One device, system and method for communicating a video content item in emergency situations may be activated when a user is determined to be located in the emergency zone.

FIG. 1

(54) Title: SYSTEM AND METHOD FOR DELIVERY OF A VIDEO CONTENT ITEM IN EMERGENCY SITUATIONS

(57) Abstract: A device, system and method for communicating a video content item in emergency situations. A geographic area may be designated as an emergency zone when one or more emergency indicators associated with the geographic area are detected. One or more emergency mode parameters governing communication of a video content item associated with a user account may be activated when a user is determined to be located in the emergency zone.
SYSTEM AND METHOD FOR DELIVERY OF A VIDEO CONTENT ITEM IN EMERGENCY SITUATIONS

FIELD OF THE INVENTION

[0001] Embodiments of the present invention relates generally to video content item delivery, and more specifically, to a device, system and method for delivery of a video content item in emergency situations.

BACKGROUND OF THE INVENTION

[0002] Various Internet applications allow users to send a video content item, such as streaming or downloaded digital multimedia content (hereinafter "video"). During emergencies such as natural disasters and terrorist attacks, however, wireless networks such as Wi-Fi and cellular data tend to be at their slowest and have relatively limited available bandwidth. This limited available bandwidth may be caused, for example, by: (a) high volumes of usage by people in a disaster zone at the same time, (b) network bandwidth reserved for emergency responders, (c) network malfunctions caused by the emergency situation, for example, disabling, interfering with or slowing network signals, or (d) a combination of one or more of these factors. Due to this limited bandwidth, presently available systems do not allow people to communicate during natural disasters or other emergencies effectively via video, as they use a relatively large amount of bandwidth.

[0003] Emergency situations may require effective communication, whether it is to coordinate plans to meet up with loved ones and get to safety, or simply to let people know a user is safe. Although calling, text messaging, and e-mail solutions may be used, in emergency situations video may be a more effective form of communication. For example, it may be a more effective and powerful message to tell loved ones you are "okay" when they can see the sender's face via a video. Also, when one is sharing information about what is happening in the danger zone it may be better to show a video than to attempt to describe it through text or speech. Furthermore, it may be easier to convey emergency contingency and/or meeting plans via a video.
Accordingly, there is a longstanding need inherent in the art for transmitting videos during emergency situations, for example, when there is limited available network bandwidth.

**SUMMARY OF EMBODIMENTS OF THE INVENTION**

[0005] In accordance with embodiments of the invention, there is now provided a system and method to overcome the aforementioned longstanding problems inherent in the art.

[0006] According to an embodiment of the invention, a device, system and method is provided for communicating a video content item in emergency situations. Embodiments of the invention may be performed using a processor, memory, and one or more instructions stored in the memory and executed in the processor. In some embodiments, the processor may designate a geographic area as an emergency zone when one or more emergency indicators associated with the geographic area are detected and activate one or more emergency mode parameters governing communication of a video content item associated with a user account when the user is determined to be located in the emergency zone.

[0007] In some embodiments, the one or more emergency indicators may include at least one of an alarm sensor triggered by a predetermined event in the geographic area and an alarm signal activated in response to the predetermined event in the geographic area. In some embodiments, the user is determined to be located in the emergency zone by determining a location of the user and determining that the user location is within the geographic area that has been designated as an emergency zone. In some embodiments, determining the user location may include at least one of locating a source of an IP address associated with the user account, receiving a mobile location ping from a device associated with the user account, referencing a location identification of a cellular zone of the user, and receiving a set of GPS coordinates from a GPS device associated with the user account.

[0008] Some embodiments of the invention may include receiving a manual request to activate the one or more emergency mode parameters and activating, by the processor, the one or more emergency mode parameters responsive to the manual request. In some embodiments, activating the one or more emergency mode parameters governing communication of the video content item with the user account may include limiting a frame rate to a predetermined rate at which the
video content item may be at least one of one of recorded and streamed. In some embodiments, the video content item may be converted to a frame rate below the predetermined rate when the frame rate is above the predetermined rate.

[0009] In some embodiments, the one or more emergency mode parameters governing communication of the video content item with the user account may include limiting a recording duration for the video content item to a predetermined maximum recording time. In some embodiments, activating the one or more emergency mode parameters governing communication of the video content item with the user account may include limiting one or more of an amount of meta-data included with the video content item and a type of meta-data appended to the video content item. In some embodiments, activating the one or more emergency mode parameters governing communication of the video content item with the user account may include disabling upload capabilities with respect to video content other than the video content item. In some embodiments, activating the one or more emergency mode parameters governing communication of the video content item with the user account may include limiting viewing the video content item on a device receiving the video content item until after the entire video content item has been downloaded.

[0010] In some embodiments, an optimal transmission channel may be determined for at least one of sending and receiving the video content item and at least one of sending the video content item over the optimal transmission channel and receiving the video content item over the optimal transmission channel. In some embodiments, activating the one or more emergency mode parameters governing sending the video content item may include sending, by the processor, a pre-recorded video content item from a server to a predefined recipient, responsive to the server receiving a delivery request signal. In some embodiments, activating the one or more emergency mode parameters governing sending the video content item may include sending the pre-recorded video content item from a server to a predefined recipient, automatically upon activation of the one or more emergency mode parameters, in which an automatic delivery request has been preselected.

[0011] In some embodiments, the pre-recorded video may be stored on a server in an original frame rate and in a modified emergency frame rate, in which the modified emergency frame rate is relatively lower than the original frame rate, whether the predefined recipient is in the
emergency zone may be determined, and the pre-recorded video stored in the original frame rate may be sent to the predefined recipient if the predefined recipient is not determined to be in the emergency zone and sending, by the processor, whereas the pre-recorded video stored in the modified emergency frame rate may be sent to the predefined recipient if the predefined recipient is determined to be in the emergency zone. Some embodiments of the invention may include remotely controlling, by a processor at a server, the recording parameters of a video recorder in a user device to comply with the one or more emergency mode parameters. Some embodiments of the invention may include accepting, at a processor at a server, the video content item having video parameters that comply with the one or more emergency mode parameters and rejecting, at a processor at the server, the video content item having video parameters that do not comply with the one or more emergency mode parameters.

[0012] Some embodiments of the invention include a server for communicating a video content item in emergency situations. In some embodiments, the server may include a processor, memory, and one or more instructions stored in the memory and executable by the processor, which, when executed, configure the processor to perform the methods described herein.

[0013] Some embodiments of the invention include a remote client device for communicating a video content item in emergency situations. In some embodiments, the remote client device may include a processor, memory, and one or more instructions stored in the memory and executable by the processor, which, when executed, configure the processor to perform the method described herein.

[0014] These and other aspects, features and advantages will be understood with reference to the following description of certain embodiments of the invention.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0015] Embodiments of the invention are illustrated by way of example and not limitation in the figures of the accompanying drawings, in which like reference numerals indicate corresponding, analogous or similar elements, and in which:

[0016] Fig. 1 is a schematic illustration of a system including a server operating in accordance with an embodiment of the invention; and
[0017] Fig. 2 is a flow diagram showing a method of delivering a video content item according to an embodiment of the invention.

[0018] It will be appreciated that for simplicity and clarity of illustration, elements shown in the figures have not necessarily been drawn accurately or to scale. For example, the dimensions of some of the elements may be exaggerated relative to other elements for clarity, or several physical components may be included in one functional block or element. Further, where considered appropriate, reference numerals may be repeated among the figures to indicate corresponding or analogous elements.

**DETAILED DESCRIPTION OF EMBODIMENTS OF THE INVENTION**

[0019] In the following detailed description, numerous specific details are set forth in order to provide a thorough understanding of the invention. However, it will be understood by those skilled in the art that the present invention may be practiced without these specific details. In other instances, well-known methods, procedures, and components, modules, units and/or circuits have not been described in detail so as not to obscure the invention. Some features or elements described with respect to one embodiment may be combined with features or elements described with respect to other embodiments. For the sake of clarity, discussion of same or similar features or elements may not be repeated.

[0020] Although embodiments of the invention are not limited in this regard, discussions utilizing terms such as, for example, "processing," "computing," "calculating," "determining," "establishing," "analyzing," "checking", or the like, may refer to operation(s) and/or process(es) of a computer, a computing platform, a computing system, or other electronic computing device, that manipulates and/or transforms data represented as physical (e.g., electronic) quantities within the computer’s registers and/or memories into other data similarly represented as physical quantities within the computer's registers and/or memories or other information non-transitory storage medium that may store instructions to perform operations and/or processes. Although embodiments of the invention are not limited in this regard, the terms "plurality" and "a plurality" as used herein may include, for example, "multiple" or "two or more". The terms "plurality" or "a plurality" may be used throughout the specification to describe two or more components, devices, elements, units, parameters, or the like. Unless explicitly stated, the
method embodiments described herein are not constrained to a particular order or sequence. Additionally, some of the described method embodiments or elements thereof can occur or be performed simultaneously, at the same point in time, or concurrently.

[0021] Embodiments of invention allow people to communicate via video more effectively during natural disasters or other emergencies. Embodiments of the systems and methods described herein enable people to communicate through video even when bandwidth is at its most limited, for example, by (a) limiting or modifying the size, resolution or compression of the files (videos) being exchanged in designated "Emergency Zones," and/or (b) selecting an optimal one of a plurality of networks or protocols for transmitting video content, depending on which network is available, fastest or has the greatest available bandwidth at that moment. For example, embodiments of the system may choose the most effective communication route automatically, e.g., by comparing one or more connectivity parameters, such as signal strength, speed, and/or available bandwidth, of a plurality of networks, either passively according to received network signals and/or actively by "pinging" or sending a test signal over the various available networks and measuring the parameters of a reply signal. The sending device may send the video over the network with strongest signal response, highest available bandwidth, etc.

[0022] Embodiments of the invention may enable users to record a video prior to a disaster or emergency, and store that video until a release event occurs, triggering a central or cloud-based device to transmit the video to predefined recipients. At the time of the emergency, whereas users located within the emergency zones have poor network functionality, the central device may be located outside of the emergency zone and may transmit the video with uninterrupted network service. Release events may occur, for example, when (a) a user indicates it is time to release the video to its intended recipients (e.g., sending instructions on how to deal with an emergency, or a reminder of where the family is supposed to meet), or (b) the system processor or administrator determines it is time to release the video, for example, responsive to an alarm sensor triggered by a predetermined event, which indicates that a significant enough disaster has taken place, e.g., affecting a geographic area. Users may opt-in to system release events, such as by a sign-in or user authentication, before and/or during an emergency event.

[0023] Fig. 1 schematically illustrates a system 100 including a server 110 operating in accordance with an embodiment of the invention. Server 110 may allow users operating remote
client devices 130 to connect over a network 140, such as the Internet. Remote client devices 130 may interact with server 110 and receive and/or send content stored on storage 120, associated with server 110. Server 110 may comprise one or more servers or cloud computing devices. For example, server 110 may include a plurality of servers in different locations, for example, so that at least one server may be located outside of an emergency zone. Storage 120 may include any suitable storage for storing video content items, and metadata associated therewith. Server 110 and/or storage 120 may have indexing capabilities to allow rapid search and retrieval operations for video stored thereon.

[0024] Remote users may access server 110 over a wired and/or wireless data network 140 such as the Internet using any suitable remote client device 130, including desktop computer 130A, laptop computer 130B, tablet computer 130C, mobile device such as smart phone 130D, etc. Some remote client devices 130, such as smart phone 130D, may be able to connect to server 110 via more than one network, e.g., mobile telephone network 150 and data network 140. Some remote client devices 130, e.g., as used by recording users, may include integral or peripheral recording devices, e.g., a microphone 160 and/or a video camera 170. Some remote client devices 130 may include integral or peripheral playback devices, e.g., a display screen or audio speaker.

[0025] Remote client devices 130 and server 110 may each include one or more processors for executing operations according to embodiments of the invention, and one or more memories for storing input data, intermediate data and/or output data therefrom. In accordance with various embodiments of the invention, one or more instructions (e.g., code) for implementing embodiments of the invention may be executed by processors entirely on server 110, partly on server 110 and partly on a remote client device 130A-D, or entirely on a remote client device 130A-D.

[0026] Fig. 2 is a flow diagram of a method 200 for communicating a video content item in emergency situations according to an embodiment of the invention. Method 200 may be executed using processors in system 100 of Fig. 1 or other systems.

[0027] In operation 201, a processor (e.g., server 110 processor of Fig. 1) may create an emergency account for a user. A user may log in to the server, for example, by opening a website using a browser and/or a mobile application (e.g., operating on one of remote client devices
130A-D). When prompted, the user may provide a username and/or password, which may be verified against a pre-existing account or used to create a new account by the server. Upon authenticating the user, the server may provide the user with a number of options, including selecting one or more user settings relating to one or more emergency mode parameters, and/or uploading or creating content for delivery. In accordance with various embodiments, emergency mode parameters may govern steps and/or rules to be implemented by the server with regard to the user account when it is determined that the user is located in an area designated as an emergency zone. In particular, emergency mode parameters may govern the sending and/or receiving of video content items (e.g., videos) to and/or from the user devices (e.g., remote client devices 130A-D) and/or the server. Example emergency mode parameters may include, for example, release parameters defining conditions for sending/receiving a video, instructions for sending/receiving the video (e.g., preferred network, format, timing, etc.), at what frame rate videos may be streamed and/or downloaded, number of videos per user, file size, resolution, compression rate, color or black and white video, a list of one or more recipients to receive the videos, which may be prioritized by importance e.g., in case only some of the recipient transmissions may be fulfilled, etc. In some embodiments, one or more of the emergency mode parameters may be set by default once the user account is activated.

[0028] According to embodiments of the invention, once the user has completed the initial setup and has activated the user account, the processor of the server may begin governing the account as necessary, for example, by executing one or more instructions stored in the memory and executing in the processor.

[0029] In operation 205, the processor may detect one or more emergency indicators, for example, in a geographic area. A geographic area may be, for example an area defined by geographic coordinates, an address, city, state, country, etc. Furthermore, in some embodiments, a user may designate a certain geographic area (e.g., his or her own geographic area, or those of others) as an "emergency zone." In some embodiments, an emergency zone may be a geographic area in which an emergency is believed to be presently occurring, or may be a geographic area in which an emergency may potentially occur or is anticipated to occur at a future time, e.g., based on the one or more emergency indicators. In some embodiments, an emergency indicator may be, for example, an alarm sensor triggered by commencement of a predetermined event in the geographic area (e.g., a temperature or pressure sensor or a radar that detects a tornado), and/or
an alarm signal which has been activated in response to commencement of the predetermined event in the geographic area (e.g., an emergency warning system activated by a government or weather service to warn people of an emergency). An example of a predetermined event may be a tornado, tsunami, earthquake, or any other natural catastrophe, or may be, for example, a terrorist attack, building collapse, train-derailment, etc. Of course, an emergency event need not be limited to life or death catastrophes, and may include any predefined problem, such as, a server crash, network failure, etc. In general, any situation that falls under an "emergency" as defined by the system or an administrator of the system, for example, in a particular country or geographic region, may be detected.

[0030] In operation 210, a processor (e.g., a processor in server 110 or client device 130 of Fig. 1) may designate an emergency zone. In some embodiments, an alarm sensor may be a physical sensor put in place, for example, by a governing body or other institution or individual to detect the presence of an emergency indicator. In some embodiments, an alarm sensor may be a virtual sensor, such as, for example, computer software configured to scan satellite imaging, text in news feeds and/or on social media networks, traffic patterns, word searches, (e.g., using textual analysis and/or natural language processing), etc., for indications of emergency indicators. An alarm signal may be, for example, a public warning system, by which the system and/or users may be warned of emergency indicators. In some embodiments, the processor may determine, based, for example, on the detected emergency indicators, that an emergency exists in the geographic area, and may therefore designate the geographic area as an emergency zone. As understood herein, unless defined otherwise by the user or administrator, an "emergency" may be any event that causes a dramatic, immediate impact to people in a defined geographic area, such as, for example, a town, city, state, province, or larger scale.

[0031] In operation 215, a processor (e.g., a processor in server 110 or remote client device 130 of Fig. 1) may determine whether one or more users associated with user accounts are located in the emergency zone. This may be achieved, for example, by determining a location of a device (e.g., client device(s) 130A-D of Fig. 1) associated with the user account; and comparing the user location with the geographic area that has been designated as an emergency zone, and confirming whether the user location is located within the emergency zone or outside of the emergency zone. In some embodiments, the user location may be determined by the processor using any of a variety of methods. For example, determining the user location may be achieved
by locating a source of an IP address associated with the user account, by receiving a mobile
location ping from a device associated with the user account, by referencing a location
identification of a cellular zone of the user, and/or by receiving a set of GPS coordinates from a
GPS device associated with the user account. In some embodiments, a user may self-report the
user location, e.g., via a system interface (e.g., a browser or mobile application) or other
electronic communication (e.g., via a text message, e-mail, etc.).

[0032] In some embodiments, upon determining that a user is located in an emergency area, the
processor (e.g., of server 110) may send a notification indicating to other users in a nearby area
(e.g., one mile radius) that they may be located in an emergency zone. The processor may
requesting confirmation from the nearby users of an emergency event and may inquire as to
whether or not the other users would like to activate one or more of the emergency mode
parameters associated with the users’ accounts.

[0033] In operation 220, if it is determined that the user located is in the emergency zone, a
process or processor may proceed to operation 225; otherwise a process or processor may
proceed to operation 230.

[0034] In operation 225, when it is determined that the user location is within the emergency
zone, the processor may activate one or more emergency mode parameters governing the sending
of a video content item to/from a remote client device (e.g., remote client device 130 of Fig. 1)
and/or server (e.g., server 110 of Fig. 1). In some embodiments, the emergency mode parameters
governing sending/receiving the video content item may include, for example, limiting one or
more of a frame rate, file size, recording time, and/or compression rate at which the video
content item may be recorded to a predetermined maximum value. In some embodiments, a
combination of limitations may be selected to obtain the maximum file size which can be
successfully communicated in a given situation. As a goal in emergency situations is to conserve
bandwidth resources and ensure delivery of the video, in some embodiments, a relatively low
predetermined rate (or other limitation) may be set, such as, for example, one (1) frame-per-
second (fps), five (5) fps, or 10 fps.

[0035] In one embodiment, when the one or more emergency mode parameters have been
activated, the server may remotely control those parameters in the remote client devices so that
the remote client devices only capture or transmit videos according to the emergency mode
parameters. Accordingly, all videos received from remotely controlled client devices may be compliant with the emergency mode parameters of the server and may be accepted. In other embodiments, when the one or more emergency mode parameters have been activated, the server may only accept uploaded files according to the emergency mode parameters and may reject non-compliant files. The server may issue an error message upon receiving a non-compliant file to the uploading device, which may define all or only the violated emergency mode parameter(s), after which the uploading device (e.g., remote client device) may modify the file to comply with the one or more emergency mode parameters (e.g., by modifying the frame rate, compression rate, etc.).

[0036] Likewise, in some embodiments, a recording duration for the video content item may be limited to a predetermined maximum recording time, such as, for example, one (1) minute, 30 seconds, 15 seconds, etc. In some embodiments, the amount of meta-data which may be included with the video content item, and/or the type of meta-data which may be appended to the video content item may be circumscribed by the processor of the server and/or of the remote client device. Unlike a normal video recording process, in some embodiments, metadata that a user may select before or after recording a video may be limited in order to reduce file size and preserve bandwidth. Therefore the only information the user may be allowed/required to enter as meta-data may be, for example, a video title and recipient information. The server processor may also disable upload capabilities with respect to other video content.

[0037] As with sending/receiving videos, in some embodiments, the emergency mode parameters governing sending/receiving a video content item may include, for example, limiting a frame rate or other video parameters at which the video content item may be streamed to/from a user device in the emergency zone to a predetermined rate. In some embodiments, a relatively low predetermined rate may be set for the frame rate, such as, for example, one (1) FPS. In some embodiments, a user may not have control over the video parameters, time to change the video parameters, or may not know at the time of recording what the acceptable video parameters will be at the time of sending. In some embodiments, the processor of the client device may automatically convert the video content item, at the time of recording, storing or sending, to a frame rate or other video parameters below the predetermined rate when the video parameters are above the predetermined rate.
In some embodiments, streaming a video over a network (e.g., even a video captured at a relatively low FPS) may cause the video to start and stop, for example, when the network has relatively low available bandwidth or intermittent connectivity. In some embodiments, the video may therefore be buffered by the receiving device, which may mitigate the stopping and starting.

In some embodiments, e.g., to ensure that a user may view a video uninterrupted (e.g., without the video starting and stopping and/or without having to buffer), the processor may limit viewing of the video until the entire video content item has been downloaded in its entirety. The video content item may be downloaded e.g., to a temporary memory (e.g., Random Access Memory) of the device receiving the video content item. The video content item may then be available for viewing, e.g., in a mobile application or browser of the receiving device. Video delivery notifications, however, may be the same as when the emergency mode parameters are not activated (e.g., push notifications and/or email notifications containing a link to the video).

In operation 230, when the processor has not determined that the user is located in the emergency zone, the processor may still receive a manual request to activate the one or more emergency mode parameters. In some embodiments, the manual request may serve as an emergency indicator in lieu of other emergency indicators described herein. Upon authentication of the user's identity, the processor may receive a manual selection from the user, for example, a click of a button on the user interface or an electronic communication, and may allow the user to enable or define one or more of the emergency mode parameters associated with the user's account. This function may be of particular use, for example, in small scale emergencies that may not come to the attention of the system and/or system administrator. Upon receiving the manual request, the processor may activate the one or more emergency mode parameters responsive to the manual request.

In operation 235, once the processor (e.g., in server 110 or remote client device 130 of Fig. 1) has activated one or more emergency mode parameters, and is therefore configured to send and/or receive a video, the processor may first determine an optimal path (e.g., network, channel, frequency, signal) over which the video content item may be sent from and/or received at the user account. For example, in embodiments where the user accesses the system on a mobile device, the system may automatically choose the path with the greatest available bandwidth over which to upload a video file, download a video file, stream a video file, etc., e.g., via a Wi-Fi network signal or a cellular signal. In some embodiments, the remote client device or
server may be configured to detect network parameters, e.g., with the strongest signal, fastest speed, and/or greatest available bandwidth, when more than one network and/or type of network is available. The processor may detect the network parameters either passively according to received network signals or actively by testing the networks available to the device, and select the best network on behalf of the device. For example, the processor may be configured to ping each network (e.g., send a test signal), and then compare response signals to determine the optimal path for sending and/or receiving data. In some embodiments, the processor may attempt to determine the optimal path, e.g., before a video is recorded, once the video has been recorded on the device, or both before and after recording. Once the optimal path has been detected, the video may be sent/received over the optimal path, e.g., the path with the greatest speed, most available bandwidth, strongest signal, etc.

[0041] In some embodiments, the processor of the sending device (e.g., server 110 or client device 130 of Fig. 1) may send the video using "chunked uploading." Chunked uploading enables the processor to break up a video (or any other data file) from one large file into smaller pieces or chunks, and send these pieces over a network one-by-one. As such, if an upload signal fails, the processor needs only to resume sending data from the last successful chunk. For embodiments in which chunked uploading is implemented, the processor may pause uploading when a network connection is lost and resume uploading when the network connection is regained.

[0042] In some embodiments, rather than the user recording a video during the emergency (e.g., from within the emergency zone, which may be difficult, impractical, or impossible), a user may pre-record a video to be sent in case of an emergency. In some embodiments, users may pre-record multiple videos, each of which may be sent in case of different types of emergencies, e.g., as indicated by a plurality of emergency indicators each associated with a different video. The videos may be pre-uploaded from the client device into the server storage. As such, when a pre-recorded video content item associated with the user's account has been uploaded to the server, in some embodiments, activation of the one or more emergency mode parameters associated with the user's account and/or receiving a delivery request command or confirmation from the user, may cause the server to send the pre-recorded video content item, from the server to one or more predefined recipient(s). A delivery request signal may be, for example, a signal generated and sent from the user device to the server (e.g., by the user pressing a button on the user interface of
the user's device or any other form of electronic communication provided to the server) indicating that a pre-recorded video should be sent. In some embodiments, the deliver request signal may be sent by an approved proxy of the user, such as, for example, a local municipality in which the user is a resident. When a user account is associated with multiple videos or types of emergencies, a user may specify, for example, by code, the particular video or type of emergency to be transmitted.

[0043] In some embodiments, the processor (e.g., in server 110 of Fig. 1) may send the pre-recorded video content item, from the server to a predefined recipient, automatically upon activation of the one or more emergency mode parameters, provided an automatic delivery request has been preselected by the user in the initial setup in operation 201. In embodiments where an automatic delivery request has not be preselected and the user is determined to be in an emergency zone in operation 215, the processor may be configured to query the user, e.g., via a notification, as to whether the user would like to send a pre-recorded video, and in response, activate the emergency mode parameters for the user’s account. Likewise, in embodiments where the user has not preselected a recipient, the processor may be configured to query the user, e.g., via a notification on the user's device. Furthermore, in some embodiments, the user may edit or update the recipient list and provide additional/different recipient information.

[0044] At times, both the user (sender) and a designated recipient may be located in the emergency zone (or multiple emergency zones). As such, in some embodiments, a pre-recorded video may be stored on the server in both an original frame rate and in a modified relatively lower emergency frame rate. For example, an original frame rate may be 30 FPS and a modified emergency frame rate may be 1 FPS. In some embodiments, such as when the user pre-recorded the video at an original (e.g., normal) frame rate, the server may be configured to create a copy of the original video at a reduced frame rate, and save it to the server in addition to the original. In some embodiments, the processor may determine whether the predefined recipient is also in an emergency zone. If the recipient is not in an emergency zone, the server may send the recipient the original pre-recorded video at the original recorded frame rate. However, if the recipient is also in an emergency zone, the server may send the duplicate video which has been stored in the relatively lower modified emergency frame rate to the recipient. In some embodiments, the server may send the recipient only the audio file associated with the recorded
video but not the video file itself, such as, for example, when the available bandwidth would not support the file size of a video but would support the file size of the audio recorded therewith.

[0045] In some embodiments, such as when the user chooses to record and/or upload a pre-recorded video for delivery in emergency situations, the user may log in to the system and proceed to record and/or upload content to the server. Prior to recording, the server may query the client device to ascertain which recording devices are available, and provide recording options for those devices. For example, if more than one video capture device is detected, the user may be prompted to select a video capture device. If a microphone is detected, the user may be prompted to select whether to include audio in a video recording, etc. In some embodiments, the server may control aspects of the recording by the client device, such as, for example, the capture rate and/or compression rate.

[0046] According to embodiments of the invention, the server may provide recording users with customized settings for specific events and usages, e.g., in the event of a natural disaster or a terrorist threat/attack. Optionally, there may be provided on the server's website tips for various types of emergency situations, and instructions that can be provided in such an event.

[0047] When the user is ready, the user may begin recording, at which time, the audio and video inputs may be captured until the user is finished. According to some embodiments of the invention, the content may be streamed directly from the client device to the server substantially as it is being recorded by the user device in real time, thereby not requiring an application to be downloaded and operated on the client device. In some embodiments, e.g., if the network becomes unavailable, the content may be stored temporarily or buffered on the client device and uploaded to the server when recording is complete and/or when the network becomes available.

[0048] When the recording is complete, the processor of the server or client device may provide the user with the option of playing back the content to determine whether the user is satisfied with the content. If not, the user may re-record the content. If the user is satisfied, the content may be stored on the client device or server storage. Pre-recorded content may be uploaded as a file in similar manner.

[0049] The processor of the server or client device may prompt the user to provide, and the server and/or client device may receive, metadata as described herein, as well as recipient information for delivery. A recipient may be a registered user, for example, among the recording
user's contacts, or may be a non-registered user. According to an embodiment of the invention, when a recording user creates content for a recipient who is not among their contacts, the server may attempt to search for the recipient by name, location, mutual contacts, and other information. If the recipient is not found, the server may open a placeholder or shadow record or profile for the non-registered user, including an email and other information provided by the recording user. The server may send the prospective user/recipient an e-mail or other communication invitation to join the service and register to open a profile. In addition, when the recording user has completed recording the content, the server may send the prospective user/recipient an e-mail or other communication notifying them that content has been recorded for them and inviting them to join the service and register to open a profile. If the recipient creates a profile, it may take the place of the placeholder or shadow profile, and have associated with it the content previously recorded.

[0050] According to embodiments of the invention, the recording user may register connections with other users, and may indicate a degree of connection, e.g., may specify a type of relationship, or may simply create groups of family or friends, etc. Users in a family group may be indicated by the system visually for a user, e.g., by an icon next to the user's username, indicating a family member. Thus, when a recording user records content, he may be given the option of sending it to individual users, to oneself, to one's entire contact tree, to one's entire family only, or to any member of the public.

[0051] The recording user may also indicate privacy preferences. For example, a recording user may prefer that certain content not be forwarded, or only be forwarded to users registered in the system as family. When the content is finalized, and the metadata received, the server may archive and index the content. The server may store the content, and optionally the metadata, on a long-term archive or storage resource. According to embodiments of the invention, the content may be stored and backed up in multiple physical locations, in order to provide additional security against loss of data and ensure storage in a non-emergency zone.

[0052] While certain features of the invention have been illustrated and described herein, many modifications, substitutions, changes, and equivalents may occur to those skilled in the art. It is, therefore, to be understood that the appended claims are intended to cover all such modifications and changes as fall within the true spirit of the invention.
CLAIMS

What is claimed is:

1. A method for communicating a video content item in emergency situations, performed using a processor, memory, and one or more instructions stored in the memory and executed in the processor, the method comprising:

   designating, by the processor, a geographic area as an emergency zone when one or more emergency indicators associated with the geographic area are detected; and

   activating, by the processor, one or more emergency mode parameters governing communication of a video content item associated with a user account when a user is determined to be located in the emergency zone.

2. The method as in claim 1, wherein the one or more emergency indicators comprises at least one of:

   an alarm sensor triggered by a predetermined event in the geographic area; and

   an alarm signal activated in response to the predetermined event in the geographic area.

3. The method as in claim 1, wherein the user is determined to be located in the emergency zone by:

   determining a location of the user; and

   determining that the user location is within the geographic area that has been designated as an emergency zone.

4. The method as in claim 3, wherein determining the user location comprises at least one of:

   locating a source of an IP address associated with the user account;

   receiving a mobile location ping from a device associated with the user account;
referencing a location identification of a cellular zone of the user; and
receiving a set of GPS coordinates from a GPS device associated with the user account.

5. The method as in claim 1, further comprising:

receiving a manual request to activate the one or more emergency mode parameters; and
activating, by the processor, the one or more emergency mode parameters responsive to the manual request.

6. The method as in claim 1, wherein activating the one or more emergency mode parameters governing communication of the video content item with the user account comprises:

limiting a frame rate to a predetermined rate at which the video content item may be at least one of one of recorded and streamed.

7. The method as in claim 6, comprising:

converting the video content item to a frame rate below the predetermined rate when the frame rate is above the predetermined rate.

8. The method as in claim 1, wherein activating the one or more emergency mode parameters governing communication of the video content item with the user account comprises:

limiting a recording duration for the video content item to a predetermined maximum recording time.

9. The method as in claim 1, wherein activating the one or more emergency mode parameters governing communication of the video content item with the user account comprises:

limiting one or more of an amount of meta-data included with the video content item and a type of meta-data appended to the video content item.
10. The method as in claim 1, wherein activating the one or more emergency mode parameters governing communication of the video content item with the user account comprises:
   disabling upload capabilities with respect to video content other than the video content item.

11. The method as in claim 1, wherein activating the one or more emergency mode parameters governing communication of the video content item with the user account comprises:
   limiting viewing the video content item on a device receiving the video content item until after the entire video content item has been downloaded.

12. The method as in claim 1, further comprising:
   determining, by the processor, an optimal transmission channel for at least one of sending and receiving the video content item; and
   at least one of sending the video content item over the optimal transmission channel and receiving the video content item over the optimal transmission channel.

13. The method as in claim 1, wherein activating the one or more emergency mode parameters governing sending the video content item comprises:
   sending, by the processor, a pre-recorded video content item from a server to a predefined recipient, responsive to the server receiving a delivery request signal.

14. The method as in claim 1, wherein activating the one or more emergency mode parameters governing sending the video content item comprises:
   sending, by the processor, the pre-recorded video content item from a server to a predefined recipient, automatically upon activation of the one or more emergency mode parameters, wherein an automatic delivery request has been preselected.
15. The method as in claim 15, further comprising:

- storing the pre-recorded video on a server in an original frame rate and in a modified emergency frame rate, wherein the modified emergency frame rate is relatively lower than the original frame rate;
- determining, by the processor, whether the predefined recipient is in the emergency zone; and
- sending, by the processor, the pre-recorded video stored in the original frame rate to the predefined recipient if the predefined recipient is not determined to be in the emergency zone
- and sending, by the processor, the pre-recorded video stored in the modified emergency frame rate to the predefined recipient if the predefined recipient is determined to be in the emergency zone.

16. The method as in claim 1, further comprising:

- remotely controlling, by a processor at a server, the recording parameters of a video recorder in a user device to comply with the one or more emergency mode parameters.

17. The method as in claim 1, further comprising:

- accepting, at a processor at a server, the video content item having video parameters that comply with the one or more emergency mode parameters; and
- rejecting, at a processor at the server, the video content item having video parameters that do not comply with the one or more emergency mode parameters.

18. A server for communicating a video content item in emergency situations, the server comprising:

- a processor;
memory; and

one or more instructions stored in the memory and executable by the processor, which, when executed, configure the processor to perform the method of any of claims 1-17.

19. A remote client device for communicating a video content item in emergency situations, the remote client device comprising:

- a processor;
- memory, and
- one or more instructions stored in the memory and executable by the processor, which, when executed, configure the processor to perform the method of any of claims 1-12.
START

Create An Emergency User Account

Detect Emergency Indicators

Designate Geographic Area As Emergency Zone

Determine Whether User Is Located In Emergency Zone

In Emergency Zone?

Manual Request?

YES

Activate Emergency Mode Parameters Governing Sending and/or Receiving Video

END

NO

YES

Send and/or Receive Video Content Items As Governed By Emergency Mode Parameters

FIG. 2
A. CLASSIFICATION OF SUBJECT MATTER
IPC(8): H04N 7/10 (2015.01)
CPC: H04N 21/814, G08B 27/008, H04H 20/59
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)
IPC(8): H04N 7/10 (2015.01)
CPC: H04N 21/814, G08B 27/008, H04H 20/59

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 725/33 (keyword limited - see terms below)

C. DOCUMENTS CONSIDERED TO BE RELEVANT
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<td>Y</td>
<td>US 2012/0036529 A1 (McCleny et al.) 09 February 2012 (09.02.2012), entire document, especially; abstract, para. [0013], [0029], [0036], [0034], [0044], [0048], [0067], [0074]</td>
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<td>Y</td>
<td>US 2013/0121527 A1 (Chambers et al.) 16 May 2013 (16.05.2013), entire document, especially; abstract, para. [001], [0039], [0040], [0046], [0047], [0066], [0075], [0083]</td>
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Date of the actual completion of the international search: 27 March 2015 (27.03.2015)
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