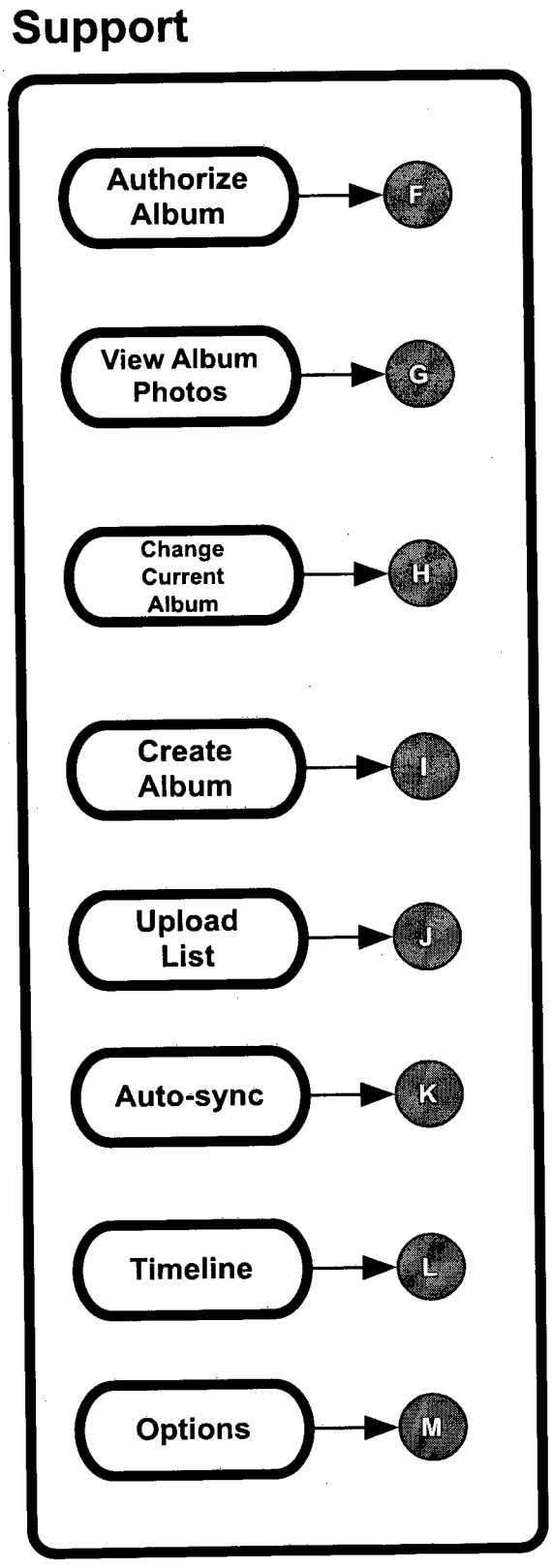
Support
Authorize Album
F
View Album Photos
G
Change Current Album
H
Create Album
I
Upload List
J
Auto-sync
K
Timeline
L
Options
M

FIG.7

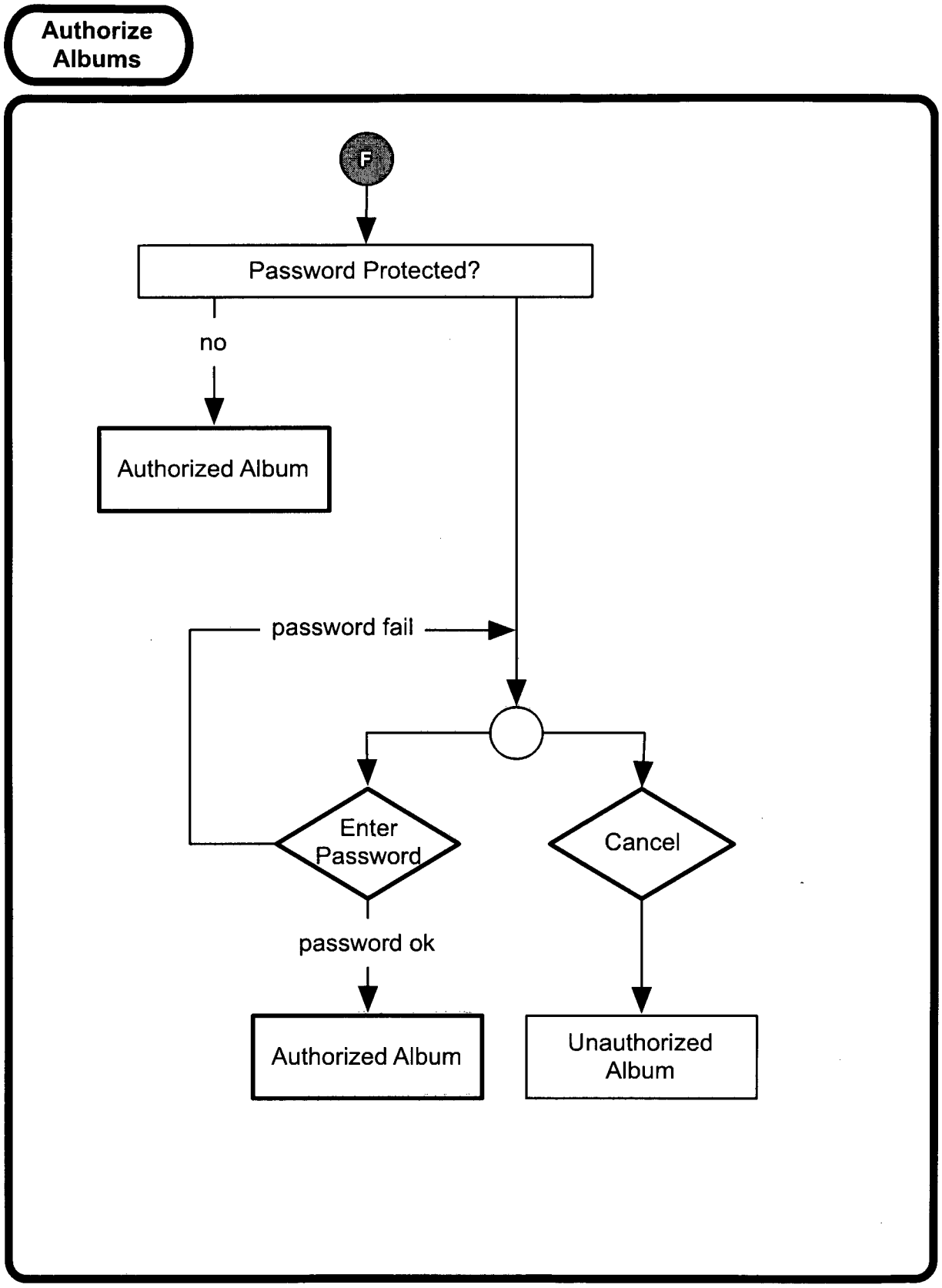
Authorize Albums
F
Password Protected?
no
Authorized Album
password fail
Enter Password
Cancel
password ok
Authorized Album
Unauthorized Album

FIG.8

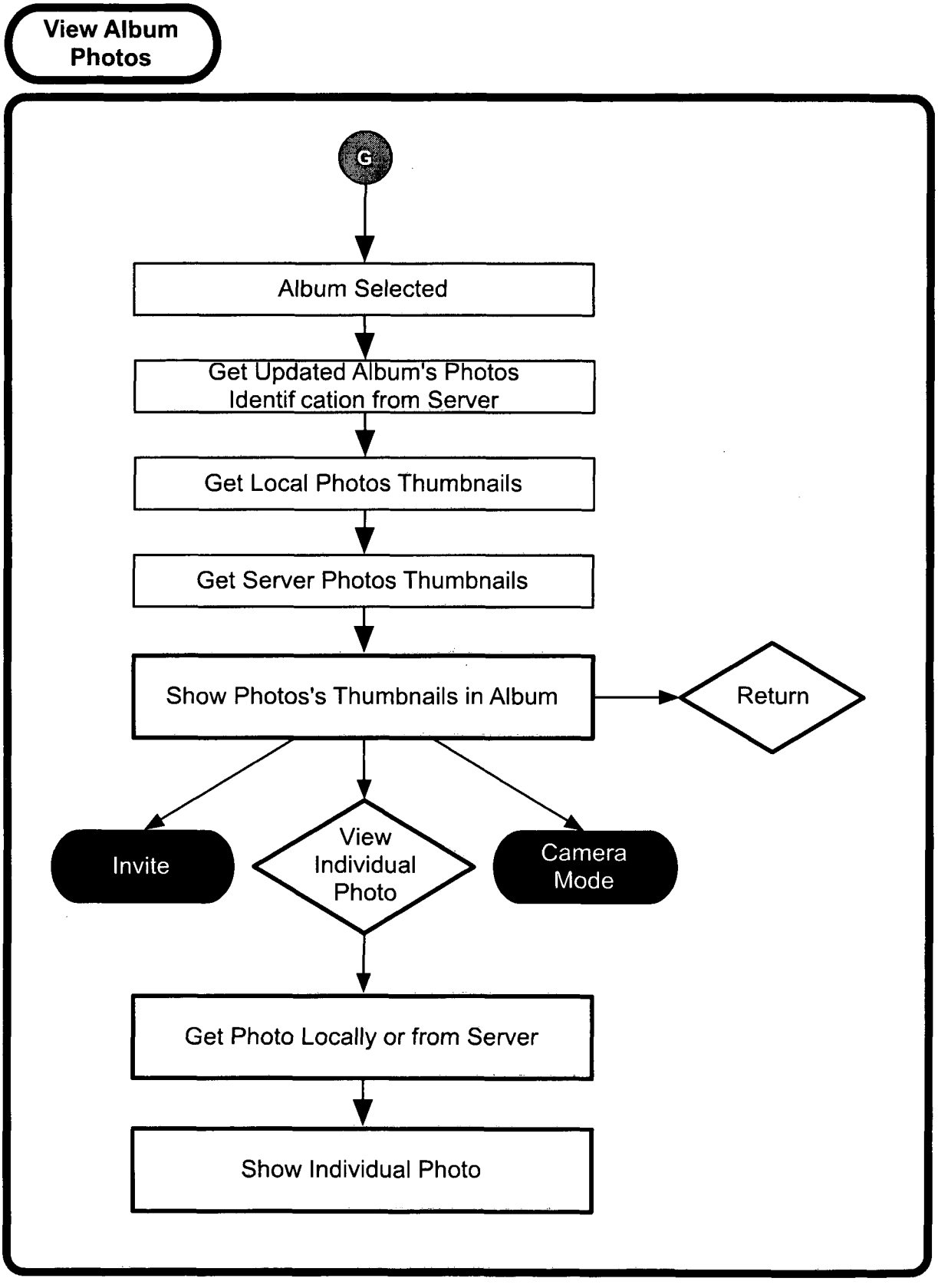
View Album Photos
G
Album Selected
Get Updated Album's Photos Identif cation from Server
Get Local Photos Thumbnails
Get Server Photos Thumbnails
Show Photos's Thumbnails in Album
Return
Invite
View Individual Photo
Camera Mode
Get Photo Locally or from Server
Show Individual Photo

FIG. 9

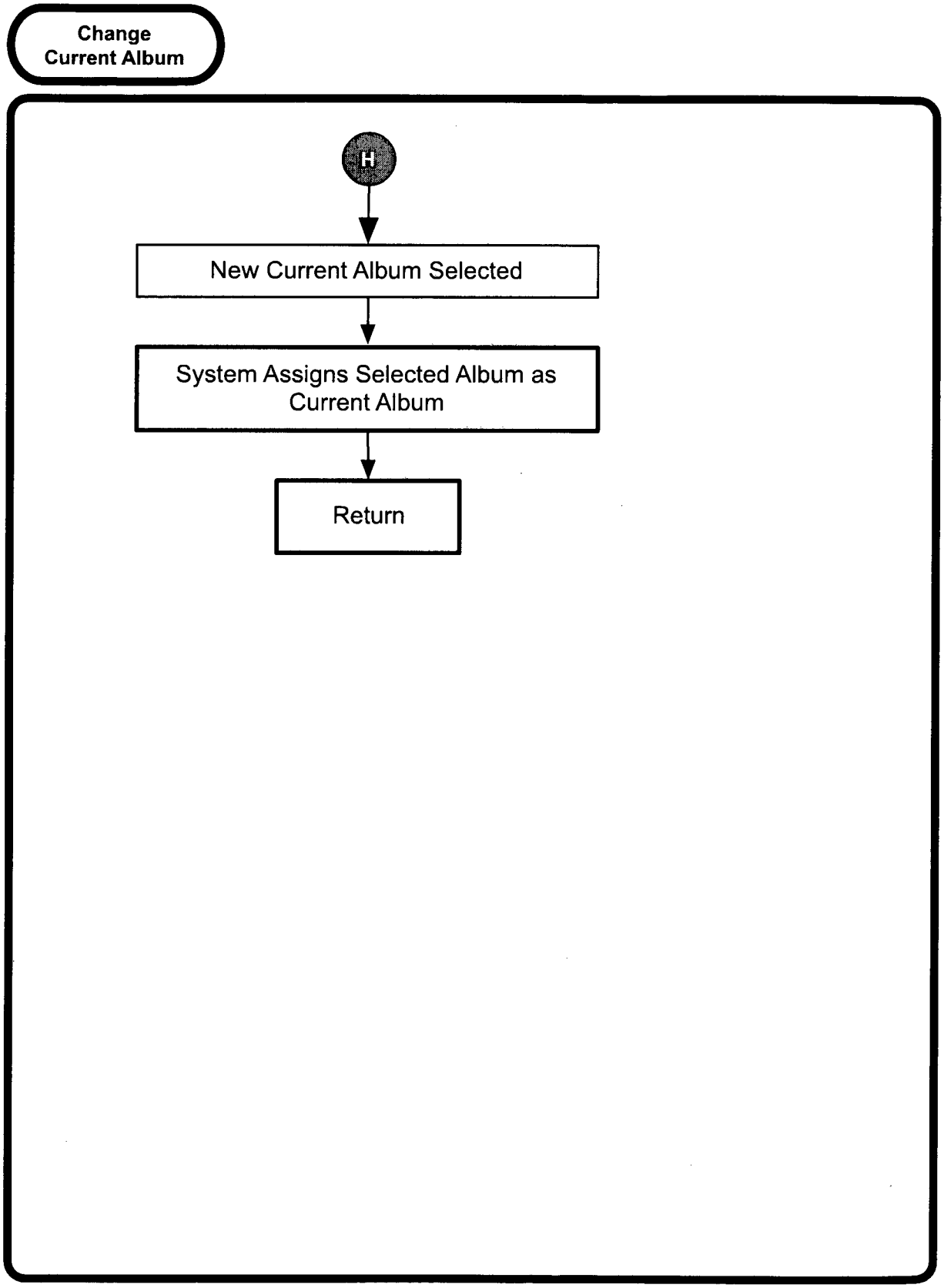
Change Current Album
H
New Current Album Selected
System Assigns Selected Album as Current Album
Return

FIG.10

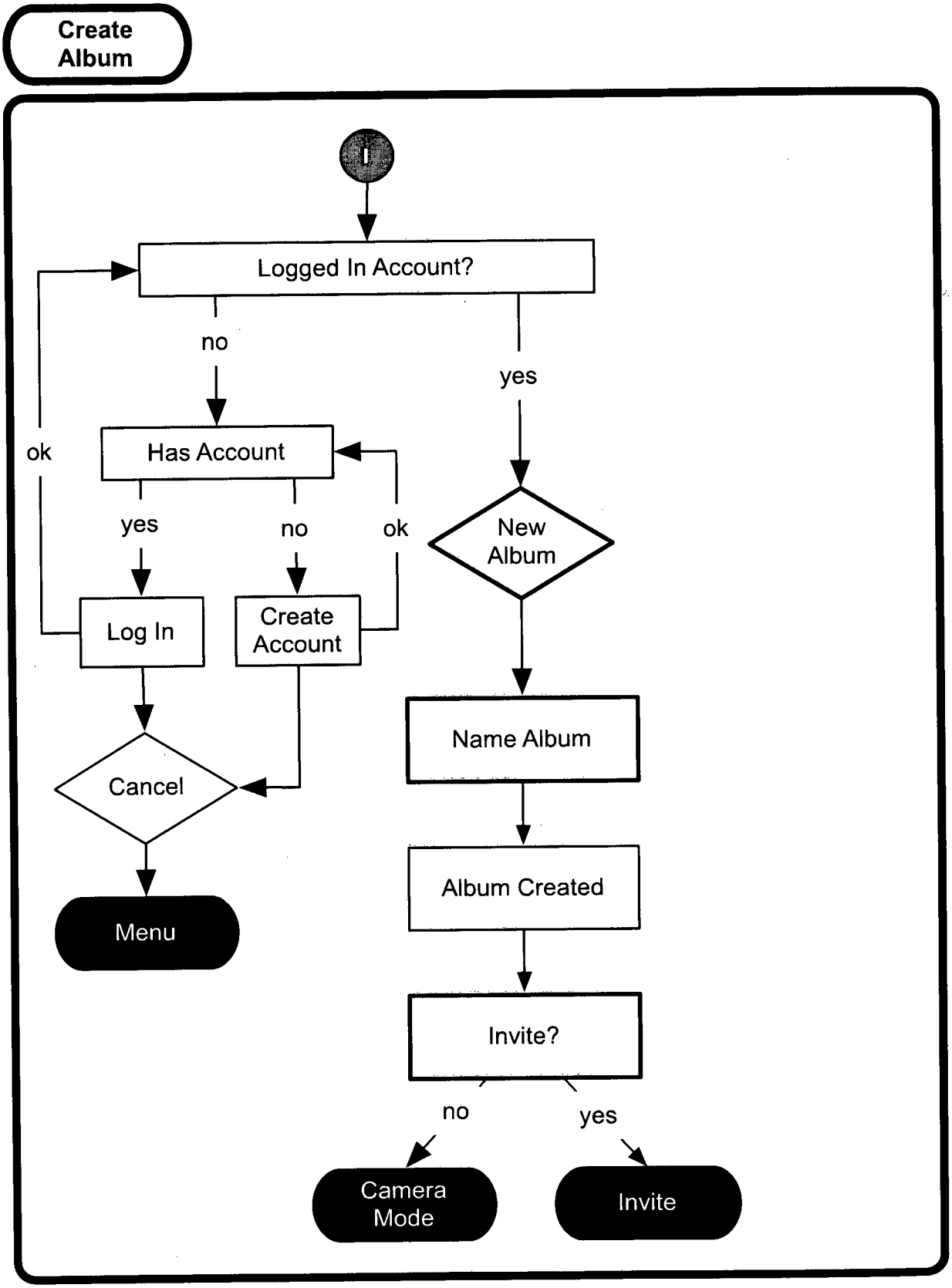
Create Album
Logged In Account?
no
yes
ok
Has Account
yes
no
ok
New Album
Log In
Create Account
Name Album
Cancel
Album Created
Menu
Invite?
no
yes
Camera Mode
Invite

FIG.11

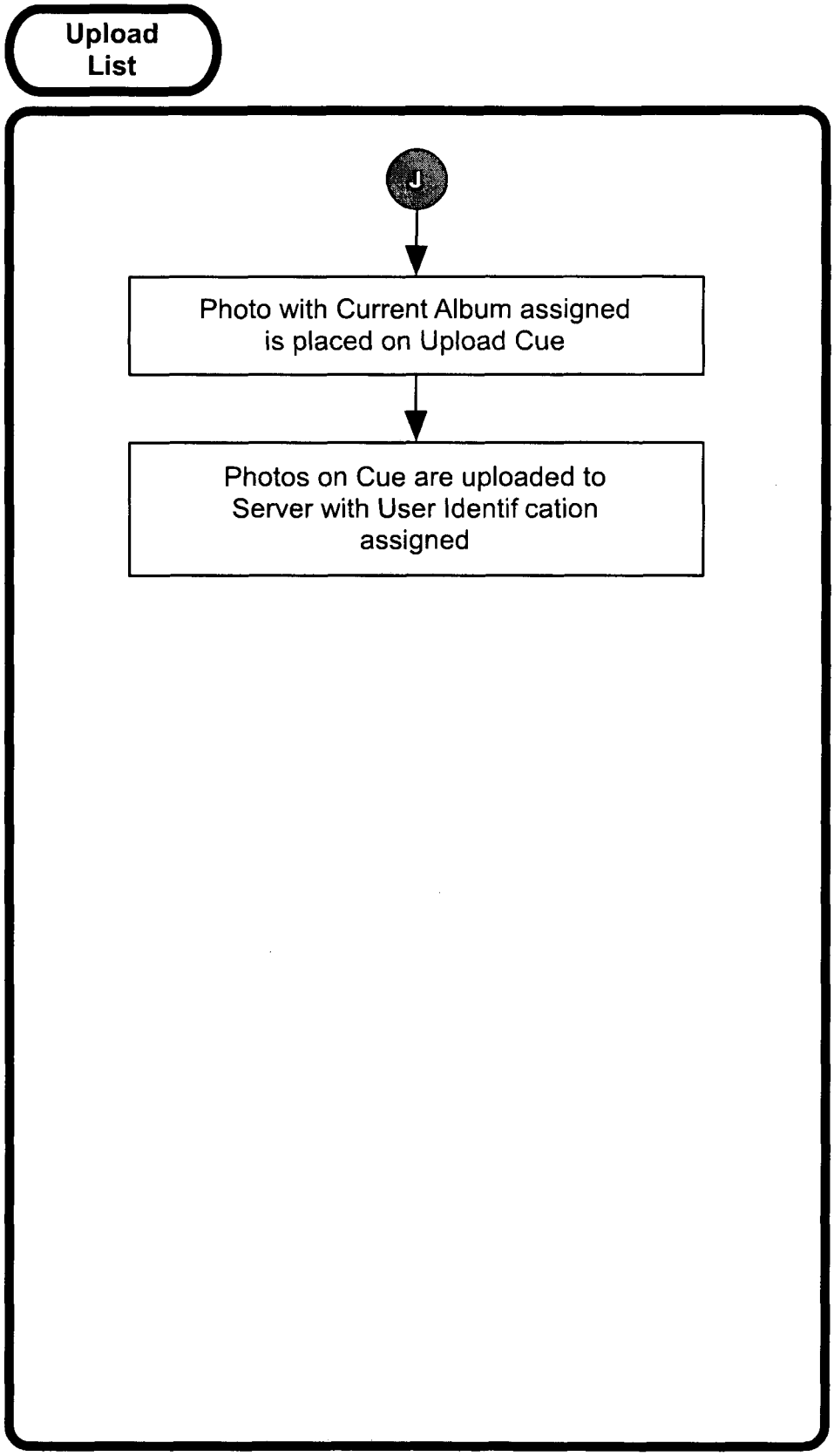
Upload List
J
Photo with Current Album assigned is placed on Upload Cue
Photos on Cue are uploaded to Server with User Identif cation assigned

FIG.12

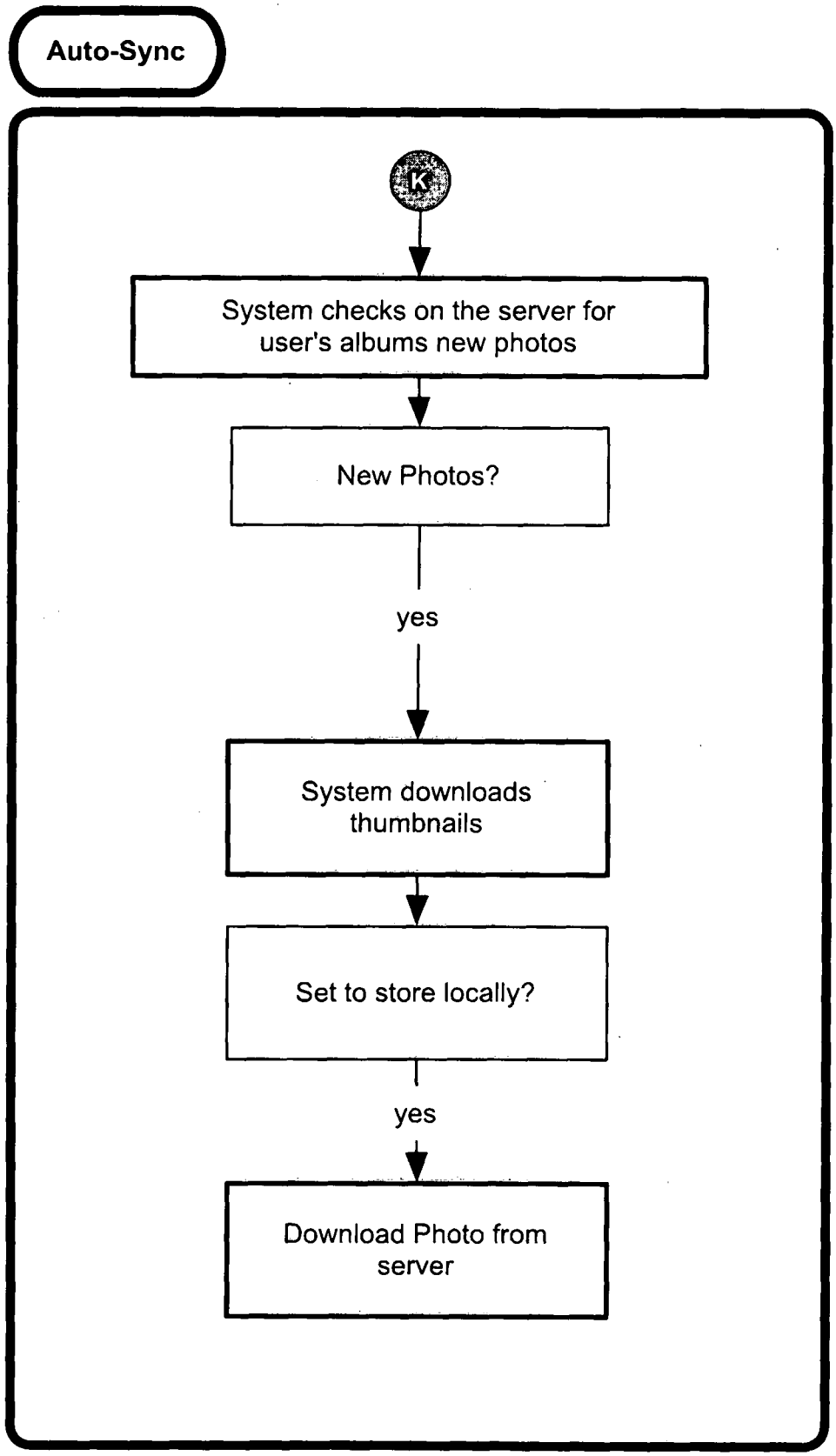
Auto-Sync
K
System checks on the server for user's albums new photos
New Photos?
yes
System downloads thumbnails
Set to store locally?
yes
Download Photo from server

FIG.13

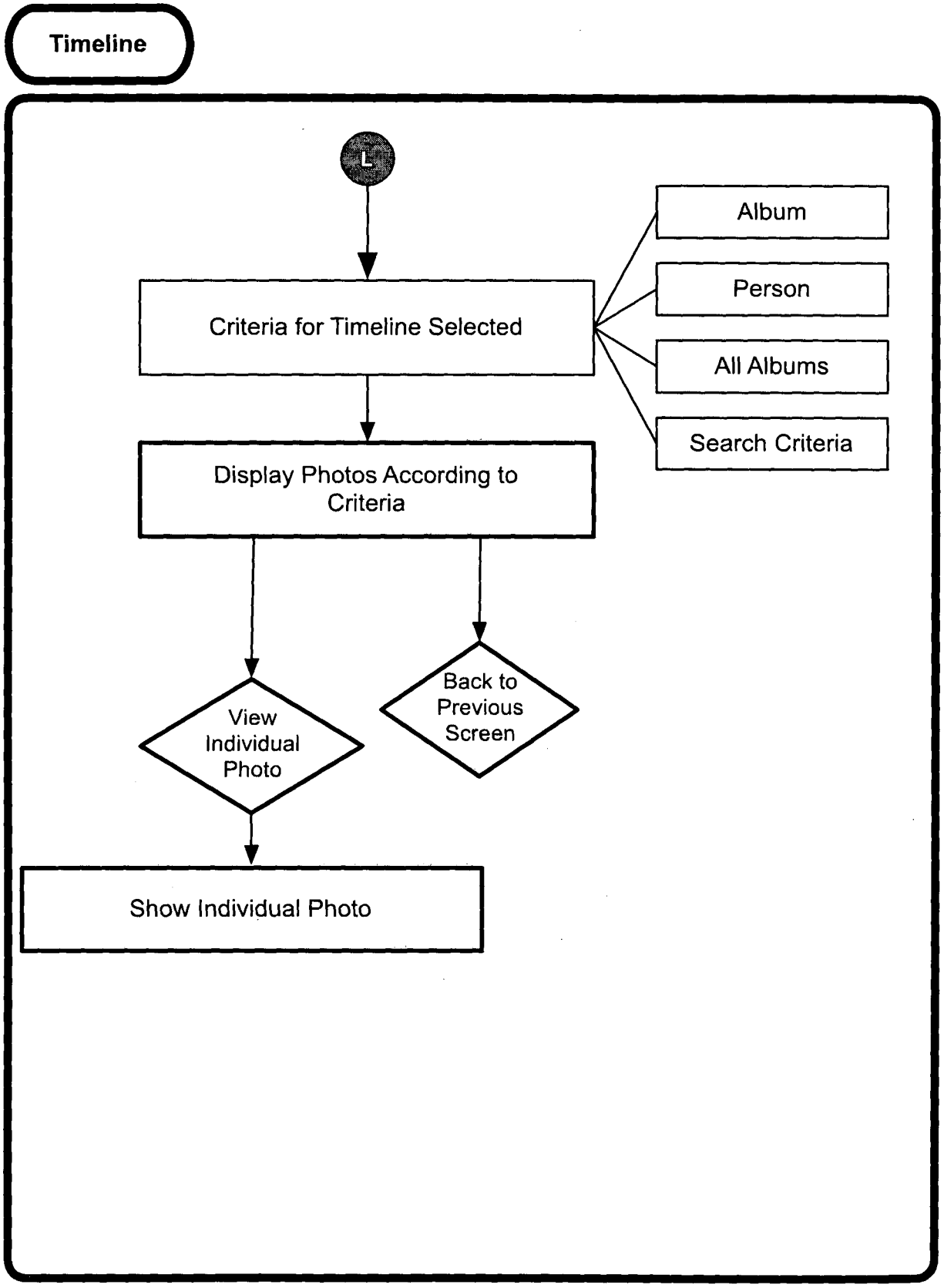
Timeline
L
Criteria for Timeline Selected
Album
Person
All Albums
Search Criteria
Display Photos According to Criteria
View Individual Photo
Back to Previous Screen
Show Individual Photo

FIG.14

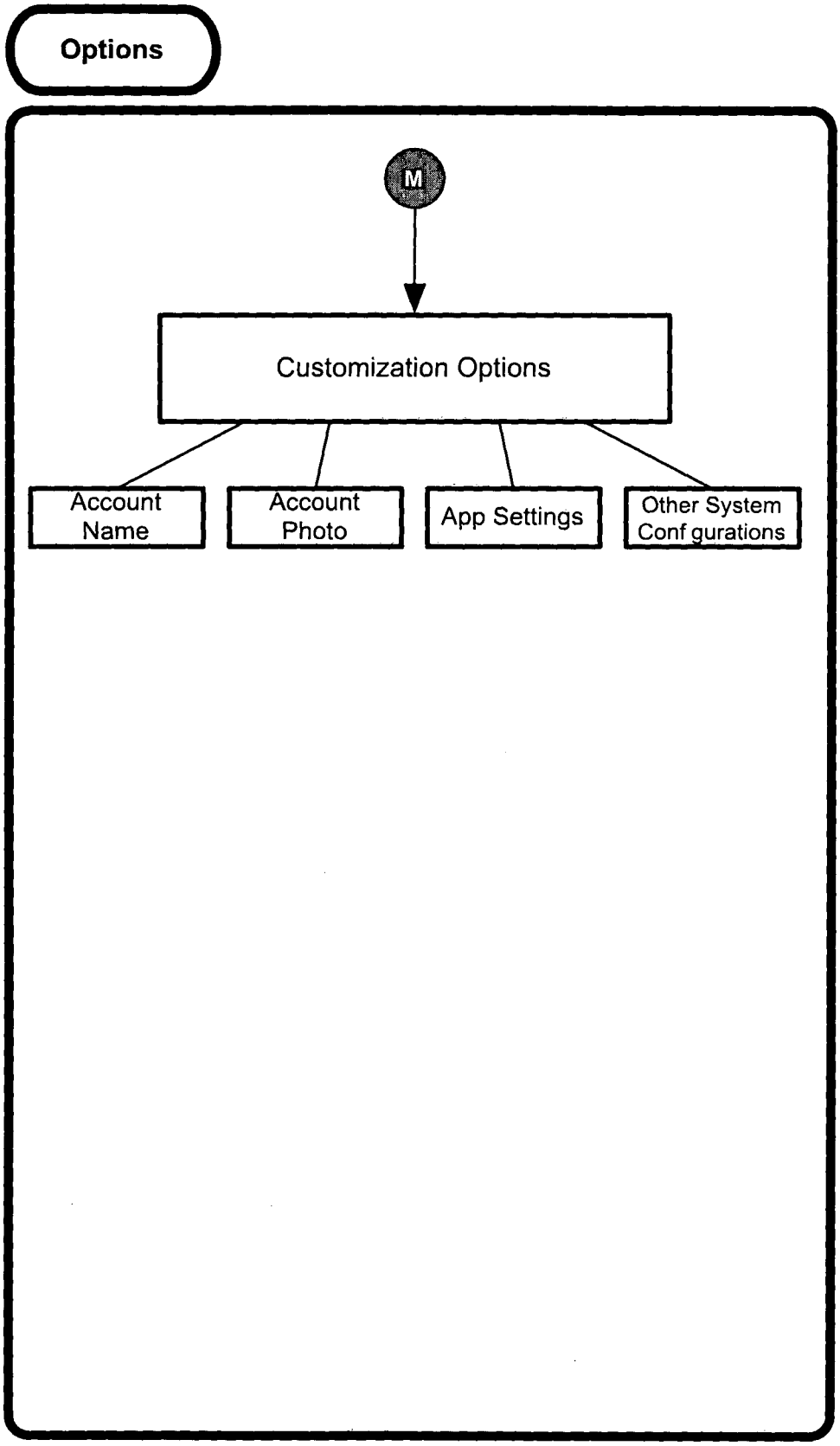
Options
M
Customization Options
Account Name
Account Photo
App Settings
Other System Conf gurations

FIG.15

INTERNATIONAL SEARCH REPORT

International application N°
PCT/BR2013/000358

A. CLASSIFICATION OF SUBJECT MATTER

G06F 17/30 (2006.01), H04L 29/12 (2006.01), G06F 15/16 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F, GO6Q, H04L 29/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPOQUE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claims N°
Y	TERDIMAN, Daniel, "Photo Site a Hit with Bloggers", *Wired*, December, 9 2004 [online] [Retrieved on 2013-10-07] <URL: http://www.wired.com/culture/lifestyle/news/2004/12/65958 > Whole document.	1-13

Y	US 20110149086 A1 (WINBUSH III AMOS [US]) 23 June 2011 (2011-06-23) Abstract, Paragraphs 43-47, 69, 78 and 85.	1, 10-13
Y	Abstract, Paragraphs 43-47, 50, 60-62, 68-70, 74, 78 and 85.	2-4
Y	Abstract, Paragraphs 11, 43-47, 50, 60-63, 68-70, 74, 78-80, 85 and 91.	5-9

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:
"A" document defining state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to stablish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority claimed
"T" later document published after the internationa filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvius to a person skilled in the art
"&" document member ot the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
07/10/2013	05/11/13

Name and mailing address of the ISA/**BR**

INPI
Facsimile N°

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Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application Nº
PCT/BR2013/000358

Patent documents cited in search report	Publication date	Patent family members	Publication date
US 20110149086 A1	2011-06-23	US 2012127328 A1	2012-05-24