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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0270.0057US1/S-ACV00016US
	Application Number	
Title of Invention	System and Method for Distributed Video Analysis	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0270.0057US1/S-ACV00016US
	Application Number	
Title of Invention	System and Method for Distributed Video Analysis	

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Application Information:

Title of the Invention	System and Method for Distributed Video Analysis		
Attorney Docket Number	0270.0057US1/S-ACV00016US	**Small Entity Status Claimed**	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	7	**Suggested Figure for Publication (if any)**	

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

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

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☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	0270.0057US1/S-ACV00016US
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Title of Invention	System and Method for Distributed Video Analysis	

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Organization Name	Sensormatic Electronics, LLC

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	Application Number	
Title of Invention	System and Method for Distributed Video Analysis	

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TITLE OF THE INVENTION

System and Method for Distributed Video Analysis

BACKGROUND OF THE INVENTION

[0001] Video surveillance systems are increasingly deployed within public and private institutions, such as households, commercial buildings, businesses, retail establishments, schools, hospitals and government buildings, to list a few examples. These surveillance systems are often used for a number of different tasks, such as intelligence gathering by governments and businesses, prevention or investigation of crime by law enforcement or retail establishments, and monitoring the usage of resources or structures such as buildings, bridges or roads, to list a few examples.

[0002] A number of components are common to many of these video surveillance systems. Surveillance cameras capture image data that are typically then sent over one or more data networks, such as governmental, service provider, enterprise or home networks. This image data are typically stored on network video recorders (NVRs). Video analytics systems are often included to analyze the image data. Finally, control systems are often used to control the surveillance systems and coordinate the operation of the components.

[0003] These video analytics systems have the capability of automatically analyzing image data to detect and determine temporal and spatial events. Minimally, these systems track objects against fixed background scenes. More sophisticated functions include object detection to determine the presence of an object or a type of object. Even higher level functions include object analysis, such as object identification.

[0004] The methods employed by video analytics systems for detecting and analyzing classes of objects in image data have become more accurate in recent years, and are, as a consequence, becoming more and more important in video surveillance systems. Two common examples of object analysis within image data are facial recognition of individuals and license plate recognition, or number plate recognition. Some of these video analytics systems are sophisticated enough to identify a particular person from their facial

characteristics, and can identify a particular license plate by reading and recognizing the text and numbers within the license plate, in examples.

SUMMARY OF THE INVENTION

[0005] Current video surveillance systems have problems. Video surveillance systems can increase the volume of data traffic sent over the networks. This increased data traffic volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

[0006] One reason for the increased data traffic created by current video surveillance systems is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image data are typically sent by surveillance cameras over the network to video analytics systems located within the network. Another reason for the increased data traffic over the networks is that recent advances in video technology have resulted in an increase the resolution of the image data that the surveillance cameras capture and transmit.

[0007] Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

[0008] The present invention concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (e.g. identify) the detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening

networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

[0009] The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

[0010] Then, the object analysis system can analyze the image data by comparing the image data to the reference images to identify the objects of interest within the images, by recognizing patterns in the image data from the patterns, and/or by applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data, in examples. The image processing functions can include filtering, image/contrast enhancement, compression, and deblurring of the image data, in examples.

[0011] In one example, the object detection system is integrated within the surveillance cameras or a gateway system, and the object analysis system is then located in a more remote video analytics system.

[0012] As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

[0013] Finally, the object detection system can further limit the image data sent over the data network to achieve even greater bandwidth savings. In one example, the object detection system can create cropped images from the image data that include only the detected objects of interest, and send only the cropped images over the data network for processing by the video analytics system.

[0014] In general, according to one aspect, the invention features a video surveillance system that comprises one or more surveillance cameras that capture image data, an object detection system that detects objects of interest within the image data, and a video analytics

system that receives the image data, transmitted over a network, from the object detection system The image data received by the video analytics system correspond to objects of interest detected by the object detection system, and the video analytics system then analyzes the objects of interest.

[0015] In this way, the object detection is separated from object analysis. Thus, only a portion of the image data generated by the surveillance cameras needs to be sent over the network.

[0016] In some embodiments, the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system to further reduce bandwidth. In other cases, entire frames of image data are provided, also metadata may be included to identify the portion of the frames containing the detected objects.

[0017] In some cases, objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

[0018] The video analytics system may include an object analysis system that compares the image data corresponding to objects of interest detected by the object detection system to reference images to identify the objects of interest. At the same time, the object detection system may be integrated within the one or more surveillance cameras.

[0019] The video analytics system may be a node on an enterprise network. On the other hand, it could alternatively or additionally be a cloud analytics system.

[0020] In some embodiments, a gateway system is included that provides access to the video analytics system over a public network. The object detection system might be integrated within the gateway system. The gateway system can be a node on the local network or integrated within the cameras.

[0021] In general, according to one aspect, the invention features a method for analyzing video in a video surveillance system. This method comprises capturing image data from one or more surveillance cameras, detecting objects of interest within the image data via an object

detection system. The object detection system transmits the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system. Finally, a video analytics system receives the image data from the object detection system and analyzes the objects of interest.

[0022] The above and other features of the invention including various novel details of construction and combinations of parts, and other advantages, will now be more particularly described with reference to the accompanying drawings and pointed out in the claims. It will be understood that the particular method and device embodying the invention are shown by way of illustration and not as a limitation of the invention. The principles and features of this invention may be employed in various and numerous embodiments without departing from the scope of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023] In the accompanying drawings, reference characters refer to the same parts throughout the different views. The drawings are not necessarily to scale; emphasis has instead been placed upon illustrating the principles of the invention. Of the drawings:

[0024] Fig. 1 is a schematic block diagram of an embodiment of a distributed video surveillance system according to the invention;

[0025] Fig. 2 is a diagram that shows exemplary messaging between the major components of the system of Fig. 1 for processing of image data;

[0026] Fig. 3 is a schematic block diagram of a second embodiment of the distributed video surveillance system;

[0027] Fig. 4 is a diagram that shows exemplary messaging between the major components of the system of Fig. 3 for processing of image data;

[0028] Fig. 5 is a schematic block diagram of a third embodiment of n distributed video surveillance system; and

[0029] Fig. 6 and 7 are diagrams that show exemplary messaging between the major components of the system of Fig. 5, where Fig. 6 shows messaging associated with processing

of live image data, and where Fig. 7 shows messaging associated with forensic processing of image data recorded by a network video recorder.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0030] The invention now will be described more fully hereinafter with reference to the accompanying drawings, in which illustrative embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art.

[0031] As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items. Further, the singular forms and the articles "a", "an" and "the" are intended to include the plural forms as well, unless expressly stated otherwise. It will be further understood that the terms: includes, comprises, including 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. Further, it will be understood that when an element, including component or subsystem, is referred to and/or shown as being connected or coupled to another element, it can be directly connected or coupled to the other element or intervening elements may be present.

[0032] Fig. 1 shows an embodiment of a distributed video surveillance system 100. The system 100 is deployed within large businesses, large corporate entities, or government entities, in examples. Multiple exemplary businesses Biz Corp. (Biz), Cam Corp. (Cam), and ACME Corp ("ACME") are shown. Detail is included for network 134 of only one (ACME), for clarity, however.

[0033] The illustrated system 100 includes a local video analytics system 112 that is a node on the business's enterprise network 134. The local video analytics system 112 enables processing of the image data from the surveillance cameras 103 within the enterprise network

134. In addition, the businesses such as ACME can also use remote video analytics systems 122 hosted by cloud services 180 to analyze the image data from the surveillance cameras 103.

[0034] In some implementations, a third-party company operates cloud service 180. The cloud service 180 can also be a public or private cloud service, in different examples. Public clouds differ from private clouds with respect to security and sharing of the resources that they provide to their clients. Public clouds generally share their datacenter resources among multiple clients. In contrast, private clouds typically dedicate specific resources to individual clients.

[0035] The cloud service 180 is typically operated by a different business entity than the business entities that operate businesses Cam, Biz, and ACME. The businesses are clients of the cloud service 180. This allows the businesses Cam, Biz, and ACME to leverage the expertise of the cloud service and its ability to provide constant performance updates and improvements.

[0036] The cloud service 180 includes components such as a remote database 142 and a remote video analytics system 122. The remote video analytics system 122 includes an object analysis system 123-2. The remote database 142 and the remote video analytics system 122 are nodes of cloud service network 144.

[0037] The business clients ACME, Biz, and Cam access the components of the cloud service 180 via their respective gateway systems 110. Each of the gateway systems 110 has a physical or logical interface that connects to an associated enterprise network, such as ACME's enterprise network 134, and an interface that connects to a network cloud 60. The network cloud 60 is preferably a public/service provider network such as the Internet, but can also be a private network built for each specific enterprise client, in examples.

[0038] Components of the system 100 that are deployed within ACME are preferably installed as nodes on ACME's enterprise network 134. The components include surveillance cameras 103-1 and 103-2, gateway system 110-1, video control system 114, local video analytics system 112, network video recorder 130, and local database 132. The local video analytics system 112 includes an object analysis system 123-1. Operators of the video

surveillance system 100 such as on-site security and surveillance personnel can use the video control system 114 to control the system's components.

[0039] The surveillance cameras 103 capture images and/or video of monitored areas, such as a room 170 within a building 102 or premises adjacent to a building 102. The images and/or video, also known as image data, can be formatted or presented in different ways. In examples, the image data can be encoded into different formats such as MPEG4 and H.264, JPEG or left as "raw" composite image data, in examples.

[0040] Surveillance camera 103-1 is positioned to capture image data of an area adjacent to building 102. The building 102 has entry/access points 117 such as doors from which employee individuals 118 may enter or leave building 102. Individuals 118 in vehicles 182 such as service personnel and employees drive by the building 102 and park the vehicles 182 in parking lots, in examples. The vehicles 182 include license plates 116. The entry/access points 117 and the vehicles 182 are included within the field of view 104-1 of surveillance camera 103-1. Surveillance camera 103-1 also integrates a frame capture system 106-1 and an object detection system 108-1.

[0041] Surveillance camera 103-2 is positioned within building 102. The building 102 includes a room 170 with individuals 118. The room 170 and the individuals 118 are included within the field of view 104-2 of surveillance camera 103-2. Surveillance camera 103-2 also integrates frame capture system 106-2 and object detection system 108-2.

[0042] Fig. 2 shows exemplary messaging between major components of the distributed video surveillance system of Fig. 1 associated with "live" processing of image data for large business ACME. The major components include the surveillance camera 103-1, the gateway system 110-1, the local video analytics system 112, the local database 132, and the cloud service 180.

[0043] In step 202, the frame capture system 106-1 of the surveillance camera 103-1 captures image data of the monitored area outside the building 102 for a specified time interval. The frame capture system 106-1 then encodes the image data into frames of video data.

[0044] In step 204, the object detection system 108-1 detects objects of interest within the frames, and possibly extracts video frames or portions of the framess that include the detected objects of interest. In examples, objects of interest include vehicles 182 and individuals 118, in examples. Of particular interest are the faces of the individuals 118 and license plates 116 of the vehicles 182. In other examples, the objects of interest include animals, retail products or product packaging, smoke, flames, explosives, visible traces of vapors, and atmospheric conditions such as rain, mist, and fog.

[0045] In one implementation, the object detection system 108-1 can create cropped images extracted from the frames. The cropped images include the detected objects of interest.

[0046] In another example, the object detection system 108-1 may optionally choose to send only some frames that include an indicative pattern or object of interest. Because a face or license plate, or other object class of a detected object of interest may be present in the image for a length of time, typically there will be many frames within the image data that include an object of interest.

[0047] The object detection system 108-1 could be also optimized to send a limited number of frames of image data, or even just one frame of image data. This is especially true if the object analysis system 123-1 can sufficiently identify objects from such a limited number of frames.

[0048] Further, in some implementations, the object detection system generates and sends metadata along with the image data that includes its identification of a type of the object of interest and/or the location and pixel area of the detected object(s).

[0049] Finally, in another example, the object detection system 108-1 can rank the frames or portions of the frames image data corresponding to objects of interest detected by the object detection system 108-1 according to different factors. These factors include close proximity of the objects of interest to the one or more surveillance cameras 103, picture quality of the objects of interest, and/or image contrast of the portion of the image data that contains the objects of interest. The rankings are typically saved in the metadata within or with the image data. Then, the object analysis system 123-1 can read the rankings within the metadata to decide whether or not to analyze the image data.

[0050] According to step 206, the object detection system 108-1 then sends the image data, such as cropped or entire images, to the gateway system 110-1 for further processing.

[0051] In step 208, the gateway system 110-1 can determine which of the image data to analyze on the local video analytics system 112 and which of the image data to analyze on the remote video analytics system 122, if it is present and available.

[0052] In step 210, the gateway system 110-1 can send at least some of the image data over the enterprise network 134 to the local video analytics system 122.

[0053] In step 212, the local video analytics system 112 might access reference images, image processing functions, patterns, neural network functions, deep learning functions, and/or object classification functions from the local database 132. Then, in step 212, the local video analytics system 122 analyzes the image data via its object analysis system 123-1.

[0054] The local video analytics system 112 analyzes the image data by comparing the image data to the reference images, by recognizing patterns in the image data from the patterns, and/or by applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data, in examples.

[0055] In one specific example, the local video analytics system 112 analyzes the image data by comparing the image data to the reference images to identify the objects of interest within the images. Reference images can include images of current and former employee individuals 118 of ACME, and images of their license plates and/or vehicles, in examples.

[0056] In step 214, the local video analytics system 122 saves metadata from analysis of the image data for the identified objects of interest with the image data to the local database 132.

[0057] In another specific example, the object detection system 108-1 determines if the image data includes an object of interest, such as a face of an individual 118, and the local or remote video analytics system 112, 122 analyze the image data including the face of the individual 118 to determine the identity of the individual 118.

[0058] According to step 216, the gateway system 110-1 can send at least some of the image data over the network cloud 60 to the remote video analytics system 122 for analysis of the image data.

[0059] In response to this event, in step 218, the remote video analytics system 122 accesses reference images, image processing functions, patterns, neural network functions, deep learning functions, and/or object classification functions from the remote database 142. Then, in step 220, the remote video analytics system 122 analyzes the image data via its object analysis system 123-2.

[0060] Here also, in examples, the remote video analytics system 122 analyzes the image data by comparing the image data to the reference images, by recognizing patterns in the image data from the patterns, and/or by applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data.

[0061] In one specific example, the remote video analytics system 122 analyzes the image data by comparing the image data to the reference images to identify the objects of interest within the images.

[0062] Cloud services often provide access to multiple public and subscription-based remote databases 142. These can include government and law enforcement databases that include reference images of known criminals, and images associated with border patrol and surveillance of airports, in examples.

[0063] In one example, the object detection system 108-1 determines if the image data includes an object of interest, such as a product on a shelf of a large supermarket, and the remote video analytics system 122 analyzes the image data including the product to determine the type of product, and to determine information about the product within its product label. Reference images taken of the product shelf at different times in the past can provide information for restocking and inventory management, and for marketing and sales purposes to determine how long products remain on shelves, in examples.

[0064] In step 222, the remote video analytics system 122 sends metadata for the identified objects of interest over the network cloud 60 to the gateway system 110-1. The

gateway system, in step 224, then saves the metadata to the local database 132. In this way, information generated by the cloud system is made available back to the enterprise.

[0065] Fig. 3 shows a second embodiment of a distributed video surveillance system 100. The system 100 here might be deployed within a household, small office/home office (SOHO), small retail establishment, or bank branch, in examples. The network 134 is additionally labeled as "SmallOfficeNetwork" to emphasize the nature of the deployment associated with the video surveillance system 100. In examples, the network 134 can be a wireless network, or wired local area network (LAN).

[0066] The SOHO typically might not possess the processing capability or could support the cost associated with including a local video analytics systems 112 within the network 134. At the same time, the small office or household typically requires only periodic or occasional access to image data analysis services provided by video analytics systems. As a result, SOHO entities generally use a remote video analytics system 122 hosted by a cloud service 180 to analyze the image data sent from the surveillance cameras 103.

[0067] A third-party company typically operates the cloud service 180, which would often be a public cloud in this example The SOHO is a client of the cloud service 180.

[0068] The cloud service 180 here also includes components such as the remote database 142 and the remote video analytics system 122. The remote video analytics system 122 includes an object analysis system 123-2. The remote database 142 and the remote video analytics system 122 are nodes of remote network 144.

[0069] Components of the system 100 that are deployed within the SOHO are preferably installed as nodes on its network 134. The components include the surveillance cameras 103-1 and 103-2 and the gateway system 110-1. Surveillance camera 103-1 includes the gateway system 110-1, frame capture system 106-1, and object detection system 108-1. Surveillance camera 103-2 includes gateway system 110-2, frame capture system 106-2, and object detection system 108-2.

[0070] Surveillance camera 103-1 is positioned to capture image data of an area adjacent to building 102. The building 102 has tenants such as a bank and includes an Automated Teller Machine (ATM) 124 in the illustrated example. Individuals 118 in vehicles 182 access the

ATM 124 to perform financial transactions. The vehicles 182 include license plates 116. The ATM 124 and the vehicles 182 are included within the field of view 104-1 of surveillance camera 103-1.

[0071] Surveillance camera 103-2 is positioned within building 102. The building 102 includes a room 170 with individuals 118. The room 170 and the individuals 118 are included within the field of view 104-2 of surveillance camera 103-2. Surveillance camera 103-2 also integrates frame capture system 106-2 and object detection system 108-2.

[0072] SOHO and small retail establishments typically have limited available bandwidth resources in their networks 134. As in the embodiment of Fig.1, the surveillance cameras 103 integrate the object detection systems 108 to minimize the amount image data that is sent over the network 134 to the cloud service. Moreover, the gateway system 110 is included within the surveillance cameras 103 to save on cost. Although in other examples, it can be a standalone system that is a node on the local network 134 that aggregate image data from multiple cameras.

[0073] Fig. 4 shows exemplary messaging between major components of the distributed video surveillance system of Fig. 3 associated with "live" processing of image data for a small business, SOHO, or small retail establishment. The major components include surveillance camera 103-1, gateway system 110-1, local database 132, and cloud service 180.

[0074] In step 602, the frame capture system 106-1 of the surveillance camera 103-1 captures image data of a monitored area outside a building 102 for a specified time interval. The frame capture system 106-1 then encodes the image.

[0075] In step 604, the object detection system 108-1 detects objects of interest within the video frames, and extracts image data from the video frames that include the detected objects of interest. In examples, objects of interest include vehicles 182 and individuals 118.

[0076] In one example, the object detection system 108-1 can create cropped frames extracted from the image data. The cropped frames include the detected objects of interest.

[0077] According to step 606, the object detection system 108-1 then sends the image data, such as cropped frames or complete frames or image data from a series of frames, to the gateway system 110-1 within the surveillance camera 103-1. Then, in step 608, the gateway

system 110-1 sends the image data including the detected objects of interest over the network cloud 60. The image data are sent over the network cloud 60 to the remote video analytics system 122 of the cloud service 180 for processing.

[0078] In step 610, the remote video analytics system 122 accesses reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions from the remote database 142.

[0079] Then, in step 612, the remote video analytics system 122 analyzes the image data via its object analysis system 123-1. The analysis includes comparing the image data to the reference images, by recognizing patterns in the image data from the patterns, and/or applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data, in examples.

[0080] In one example, the remote video analytics system 122 analyzes the image data by comparing the image data to reference images to identify the objects of interest within the images. The remote system may store metadata and image data for the client in its remote database, or in step 614, the remote video analytics system 122 may send the metadata for the identified objects of interest in the image data to the local gateway system 110-1. Finally, in step 616, the gateway system 110-1 saves the metadata for the identified objects of interest in the image data to a local database.

[0081] Fig. 5 shows a third embodiment of a distributed video surveillance system 100. The system 100 might be deployed within medium-size businesses and corporate entities, in examples. Multiple exemplary businesses Biz Corp. (Biz), Cam Corp. (Cam), and ACME Corp ("ACME") are shown. Detail is only included for network 134 of ACME, to avoid cluttering the drawing.

[0082] In this example, the businesses can require 24-hour access to image data analysis services provided by video analytics systems, but cannot justify the cost of including the local video analysis system 112 as a component within their network 134. As a result, medium size businesses might use a remote video analytics system 122 hosted by a cloud service 180 to analyze the image data from the surveillance cameras 103.

[0083] A third-party company operates cloud service 180. The cloud service 180 can be a public or private cloud service, in examples. The cloud service 180 is typically operated by a different business entity than the business entities that operate businesses Cam, Biz, and ACME. The businesses are clients of the cloud service 180.

[0084] Here again, the cloud service 180 includes components such as a remote database 142 and a remote video analytics system 122. The remote video analytics system 122 includes an object analysis system 123-2. The remote database 142 and the remote video analytics system 122 are nodes of remote network 144.

[0085] The gateway systems 110-1, 110-2, and 110-3 integrate the object detection systems 108-1, 108-2, and 108-3, respectively.

[0086] Fig. 6 shows exemplary messaging between major components of the distributed video surveillance system of Fig. 5 associated with "live" processing of image data for a medium-sized business, ACME. The major components include surveillance camera 103-2, gateway system 110-1, local database 132, and cloud service 180.

[0087] In step 302, the frame capture system 106-1 of the surveillance camera 103-1 captures image data of a monitored area within a building 102 for a specified time interval. The frame capture system 106-1 then encodes the image data into frames of video data.

[0088] In step 304, the surveillance camera 103-2 sends all captured frames for the specified interval to the gateway system 110-1. Then, according to step 306, the object detection system 108 of the gateway system 110 detects objects of interest within the video frames, and extracts image data from the video frames that include the detected objects of interest.

[0089] According to step 308, the gateway system 110-1 then sends the image data including the detected objects of interest over the network cloud 60. The image data are sent over the network cloud 60 to the remote video analytics system 122 of the cloud service 180 for processing.

[0090] In step 310, the remote video analytics system 122 accesses reference images, image processing functions, patterns, neural network functions, deep learning functions, and/or object classification functions from the remote database 142.

[0091] Then, in step 312, the remote video analytics system 122 analyzes the image data via its object analysis system 123-2. The analysis includes comparing to the reference images, recognizing patterns in the image data from the patterns, and/or applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data, in examples.

[0092] In one example, the remote video analytics system 122 analyzes the image data by comparing the image data to reference images to identify the objects of interest within the images. In step 314, the remote video analytics system 122 sends metadata for the identified objects of interest in the image data to the gateway system 110-1. Finally, in step 316, the gateway system 110-1 saves the metadata for the identified objects of interest in the image data to the local database 132.

[0093] Fig. 7 shows exemplary messaging between major components of the distributed video surveillance system of Fig. 5 associated with forensic processing of image data for a medium-sized business, ACME. The major components include video control system 114, network video recorder 130 camera 103-2, gateway system 110-1, local database 132, and cloud service 180.

[0094] In step 402, a user such as a security or surveillance operator accesses the video control system 114 to select a set of recorded video data of a monitored area outside a building 102. The set of recorded video data is associated with a specific time interval selected by the operator. The video control system 114 then requests the selected set of recorded video data from the video recorder 130.

[0095] In step 404, the video recorder 130 sends all recorded video data for the specified time interval to the gateway system 110-1.

[0096] Then, according to step 406, the object detection system 108 detects objects of interest within the video frames, and extracts image data from the video frames that include the detected objects of interest. In examples, objects of interest include vehicles 182 and individuals 118.

[0097] In one example, the object detection system detects objects of interest within the video data by first scanning the pixels, macroblocks, or regions of the video data to detect

patterns indicative of the object class to be recognized. For facial detection, the pattern may be eyes, nose and mouth features arrayed in a particular orientation. For license plate detection, the pattern may be a rectangular area including alphanumeric features.

[0098] According to step 408, the gateway system 110-1 then sends the image data including the detected objects of interest over the network cloud 60. The image data are sent over the network cloud 60 to the remote video analytics system 122 of the cloud service 180 for processing.

[0099] In step 410, the remote video analytics system 122 accesses reference images, image processing functions, patterns, neural network functions, deep learning functions, and/or object classification functions from the remote database 142.

[0100] Then in step 412, the remote video analytics system 122 analyzes the image data via its object analysis system 123-2. The analysis includes comparing to the reference images, recognizing patterns in the image data from the patterns, and/or applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data, in examples.

[0101] In one example, the remote video analytics system 122 analyzes the image data by comparing the image data to reference images to identify the objects of interest within the images. In step 414, the remote video analytics system 122 sends metadata for the identified objects of interest in the image data to the gateway system 110-1. Finally, in step 316, the gateway system 110-1 saves the metadata for the identified objects of interest in the image data to the local database 132.

[0102] While this invention has been particularly shown and described with references to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the scope of the invention encompassed by the appended claims.

CLAIMS

What is claimed is:

1. A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data; and

a video analytics system that receives the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest.

2. The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. The system of claim 1, wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network.

8. The system of claim 1, wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis.

9. The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system transmitting the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system receiving the image data from the object detection system and analyzing the objects of interest.

15. The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. The method of claim 14, further comprising including the video analytics system as a node within an enterprise network, and also including the one or more surveillance cameras as nodes on the enterprise network.

22. The method of claim 20, further comprising sending the image data to a video analytics system operated by a different business entity than the surveillance cameras for further analysis.

23. The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

ABSTRACT OF THE DISCLOSURE

A system and method for distributed analysis of image data in a video surveillance system can be deployed in households, businesses, and within corporate entities, in examples. The image data are processed on local video analytics systems located within the networks of the businesses or on remote video analytics systems hosted by a cloud service. To limit the data traffic imposed by the image data on the network, the system divides the image data processing into separate object detection and analysis functions. In embodiments, the system also integrates the object detection function within the surveillance cameras or on a local gateway. This can significantly reduce the data traffic sent over networks as compared to current video surveillance systems and methods since only image data containing object of interest needs to be sent.

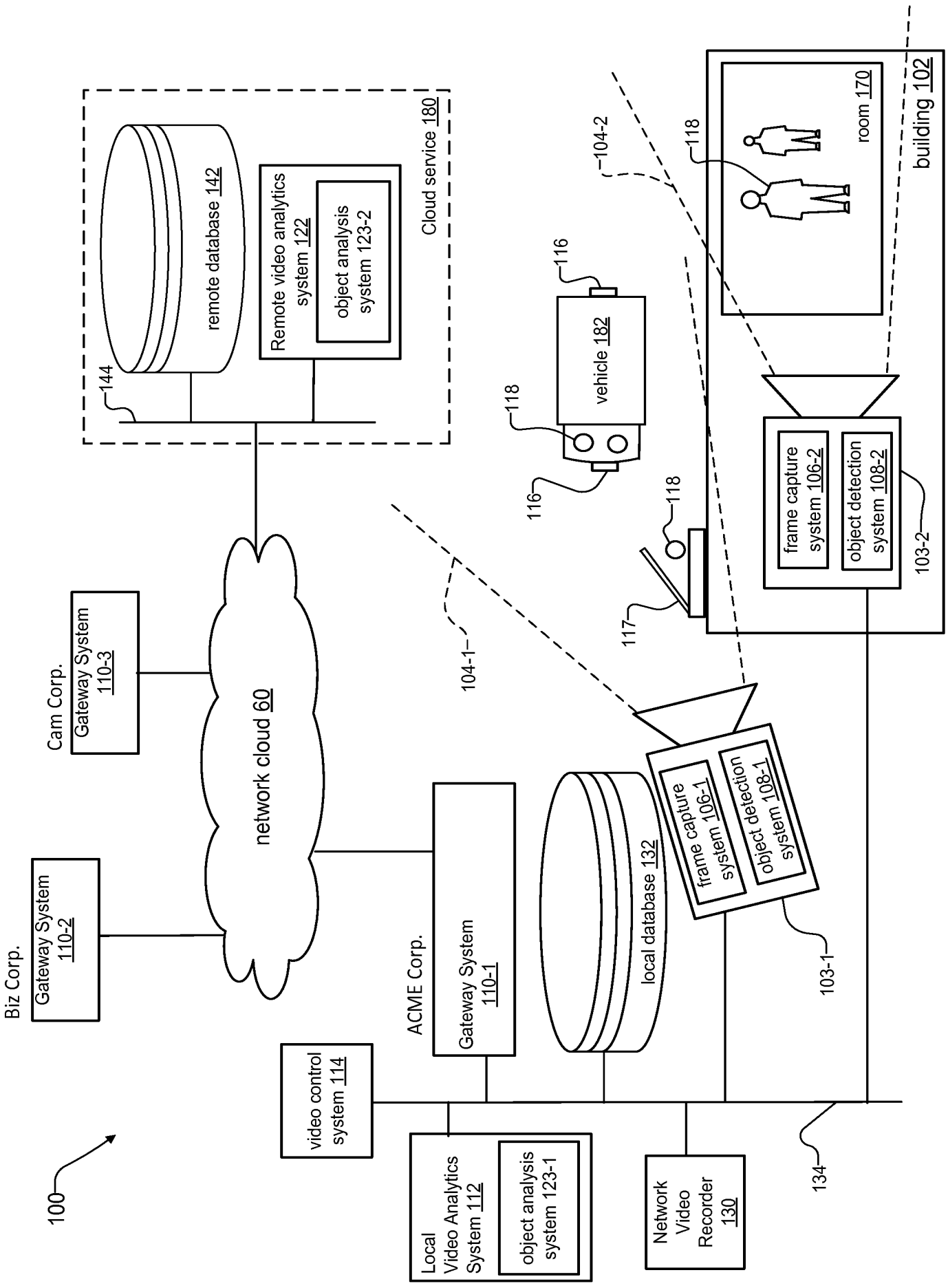

100
Biz Corp.
Gateway System 110-2
Cam Corp.
Gateway System 110-3
network cloud 60
ACME Corp.
Gateway System 110-1
video control system 114
Local Video Analytics System 112
object analysis system 123-1
Network Video Recorder 130
134
local database 132
frame capture system 106-1
object detection system 108-1
103-1
104-1
117
118
116
vehicle 182
118
116
104-2
118
room 170
building 102
frame capture system 106-2
object detection system 108-2
103-2
Cloud service 180
remote database 142
144
Remote video analytics system 122
object analysis system 123-2

FIG. 1

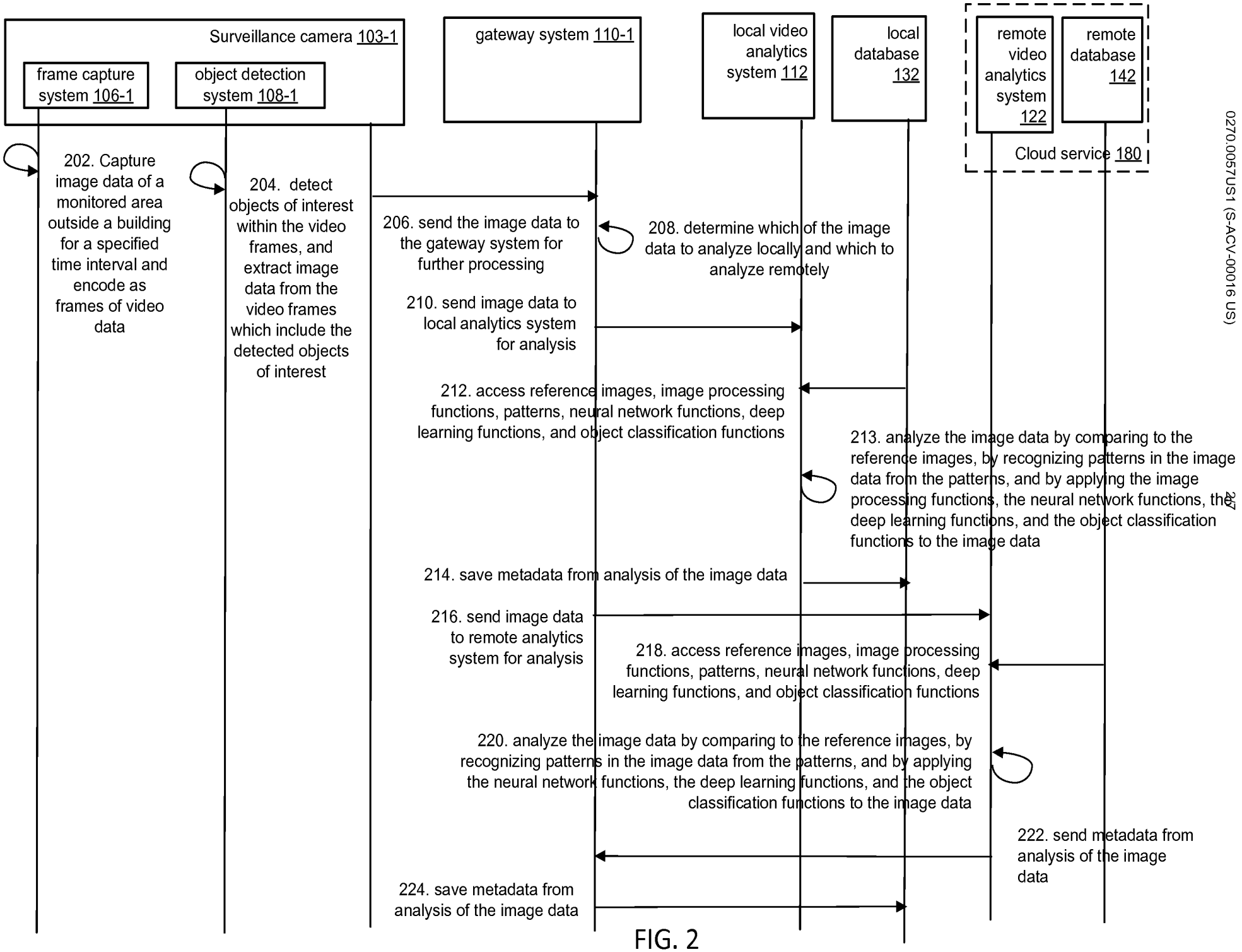

Surveillance camera 103-1
frame capture system 106-1
object detection system 108-1
gateway system 110-1
local video analytics system 112
local database 132
remote video analytics system 122
remote database 142
Cloud service 180
202. Capture image data of a monitored area outside a building for a specified time interval and encode as frames of video data
204. detect objects of interest within the video frames, and extract image data from the video frames which include the detected objects of interest
206. send the image data to the gateway system for further processing
208. determine which of the image data to analyze locally and which to analyze remotely
210. send image data to local analytics system for analysis
212. access reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions
213. analyze the image data by comparing to the reference images, by recognizing patterns in the image data from the patterns, and by applying the image processing functions, the neural network functions, the deep learning functions, and the object classification functions to the image data
214. save metadata from analysis of the image data
216. send image data to remote analytics system for analysis
218. access reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions
220. analyze the image data by comparing to the reference images, by recognizing patterns in the image data from the patterns, and by applying the neural network functions, the deep learning functions, and the object classification functions to the image data
222. send metadata from analysis of the image data
224. save metadata from analysis of the image data

FIG. 2

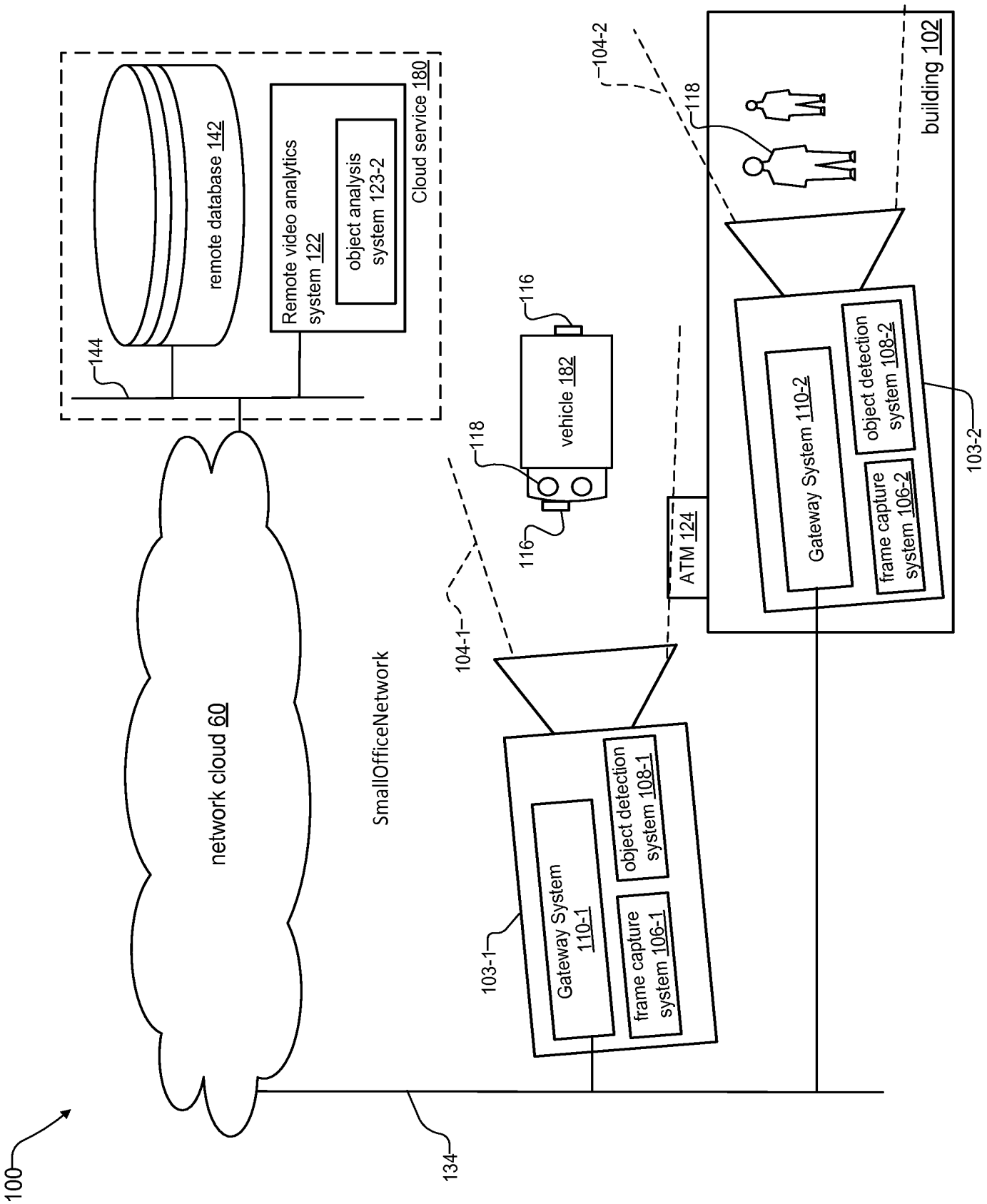

100
network cloud 60
SmallOfficeNetwork
134
Cloud service 180
remote database 142
144
Remote video analytics system 122
object analysis system 123-2
104-1
104-2
118
116
vehicle 182
ATM 124
building 102
103-1
Gateway System 110-1
frame capture system 106-1
object detection system 108-1
103-2
Gateway System 110-2
frame capture system 106-2
object detection system 108-2

FIG. 3

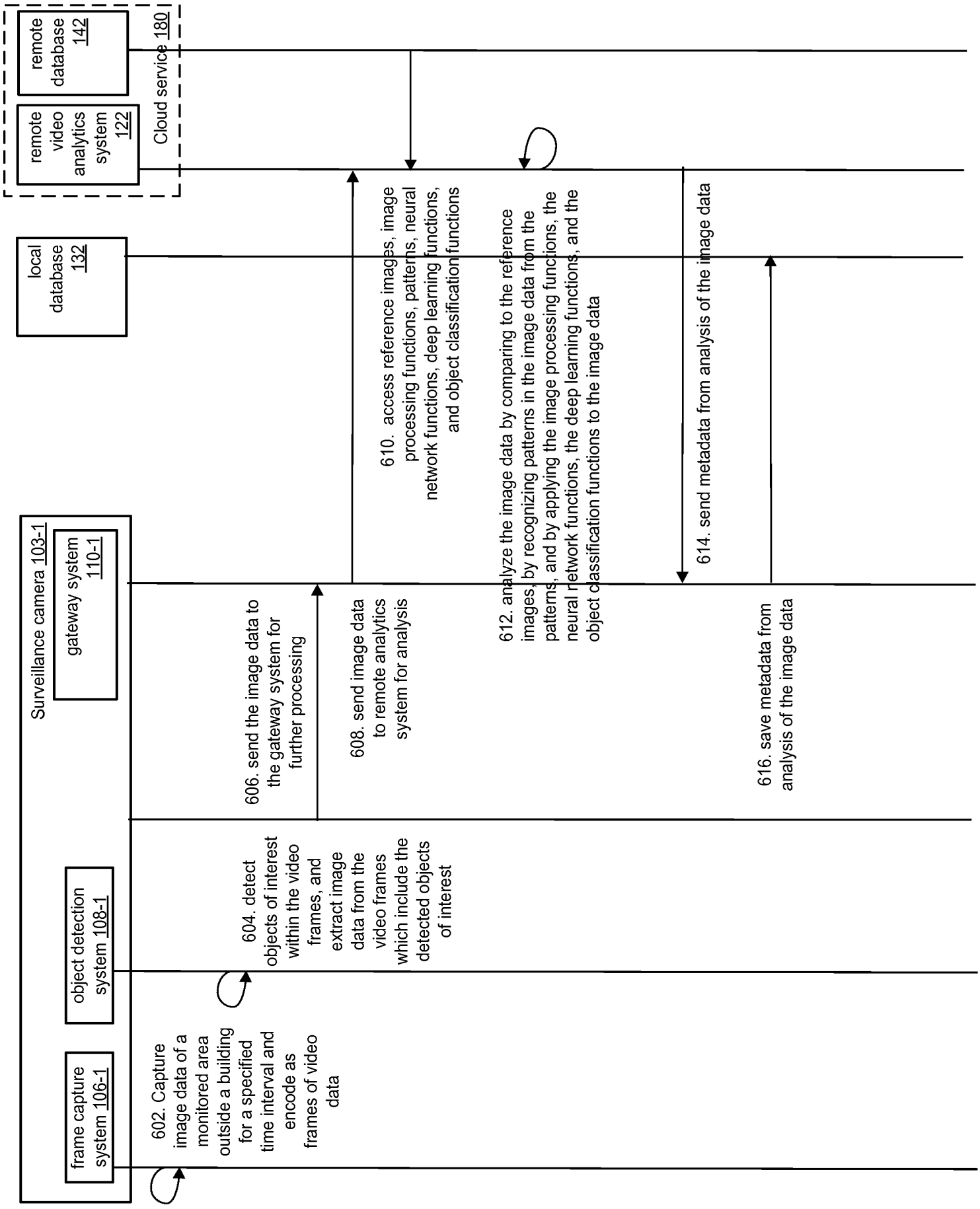

Surveillance camera 103-1
frame capture system 106-1
object detection system 108-1
gateway system 110-1
local database 132
Cloud service 180
remote video analytics system 122
remote database 142
602. Capture image data of a monitored area outside a building for a specified time interval and encode as frames of video data
604. detect objects of interest within the video frames, and extract image data from the video frames which include the detected objects of interest
606. send the image data to the gateway system for further processing
608. send image data to remote analytics system for analysis
610. access reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions
612. analyze the image data by comparing to the reference images, by recognizing patterns in the image data from the patterns, and by applying the image processing functions, the neural network functions, the deep learning functions, and the object classification functions to the image data
614. send metadata from analysis of the image data
616. save metadata from analysis of the image data

FIG. 4

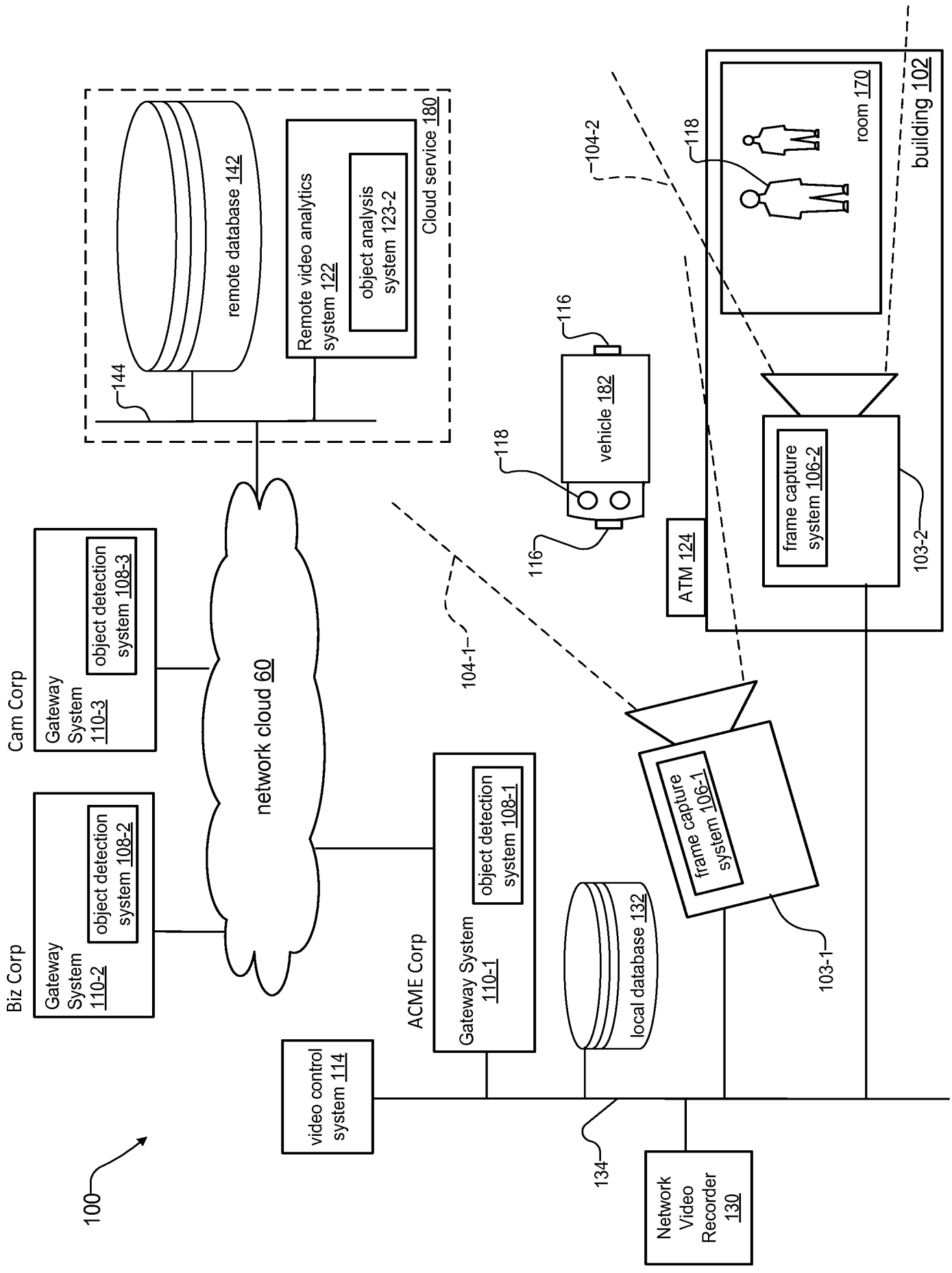

100
Biz Corp
Gateway System 110-2
object detection system 108-2
Cam Corp
Gateway System 110-3
object detection system 108-3
network cloud 60
ACME Corp
Gateway System 110-1
object detection system 108-1
video control system 114
local database 132
134
Network Video Recorder 130
Cloud service 180
remote database 142
144
Remote video analytics system 122
object analysis system 123-2
104-1
104-2
118
116
vehicle 182
ATM 124
frame capture system 106-1
103-1
frame capture system 106-2
103-2
room 170
building 102

FIG. 5

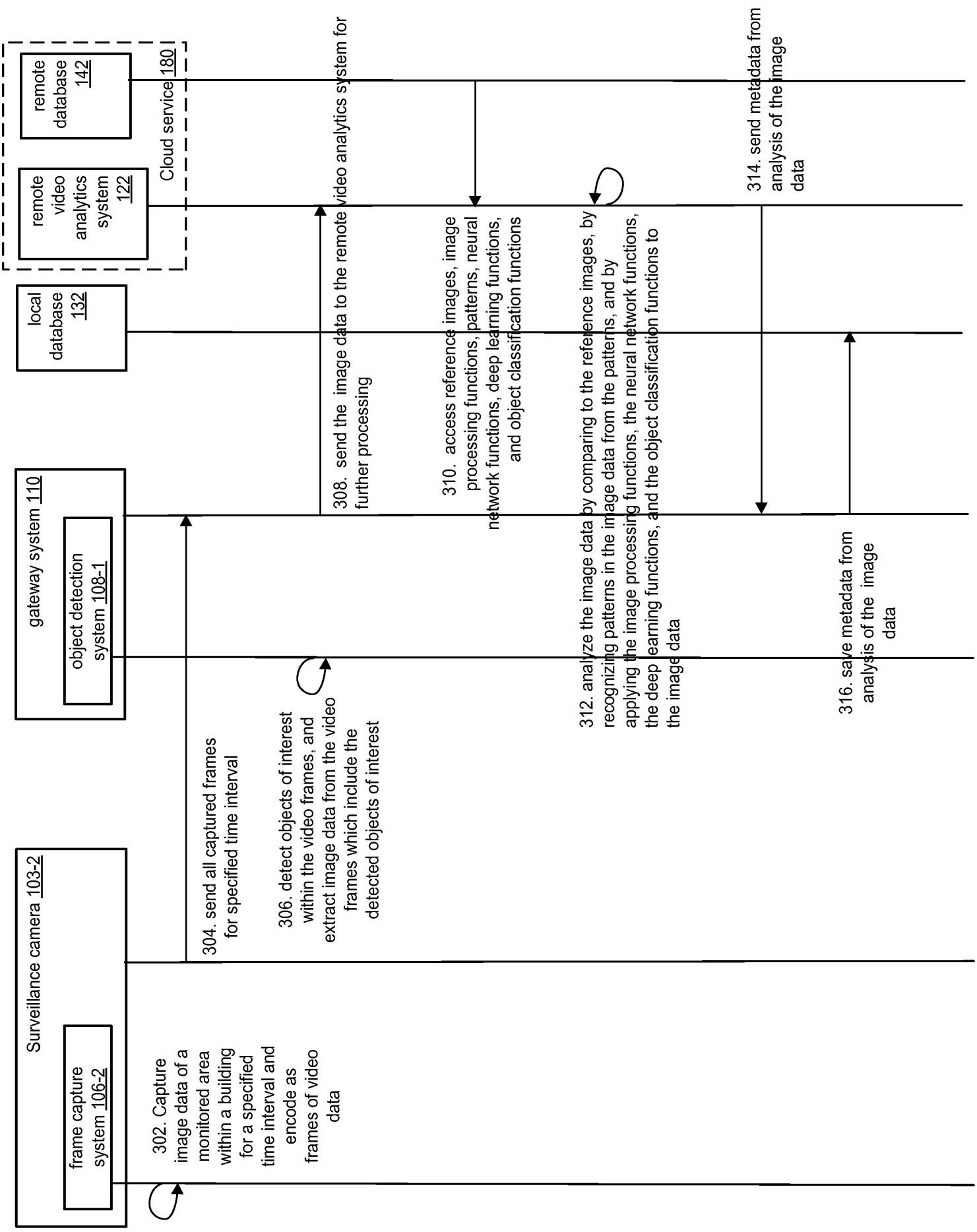

Surveillance camera 103-2
frame capture system 106-2
gateway system 110
object detection system 108-1
local database 132
Cloud service 180
remote video analytics system 122
remote database 142
302. Capture image data of a monitored area within a building for a specified time interval and encode as frames of video data
304. send all captured frames for specified time interval
306. detect objects of interest within the video frames, and extract image data from the video frames which include the detected objects of interest
308. send the image data to the remote video analytics system for further processing
310. access reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions
312. analyze the image data by comparing to the reference images, by recognizing patterns in the image data from the patterns, and by applying the image processing functions, the neural network functions, the deep learning functions, and the object classification functions to the image data
314. send metadata from analysis of the image data
316. save metadata from analysis of the image data

FIG. 6

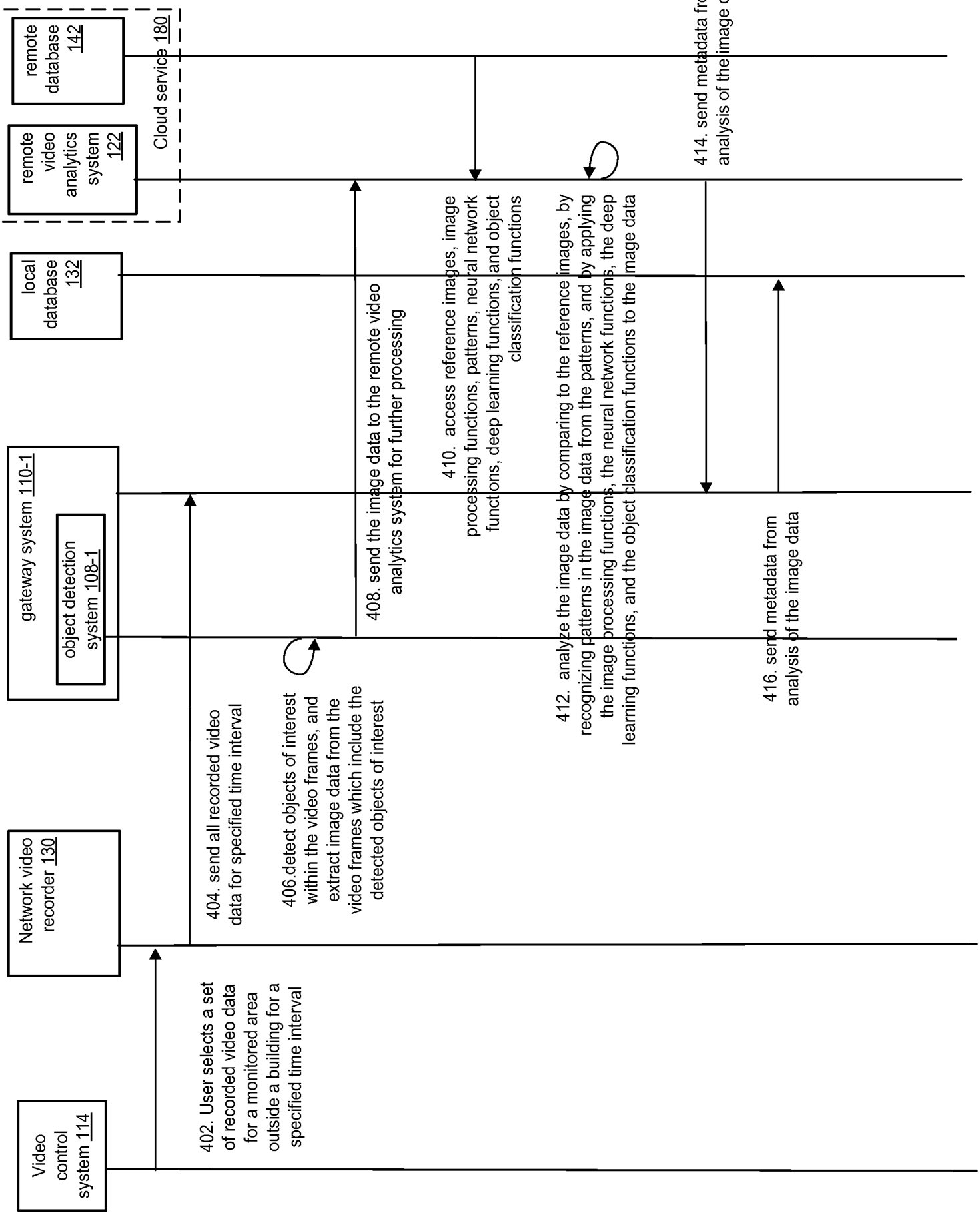

Video control system 114
Network video recorder 130
gateway system 110-1
object detection system 108-1
local database 132
Cloud service 180
remote video analytics system 122
remote database 142
402. User selects a set of recorded video data for a monitored area outside a building for a specified time interval
404. send all recorded video data for specified time interval
406.detect objects of interest within the video frames, and extract image data from the video frames which include the detected objects of interest
408. send the image data to the remote video analytics system for further processing
410. access reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions
412. analyze the image data by comparing to the reference images, by recognizing patterns in the image data from the patterns, and by applying the image processing functions, the neural network functions, the deep learning functions, and the object classification functions to the image data
414. send metadata from analysis of the image data
416. send metadata from analysis of the image data

FIG. 7

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Filer:	Joseph G. Houston/Jason DiMedio
Attorney Docket Number:	0270.0057US1/S-ACV00016US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Pages:				
Claims:				
Claims in Excess of 20	1202	5	80	400
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	1051	1	140	140

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**2140**

Electronic Acknowledgement Receipt

EFS ID:	21621251
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston/Jason DiMedio
Filer Authorized By:	Joseph G. Houston
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	27-FEB-2015
Filing Date:	
Time Stamp:	18:28:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$2140
RAM confirmation Number	5981
Deposit Account	505924
Authorized User	

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

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	0270-0057US1_S-ACV-00016_US_ADS.pdf	1561276 4258bc5501dd9d3acdce5c155f6834a983209b90	no	7
Warnings:					
Information:					
2		0270-0057US1_S_ACV-00016_US_SPEC.pdf	122410 181ba5b3133138711985cf0ba332fcc9433915c7	yes	22

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Specification	1	17
	Claims	18	21
	Abstract	22	22

Warnings:					
Information:					
3	Drawings-only black and white line drawings	00270-0057US1_S_ACV-00016_US_FIGS.pdf	189239 1b37e66c1dafa1beebe67ce41e9703d316ff0789	no	7
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	38170 6a68a4ccd104daf0ca5527fb62475452ca74afa1	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1911095		

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/634,428

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	25 minus 20 =	* 5			OR	x 80 =	400
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	2000

APPLICATION AS AMENDED - PART II

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US

CONFIRMATION NO. 3322

103122
Houston & Associates, LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420

NOTICE



Date Mailed: 03/13/2015

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Ian Christopher Westmacott
  Steve Carney

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/634,428	02/27/2015	2668	2140	0270.0057US1/S-ACV00016US	25	2

CONFIRMATION NO. 3322

103122
Houston & Associates, LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420

FILING RECEIPT



Date Mailed: 03/13/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Ian Christopher Westmacott, Tewksbury, MA;
Steve Carney, Foxborough, MA;

Applicant(s)

Sensormatic Electronics, LLC, Boca Raton, FL

Power of Attorney: None

Domestic Applications for which benefit is claimed - None.
A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

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

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 03/12/2015
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/634,428**
Projected Publication Date: 09/01/2016
Non-Publication Request: No
Early Publication Request: No

Title

System and Method for Distributed Video Analysis

Preliminary Class

382

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

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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

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

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

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

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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

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

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

NOT GRANTED

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

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Mar 13, 2015 05:36:25 AM

Dear PAIR Customer:

Houston & Associates, LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	M327	03/13/2015	0270.0057US1/S-ACV00016US
	APP.FILE.REC	03/13/2015	0270.0057US1/S-ACV00016US

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

PTO/SB/80 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☑ Practitioners associated with the Customer Number: 103122

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☑ The address associated with Customer Number: 103122

OR

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

Assignee Name and Address:

Sensormatic Electronics, LLC
1501 Yamato Road
Boca Raton, Florida 33431

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	2/24/12
Name	Paul F. Griffiths	Telephone	(561)981-4317
Title	Vice President, Sensormatic Electronics, LLC		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Electronic Acknowledgement Receipt

EFS ID:	21950707
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	03-APR-2015
Filing Date:	27-FEB-2015
Time Stamp:	10:49:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	0270-0057US1_S-ACV-00016_US_Declaration.pdf	494079 9592c90acb84cd2db0e4f933e268ef184d75a6b9	no	2

Warnings:	
Information:	

2	Assignee showing of ownership per 37 CFR 3.73	0270-0057US1_S-ACV-00016_US_373c.pdf	118052 3afeed10e173b294676990f0975cd6829e590a6d	no	3
Warnings:					
Information:					
3	Power of Attorney	Signed_POA_Sensormatic.pdf	252701 9c41bf1aa2ded19535abdf01a4b062393328fc4f	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	864832	

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

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	System and Method for Distributed Video Analysis

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

■ United States application or PCT international application number 14/634,428 filed on February 27, 2015.

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

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

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

WARNING:

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

LEGAL NAME OF INVENTOR

Inventor: Ian Christopher Westmacott Date (Optional): 3/27/15

Signature: IM Westmacott

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

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	System and Method for Distributed Video Analysis

As the below named inventor, I hereby declare that:

This declaration is directed to:

- ☐ The attached application, or
- ■ United States application or PCT international application number 14/634,428 filed on February 27, 2015.

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

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

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

WARNING:

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

LEGAL NAME OF INVENTOR

Inventor: Steve Garney Date (Optional): 3/27/15

Signature:

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

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office;U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of1995, no persons arerequired to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Sensormatic Electronics, LLC

Application No./Patent No.: 14/634,428 Filed/Issue Date: February 27, 2015

Titled: System and Method for Distributed Video Analysis

Sensormatic Electronics, LLC, a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 035301, Frame 0531, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

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This collection of information is required by37 CFR3.73(b). The information is required toobtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentialityis governed by35 U.S.C. 122and 37 CFR1.11 and1.14. Thiscollection is estimated to take 12 minutes to complete, including gathering, preparing, and submittingthe completed application form to the USPTO.Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent tothe Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.**SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

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STATEMENT UNDER 37 CFR 3.73(c)

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☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/grant houston/	April 2, 2015
Signature	Date
J. Grant Houston	35,900
Printed or Typed Name	Title or Registration Number

[Page 2 of 2]

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

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

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US

CONFIRMATION NO. 3322

POA ACCEPTANCE LETTER

103122
Houston & Associates, LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420

OC000000074486628

Date Mailed: 04/09/2015

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/03/2015.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/zabraha/

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

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Apr 09, 2015 05:35:19 AM

Dear PAIR Customer:

Houston & Associates, LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420
UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	N570	04/09/2015	0270.0057US1/S-ACV00016US

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14634428
Filing Date	2015-02-27
First Named Inventor	Ian Christopher Westmacott
Art Unit	2668
Examiner Name	
Attorney Docket Number	0270.0057US1/S-ACV00016US

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7257273	B2	2007-08-14	Li et al.	
	2	8824750	B2	2014-09-02	Jankowski et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14634428
	Filing Date	2015-02-27
	First Named Inventor	Ian Christopher Westmacott
	Art Unit	2668
	Examiner Name	
	Attorney Docket Number	0270.0057US1/S-ACV00016US

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
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Examiner Signature		Date Considered	

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[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14634428
	Filing Date	2015-02-27
	First Named Inventor	Ian Christopher Westmacott
	Art Unit	2668
	Examiner Name	
	Attorney Docket Number	0270.0057US1/S-ACV00016US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/grant houston/	Date (YYYY-MM-DD)	2015-06-24
Name/Print	J. Grant Houston	Registration Number	35900

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

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Electronic Acknowledgement Receipt

EFS ID:	22725426
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston/Jason DiMedio
Filer Authorized By:	Joseph G. Houston
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	25-JUN-2015
Filing Date:	27-FEB-2015
Time Stamp:	11:15:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	0270-0057US1_S-ACV-00016_US_IDS.pdf	612094 9346615877 35bc68735da31defc69795c24ecf53	no	4

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Total Files Size (in bytes):	612094

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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New International Application Filed with the USPTO as a Receiving Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US

CONFIRMATION NO. 3322

103122
HoustonHogle LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420

PUBLICATION NOTICE



Title: System and Method for Distributed Video Analysis

Publication No.US-2016-0253883-A1
Publication Date:09/01/2016

NOTICE OF PUBLICATION OF APPLICATION

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

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

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

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

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
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Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Sep 02, 2016 05:23:30 AM

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UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	NTC.PUB	09/01/2016	0270.0057US1/S-ACV00016US

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US	3322

103122 7590 11/04/2016

HoustonHogle LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420

EXAMINER
TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
11/04/2016	ELECTRONIC

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

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

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

docketing@houstonllp.com
grant.houston@houstonllp.com
eleahy@tycoint.com

Office Action Summary	Application No. 14/634,428	Applicant(s) WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	AIA (First Inventor to File) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/27/15*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☐ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-25* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☐ Claim(s) _____ is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☒ Claim(s) *1-25* are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

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

2. This application contains claims directed to the following patentably distinct species.

a. Species I – Fig. 2

b. Species II – Fig. 4

c. Species III – Fig. 6

d. Species IV – Fig. 7

3. The species are independent or distinct because claims to the different species recite the mutually exclusive characteristics of such species. In addition, these species are not obvious variants of each other based on the current record.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, or a single grouping of patentably indistinct species, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

There is a search and/or examination burden for the patentably distinct species as set forth above because at least the following reason(s) apply:

The species require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search queries);

and/or the prior art applicable to one species would not likely be applicable to another species; and/or the species are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or a grouping of patentably indistinct species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species or grouping of patentably indistinct species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected species or grouping of patentably indistinct species.

Should applicant traverse on the ground that the species, or groupings of patentably indistinct species from which election is required, are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing them to be obvious variants or clearly admit on the record that this is the case. In either

instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-Th: 7:30 - 6:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/RICHARD TORRENTE/
Primary Examiner, Art Unit 2485

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

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

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

CLAIM		DATE								
Final	Original	10/18/2016								
	1	÷								
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To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Nov 04, 2016 03:54:24 AM

Dear PAIR Customer:

HoustonHogle LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTRS	11/04/2016	0270.0057US1/S-ACV00016US

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott *et al.*	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Richard T. Torrente
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		
Attorney Docket No.	0270.0057US1 (S-ACV-00016 US)		

RESPONSE TO RESTRICTION REQUIREMENT

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

Sir:

In response to the pending Restriction Requirement, mailed November 4, 2016 (Paper No. 20161018), please note the following election.

Species I is elected for examination.

The following claims encompass Species I: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23.

The present application is ready for examination on the merits. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991

Lexington, Massachusetts 02420
Date: January 4, 2017

Electronic Acknowledgement Receipt

EFS ID:	27966693
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	04-JAN-2017
Filing Date:	27-FEB-2015
Time Stamp:	14:50:28
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Response to Election / Restriction Filed	0270-0057US1_S-ACV-00016_US_Reply_RR_11-04-16.pdf	92658 32d1d0cb2b5a75e4b97e392d0ea27e28a8024339	no	2

Warnings:

Information:	
Total Files Size (in bytes):	92658

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

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US	3322

103122 7590 02/13/2017

HoustonHogle LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420

EXAMINER
TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
02/13/2017	ELECTRONIC

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

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

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

docketing@houstonllp.com
grant.houston@houstonllp.com
eleahy@tycoint.com

Office Action Summary	Application No. 14/634,428	Applicant(s) WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	AIA (First Inventor to File) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *1/4/17*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-25* is/are pending in the application.

5a) Of the above claim(s) *12,13,24 and 25* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-11 and 14-23* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☒ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *2/27/15* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

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

Election/Restrictions

1. Applicant's election without traverse of Species I, corresponding to claims 1-11 and 14-23 in the reply filed on 1/4/17 is acknowledged.

2. Claim(s) 12-13 and 24-25 is/are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected embodiment, there being no allowable generic or linking claim.

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because implied phrase "embodiment" is used. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

1. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

2. Claim(s) 1-3, 6, 14-16 and 20 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Busse et al. (US 2011/0080495 A1).

Regarding claim 1, Busse discloses a video surveillance system (see fig. 1), comprising: one or more surveillance cameras (see fig. 1) that capture image data; an object detection system that detects objects of interest within the image data (see figs 3A-3B); and a video analytics system that receives the image data, transmitted over a network (e.g. see ¶ [0010]), from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system (e.g. see fig. 3B), the video analytics system analyzing the objects of interest (see ¶ [0030]).

Regarding claims 2 and 15, Busse further discloses wherein the object detection system creates cropped images (e.g. see fig. 3B) from the image data that include the detected objects of interest and sends the cropped images to the video analytics system (e.g. see ¶ [0010]).

Regarding claims 3 and 16, Busse further discloses wherein the image data include video data (e.g. see fig. 3B) and the object detection system provides frames from the video data that include the detected objects of interest (e.g. see fig. 3B) and sends the frames to the video analytics system as the image data (e.g. see fig. 3B).

Regarding claims 6 and 20, Busse further discloses wherein the object detection system is integrated within the one or more surveillance cameras (see fig. 1).

Regarding claim 14, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-5, 7-11, 17-19 and 21-23 are under 35 U.S.C. 103 as being unpatentable over Busse in view of Chen et al. (US 2014/0044348 A1).

Regarding claims 4 and 17, Busse does not discloses wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors (e.g. see ¶ [0034]) including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest (e.g. see ¶ [0087]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 5, 9 and 18, although Busse discloses wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system (see figs. 2A-2B), it is noted that Busse does not provide the particular wherein the object detection is by comparing the image data to reference images to identify the objects of

interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data (see 112-124 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 7-8, 11 and 21-23, Busse does not discloses wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network; wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis; a gateway system that provides access to the video analytics system over a public network.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the video analytics system is a node on an enterprise network, and wherein the

one or more surveillance cameras are also nodes on the enterprise network (e.g. see ¶ [0068]); wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis (e.g. see ¶ [0098]); a gateway system that provides access to the video analytics system over a public network (e.g. see ¶ [0098]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of networking into Busse remote devices for the benefit of remote monitoring with various entity.

Regarding claims 10 and 19, the references further discloses comprising a database that receives metadata associated with the identified objects of interest from the video analytics system (see Chen 506 in fig. 5).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-Th: 7:30 - 6:30 EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/RICHARD TORRENTE/
Primary Examiner, Art Unit 2485

Notice of References Cited	Application/Control No. 14/634,428	Applicant(s)/Patent Under Reexamination WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2011/0080495 A1	04-2011	BUSSE; Erik	G06K9/3233	348/222.1
*	B	US-2014/0044348 A1	02-2014	Chen; Shaokang	G06K9/00221	382/159
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

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

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

CLAIM		DATE								
Final	Original	10/18/2016	02/07/2017							
	1	÷	✓							
	2	÷	✓							
	3	÷	✓							
	4	÷	✓							
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	9	÷	✓							
	10	÷	✓							
	11	÷	✓							
	12	÷	N							
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	14	÷	✓							
	15	÷	✓							
	16	÷	✓							
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	19	÷	✓							
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	21	÷	✓							
	22	÷	✓							
	23	÷	✓							
	24	÷	N							
	25	÷	N							

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14634428
Filing Date	2015-02-27
First Named Inventor	Ian Christopher Westmacott
Art Unit	~~2668~~
Examiner Name	
Attorney Docket Number	0270.0057US1/S-ACV00016US

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7257273	B2	2007-08-14	Li et al.	
	2	8824750	B2	2014-09-02	Jankowski et al.	

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	1							☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14634428
	Filing Date	2015-02-27
	First Named Inventor	Ian Christopher Westmacott
	Art Unit	~~2668~~
	Examiner Name	
	Attorney Docket Number	0270.0057US1/S-ACV00016US

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		☐

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EXAMINER SIGNATURE

Examiner Signature	/RICHARD T TORRENTE/	Date Considered	02/06/2017

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

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /R.T.T/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	14634428
Filing Date	2015-02-27
First Named Inventor	Ian Christopher Westmacott
Art Unit	2668
Examiner Name	
Attorney Docket Number	0270.0057US1/S-ACV00016US

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/grant houston/	Date (YYYY-MM-DD)	2015-06-24
Name/Print	J. Grant Houston	Registration Number	35900

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
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Feb 13, 2017 03:41:36 AM

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTNF	02/13/2017	0270.0057US1/S-ACV00016US
	892	02/13/2017	0270.0057US1/S-ACV00016US
	1449	02/13/2017	0270.0057US1/S-ACV00016US

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PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott *et al.*	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Torrente, Richard T.
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV-00016 US)

AMENDMENT UNDER RULE 111

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

Sir:

In response to the pending Office Action, mailed February 13, 2017 (Paper No. 20170207), please amend the above-captioned application as follows:

-amendments to the specification are set forth in the Amendments to Specification section; and

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

Amendments to Specification

Replace the Abstract of the Disclosure paragraph on page 22, in the specification as originally filed, with the following rewritten paragraph:

-- A system and method for distributed analysis of image data in a video surveillance system can be deployed in households, businesses, and within corporate entities, in examples. The image data are processed on local video analytics systems located within the networks of the businesses or on remote video analytics systems hosted by a cloud service. To limit the data traffic imposed by the image data on the network, the system divides the image data processing into separate object detection and analysis functions. ~~In embodiments, the~~ The system can also ~~integrates~~ integrate the object detection function within the surveillance cameras or on a local gateway. This can significantly reduce the data traffic sent over networks as compared to current video surveillance systems and methods since only image data containing object of interest needs to be sent. --

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Original) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data; and

a video analytics system that receives the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to

reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Original) The system of claim 1, wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network.

8. (Original) The system of claim 1, wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis.

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Original) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system transmitting the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system receiving the image data from the object detection system and analyzing the objects of interest.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Original) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Original) The method of claim 14, further comprising including the video analytics system as a node within an enterprise network, and also including the one or more surveillance cameras as nodes on the enterprise network.

22. (Original) The method of claim 20, further comprising sending the image data to a video analytics system operated by a different business entity than the surveillance cameras for further analysis.

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (New) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (New) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (New) The system of claim 1, wherein the object detection system and the video analytics system are in different nodes on an enterprise network.

29. (New) The system of claim 1, wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over a cloud network.

Remarks

Claims 1-29 are pending in this application. New Claims 26-29 have been added to alternatively define the invention. Claims 12, 13, 24 and 25 have been withdrawn.

Claims 1-3, 6, 14-16 and 20 were rejected under 35 U.S.C. 102(a)(2) as being anticipated by Busse et al. (U.S. Publication No. 2011/0080495). This rejection is respectfully traversed for the following reasons. In a related rejection, claims 4-5, 7-11, 17-19 and 21-23 were rejected under 35 U.S.C. 103 as being unpatentable over Busse in view of Chen et al. (U.S. Publication No. 2014/0044348). This rejection is respectfully traversed for the following reasons.

By way of background, some current video surveillance systems have problems in that they can increase the volume of data traffic sent over the networks. This increased data traffic volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

One reason for the increased data traffic created by current video surveillance systems is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image data are typically sent by surveillance cameras over the network to video analytics systems located within the network.

Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

The present invention concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of

interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (e.g. identify) the detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

Then, the object analysis system can analyze the image data by comparing the image data to the reference images to identify the objects of interest within the images, by recognizing patterns in the image data from the patterns, and/or by applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data, in examples. The image processing functions can include filtering, image/contrast enhancement, compression, and deblurring of the image data, in examples.

As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

Finally, the object detection system can further limit the image data sent over the data network to achieve even greater bandwidth savings. In one example, the object detection system can create cropped images from the image data that include only the detected objects of interest, and send only the cropped images over the data network for processing by the video analytics system.

According to this understanding, the claimed invention requires that video analytics system receives the image data after being transmitted over a network. In this way, the object detection is separated from object analysis.

Busse does not disclose this feature.

Busse generally concerns an integrated camera system. This system includes an image sensor 1. It includes a processor 8 and a memory unit 10. In operation, before scaling down the resolution of images, the unsealed source image 20 is checked for pre-defined geometrical structures that are defined by the user and stored in the memory unit 10. This check takes place in selected regions of the source image 20 in which the respective geometrical structures 30 are usually expected. In the language of Busse at paragraph [0030] "a cropped image 32…is created by the processor 8… that is only a little or not scaled… so that it is adapted to the standard of the resolution of the control unit but still presents sufficiently detailed image information to be useable for a further analysis within the control unit."

In short, Busse merely teaches to maintain resolution in part of an image so that a connected control unit can analyze the image. In contradistinction, Busse does not teach a video analytics system that receives the image data, transmitted over a network, from the object detection system.

Thus, there is no anticipation, nor would the claims be obvious based on the combination. Withdrawal of the rejections is requested.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991
Fax: 781 863 9931

Lexington, Massachusetts 02420
Date: May 12, 2017

Electronic Patent Application Fee Transmittal

Application Number:	14634428
Filing Date:	27-Feb-2015
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Filer:	Joseph G. Houston/Iris Fennell
Attorney Docket Number:	0270.0057US1/S-ACV00016US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	4	80	320
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**320**

Electronic Acknowledgement Receipt

EFS ID:	29199916
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	15-MAY-2017
Filing Date:	27-FEB-2015
Time Stamp:	14:00:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$320
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1	Amendment/Req. Reconsideration-After Non-Final Reject	0270-0057US1_S-ACV-00016_US_Reply_OA_02-03-17-.pdf	121885 878f427f786fa74992e421d3bb4bc5f5d66b2454	no	11
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30533 6a12c0293b04161502fc235863752a9cb9c8f4e6	no	2
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **05/15/2017**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 29	Minus	** 25	= 4	X $80 =	320
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	320

AMENDMENT

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

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
CURTIS NELLOMS JR

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US	3322

103122 7590 06/16/2017

HoustonHogle LLP
1666 Massachusetts Avenue
Suite 12
Lexington, MA 02420

EXAMINER
TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
06/16/2017	ELECTRONIC

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

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

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

docketing@houstonllp.com
grant.houston@houstonllp.com
eleahy@tycoint.com

Office Action Summary	Application No. 14/634,428	Applicant(s) WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	AIA (First Inventor to File) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/15/17*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-29* is/are pending in the application.

5a) Of the above claim(s) *12,13,24 and 25* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-11,14-23 and 26-29* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

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

Claim Rejections - 35 USC § 102

1. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

2. Claim(s) 1-3, 6, 14-16 and 20 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Busse et al. (US 2011/0080495 A1).

Regarding claim 1, Busse discloses a video surveillance system (see fig. 1), comprising: one or more surveillance cameras (see fig. 1) that capture image data; an object detection system that detects objects of interest within the image data (see figs 3A-3B); and a video analytics system that receives the image data, transmitted over a network (e.g. see ¶ [0010]), from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system (e.g. see fig. 3B), the video analytics system analyzing the objects of interest (see ¶ [0030]).

Regarding claims 2 and 15, Busse further discloses wherein the object detection system creates cropped images (e.g. see fig. 3B) from the image data that include the detected objects of interest and sends the cropped images to the video analytics system (e.g. see ¶ [0010]).

Regarding claims 3 and 16, Busse further discloses wherein the image data include video data (e.g. see fig. 3B) and the object detection system provides frames from the video data that include the detected objects of interest (e.g. see fig. 3B) and sends the frames to the video analytics system as the image data (e.g. see fig. 3B).

Regarding claims 6 and 20, Busse further discloses wherein the object detection system is integrated within the one or more surveillance cameras (see fig. 1).

Regarding claim 14, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person

> having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4-5, 9-10 and 17-19 are under 35 U.S.C. 103 as being unpatentable over Busse in view of Chen et al. (US 2014/0044348 A1).

Regarding claims 4 and 17, Busse does not discloses wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors (e.g. see ¶ [0034]) including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest (e.g. see ¶ [0087]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 5, 9 and 18, although Busse discloses wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system (see figs. 2A-2B), it is noted that Busse does not provide the particular wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data (see 112-124 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 10 and 19, the references further discloses comprising a database that receives metadata associated with the identified objects of interest from the video analytics system (see Chen 506 in fig. 5).

3. Claims 7-8, 11, 21-23 and 26-29 are under 35 U.S.C. 103 as being unpatentable over Busse in view of Miasnik et al. (US 2014/0282934 A1).

Regarding claims 7-8, 11, 21-23 and 26-29, Busse does not discloses wherein the transmittal is over various types and combination of communication network.

However, Miasnik, in the same field of endeavor, discloses a surveillance system wherein the video analytics system is a node on an enterprise network (see fig. 2), and wherein the one or more surveillance cameras are also nodes on the enterprise network (see 103-43 in fig. 2); wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis (see figs. 1-2); a gateway system that provides access to the video analytics system over a public network (see fig. 1); wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network (see fig. 2); wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network (see fig. 2); wherein the object detection system and the video analytics system are in different nodes on an enterprise network (see fig. 2); wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over a cloud network (see fig. 2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Miasnik teachings of

various networking into Busse remote devices for the benefit of remote monitoring with various entity and video management.

Response to Arguments

1. Applicant's arguments filed 5/15/17 have been fully considered but they are not persuasive. Applicant argued that "Busse does not teach a video analytics system that receives the image data, transmitted over a network, from the object detection system". The Examiner respectfully disagrees. Throughout the specification, Busse discloses transmittal of image data to an external device (e.g. see abstract). Busse fig. 1 shows one way to transmit the image data is through a network of pins of cable 12 or serial network cable or cable network to an external device. Thus, Busse does disclose a video analytics system that receives the image data, transmitted over a network (e.g. see ¶ [0010]). Therefore, the Examiner maintains all limitations are met.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-Th: 7:30 - 6:30 EST.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/RICHARD TORRENTE/
Primary Examiner, Art Unit 2485

Notice of References Cited	Application/Control No. 14/634,428	Applicant(s)/Patent Under Reexamination WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2011/0080495 A1	04-2011	BUSSE; Erik	G06K9/3233	348/222.1
*	B	US-2014/0044348 A1	02-2014	Chen; Shaokang	G06K9/00221	382/159
*	C	US-2014/0282934 A1	09-2014	Miasnik; Guy	G06F17/30861	726/5
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

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

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT
Updated search	6/9/17	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

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

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

CLAIM		DATE								
Final	Original	10/18/2016	02/07/2017	06/10/2017						
	1	÷	✓	✓						
	2	÷	✓	✓						
	3	÷	✓	✓						
	4	÷	✓	✓						
	5	÷	✓	✓						
	6	÷	✓	✓						
	7	÷	✓	✓						
	8	÷	✓	✓						
	9	÷	✓	✓						
	10	÷	✓	✓						
	11	÷	✓	✓						
	12	÷	N	N						
	13	÷	N	N						
	14	÷	✓	✓						
	15	÷	✓	✓						
	16	÷	✓	✓						
	17	÷	✓	✓						
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	22	÷	✓	✓						
	23	÷	✓	✓						
	24	÷	N	N						
	25	÷	N	N						
	26			✓						
	27			✓						
	28			✓						
	29			✓						

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTFR	06/16/2017	0270.0057US1/S-ACV00016US
	892	06/16/2017	0270.0057US1/S-ACV00016US

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Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

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

PTO/SB/434 (05-13)

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

Practitioner Docket No.:	Application No.:	Filing Date:
0270.0057US1/SACV0016US	14/634,428	February 27, 2015
First Named Inventor:	**Title:**	
Ian Christopher Westmacott	System and Method for Distributed Video Analysis	

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

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

Signature	Date
/grant houston/	September 13, 2017
Name (Print/Typed)	**Practitioner Registration No.**
J. Grant Houston	35,900

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

☐ * Total of _____ forms are submitted.

Privacy Act Statement

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

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott *et al.*	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Torrente, Richard T.
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV-00016 US)

AFTER FINAL AMENDMENT UNDER RULE 116

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

Sir:

In response to the pending final Office Action, mailed June 16, 2017 (Paper No. 20170610), please amend the above-captioned patent application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

A Request under the After Final Consideration Pilot Program 2.0 is also included herewith.

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data; and

a video analytics system that receives the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;

wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Original) The system of claim 1, wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network.

8. (Original) The system of claim 1, wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis.

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Currently amended) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system transmitting the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system receiving the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Original) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Original) The method of claim 14, further comprising including the video analytics system as a node within an enterprise network, and also including the one or more surveillance cameras as nodes on the enterprise network.

22. (Original) The method of claim 20, further comprising sending the image data to a video analytics system operated by a different business entity than the surveillance cameras for further analysis.

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Previously presented) The system of claim 1, wherein the object detection system and the video analytics system are in different nodes on an enterprise network.

29. (Currently amended) The system of claim 1, wherein the ~~video analytics system receives the image data from multiple object detection systems after being transmitted over~~ network includes a cloud network.

Remarks

Claims 1-29 are pending in this application.

Amendments to claims 1, 14 and 29 are proposed.

In more detail, claim 1 has been amended to include the subject matter from claim 29. Method claim 14 has been amended to include a comparable feature.

A Certification and Request for Consideration under the After Final Consideration Pilot Program 2.0 is included herewith. Counsel is willing and available to participate in any interview concerning the above amendments or the following remarks.

Claims 1-3, 6, 14-16 and 20 were rejected under 35 U.S.C. 102(a)(2) as being anticipated by Busse et al. (U.S. Publication No. 2011/0080495).

In related rejections, claims 4, 5, 9, 10 and 17-19 were rejected under 35 U.S.C. 103 as being unpatentable over Busse in view of Chen et al. (U.S. Publication No. 2014/0044348), and claims 7, 8, 11, 21-23 and 26-29 were rejected under 35 U.S.C. 103 as being unpatentable over Busse in view of Miasnik et al. (U.S. Publication No. 2014/0282934).

These rejections are respectfully traversed for the following reasons.

To reiterate, some current video surveillance systems have problems in that they can increase the volume of data traffic sent over the networks. This increased data traffic volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

One reason for the increased data traffic created by current video surveillance systems is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image data are typically sent by surveillance cameras over the network to video analytics systems located within the network.

Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

The present invention concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (i.e. identify) the detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

Then, the object analysis system can analyze the image data by comparing the image data to the reference images to identify the objects of interest within the images, by recognizing patterns in the image data from the reference patterns, and/or by applying the image processing functions, the neural network functions, the deep learning functions, and/or the object classification functions to the image data, in examples. The image processing functions can include filtering, image/contrast enhancement, compression, and deblurring of the image data, in examples.

As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

Finally, the object detection system can further limit the image data sent over the data network to achieve even greater bandwidth savings. In one example, the object detection system can create cropped images from the image data that include only the detected objects of interest, and send only the cropped images over the data network for processing by the video analytics system.

According to this understanding, the claimed invention requires that video analytics system receives the image data after being transmitted over a network. In this way, the object detection is separated from object analysis.

Busse does not disclose this feature.

Busse generally concerns an integrated camera system. This system includes an image sensor 1. It includes a processor 8 and a memory unit 10. In operation, before scaling down the resolution of images, the unsealed source image 20 is checked for pre-defined geometrical structures that are defined by the user and stored in the memory unit 10. This check takes place in selected regions of the source image 20 in which the respective geometrical structures 30 are usually expected. In the language of Busse at paragraph [0030] "a cropped image 32...is created by the processor 8... that is only a little or not scaled... so that it is adapted to the standard of the resolution of the control unit but still presents sufficiently detailed image information to be useable for a further analysis within the control unit."

In short, Busse merely teaches to maintain resolution in part of an image so that a connected control unit can analyze the image.

In contradistinction, Busse does not teach a video analytics system that receives the image data, transmitted over a network, from the object detection system.

To further highlight the basic characteristics, claim 1, for example, has been amended to require that the video analytics system receives image data from multiple object detection systems.

It is probably agreed that that this newly added feature is not disclosed in Busse. Original claim 29 was rejected as being obvious over Busse in view of Miasnik.

This secondary reference, however, also fails to disclose the claimed video analytics system. Fig. 2 of Miasnik merely indicates video surveillance 103-43. It is discussed at paragraph [0047]:

> **[0047]** The event triggers system **103-4** provides event inputs to the application that are used to identify when crisis events are occurring. In the embodiment shown, the event triggers system **103-4** includes an intrusion detection system **103-41**, an access control system **103-42**, a video surveillance system **103-43**, and an IT monitoring system **103-44**. In other embodiments, the event triggers system **103-4** includes different and/or additional systems, such as systems that monitor temperature, humidity, industrial equipment operating parameters, and the like.

This paragraph merely mentions "a video surveillance system". Miasnik fails to show or suggest the claimed video analytics system. It certainly fails to show or suggest a video analytics system that receives the data from multiple object detection systems after being transmitted over the network.

Thus, the basic features of the claims are not disclosed in either of the applied references. Thus, this rejection should be withdrawn.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991
Fax: 781 863 9931

Lexington, Massachusetts 02420
Date: September 13, 2017

Electronic Acknowledgement Receipt

EFS ID:	30349747
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	15-SEP-2017
Filing Date:	27-FEB-2015
Time Stamp:	07:58:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	After Final Consideration Program Request	0270-0057US1_S-ACV-00016_US_A-NE_AFCP.pdf	227084 7432f3c3b2bbf316cbe566998dcd4f66d76e3c9e	no	2

Warnings:

Information:					
2	Response After Final Action	0270-0057US1_S-ACV-00016_US_A-NE_FOA_06-16-17.pdf	182521 0ce32e5d347e9b6b6ddd6ca2848d607b3bb7ec3d	no	11
Warnings:					
Information:					
			Total Files Size (in bytes):	409605	

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US	3322

103122 7590 09/27/2017

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

EXAMINER
TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
09/27/2017	ELECTRONIC

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

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

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

docketing@houstonllp.com
grant.houston@houstonllp.com
eleahy@tycoint.com

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 14/634,428	**Applicant(s)** WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	**Art Unit** 2485	**AIA (First Inventor to File) Status** Yes

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

THE REPLY FILED 15 September 2017 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☒ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.
   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT'S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): (a) ☐ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
14. ☒ Other: PTOL-2323.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
    Claim(s) allowed: .
    Claim(s) objected to: .
    Claim(s) rejected: 1-11,14-23 and 26-29.
    Claim(s) withdrawn from consideration: .

/RICHARD TORRENTE/
Primary Examiner, Art Unit 2485

Continuation of 12. does NOT place the application in condition for allowance because: Applicant argument is not persuasive. Applicant argued that "Miasnik fails to show or suggest the claimed video analytics system. It certainly fails to show or suggest a video analytics system that receives the data from multiple object detection systems after being transmitted over the network". The Examiner respectfully disagrees. The primary reference Busse discloses in ¶ [0025] that "all required monitoring" go to the ECU. This indicates multiple cameras outputs are sent to a remote location. Thus the primary reference Busse discloses a video analytics system that receives the data from multiple object detection systems after being transmitted to a hub but not over a network. The secondary reference was brought in to show that transmittal can be done over a network. Thus, the references meets the limitations and is obvious to combine.

AFCP 2.0 Decision	Application No.	Applicant(s)
	14/634,428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

This is in response to the After Final Consideration Pilot request filed 15 September 2017.

1. **Improper Request** – The AFCP 2.0 request is improper for the following reason(s) and the after final amendment submitted with the request will be treated under pre-pilot procedure.

   ☐ An AFCP 2.0 request form PTO/SB/434 (or equivalent document) was not submitted.

   ☐ A non-broadening amendment to at least one independent claim was not submitted.

   ☐ A proper AFCP 2.0 request was submitted in response to the most recent final rejection.

   ☐ Other:

2. **Proper Request**

   A. After final amendment submitted with the request will not be treated under AFCP 2.0.
   The after final amendment cannot be reviewed and a search conducted within the guidelines of the pilot program.

   ☒ The after final amendment will be treated under pre-pilot procedure.

   B. Updated search and/or completed additional consideration.
   The examiner performed an updated search and/or completed additional consideration of the after final amendment within the time authorized for the pilot program. The result(s) of the updated search and/or completed additional consideration are:

   ☐ 1. All of the rejections in the most recent final Office action are overcome and a Notice of Allowance is issued herewith.

   ☐ 2. The after final amendment would not overcome all of the rejections in the most recent final Office action. See attached interview summary for further details.

   ☐ 3. The after final amendment was reviewed, and it raises a new issue(s). See attached interview summary for further details.

   ☐ 4. The after final amendment raises new issues, but would overcome all of the rejections in the most recent final Office action. A decision on determining allowability could not be made within the guidelines of the pilot. See attached interview summary for further details, including any newly discovered prior art.

   ☐ 5. Other:

   Examiner Note: Please attach an interview summary when necessary as described above.

DO NOT ENTER: /R.T.T/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott *et al.*	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Torrente, Richard T.
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		
Attorney Docket No.	0270.0057US1 (S-ACV-00016 US)		

AFTER FINAL AMENDMENT UNDER RULE 116

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

Sir:

In response to the pending final Office Action, mailed June 16, 2017 (Paper No. 20170610), please amend the above-captioned patent application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

A Request under the After Final Consideration Pilot Program 2.0 is also included herewith.

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Sep 27, 2017 04:16:37 AM

Dear PAIR Customer:

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTAV	09/27/2017	0270.0057US1/S-ACV00016US
	A.NE.AFCP.D	09/27/2017	0270.0057US1/S-ACV00016US

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

PTO/SB/30EFS (07-14)
Approved for use through 07/31/2016. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14/634,428	Filing Date	2015-02-27	Docket Number (if applicable)	0270.0057US1/SACV00016U	Art Unit	2485
First Named Inventor	Ian Christopher Westmacott			Examiner Name	Torrente, Richard T.		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, to any international application that does not comply with the requirements of 35 U.S.C. 371, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV.

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☒ Other AFTER FINAL AMENDMENT UNDER RULE 116 filed on September 15, 2017

☐ Enclosed

☐ Amendment/Reply

☐ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 505924

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (07-14)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/grant houston/	Date (YYYY-MM-DD)	2017-10-11
Name	J. Grant Houston	Registration Number	35900

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14634428
Filing Date:	27-Feb-2015
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Filer:	Joseph G. Houston/Iris Fennell
Attorney Docket Number:	0270.0057US1/S-ACV00016US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
RCE- 1st Request	1801	1	1200	1200
		Total in USD ($)		**1400**

Electronic Acknowledgement Receipt

EFS ID:	30625312
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	12-OCT-2017
Filing Date:	27-FEB-2015
Time Stamp:	11:35:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1400
RAM confirmation Number	101217INTEFSW11361500
Deposit Account	
Authorized User	

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

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	0270-0057US1_S-ACV-00016_US_RCE.pdf	1349953 7fe58bc1d10c25e5cfb3cac8f90610c4c8220fc9	no	3
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32394 37b127a050daf788d1fd37b7887ef915941d5d42	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1382347		

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US	3322

103122 7590 11/17/2017

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

EXAMINER
TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
11/17/2017	ELECTRONIC

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

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

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

docketing@houstonllp.com
grant.houston@houstonllp.com
eleahy@tycoint.com

Office Action Summary	Application No. 14/634,428	Applicant(s) WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	AIA (First Inventor to File) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/15/17*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-11,14-23 and 26-29* is/are pending in the application.

5a) Of the above claim(s) *12,13,24 and 25* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-11,14-23 and 26-29* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

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

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/15/17 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6, 14-16 and 20 are rejected under 35 U.S.C. 103 as being unpatentable over Busse et al. (US 2011/0080495 A1) in view of Dedeoglu et al. (US 2014/0333776 A1).

Regarding claim 1, Busse discloses a video surveillance system (see fig. 1), comprising: one or more surveillance cameras (see fig. 1) that capture image data; an object detection system that detects objects of interest within the image data (see figs 3A-3B); and a video analytics system that receives the image data, transmitted over a network (e.g. see ¶ [0010]), from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system (e.g. see fig. 3B), the video analytics system analyzing the objects of interest (see ¶ [0030]).

Although Busse discloses the network, it is noted that Busse does not disclose wherein the network is a web based network, wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network.

However, Dedeoglu discloses a video surveillance system wherein the network is a web based network (see 308 in fig. 3), wherein the video analytics system (see 312 in fig. 3) receives the image data from multiple object detection systems (see 302 in fig. 3) after being transmitted over the network.

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Dedeoglu teachings of web based network into Busse network as an upgrade for the benefit of accommodating large scale video surveillance system and remote surveillance.

Regarding claims 2 and 15, Busse further discloses wherein the object detection system creates cropped images (e.g. see fig. 3B) from the image data that include the detected objects of interest and sends the cropped images to the video analytics system (e.g. see ¶ [0010]).

Regarding claims 3 and 16, Busse further discloses wherein the image data include video data (e.g. see fig. 3B) and the object detection system provides frames from the video data that include the detected objects of interest (e.g. see fig. 3B) and sends the frames to the video analytics system as the image data (e.g. see fig. 3B).

Regarding claims 6 and 20, Busse further discloses wherein the object detection system is integrated within the one or more surveillance cameras (see fig. 1).

Regarding claim 14, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

3. Claims 4-5, 9-10 and 17-19 are under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Chen et al. (US 2014/0044348 A1).

Regarding claims 4 and 17, Busse does not discloses wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the

objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors (e.g. see ¶ [0034]) including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest (e.g. see ¶ [0087]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 5, 9 and 18, although Busse discloses wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system (see figs. 2A-2B), it is noted that Busse does not provide the particular wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data (see 112-124 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 10 and 19, the references further discloses comprising a database that receives metadata associated with the identified objects of interest from the video analytics system (see Chen 506 in fig. 5).

4. Claims 7-8, 11, 21-23 and 26-29 are under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Miasnik et al. (US 2014/0282934 A1).

Regarding claims 7-8, 11, 21-23 and 26-29, Busse does not discloses wherein the transmittal is over various types and combination of communication network.

However, Miasnik, in the same field of endeavor, discloses a surveillance system wherein the video analytics system is a node on an enterprise network (see fig. 2), and wherein the one or more surveillance cameras are also nodes on the enterprise network (see 103-43 in fig. 2); wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis (see figs. 1-2); a gateway system that provides access to the video analytics system over a public network (see fig. 1); wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network (see fig. 2); wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network (see fig. 2); wherein the object detection system and the video analytics system are in different nodes on an enterprise network (see fig. 2); wherein the network includes a cloud network (see fig. 2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Miasnik teachings of various networking into Busse and Dedeoglu remote devices for the benefit of remote monitoring with various web based entity and video management.

Response to Arguments

1. Applicant's arguments with respect to claims 1-11, 14-23 and 26-29 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-F: 6:45 - 3:15 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/RICHARD TORRENTE/
Primary Examiner, Art Unit 2485

Notice of References Cited	Application/Control No. 14/634,428	Applicant(s)/Patent Under Reexamination WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2011/0080495 A1	04-2011	BUSSE; Erik	G06K9/3233	348/222.1
*	B	US-2014/0044348 A1	02-2014	Chen; Shaokang	G06K9/00221	382/159
*	C	US-2014/0282934 A1	09-2014	Miasnik; Guy	G06F17/30861	726/5
*	D	US-2014/0333776 A1	11-2014	Dedeoglu; Goksel	H04N7/181	348/159
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	**Art Unit**
	RICHARD TORRENTE	2485

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

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

CLAIM		DATE								
Final	Original	10/18/2016	02/07/2017	06/10/2017	10/24/2017					
	1	÷	✓	✓	✓					
	2	÷	✓	✓	✓					
	3	÷	✓	✓	✓					
	4	÷	✓	✓	✓					
	5	÷	✓	✓	✓					
	6	÷	✓	✓	✓					
	7	÷	✓	✓	✓					
	8	÷	✓	✓	✓					
	9	÷	✓	✓	✓					
	10	÷	✓	✓	✓					
	11	÷	✓	✓	✓					
	12	÷	N	N	N					
	13	÷	N	N	N					
	14	÷	✓	✓	✓					
	15	÷	✓	✓	✓					
	16	÷	✓	✓	✓					
	17	÷	✓	✓	✓					
	18	÷	✓	✓	✓					
	19	÷	✓	✓	✓					
	20	÷	✓	✓	✓					
	21	÷	✓	✓	✓					
	22	÷	✓	✓	✓					
	23	÷	✓	✓	✓					
	24	÷	N	N	N					
	25	÷	N	N	N					
	26			✓	✓					
	27			✓	✓					
	28			✓	✓					
	29			✓	✓					

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

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

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT
Updated search	6/9/17	RT
Updated search	10/24/17	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
From: PAIR_eOfficeAction@uspto.gov
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Nov 17, 2017 04:42:01 AM

Dear PAIR Customer:

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
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UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTNF	11/17/2017	0270.0057US1/S-ACV00016US
	892	11/17/2017	0270.0057US1/S-ACV00016US

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UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott et al.	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Torrente, Richard T.
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV-00016 US)

AMENDMENT UNDER RULE 111

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

Sir:

In response to the pending Office Action, mailed November 17, 2017 (Paper No. 20171024), please amend the above-captioned application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Previously Presented) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data; and

a video analytics system that receives the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;

wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Original) The system of claim 1, wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network.

8. (Original) The system of claim 1, wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis.

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Previously Presented) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system transmitting the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system receiving the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Original) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Original) The method of claim 14, further comprising including the video analytics system as a node within an enterprise network, and also including the one or more surveillance cameras as nodes on the enterprise network.

22. (Original) The method of claim 20, further comprising sending the image data to a video analytics system operated by a different business entity than the surveillance cameras for further analysis.

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Cancelled)

29. (Cancelled)

30. (New) A video surveillance system, comprising:

one or more surveillance cameras that capture image data, each having an object detection system that detects objects of interest within the image data and creates cropped images from the image data that include the detected objects of interest; and

a video analytics system that receives the cropped images generated by the object detection systems of the surveillance cameras, transmitted over a network, the video analytics system analyzing the objects of interest in the cropped images by identifying the objects of interest from reference images, recognizing patterns in the image data, and by applying object classification functions to the image data.

31. (New) The system of claim 30, wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras.

Remarks

Claims 1-27, 30, and 31 are pending in this application. New Claims 30 and 31 has been added to alternatively define the invention. Claims 28 and 29 have been cancelled without prejudice or disclaimer.

Claims 1-3, 6, 14-16 and 20 were rejected under 35 U.S.C. 103 as being unpatentable over Busse et al. (U.S. Publication No. 2011/0080495 A1) in view of Dedeoglu et al. (U.S. Publication No. 2014/0333776 A1).

In related rejections, claims 4-5, 9-10 and 17-19 are under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Chen et al. (U.S. Publication No. 2014/0044348 A1), and claims 7-8, 11, 21-23 and 26-29 are under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Miasnik et al. (U.S. Publication No. 2014/0282934 A1).

These rejections are respectfully traversed for the following reasons.

To reiterate, some current video surveillance systems have problems in that they can increase the volume of data traffic sent over the networks. This increased data traffic volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

One reason for the increased data traffic is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image data are typically sent by surveillance cameras over the network to video analytics systems located within the network.

Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the

cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

One solution to the previously-identified problem is to provide an image analytics system on each of the surveillance cameras. The problem with this solution, however, is that it increases the cost of those surveillance cameras substantially. Moreover, this configuration means that when the analysis methods are improved, those improvements need to be pushed-down to every surveillance camera.

The disclosed embodiment concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (i.e. identify) the detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

Finally, the object detection system can further limit the image data sent over the data network to achieve even greater bandwidth savings. In one example, the object detection system can create cropped images from the image data that include only the detected objects of interest, and send only the cropped images over the data network for processing by the video analytics system.

According to this understanding, the claimed invention requires that the video analytics system receives the image data after being transmitted over a network. In this way, the object detection is separated from object analysis.

Busse does not disclose this feature.

Busse generally concerns an integrated camera system. This system includes an image sensor 1. It includes a processor 8 and a memory unit 10. In operation, before scaling down the resolution of images, the unscaled source image 20 is checked for pre-defined geometrical structures that are defined by the user and stored in the memory unit 10. This check takes place in selected regions of the source image 20 in which the respective geometrical structures 30 are usually expected. In the language of Busse at paragraph [0030] "a cropped image 32…is created by the processor 8… that is only a little or not scaled… so that it is adapted to the standard of the resolution of the control unit but still presents sufficiently detailed image information to be useable for a further analysis within the control unit."

In short, Busse merely teaches to maintain resolution in part of an image so that a connected control unit can analyze the image.

The pending Office action argues that Busse teaches a video analytics system that receives image data transmitted over a network at page 3, first paragraph. It cites to the following paragraph from Busse:

> **[0010]** In the camera system of the present invention, images of high resolution generated through the image sensor are possible, while images that need to be transmitted to a control unit are created with a smaller volume of data in a format that can be processed by the control unit. A minimum resolution of 1 megapixel is seen as high in comparison to the VGA standard with a resolution of 640×480 pixel that can be currently processed in such systems. The method and camera system of the present invention can also use image sensors with a considerably higher resolution of several megapixel without requiring modifications of the application-specific boards and standard ECUs, and without losing information.

The cited paragraph does not teach a video analytics system that receives image data transmitted over a network. Moreover, a more detailed analysis of the Busse system can be understood with reference to Fig. 1:

> **[0025]** FIG. **1** shows the basic structure of a camera system according to the invention which is designed for the integration within a machine, device or monitoring method and which has a connector **12** for a connection to an electronic control unit, an ECU (not presented), in which all required monitoring and control parameters are deposited.
> **[0026]** The camera system comprises an image sensor **1** onto which a recording optic **2** is mounted. Image sensor **1** and recording optic **2** are mounted onto a board **4** which has conductor lines **6** for electrically connecting the electronic components of the camera system. As the control for record-

Thus, Busse simply shows an image sensor that directly connects to a control unit via a ribbon connector (from figure). In short, there is no network disclosed in Busse.

Making the point another way, Busse does not teach a video analytics system that receives the image data, transmitted over a network, from the object detection system.

Dedeoglu concerns a method for displaying surveillance video streams. It teaches a way to provide a summary view of those streams.

The pending Office action cites Dedeoglu for a relatively minor issue. Specifically from page 3, third paragraph of the Office action:

However, Dedeoglu discloses a video surveillance system wherein the network is a web based network (see 308 in fig. 3), wherein the video analytics system (see 312 in fig. 3) receives the image data from multiple object detection systems (see 302 in fig. 3) after being transmitted over the network.

Again, a deeper analysis of Dedeoglu exposes the errors in this analysis. Reference 312 actually refers to a "surveillance center". It appears to have no analysis capabilities. From Dedeoglu:

[0027] The surveillance center **312** includes a video management server (VMS) **314**, a number of monitors **316** (typically less than the number of video cameras **302**) arranged for simultaneous viewing of video streams received from the cameras **302**, and a summary view computer system **318**. The VMS **314** receives the surveillance video streams from the cameras **302** and hosts management software to manage the display of these video streams on the monitors **316**. The

In fact, Dedeoglu concerns a very different architecture in which the video analytics system is on the cameras. This is shown from Fig. 4 of Dedeoglu:

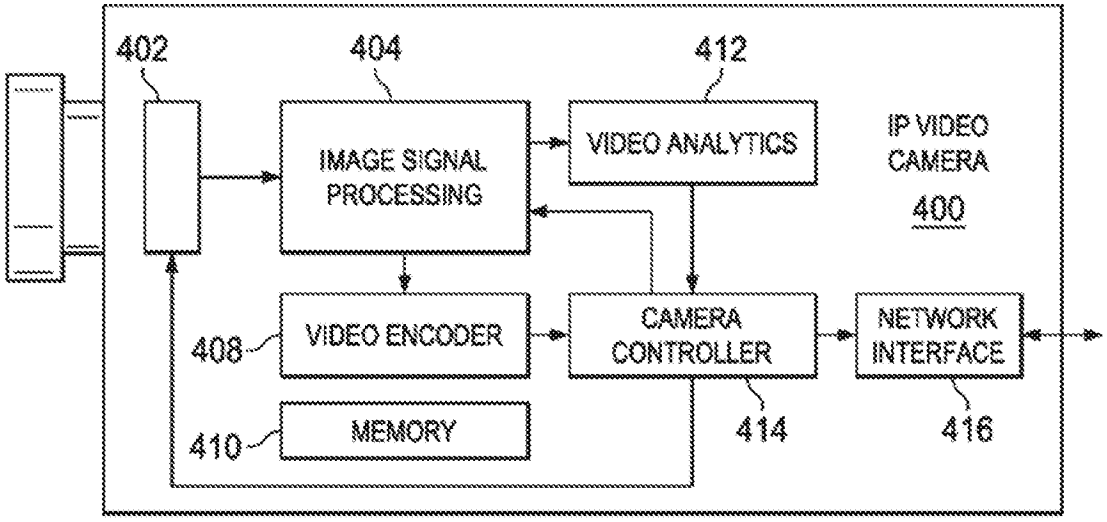


FIG. 4

Further description can be found at paragraph [0042] of Dedeoglu:

[0042] The video analytics component **412** analyzes the content of frames of the captured video stream to detect events in zones in the field of view of the camera **400**. The zones and the event or events to be detected in a zone may be configurable. The analysis capabilities of the video analytics

Thus, Dedeoglu would suffer from the problems suggested in the present application's Background since the Dedeoglu analysis system would have limited capabilities because of its location on the camera and will also result in a much more expensive camera.

In summary, only the present inventors, from the perspective of the applied references, have understood that it is important to put object detection on the surveillance cameras and then the video analytics system remotely, across network. This has the advantages of reducing the bandwidth of the network that is consumed on one hand, while lowering the cost of the surveillance cameras on the other hand. Moreover, it

allows for easy updating of the video analytics system since it is centrally located and shared by the surveillance cameras.

Neither of these two applied references has demonstrated any understanding of these problems nor proposed similar solutions.

Thus, the basic features of the claims are not disclosed in either of the applied references. Thus, this rejection should be withdrawn.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991
Fax: 781 863 9931

Lexington, Massachusetts 02420
Date: February 13, 2018

Electronic Acknowledgement Receipt

EFS ID:	31779225
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	13-FEB-2018
Filing Date:	27-FEB-2015
Time Stamp:	16:41:07
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	0270-0057US1_S-ACV-00016_US_Reply_OA_11-17-17.pdf	497694 3afd5a10db43577bd4a3d74fcace4bd564f1bfae	no	13

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $420 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	02/13/2018	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 29	Minus	** 29	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $ 0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $ 0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	LaShawn Hinton
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/S-ACV00016US	3322

103122 7590 04/03/2018

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EXAMINER
TORRENTE, RICHARD T

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
04/03/2018	ELECTRONIC

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

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

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

docketing@houstonllp.com
grant.houston@houstonllp.com
eleahy@tycoint.com

Office Action Summary	Application No. 14/634,428	Applicant(s) WESTMACOTT ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2485	AIA (First Inventor to File) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *2/13/18*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-27,30 and 31* is/are pending in the application.

5a) Of the above claim(s) *12,13,24 and 25* is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-11,14-23,26,27,30 and 31* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

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

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6, 14-16 and 20 are rejected under 35 U.S.C. 103 as being unpatentable over Busse et al. (US 2011/0080495 A1) in view of Dedeoglu et al. (US 2014/0333776 A1).

Regarding claim 1, Busse discloses a video surveillance system (see fig. 1), comprising: one or more surveillance cameras (see fig. 1) that capture image data; an object detection system that detects objects of interest within the image data (see figs 3A-3B); and a video analytics system that receives the image data, transmitted over a network (e.g. see ¶ [0010]), from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system (e.g. see fig. 3B), the video analytics system analyzing the objects of interest (see ¶ [0030]).

Although Busse discloses the network, it is noted that Busse does not disclose wherein the network is a web based network, wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network.

However, Dedeoglu discloses a video surveillance system wherein the network is a web based network (see 308 in fig. 3), wherein the video analytics system (see 312 in fig. 3) receives the image data from multiple object detection systems (see 302 in fig. 3) after being transmitted over the network.

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Dedeoglu teachings of web based network into Busse network as an upgrade for the benefit of accommodating large scale video surveillance system and remote surveillance.

Regarding claims 2 and 15, Busse further discloses wherein the object detection system creates cropped images (e.g. see fig. 3B) from the image data that include the detected objects of interest and sends the cropped images to the video analytics system (e.g. see ¶ [0010]).

Regarding claims 3 and 16, Busse further discloses wherein the image data include video data (e.g. see fig. 3B) and the object detection system provides frames from the video data that include the detected objects of interest (e.g. see fig. 3B) and sends the frames to the video analytics system as the image data (e.g. see fig. 3B).

Regarding claims 6 and 20, Busse further discloses wherein the object detection system is integrated within the one or more surveillance cameras (see fig. 1).

Regarding claim 14, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

1. Claims 4-5, 9-10, 17-19 and 30 are under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Chen et al. (US 2014/0044348 A1).

Regarding claims 4 and 17, Busse does not discloses wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors (e.g. see ¶ [0034]) including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest (e.g. see ¶ [0087]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 5, 9 and 18, although Busse discloses wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system (see figs. 2A-2B), it is noted that Busse does not provide the particular wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data (see 112-124 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Busse images for the benefit of quality can be used to select the

better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 10 and 19, the references further discloses comprising a database that receives metadata associated with the identified objects of interest from the video analytics system (see Chen 506 in fig. 5).

Regarding claim 30, the claim(s) recite analogous limitations to claims 1, 3 and 5, and is/are therefore rejected on the same premise.

2. Claims 7-8, 11, 21-23, 26-29 and 31 are under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Miasnik et al. (US 2014/0282934 A1).

Regarding claims 7-8, 11, 21-23, 26-29 and 31, Busse does not discloses wherein the transmittal is over various types and combination of communication network.

However, Miasnik, in the same field of endeavor, discloses a surveillance system wherein the video analytics system is a node on an enterprise network (see fig. 2), and wherein the one or more surveillance cameras are also nodes on the enterprise network (see 103-43 in fig. 2); wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance

cameras for analysis (see figs. 1-2); a gateway system that provides access to the video analytics system over a public network (see fig. 1); wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network (see fig. 2); wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network (see fig. 2); wherein the object detection system and the video analytics system are in different nodes on an enterprise network (see fig. 2); wherein the network includes a cloud network (see fig. 2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Miasnik teachings of various networking into Busse and Dedeoglu remote devices for the benefit of remote monitoring with various web based entity and video management.

Response to Arguments

1. Applicant's arguments filed 2/13/18 have been fully considered but they are not persuasive. Applicant argued that Busse “does not teach a video analytics system that receives image data transmitted over a network” because “Busse simply shows an image sensor that directly connects to a control unit via a ribbon connector”. The Examiner respectfully disagrees. It appears Applicant is arguing that Busse does not disclose a web-based or internet network. The Examiner mapped Busse as disclosing one type network is a pin communication network. Throughout the specification, Busse discloses transmittal of image data to an external device (e.g. see abstract). Busse fig. 1

shows one way to transmit the image data is through a network of pins via cable 12 or serial network cable or cable network to an external device. Thus, Busse does disclose a video analytics system that receives the image data, transmitted over a network (e.g. see ¶ [0010]). The Examiner admitted in the office action that Busse does not disclose wherein the network as claimed is a web-based or internet network. Thus, Dedeoglu was brought in to show that another type of communication network is via a web-based or internet network. Applying Dedeoglu teaching of remote communication in place of local communication would be of no difficulty for one of ordinary skill in the art.

2. Applicant next argued that "Dedeoglu exposes the errors in this analysis. Reference 312 actually refers to a "surveillance center". It appears to have no analysis capabilities. The Examiner respectfully disagrees, the primary reference Busse already teaches the analysis capability (see figs. 3A-3B; e.g. see ¶ [0030]). There is no requirement that the secondary reference Busse further teaches the analysis capability because limitation was already taught by the primary reference. The secondary reference merely teaches the deficiency of the primary reference, which is network via remote internet network and not local wire pin network. The secondary reference does not provide any teaching that destroys the interrelated purpose of the primary reference. Therefore, the Examiner maintains the limitations are met.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-F: 6:45 - 3:15 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/RICHARD TORRENTE/
Primary Examiner, Art Unit 2485

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	Art Unit
	RICHARD TORRENTE	2485

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

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

SEARCH NOTES		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT
Updated search	6/9/17	RT
Updated search	10/24/17	RT
Updated search	3/28/17	RT

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14634428	WESTMACOTT ET AL.
	Examiner	**Art Unit**
	RICHARD TORRENTE	2485

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

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

CLAIM		DATE								
Final	Original	10/18/2016	02/07/2017	06/10/2017	10/24/2017	03/28/2018				
	1	÷	✓	✓	✓	✓				
	2	÷	✓	✓	✓	✓				
	3	÷	✓	✓	✓	✓				
	4	÷	✓	✓	✓	✓				
	5	÷	✓	✓	✓	✓				
	6	÷	✓	✓	✓	✓				
	7	÷	✓	✓	✓	✓				
	8	÷	✓	✓	✓	✓				
	9	÷	✓	✓	✓	✓				
	10	÷	✓	✓	✓	✓				
	11	÷	✓	✓	✓	✓				
	12	÷	N	N	N	N				
	13	÷	N	N	N	N				
	14	÷	✓	✓	✓	✓				
	15	÷	✓	✓	✓	✓				
	16	÷	✓	✓	✓	✓				
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	24	÷	N	N	N	N				
	25	÷	N	N	N	N				
	26			✓	✓	✓				
	27			✓	✓	✓				
	28			✓	✓	-				
	29			✓	✓	-				
						✓				
						✓				

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
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Dear PAIR Customer:

HoustonHogle LLP
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UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTFR	04/03/2018	0270.0057US1/S-ACV00016US

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Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

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

PTO/SB/434 (05-13)

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

Practitioner Docket No.:	Application No.:	Filing Date:
0270.0057US1/S-ACV00016US	14/634,428	February 27, 2015
First Named Inventor:	**Title:**	
Ian Christopher Westmacott	System and Method for Distributed Video Analysis	

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

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

Signature	Date
/grant houston/	July 2, 2018
Name (Print/Typed)	**Practitioner Registration No.**
J. Grant Houston	35900

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

☐ * Total of _____ forms are submitted.

Privacy Act Statement

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

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott et al.	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Torrente, Richard T.
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV00016 US)

AFTER FINAL AMENDMENT UNDER RULE 116

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

Sir:

In response to the pending final Office Action, mailed April 3, 2018 (Paper No. 20180328), please amend the above-captioned patent application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

A Request under the After Final Consideration Pilot Program 2.0 is also included herewith.

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest; and

a video analytics system that receives the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;

wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Original) The system of claim 1, wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network.

8. (Original) The system of claim 1, wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis.

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Previously Presented) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system transmitting the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system receiving the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Original) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Original) The method of claim 14, further comprising including the video analytics system as a node within an enterprise network, and also including the one or more surveillance cameras as nodes on the enterprise network.

22. (Original) The method of claim 20, further comprising sending the image data to a video analytics system operated by a different business entity than the surveillance cameras for further analysis.

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Cancelled)

29. (Cancelled)

30. (Previously Presented) A video surveillance system, comprising:

one or more surveillance cameras that capture image data, each having an object detection system that detects objects of interest within the image data and creates cropped images from the image data that include the detected objects of interest; and

a video analytics system that receives the cropped images generated by the object detection systems of the surveillance cameras, transmitted over a network, the video analytics system analyzing the objects of interest in the cropped images by identifying the objects of interest from reference images, recognizing patterns in the image data, and by applying object classification functions to the image data.

31. (Previously Presented) The system of claim 30, wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras.

Remarks

Claims 1-27, 30 and 31 are pending in this application.

A series of amendments are proposed to the claims section. Amendments are indicated for claim 1.

A Certification and Request for Consideration under the After Final Consideration Pilot Program 2.0 is included herewith. Counsel is willing and available to participate in any interview concerning the above amendments or the following remarks.

Support for the amendment to claim 1 can be found in the following paragraph of the application as filed

> [0044] In step 204, the object detection system 108-1 detects objects of interest within the frames, and possibly extracts video frames or portions of the frames that include the detected objects of interest. In examples, objects of interest include vehicles 182 and individuals 118, in examples. Of particular interest are the faces of the individuals 118 and license plates 116 of the vehicles 182. In other examples, the objects of interest include animals, retail products or product packaging, smoke, flames, explosives, visible traces of vapors, and atmospheric conditions such as rain, mist, and fog.

Claims 1-3, 6, 14-16 and 20 were rejected under 35 U.S.C. 103 as being unpatentable over Busse et al. (U.S. Publication No. 2011/0080495 A1) in view of Dedeoglu et al. (U.S. Publication No. 2014/0333776 A1).

In related rejections, claims 4-5, 9-10, 17-19 and 30 were rejected under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Chen et al. (U.S. Publication No. 2014/0044348 A1), and claims 7-8, 11, 21-23, 26-29 and 31 were rejected under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Miasnik et al. (U.S. Publication No. 2014/0282934 A1).

These rejections are respectfully traversed for the following reasons.

To reiterate, some current video surveillance systems have problems in that they can increase the volume of data traffic sent over the networks. This increased data traffic

volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

One reason for the increased data traffic is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image data are typically sent by surveillance cameras over the network to video analytics systems located within the network.

Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

One solution to the previously-identified problem is to provide an image analytics system on each of the surveillance cameras. The problem with this solution, however, is that it increases the cost of those surveillance cameras substantially. Moreover, this configuration means that when the analysis methods are improved, those improvements need to be pushed-down to every surveillance camera.

The disclosed embodiment concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (i.e. identify) the detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

According to this understanding, the claimed invention requires that the video analytics system receives the image data after being transmitted over a network. In this way, the object detection is separated from object analysis.

Busse does not disclose this feature.

Busse generally concerns an integrated camera system. This system includes an image sensor 1. It includes a processor 8 and a memory unit 10. In operation, before scaling down the resolution of images, the unscaled source image 20 is checked for pre-defined geometrical structures that are defined by the user and stored in the memory unit 10. This check takes place in selected regions of the source image 20 in which the respective geometrical structures 30 are usually expected. In the language of Busse at paragraph [0030] "a cropped image 32...is created by the processor 8... that is only a little or not scaled... so that it is adapted to the standard of the resolution of the control unit but still presents sufficiently detailed image information to be useable for a further analysis within the control unit."

In short, Busse merely teaches to maintain resolution in part of an image so that a connected control unit can analyze the image.

The pending Office action argues that Busse teaches a video analytics system that receives image data transmitted over a network at page 3, first paragraph. It cites to the following paragraph from Busse:

> **[0010]** In the camera system of the present invention, images of high resolution generated through the image sensor are possible, while images that need to be transmitted to a control unit are created with a smaller volume of data in a format that can be processed by the control unit. A minimum resolution of 1 megapixel is seen as high in comparison to the VGA standard with a resolution of 640×480 pixel that can be currently processed in such systems. The method and camera system of the present invention can also use image sensors with a considerably higher resolution of several megapixel without requiring modifications of the application-specific boards and standard ECUs, and without losing information.

The cited paragraph does not teach a video analytics system that receives image data transmitted over a network. Moreover, a more detailed analysis of the Busse system can be understood with reference to Fig. 1:

> **[0025]** FIG. **1** shows the basic structure of a camera system according to the invention which is designed for the integration within a machine, device or monitoring method and which has a connector **12** for a connection to an electronic control unit, an ECU (not presented), in which all required monitoring and control parameters are deposited.
> **[0026]** The camera system comprises an image sensor **1** onto which a recording optic **2** is mounted. Image sensor **1** and recording optic **2** are mounted onto a board **4** which has conductor lines **6** for electrically connecting the electronic components of the camera system. As the control for record-

Thus, Busse simply shows an image sensor that directly connects to a control unit via a ribbon connector (from figure). In short, there is no network disclosed in Busse.

Making the point another way, Busse does not teach a video analytics system that receives the image data, transmitted over a network, from the object detection system.

Dedeoglu concerns a method for displaying surveillance video streams. It teaches a way to provide a summary view of those streams.

The pending Office action cites Dedeoglu for a relatively minor issue. Specifically from page 3, third paragraph of the Office action:

However, Dedeoglu discloses a video surveillance system wherein the network is a web based network (see 308 in fig. 3), wherein the video analytics system (see 312 in fig. 3) receives the image data from multiple object detection systems (see 302 in fig. 3) after being transmitted over the network.

Again, a deeper analysis of Dedeoglu exposes the errors in this analysis. Reference 312 actually refers to a "surveillance center". It appears to have no analysis capabilities. From Dedeoglu:

[0027] The surveillance center **312** includes a video management server (VMS) **314**, a number of monitors **316** (typically less than the number of video cameras **302**) arranged for simultaneous viewing of video streams received from the cameras **302**, and a summary view computer system **318**. The VMS **314** receives the surveillance video streams from the cameras **302** and hosts management software to manage the display of these video streams on the monitors **316**. The

In fact, Dedeoglu concerns a very different architecture in which the video analytics system is on the cameras. This is shown from Fig. 4 of Dedeoglu:

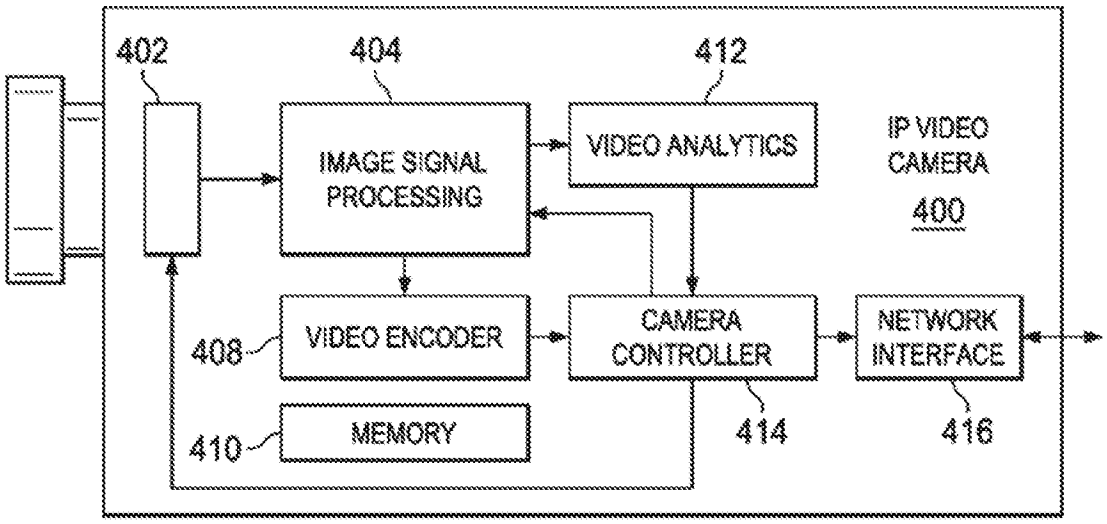


FIG. 4

Further description can be found at paragraph [0042] of Dedeoglu:

[0042] The video analytics component **412** analyzes the content of frames of the captured video stream to detect events in zones in the field of view of the camera **400**. The zones and the event or events to be detected in a zone may be configurable. The analysis capabilities of the video analytics

Thus, Dedeoglu would suffer from the problems suggested in the present application's Background since the Dedeoglu analysis system would have limited capabilities because of its location on the camera and will also result in a much more expensive camera.

In summary, only the present inventors, from the perspective of the applied references, have understood that it is important to put object detection on the surveillance cameras and then the video analytics system remotely, across a network. This has the advantages of reducing the bandwidth of the network that is consumed on one hand, while lowering the cost of the surveillance cameras on the other hand. Moreover, it

allows for easy updating of the video analytics system since it is centrally located and shared by the surveillance cameras.

Neither of these two applied references has demonstrated any understanding of these problems nor proposed similar solutions.

Moreover, claim 1 is proposed to be amended to include that the object detection system extracts portions of frames that include the detected objects of interest. The advantage is that whole frames do not need to be sent, saving bandwidth.

Possibly the most relevant portion of the references is the following paragraph from Busse:

> **[0010]** In the camera system of the present invention, images of high resolution generated through the image sensor are possible, while images that need to be transmitted to a control unit are created with a smaller volume of data in a format that can be processed by the control unit. A minimum resolution of 1 megapixel is seen as high in comparison to the VGA standard with a resolution of 640x480 pixel that can be currently processed in such systems. The method and camera system of the present invention can also use image sensors with a considerably higher resolution of several megapixel without requiring modifications of the application-specific boards and standard ECUs, and without losing information.

This paragraph does not suggest the claimed extraction of portions of frames that include the detected objects of interest, as claimed.

Thus, the basic features of the claims are not disclosed in either of the applied references. Thus, this rejection should be withdrawn.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991
Fax: 781 863 9931

Lexington, Massachusetts 02420
Date: July 2, 2018

Electronic Acknowledgement Receipt

EFS ID:	33070067
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	02-JUL-2018
Filing Date:	27-FEB-2015
Time Stamp:	17:11:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	After Final Consideration Program Request	0270-0057US1_sb0434_S-ACV-00016_US_AFCP_Request.pdf	226447 1825a700027cb5e41a186dc23083bbfde9eb246c	no	2

Warnings:

Information:					
2	Response After Final Action	0270-0057US1_A-NE_S-ACV-00016_US_Reply_FOA_040318.pdf	624020 53ab74442a91e5eae24126a666c1dd490cdace58	no	14
Warnings:					
Information:					
			Total Files Size (in bytes):	850467	

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **07/02/2018**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 29	Minus	** 29	= 0	X $100 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $460 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

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

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
STEFANIE BRYCE

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US	3322

103122 7590 07/20/2018

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MASSACHUSETTS 02420
UNITED STATES OF AMERICA

EXAMINER	
TORRENTE, RICHARD T	

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
07/20/2018	ELECTRONIC

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

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

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

docketing@houstonllp.com
eleahy@tycoint.com
grant.houston@houstonllp.com

Advisory Action Before the Filing of an Appeal Brief	Application No. 14/634,428	Applicant(s) Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	AIA Status Yes

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

THE REPLY FILED 02 July 2018 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☑ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☑ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection.The current period for reply expires ____ months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.
   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANTS FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37CFR 41.37(a).

AMENDMENTS

3. ☑ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☑ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: See Continuation Sheet (See 37CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicants reply has overcome the following rejection(s): _____
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s):(a) ☐ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____
9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
14. ☑ Other: PTO-2323, PTO-413.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
    Claim(s) allowed:_____.
    Claim(s) objected to:_____.
    Claim(s) rejected:1-11,14-27 and 30-31.
    Claim(s) withdrawn from consideration:_____.

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

Continuation of 3. NOTE: Per interview, the proposed amendment would require further search than the allotted time.

Examiner-Initiated Interview Summary	Application No. 14/634,428	Applicant(s) Westmacott et al.		
	Examiner RICHARD T TORRENTE	Art Unit 2485	AIA (First Inventor to File) Status Yes	Page 1 of 1

All participants (applicant, applicants representative, PTO personnel):

1. RICHARD T TORRENTE (Primary Examiner); Telephonic

2. Grant Houston (Attorney); Telephonic

Date of Interview: 16 July 2018

Claims Discussed: Claim 1

Amendment proposed: The Examiner inquired about the amendment in claim 1 with that of claim 2. Applicant explained the intention of the amendment. Further discussion were pursued, the Examiner understood the intent of the amendment and proposed further amendment to clarify the claim to overcome the previous office action rejection .

Issues Discussed:

Proposed Amendments:

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

AFCP 2.0 Decision	Application No.	Applicant(s)	
	14/634,428	Westmacott et al.	
	Examiner	Art Unit	AIA Status
	RICHARD T TORRENTE	2485	Yes

This is in response to the After Final Consideration Pilot request filed 02 July 2018.

1. **Improper Request** – The AFCP 2.0 request is improper for the following reason(s) and the after final amendment submitted with the request will be treated under pre-pilot procedure.

   ☐ An AFCP 2.0 request form PTO/SB/434 (or equivalent document) was not submitted.

   ☐ A non-broadening amendment to at least one independent claim was not submitted.

   ☐ A proper AFCP 2.0 request was submitted in response to the most recent final rejection.

   ☐ Other: _____

2. **Proper Request**

   A. After final amendment submitted with the request will not be treated under AFCP 2.0.
   The after final amendment cannot be reviewed and a search conducted within the guidelines of the pilot program.

   ☐ The after final amendment will be treated under pre-pilot procedure.

   B. Updated search and/or completed additional consideration.
   The examiner performed an updated search and/or completed additional consideration of the after final amendment within the time authorized for the pilot program. The result(s) of the updated search and/or completed additional consideration are:

   ☐ 1. All of the rejections in the most recent final Office action are overcome and a Notice of Allowance is issued herewith.

   ☐ 2. The after final amendment would not overcome all of the rejections in the most recent final Office action .
   See attached interview summary for further details.

   ☐ 3. The after final amendment was reviewed, and it raises a new issue(s). See attached interview summary for
   further details.

   ☑ 4. The after final amendment raises new issues, but would overcome all of the rejections in the most recent final Office action. A decision on determining allowability could not be made within the guidelines of the pilot. See attached interview summary for further details, including any newly discovered prior art.

   ☐ 5. Other: _____

   Examiner Note: Please attach an interview summary when necessary as described above.

DO NOT ENTER: /R.T.T/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott et al.	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Torrente, Richard T.
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV00016 US)

AFTER FINAL AMENDMENT UNDER RULE 116

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

Sir:

In response to the pending final Office Action, mailed April 3, 2018 (Paper No. 20180328), please amend the above-captioned patent application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

A Request under the After Final Consideration Pilot Program 2.0 is also included herewith.

To: eleahy@tycoint.com,docketing@houstonllp.com,grant.houston@houstonllp.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Jul 20, 2018 03:32:23 AM

Dear PAIR Customer:

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTAV	07/20/2018	0270.0057US1/S-ACV00016US
	EXIN	07/20/2018	0270.0057US1/S-ACV00016US
	A.NE.AFCP.D	07/20/2018	0270.0057US1/S-ACV00016US

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REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14638428	Filing Date	2015-02-27	Docket Number (if applicable)	0270.0057US1/S-ACV00016U	Art Unit	2485
First Named Inventor	Ian Christopher Westmacott			Examiner Name	Richard T. Torrente		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☒ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 505924

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

Applicant Signature

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Signature of Registered U.S. Patent Practitioner			
Signature	/grant houston/	Date (YYYY-MM-DD)	2018-08-03
Name	J. Grant Houston	Registration Number	35900

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott	Confirmation No:	3322
Application No:	14/634,428	Group:	2485
Filed:	February 27, 2015	Examiner:	Torrente, Richard T.
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV00016 US)

AMENDMENT/SUBMISSION UNDER RULE 114

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

Sir:

In response to the pending final Office Action, mailed April 3, 2018 (Paper No. 20180328), a Request for Continued Examination is hereby made. Accordingly, entry of the following amendments is requested:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

A one-month extension is requested for this response.

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest and sends the extracted portions of the frames; and

a video analytics system that receives the extracted portions of the frames of the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;

wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Original) The system of claim 1, wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network.

8. (Original) The system of claim 1, wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis.

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Currently amended) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system extracting portions of frames that include the detected objects of interest and transmitting the extracted portions of the frames of the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system receiving the extracted portions of the frames of the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Original) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the

objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Original) The method of claim 14, further comprising including the video analytics system as a node within an enterprise network, and also including the one or more surveillance cameras as nodes on the enterprise network.

22. (Original) The method of claim 20, further comprising sending the image data to a video analytics system operated by a different business entity than the surveillance cameras for further analysis.

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Cancelled)

29. (Cancelled)

30. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data, each having an object detection system that detects objects of interest within the image data and creates cropped images from the image data that include the detected objects of interest and send the cropped images from the image data; and

a video analytics system that receives the cropped images generated by the object detection systems of the surveillance cameras, transmitted over a network, the video analytics system analyzing the objects of interest in the cropped images by identifying the objects of interest from reference images, recognizing patterns in the image data, and by applying object classification functions to the image data.

31. (Previously Presented) The system of claim 30, wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras.

Remarks

Claims 1-27, 30 and 31 are pending in this application. Claims 1, 14, 30 have been amended in various particulars.

The courtesy of the interview held on July 16th is noted with appreciation. In that interview, Examiner suggested that the then-submitted Rule 116 amendments were helpful in advancing prosecution.

The present amendments go beyond those presented in the Rule 116 amendment. For example, the video analytics system now receives the extracted portions of the frames of the image data. This change was based upon the suggestions from the interview.

Moreover, similar amendments have been propagated to claims 14 and 30.

Support for the amendment to claim 1, for example, can be found in the following paragraph of the application as filed

> [0044] In step 204, the object detection system 108-1 detects objects of interest within the frames, and possibly extracts video frames or portions of the frames that include the detected objects of interest. In examples, objects of interest include vehicles 182 and individuals 118, in examples. Of particular interest are the faces of the individuals 118 and license plates 116 of the vehicles 182. In other examples, the objects of interest include animals, retail products or product packaging, smoke, flames, explosives, visible traces of vapors, and atmospheric conditions such as rain, mist, and fog.

Claims 1-3, 6, 14-16 and 20 were rejected under 35 U.S.C. 103 as being unpatentable over Busse et al. (U.S. Publication No. 2011/0080495 A1) in view of Dedeoglu et al. (U.S. Publication No. 2014/0333776 A1).

In related rejections, claims 4-5, 9-10, 17-19 and 30 were rejected under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Chen et al. (U.S. Publication No. 2014/0044348 A1), and claims 7-8, 11, 21-23, 26-29 and 31 were rejected under 35 U.S.C. 103 as being unpatentable over Busse and Dedeoglu in view of Miasnik et al. (U.S. Publication No. 2014/0282934 A1).

These rejections are respectfully traversed for the following reasons.

To reiterate, some current video surveillance systems have problems in that they can increase the volume of data traffic sent over the networks. This increased data traffic volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

One reason for the increased data traffic is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image data are typically sent by surveillance cameras over the network to video analytics systems located within the network.

Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

One solution to the previously-identified problem is to provide an image analytics system on each of the surveillance cameras. The problem with this solution, however, is that it increases the cost of those surveillance cameras substantially. Moreover, this configuration means that when the analysis methods are improved, those improvements need to be pushed-down to every surveillance camera.

The disclosed embodiment concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (i.e. identify) the

detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

According to this understanding, the claimed invention requires that the video analytics system receives the image data after being transmitted over a network. In this way, the object detection is separated from object analysis.

Busse does not disclose this feature.

Busse generally concerns an integrated camera system. This system includes an image sensor 1. It includes a processor 8 and a memory unit 10. In operation, before scaling down the resolution of images, the unscaled source image 20 is checked for pre-defined geometrical structures that are defined by the user and stored in the memory unit 10. This check takes place in selected regions of the source image 20 in which the respective geometrical structures 30 are usually expected. In the language of Busse at paragraph [0030] "a cropped image 32…is created by the processor 8… that is only a little or not scaled… so that it is adapted to the standard of the resolution of the control

unit but still presents sufficiently detailed image information to be useable for a further analysis within the control unit."

In short, Busse merely teaches to maintain resolution in part of an image so that a connected control unit can analyze the image.

The pending Office action argues that Busse teaches a video analytics system that receives image data transmitted over a network at page 3, first paragraph. It cites to the following paragraph from Busse:

> **[0010]** In the camera system of the present invention, images of high resolution generated through the image sensor are possible, while images that need to be transmitted to a control unit are created with a smaller volume of data in a format that can be processed by the control unit. A minimum resolution of 1 megapixel is seen as high in comparison to the VGA standard with a resolution of 640×480 pixel that can be currently processed in such systems. The method and camera system of the present invention can also use image sensors with a considerably higher resolution of several megapixel without requiring modifications of the application-specific boards and standard ECUs, and without losing information.

The cited paragraph does not teach a video analytics system that receives image data transmitted over a network. Moreover, a more detailed analysis of the Busse system can be understood with reference to Fig. 1:

> **[0025]** FIG. **1** shows the basic structure of a camera system according to the invention which is designed for the integration within a machine, device or monitoring method and which has a connector **12** for a connection to an electronic control unit, an ECU (not presented), in which all required monitoring and control parameters are deposited.
> **[0026]** The camera system comprises an image sensor **1** onto which a recording optic **2** is mounted. Image sensor **1** and recording optic **2** are mounted onto a board **4** which has conductor lines **6** for electrically connecting the electronic components of the camera system. As the control for record-

Thus, Busse simply shows an image sensor that directly connects to a control unit via a ribbon connector (from figure). In short, there is no network disclosed in Busse.

Making the point another way, Busse does not teach a video analytics system that receives the image data, transmitted over a network, from the object detection system.

Dedeoglu concerns a method for displaying surveillance video streams. It teaches a way to provide a summary view of those streams.

The pending Office action cites Dedeoglu for a relatively minor issue. Specifically from page 3, third paragraph of the Office action:

> However, Dedeoglu discloses a video surveillance system wherein the network is a web based network (see 308 in fig. 3), wherein the video analytics system (see 312 in fig. 3) receives the image data from multiple object detection systems (see 302 in fig. 3) after being transmitted over the network.

Again, a deeper analysis of Dedeoglu exposes the errors in this analysis. Reference 312 actually refers to a "surveillance center". It appears to have no analysis capabilities. From Dedeoglu:

> **[0027]** The surveillance center **312** includes a video management server (VMS) **314**, a number of monitors **316** (typically less than the number of video cameras **302**) arranged for simultaneous viewing of video streams received from the cameras **302**, and a summary view computer system **318**. The VMS **314** receives the surveillance video streams from the cameras **302** and hosts management software to manage the display of these video streams on the monitors **316**. The

In fact, Dedeoglu concerns a very different architecture in which the video analytics system is on the cameras. This is shown from Fig. 4 of Dedeoglu:

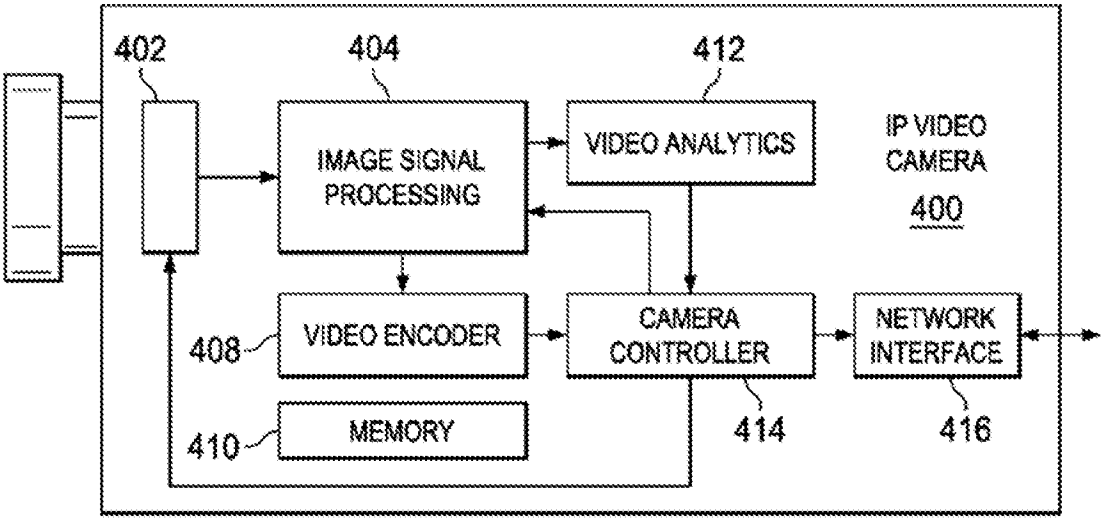


FIG. 4

Further description can be found at paragraph [0042] of Dedeoglu:

[0042] The video analytics component **412** analyzes the content of frames of the captured video stream to detect events in zones in the field of view of the camera **400**. The zones and the event or events to be detected in a zone may be configurable. The analysis capabilities of the video analytics

Thus, Dedeoglu would suffer from the problems suggested in the present application's Background since the Dedeoglu analysis system would have limited capabilities because of its location on the camera and will also result in a much more expensive camera.

In summary, only the present inventors, from the perspective of the applied references, have understood that it is important to put object detection on the surveillance cameras and then the video analytics system remotely, across a network. This has the advantages of reducing the bandwidth of the network that is consumed on one hand, while lowering the cost of the surveillance cameras on the other hand. Moreover, it

allows for easy updating of the video analytics system since it is centrally located and shared by the surveillance cameras.

Neither of these two applied references has demonstrated any understanding of these problems nor proposed similar solutions.

Moreover, the independent claims have been further amended to include that the object detection system extracts portions of frames that include the detected objects of interest. The advantage is that whole frames do not need to be sent, saving bandwidth.

Possibly the most relevant portion of the references is the following paragraph from Busse:

> **[0010]** In the camera system of the present invention, images of high resolution generated through the image sensor are possible, while images that need to be transmitted to a control unit are created with a smaller volume of data in a format that can be processed by the control unit. A minimum resolution of 1 megapixel is seen as high in comparison to the VGA standard with a resolution of 640x480 pixel that can be currently processed in such systems. The method and camera system of the present invention can also use image sensors with a considerably higher resolution of several megapixel without requiring modifications of the application-specific boards and standard ECUs, and without losing information.

This paragraph does not suggest the claimed extraction of portions of frames that include the detected objects of interest, as claimed.

Thus, the basic features of the claims are not disclosed in either of the applied references. Thus, this rejection should be withdrawn.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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Lexington, Massachusetts 02420
Date: August 3, 2018

Electronic Patent Application Fee Transmittal

Application Number:	14634428
Filing Date:	27-Feb-2015
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Filer:	Joseph G. Houston
Attorney Docket Number:	0270.0057US1/S-ACV00016US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
RCE- 1ST REQUEST	1801	1	1300	1300
		Total in USD ($)		**1500**

Electronic Acknowledgement Receipt

EFS ID:	33366170
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	03-AUG-2018
Filing Date:	27-FEB-2015
Time Stamp:	11:36:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1500
RAM confirmation Number	080318INTEFSW11371400
Deposit Account	505924
Authorized User	Joseph Houston

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

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

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	0270-0057US1_RCE_S-ACV00016_US.pdf	1350135 b643c0992ec770d7a866bc21c8bd77b51cc0a59b	no	3
Warnings:					
Information:					
2	Response After Final Action	0270-0057US1_AMSB_S-ACV-00016_US_Reply_FOA_040318.pdf	625578 41d267cab28bd7a859492dd92e785c12594643d9	no	14
Warnings:					
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3	Fee Worksheet (SB06)	fee-info.pdf	32350 86c90f3191b77db067cc386677c2364313fc8a3f	no	2
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		Total Files Size (in bytes):	2008063		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **08/03/2018**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 29	Minus	** 29	= 0	X $100 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $460 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

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

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
JAMES MASON

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US	3322

103122 7590 10/23/2018

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

EXAMINER	
TORRENTE, RICHARD T	

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
10/23/2018	ELECTRONIC

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

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

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

docketing@houstonllp.com
eleahy@tycoint.com
grant.houston@houstonllp.com

Office Action Summary	Application No. 14/634,428	Applicant(s) Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	AIA Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 8/3/18.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-27 and 30-31 is/are pending in the application.

5a) Of the above claim(s) 12-13 and 24-25 is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-11,14-23,26-27 and 30-31 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/3/18 has been entered.

Claim Rejections - 35 USC § 102

1. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

3. Claim(s) 1-3, 6, 14-16 and 20 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Ahiska (US 2010/0002070 A1).

Regarding claim 1, Ahiska discloses a video surveillance system (see fig. 7), comprising: one or more surveillance cameras (see 612 in fig. 7) that capture image data; an object detection system (see

614 in fig. 7; e.g. see ¶ [0059]) that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest and sends the extracted portions of the frames (e.g. see 710 and 720 in fig. 8); and a video analytics system (see 720 in fig. 8) that receives the extracted portions of the frames of the image data, transmitted over a network (see 725 in fig. 8), from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system (see 720 in fig. 8), the video analytics system analyzing the objects of interest (e.g. see ¶ [0059]); wherein the video analytics system receives the image data from multiple object detection systems (see 735 in fig. 8) after being transmitted over the network.

Regarding claims 2 and 15, Ahiska further discloses wherein the object detection system creates cropped images (see 710-715 in fig. 8) from the image data that include the detected objects of interest and sends the cropped images to the video analytics system (see 720 in fig. 8).

Regarding claims 3 and 16, Ahiska further discloses wherein the image data include video data (see 705 in fig. 8) and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data (see 720 in fig. 8).

Regarding claims 6 and 20, Ahiska further discloses wherein the object detection system is integrated within the one or more surveillance cameras (e.g. see ¶ [0059]).

Regarding claim 14, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

4. Claims 4-5, 9-10, 17-19 and 30 are under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Chen et al. (US 2014/0044348 A1).

Regarding claims 4 and 17, Ahiska does not discloses wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors (e.g. see ¶ [0034]) including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest (e.g. see ¶ [0087]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Ahiska images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 5, 9 and 18, although Ahiska discloses wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system (e.g. see ¶ [0059]), it is noted that Ahiska does not provide the particular wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data (see 112-124 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Ahiska images for

the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 10 and 19, the references further discloses comprising a database that receives metadata associated with the identified objects of interest from the video analytics system (see Chen 506 in fig. 5).

Regarding claim 30, the claim(s) recite analogous limitations to claims 1, 3 and 5, and is/are therefore rejected on the same premise.

5. Claims 7-8, 11, 21-23, 26-29 and 31 are under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Miasnik et al. (US 2014/0282934 A1).

Regarding claims 7-8, 11, 21-23, 26-29 and 31, Ahiska does not discloses wherein the transmittal is over various types and combination of communication network.

However, Miasnik, in the same field of endeavor, discloses a surveillance system wherein the video analytics system is a node on an enterprise network (see fig. 2), and wherein the one or more surveillance cameras are also nodes on the enterprise network (see 103-43 in fig. 2); wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis (see figs. 1-2); a gateway system that provides access to the video analytics system over a public network (see fig. 1); wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network (see fig. 2); wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network (see fig. 2); wherein the object detection system and the video analytics system are in different nodes on an enterprise network (see fig. 2); wherein the network includes a cloud network (see fig. 2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Miasnik teachings of various networking into Ahiska remote devices for the benefit of remote monitoring with various web based entity and video management.

Response to Arguments

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD T TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-F: 6:45-3:15 pm.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/RICHARD T TORRENTE/
Primary Examiner, Art Unit 2485

Notice of References Cited	Application/Control No. 14/634,428	Applicant(s)/Patent Under Reexamination Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20110080495-A1	04-2011	BUSSE; Erik	G06K9/3233	348/222.1
*	B	US-20140044348-A1	02-2014	Chen; Shaokang	G06K9/00221	382/159
*	C	US-20140282934-A1	09-2014	Miasnik; Guy	G06F17/30861	726/5
*	D	US-20140333776-A1	11-2014	Dedeoglu; Goksel	H04N7/181	348/159
*	E	US-20100002070-A1	01-2010	Ahiska; Yavuz	G08B13/19691	348/36
	F					
	G					
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	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

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

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT
Updated search	6/9/17	RT
Updated search	10/24/17	RT
Updated search	3/28/17	RT
Updated search	10/18/18	RT

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

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

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

CLAIMS

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

CLAIM		DATE								
Final	Original	10/18/2016	02/07/2017	06/10/2017	10/24/2017	03/28/2018	10/18/2018			
	1	÷	✓	✓	✓	✓	✓			
	2	÷	✓	✓	✓	✓	✓			
	3	÷	✓	✓	✓	✓	✓			
	4	÷	✓	✓	✓	✓	✓			
	5	÷	✓	✓	✓	✓	✓			
	6	÷	✓	✓	✓	✓	✓			
	7	÷	✓	✓	✓	✓	✓			
	8	÷	✓	✓	✓	✓	✓			
	9	÷	✓	✓	✓	✓	✓			
	10	÷	✓	✓	✓	✓	✓			
	11	÷	✓	✓	✓	✓	✓			
	12	÷	N	N	N	N	N			
	13	÷	N	N	N	N	N			
	14	÷	✓	✓	✓	✓	✓			
	15	÷	✓	✓	✓	✓	✓			
	16	÷	✓	✓	✓	✓	✓			
	17	÷	✓	✓	✓	✓	✓			
	18	÷	✓	✓	✓	✓	✓			
	19	÷	✓	✓	✓	✓	✓			
	20	÷	✓	✓	✓	✓	✓			
	21	÷	✓	✓	✓	✓	✓			
	22	÷	✓	✓	✓	✓	✓			
	23	÷	✓	✓	✓	✓	✓			
	24	÷	N	N	N	N	N			
	25	÷	N	N	N	N	N			
	26			✓	✓	✓	✓			
	27			✓	✓	✓	✓			
	28			✓	✓	-	-			
	29			✓	✓	-	-			
	30					✓	✓			
	31					✓	✓			

To: docketing@houstonllp.com,grant.houston@houstonllp.com,eleahy@tycoint.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Oct 23, 2018 03:33:19 AM

Dear PAIR Customer:

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTNF	10/23/2018	0270.0057US1/S-ACV00016US
	892	10/23/2018	0270.0057US1/S-ACV00016US

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

Electronic Acknowledgement Receipt

EFS ID:	34909618
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	22-JAN-2019
Filing Date:	27-FEB-2015
Time Stamp:	11:36:51
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Arguments/Remarks Made in an Amendment	0270-0057US1_A-CLM-REM_S-ACV00016US_102318.pdf	225665 f71680aaece59a83995439cafd9b6877688d b0d5	no	12

Warnings:

Information:	
Total Files Size (in bytes):	225665

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott	Confirmation No:	3322
Application No:	14/634,428	Examiner:	Torrente, R.T.
Filed:	February 27, 2015		
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		
Attorney Docket No.	0270.0057US1 (S-ACV00016US)		

AMENDMENT UNDER RULE 111

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

Sir:

In response to the pending Office Action, mailed October 23, 2018, please amend the above-captioned application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Previously presented) A video surveillance system, comprising:
one or more surveillance cameras that capture image data;
an object detection system that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest and sends the extracted portions of the frames; and
a video analytics system that receives the extracted portions of the frames of the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;
wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Original) The system of claim 1, wherein the video analytics system is a node on an enterprise network, and wherein the one or more surveillance cameras are also nodes on the enterprise network.

8. (Original) The system of claim 1, wherein the image data are sent to a second video analytics system operated by a different business entity than the one or more surveillance cameras for analysis.

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Previously presented) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system extracting portions of frames that include the detected objects of interest and transmitting the extracted portions of the frames of the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system receiving the extracted portions of the frames of the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Original) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the

objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Original) The method of claim 14, further comprising including the video analytics system as a node within an enterprise network, and also including the one or more surveillance cameras as nodes on the enterprise network.

22. (Original) The method of claim 20, further comprising sending the image data to a video analytics system operated by a different business entity than the surveillance cameras for further analysis.

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Cancelled)

29. (Cancelled)

30. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data, each having an object detection system that detects ~~objects of interest~~ faces of individuals and license plates of vehicles within the image data and creates cropped images from the image data that include the detected ~~objects of interest~~ faces of individuals and license plates of vehicles and send the cropped images from the image data; and

a video analytics system that receives the cropped images generated by the object detection systems of the surveillance cameras, transmitted over a network, the video analytics system analyzing the ~~objects of interest~~ faces of individuals and license plates of vehicles in the cropped images by identifying the ~~objects of interest~~ faces of the individuals from reference images, recognizing patterns in the image data, and by applying object classification functions to the image data;

wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras.

31. (Cancelled)

32. (New) The system of claim 30, the object detection system of the surveillance cameras determines if the image data includes a product on a shelf of

a large supermarket, and the video analytics system determines a type of product and provides information for restocking and inventory management, and for marketing and sales purposes to determine how long the products remain on the shelf.

Remarks

Claims 1-27, 30, and 32 are pending in this application. Claim 30 has been amended in various particulars as indicated hereinabove. New Claim 32 has been added to alternatively define the invention. Claim 31 has been cancelled without prejudice or disclaimer.

Claims 1-3, 6, 14-16 and 20 were rejected under 35 U.S.C. 102(a)(2) as being anticipated by Ahiska (U.S. Publication No. 2010/0002070 A1).

In related rejections, claims 4-5, 9-10, 17-19 and 30 were rejected under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Chen et al. (U.S. Publication No. 2014/0044348 A1), and claims 7-8, 11, 21-23, 26-29 and 31 were rejected under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Miasnik et al. (U.S. Publication No. 2014/0282934 A1).

These rejections are respectfully traversed for the following reasons.

Some current video surveillance systems have problems in that they can increase the volume of data traffic sent over the networks. This increased data traffic volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

One reason for the increased data traffic is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image data are typically sent by surveillance cameras over the network to video analytics systems located within the network.

Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the

cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

One solution to the previously-identified problem is to provide an image analytics system on each of the surveillance cameras. The problem with this solution, however, is that it increases the cost of those surveillance cameras substantially. Moreover, this configuration means that when the analysis methods are improved, those improvements need to be pushed-down to every surveillance camera.

The disclosed embodiment concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (i.e. identify) the detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

In one implementation, the video analytics system is operated by a different business entity than the one or more surveillance cameras. In this way, an organization can "outsource" its image analytics operations to a business entity that might specialize is such tasks and has better access to references image to assist in the image analysis.

On the other hand, Ahiska concerns systems that transmit views from a video camera. These views can be scaled. A base station then composites views from the camera into a single view within the base station.

This operation in discussed in the context of Ahika's Figs. 7 and 8.

Ahiska suggests a division of operation between the cameras and the base station that is different from the claimed invention. The cameras produce the views and the base station composites those views in many cases. Consider the following portion of paragraph [0084] of Ahika:

> that have requested it. If a base station has requested views from more than one camera, then it is necessary that the base station composites the views, although each camera may be supplying composite views and the base station builds a composite of composites. In general, it is useful to be able to determine where compositing takes place moment by moment.

Nevertheless, Ahiska's cameras perform high level video analysis:

> **[0081]** The network connection referred to in FIGS. **1** and **7** enables new programs to be loaded into the camera as necessary. It also facilitates the loading of data for use by processing software within the camera. This might include facial data used in face recognition software such that one or more cameras may be constantly searching for faces without transmitting any information to the base station until a possible match is found. In the same way, the camera may hold vehicle license plate data and only transmit information to the base station when a match is found.

This operation contrasts with the present claimed invention in which the 'video analytics system receives the extracted portions of the frames of the image data, transmitted over a network, from the object detection system, and analyzes the objects of interest.'

In short, in Ahiska, the cameras perform the analysis locally and the base station only composites the images.

On the other hand, in claim 1, for example, the remote video analysis system performs the analysis.

Attention is also directed to amended claim 30 and new claim 32. Claim 30 requires that a remote video analytics system analyzes the faces of individuals and license plates of vehicles in the cropped images by identifying the faces of the individuals. This directly conflicts with the quoted paragraph [0081] above, which describes Ahiska's cameras performing such analysis.

Attention is also directed to the final clause of claim 30: wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras. There is no suggestion that such an analytics system should be operated by a different business entity in the applied references.

Thus, the rejections should be withdrawn.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $420 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	01/22/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 29	Minus	** 29	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/BURNELL L ROSS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
TORRENTE, RICHARD T	

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
03/25/2019	ELECTRONIC

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

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

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

docketing@houstonllp.com
eleahy@tycoint.com
grant.houston@houstonllp.com

Office Action Summary	Application No. 14/634,428	Applicant(s) Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	AIA (FITF) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 1/22/19.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☑ This action is **FINAL.** 2b) ☐ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-27,30 and 32 is/are pending in the application.

5a) Of the above claim(s) 12-13 and 24-25 is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-11,14-23,26-27,30 and 32 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Claim Rejections - 35 USC § 102

1. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

3. Claim(s) 1-3, 6, 14-16 and 20 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Ahiska (US 2010/0002070 A1).

Regarding claim 1, Ahiska discloses a video surveillance system (see fig. 7), comprising: one or more surveillance cameras (see 612 in fig. 7) that capture image data; an object detection system (see 614 in fig. 7; e.g. see ¶ [0059]) that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest and sends the extracted portions of the frames (e.g. see 710 and 720 in fig. 8); and a video analytics system (see 720 in fig. 8) that receives the extracted portions of the frames of the image data, transmitted over a network (see 725 in fig. 8), from the object detection system, the image data

received by the video analytics system corresponding to objects of interest detected by the object detection system (see 720 in fig. 8), the video analytics system analyzing the objects of interest (e.g. see ¶ [0059]); wherein the video analytics system receives the image data from multiple object detection systems (see 735 in fig. 8) after being transmitted over the network.

Regarding claims 2 and 15, Ahiska further discloses wherein the object detection system creates cropped images (see 710-715 in fig. 8) from the image data that include the detected objects of interest and sends the cropped images to the video analytics system (see 720 in fig. 8).

Regarding claims 3 and 16, Ahiska further discloses wherein the image data include video data (see 705 in fig. 8) and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data (see 720 in fig. 8).

Regarding claims 6 and 20, Ahiska further discloses wherein the object detection system is integrated within the one or more surveillance cameras (e.g. see ¶ [0059]).

Regarding claim 14, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

4. Claims 4-5, 9-10 and 17-19 are under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Chen et al. (US 2014/0044348 A1).

Regarding claims 4 and 17, Ahiska does not disclose wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors (e.g. see ¶ [0034]) including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest (e.g. see ¶ [0087]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Ahiska images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 5, 9 and 18, although Ahiska discloses wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system (e.g. see ¶ [0059]), it is noted that Ahiska does not provide the particular wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing

functions, neural network functions, deep learning functions, and/or object classification functions to the image data (see 112-124 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Ahiska images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 10 and 19, the references further discloses comprising a database that receives metadata associated with the identified objects of interest from the video analytics system (see Chen 506 in fig. 5).

5. Claims 7-8, 11, 21-23 and 26-29 and 30 are under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Miasnik et al. (US 2014/0282934 A1).

Regarding claims 7-8, 11, 21-23 and 26-29, Ahiska does not disclose wherein the transmittal is over various types and combination of communication network.

However, Miasnik, in the same field of endeavor, discloses a surveillance system wherein the video analytics system is a node on an enterprise network (see fig. 2), and wherein the one or more surveillance cameras are also nodes on the enterprise network (see 103-43 in fig. 2); a gateway system that provides access to the video analytics system over a public network (see fig. 1); wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network (see fig. 2); wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network (see fig. 2); wherein the object detection system and the video

analytics system are in different nodes on an enterprise network (see fig. 2); wherein the network includes a cloud network (see fig. 2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Miasnik teachings of various networking into Ahiska remote devices for the benefit of remote monitoring with various web based entity and video management.

Regarding claim 30, the claim(s) recite analogous limitations to claims 1, 3 and 5, and is/are therefore rejected on the same premise.

Furthermore, the references discloses wherein the object of interest is faces of individual and license plates of vehicle (e.g. see Ahiska ¶ [0081]), and wherein the video analytics system is operated by a different business entity than the one or more surveillance camera (see figs. 1-2; e.g. see Miasnik ¶ [0009]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Miasnik teachings of various remote service monitoring into Ahiska remote devices for the benefit of remote monitoring with various web based entity and video management.

6. Claim 32 is under 35 U.S.C. 103 as being unpatentable over Ahiska and Miasnik in view of Raghavan et al. (US 10,108,157 B1).

Regarding claim 32, the references do not disclose the object detection system of the surveillance cameras determines if the image data includes a product on a shelf of a large supermarket, and the video analytics system determines a type of product and provides

information for restocking and inventory management, and for marketing and sales purposes to determine how long the products remain on the shelf.

However, Raghavan disclose another uses of object tracking is to determine if the image data includes a product on a shelf of a large supermarket (see fig. 11), and the video analytics system determines a type of product and provides information for restocking and inventory management (see fig. 12; e.g. see 1510 in fig. 15), and for marketing and sales purposes to determine how long the products remain on the shelf (see 1512 in fig. 15).

Therefore, taking the combined teachings of Raghavan and Ahiska as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to exploit the different type's application of object recongition such as inventory management to obtain the same predictable result of tracking object and recognizing object for statistical purpose.

Response to Arguments

1. Applicant's arguments filed 1/22/19 have been fully considered but they are not persuasive. Applicant argued that "*In short, in Ahiska, the cameras perform the analysis locally and the base station only composites the images. On the other hand, in claim 1, for example, the remote video analysis system performs the analysis*". The Examiner respectfully disagrees, it appears Applicant argument is based on one embodiment of the reference Ahiska. The embodiment that the Examiner uses is ¶ [0059] stating "this automatic analysis can also be performed at the base station". This clearly shows the remote video analysis system performs the analysis. Therefore, the Examiner maintains that all limitations are met.

2. Applicant argument on the dependent claims are based on the independent claim argued above and are therefore rebutted for the same reason as above.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD T TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-F: 6:45-3:15 pm.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RICHARD T TORRENTE/
Primary Examiner, Art Unit 2485

Notice of References Cited	Application/Control No. 14/634,428	Applicant(s)/Patent Under Reexamination Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20110080495-A1	04-2011	BUSSE; Erik	G06K9/3233	348/222.1
*	B	US-20140044348-A1	02-2014	Chen; Shaokang	G06K9/00221	382/159
*	C	US-20140282934-A1	09-2014	Miasnik; Guy	H04L63/08	726/5
*	D	US-20140333776-A1	11-2014	Dedeoglu; Goksel	H04N7/181	348/159
*	E	US-20100002070-A1	01-2010	Ahiska; Yavuz	G08B13/19691	348/36
*	F	US-10108157-B1	10-2018	Raghavan; Sudarshan Narasimha	G06K9/00771	1/1
	G					
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	I					
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	K					
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	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

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

CLAIMS

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

CLAIM		DATE								
Final	Original	10/18/2016	02/07/2017	06/10/2017	10/24/2017	03/28/2018	10/18/2018	03/19/2019		
	1	÷	✓	✓	✓	✓	✓	✓		
	2	÷	✓	✓	✓	✓	✓	✓		
	3	÷	✓	✓	✓	✓	✓	✓		
	4	÷	✓	✓	✓	✓	✓	✓		
	5	÷	✓	✓	✓	✓	✓	✓		
	6	÷	✓	✓	✓	✓	✓	✓		
	7	÷	✓	✓	✓	✓	✓	✓		
	8	÷	✓	✓	✓	✓	✓	✓		
	9	÷	✓	✓	✓	✓	✓	✓		
	10	÷	✓	✓	✓	✓	✓	✓		
	11	÷	✓	✓	✓	✓	✓	✓		
	12	÷	N	N	N	N	N	N		
	13	÷	N	N	N	N	N	N		
	14	÷	✓	✓	✓	✓	✓	✓		
	15	÷	✓	✓	✓	✓	✓	✓		
	16	÷	✓	✓	✓	✓	✓	✓		
	17	÷	✓	✓	✓	✓	✓	✓		
	18	÷	✓	✓	✓	✓	✓	✓		
	19	÷	✓	✓	✓	✓	✓	✓		
	20	÷	✓	✓	✓	✓	✓	✓		
	21	÷	✓	✓	✓	✓	✓	✓		
	22	÷	✓	✓	✓	✓	✓	✓		
	23	÷	✓	✓	✓	✓	✓	✓		
	24	÷	N	N	N	N	N	N		
	25	÷	N	N	N	N	N	N		
	26			✓	✓	✓	✓	✓		
	27			✓	✓	✓	✓	✓		
	28			✓	✓	-	-	-		
	29			✓	✓	-	-	-		
	30					✓	✓	✓		
	31					✓	✓	-		
	32							✓		

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT
Updated search	6/9/17	RT
Updated search	10/24/17	RT
Updated search	3/28/17	RT
Updated search	10/18/18	RT
Updated search	03/19/2019	RT

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

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

To: docketing@houstonllp.com,grant.houston@houstonllp.com,eleahy@tycoint.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Mar 25, 2019 03:35:06 AM

Dear PAIR Customer:

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTFR	03/25/2019	0270.0057US1/S-ACV00016US
	892	03/25/2019	0270.0057US1/S-ACV00016US

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

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

PTO/SB/434 (05-13)

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

Practitioner Docket No.:	Application No.:	Filing Date:
0270.0057US1 (S-ACV-00016 US)	14/634,428	February 27, 2015
First Named Inventor:	**Title:**	
Ian Christopher Westmacott	System and Method for Distributed Video Analysis	

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

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

Signature	Date
/grant houston/	June 21, 2019
Name (Print/Typed)	**Practitioner Registration No.**
J. Grant Houston	35900

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

☐ * Total of _____ forms are submitted.

Privacy Act Statement

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

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

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

Electronic Acknowledgement Receipt

EFS ID:	36378037
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	24-JUN-2019
Filing Date:	27-FEB-2015
Time Stamp:	09:27:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	After Final Consideration Program Request	0270-0057US1_A-NE-AFCP_S-ACV-00016_US.pdf	226490 80c1a5290413c9cb4d3a759009814296635eb426	no	2

Warnings:

Information:					
2	Response After Final Action	0270-0057US1_A-NE-CLM-REM_S-ACV-00016_US_032519.pdf	512589 f56d952bacea158c37c2ca74083632a0d39b263f	no	12
Warnings:					
Information:					
			Total Files Size (in bytes):	739079	

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott et al.	Confirmation No:	3322
Application No:	14/634,428	Examiner:	Torrente, Richard T.
Filed:	February 27, 2015		
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		
Attorney Docket No.	0270.0057US1 (S-ACV-00016 US)		

AFTER FINAL AMENDMENT UNDER RULE 116

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

Sir:

In response to the pending final Office Action, mailed March 25, 2019, please amend the above-captioned patent application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

A Request under the After Final Consideration Pilot Program 2.0 is also included herewith.

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest and sends the extracted portions of the frames; and

a video analytics system that receives only the extracted portions of the frames of the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;

wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network and the video analytics system is operated by a different business entity than the one or more surveillance cameras.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of

interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Cancelled)

8. (Cancelled)

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Currently amended) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system extracting portions of frames that include the detected objects of interest and transmitting the extracted portions of the frames of the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system, which is operated by a different business entity than the one or more surveillance cameras, only receiving the extracted portions of the frames of the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Original) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the

object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Cancelled)

22. (Cancelled)

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Cancelled)

29. (Cancelled)

30. (Previously presented) A video surveillance system, comprising:

one or more surveillance cameras that capture image data, each having an object detection system that detects faces of individuals and license plates of vehicles within the image data and creates cropped images from the image data that include the detected faces of individuals and license plates of vehicles and send the cropped images from the image data; and

a video analytics system that receives the cropped images generated by the object detection systems of the surveillance cameras, transmitted over a network, the video analytics system analyzing the faces of individuals and license plates of vehicles in the cropped images by identifying the faces of the individuals from reference images, recognizing patterns in the image data, and by applying object classification functions to the image data;

wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras.

31. (Cancelled)

32. (Previously presented) The system of claim 30, the object detection system of the surveillance cameras determines if the image data includes a product on a shelf of a large supermarket, and the video analytics system determines a type of product and provides information for restocking and inventory management, and for marketing and sales purposes to determine how long the products remain on the shelf.

Remarks

Claims 1-27, 30 and 32 are pending in this application.

A series of amendments are proposed to the claims section. Amendments are indicated for claims 1 and 14. Further, claims 7, 8, 21, and 22 are proposed to be cancelled without prejudice or disclaimer.

A Certification and Request for Consideration under the After Final Consideration Pilot Program 2.0 is included herewith. Counsel is willing and available to participate in any interview concerning the above amendments or the following remarks.

Claims 1-3, 6, 14-16 and 20 were rejected under 35 U.S.C. 102(a)(2) as being anticipated by Ahiska (U.S. Publication No. 2010/0002070 A1, hereinafter " Ahiska").

In related rejections, claims 4-5, 9-1 0 and 17-19 were rejected under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Chen et al. (U.S. Publication No. 2014/0044348 A1, hereinafter "Chen"), claims 7-8, 11, 21-23, 26-29 and 30 were rejected under 35 U.S.C. 103 as being unpatentable over Ahiska in view of Miasnik et al. (U.S. Publication No. 2014/0282934 A1, hereinafter "Miasnik"), and claim 32 was rejected under 35 U.S.C. 103 as being unpatentable over Ahiska and Miasnik in view of Raghavan et al. (U.S. Patent No. 10,108,157 B1, hereinafter "Raghavan").

These rejections are respectfully traversed for the following reasons.

Some current video surveillance systems have problems in that they can increase the volume of data traffic sent over the networks. This increased data traffic volume can limit the available bandwidth of the networks, which can cause performance problems for components of the video surveillance systems and other nodes that communicate over the networks.

One reason for the increased data traffic is that the surveillance cameras typically send their image data over the networks for further processing. For example, the image

data are typically sent by surveillance cameras over the network to video analytics systems located within the network.

Another issue with current video surveillance systems is cost. The video analysis methods employed by video analytics systems for analyzing the image data are typically memory intensive and processor intensive tasks. As a result, this requires that the video analytics systems be high-performance or specialized computer systems. This typically increases the cost of the video analytics systems, which correspondingly increases the cost of the overall video surveillance systems. Moreover, the analysis methods are constantly being improved and so the systems must be periodically updated.

One solution to the previously-identified problem is to provide an image analytics system on each of the surveillance cameras. The problem with this solution, however, is that it increases the cost of those surveillance cameras substantially. Moreover, this configuration means that when the analysis methods are improved, those improvements need to be pushed-down to every surveillance camera.

The disclosed embodiment concerns a model for the processing of the image data by separating the analysis into separate object detection and object analysis functions or systems. The object detection system detects objects of interest and classes of objects of interest within the image data. The object analysis system then analyzes the image data including the detected objects of interest, in one example, to recognize (i.e. identify) the detected objects of interest. This division can be used to lower the volume of image data transmitted over the intervening networks by locating the object detection closer to the cameras and then sending only the "interesting" portions of the image data to the more remote object analysis system.

The object analysis system can analyze the image data using many different analysis methods. For this purpose, the object analysis system typically first accesses information from a database such as reference images, image processing functions, patterns, neural network functions, deep learning functions, and object classification functions.

As a result, only image data that includes the detected objects of interest needs to be sent over the data network for object analysis by the local or remote video analytics systems. This saves on bandwidth as compared to current video surveillance systems, which typically send all image data including empty scenes and image data not including objects of interest over the data network.

The video analytics system is operated by a different business entity than the one or more surveillance cameras. In this way, an organization can "outsource" its image analytics operations to a business entity that might specialize is such tasks and has better access to reference images to assist in the image analysis.

On the other hand, Ahiska concerns systems that transmit views from a video camera. These views can be scaled. A base station then composites views from the camera into a single view within the base station.

This operation is discussed in the context of Ahiska's Figs. 7 and 8.

Ahiska suggests a division of operation between the cameras and the base station that is different from the claimed invention. The cameras produce the views and the base station composites those views in many cases. Consider the following portion of paragraph [0084] of Ahiska:

> that have requested it. If a base station has requested views from more than one camera, then it is necessary that the base station composites the views, although each camera may be supplying composite views and the base station builds a composite of composites. In general, it is useful to be able to determine where compositing takes place moment by moment.

Nevertheless, Ahiska's cameras perform high level video analysis:

> **[0081]** The network connection referred to in FIGS. 1 and 7 enables new programs to be loaded into the camera as necessary. It also facilitates the loading of data for use by processing software within the camera. This might include facial data used in face recognition software such that one or more cameras may be constantly searching for faces without transmitting any information to the base station until a possible match is found. In the same way, the camera may hold vehicle license plate data and only transmit information to the base station when a match is found.

This operation contrasts with the present claimed invention in which the 'video analytics system receives the extracted portions of the frames of the image data, transmitted over a network, from the object detection system, and analyzes the objects of interest.'

In short, in Ahiska, the cameras perform the analysis locally and the base station only composites the images.

On the other hand, in claim 1, for example, the remote video analysis system performs the analysis.

On page 7, the pending Office action argues:

1. Applicant's arguments filed 1/22/19 have been fully considered but they are not persuasive. Applicant argued that "*In short, in Ahiska, the cameras perform the analysis locally and the base station only composites the images. On the other hand, in claim 1, for example, the remote video analysis system performs the analysis*". The Examiner respectfully disagrees, it appears Applicant argument is based on one embodiment of the reference Ahiska. The embodiment that the Examiner uses is ¶ [0059] stating "this automatic analysis can also be performed at the base station". This clearly shows the remote video analysis system performs the analysis. Therefore, the Examiner maintains that all limitations are met.

Paragraph [0059] of Ahiska is as follows:

> **[0059]** In-camera analysis software can be advantageous by reducing the quantity of data transmitted, but this automatic analysis can also be performed at a base station. These algorithms generally produce more accurate results if applied to high-resolution image data. For high-resolution image data, the quantity of data transmitted could become prohibitive. For this reason, prior art systems performing analysis at a base station cannot cope with the demands of a large security system where hundreds of cameras may be used to monitor behavior. The data flow in such systems might exceed 1 Tetra-bit (one million million bits) per second. Such a system would be prohibitively expensive to deploy and operate. Additionally, if using a PZT camera to track a single object, the number of cameras required must be very large or many identified candidates for tracking ignored. The ability of a wide-angle camera as disclosed herein to track multiple objects with a single camera greatly improves the quality of surveillance and the efficiency of the system. The in-camera image data processing can efficiently process the image data to implement automatic object recognition and tracking, motion detection, and behavior analysis. Updates to the software can be done via disk or over a network connection, and the software program can reside in a memory, disk, flash drive, or other computer readable medium.

This portion of Ahiska merely provides for object detection at the cameras. However, the requirements of claim 1, for example, are much more extensive. Claim 1 requires that the extracted portions of the frames are transmitted over the network to the video analytics system. This element of transmitting the extracted portions is missing from Ahiska.

Moreover, claim 1 is proposed to be amended to require that only the extracted portions are received by the video analytics system.

Moreover, similar to claim 30, claim 1 is further proposed to be amended to require that the video analytics system is operated by a different business entity than the one or more surveillance cameras.

The different business entity feature has been attributed to [0009] of Miasnik, which merely provides:

> **[0009]** The disclosed systems and methods extend the reach and flow of situational awareness and rich multi-modal communications beyond an operations center or Command and Control Center to all enterprise constituents, organizations and individuals, thereby enabling the organization to effectively act in an informed, efficient and expeditious manner.

Thus, none of the applied references suggests to distribute image analysis across different companies as required by amended claims 1 and 14, and existing claim 30 in which object detection is used to reduce the amount of data transmitted.

Moreover, attention is also directed to claims 30 and 32. Claim 30 requires that a remote video analytics system analyzes the faces of individuals and license plates of vehicles in the cropped images by identifying the faces of the individuals. This directly conflicts with the quoted paragraph [0081] above, which describes Ahiska's cameras performing such analysis.

For these reasons, the rejections should be withdrawn.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991
Fax: 781 863 9931

Lexington, Massachusetts 02420
Date: June 21, 2019

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $420 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	06/24/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 25	Minus	** 29	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	SLIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/DIANIECE M JACOBS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US	3322

103122 7590 07/25/2019

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

EXAMINER	
TORRENTE, RICHARD T	

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
07/25/2019	ELECTRONIC

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

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

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

docketing@houstonllp.com
gerald.bluhm@jci.com
grant.houston@houstonllp.com

Advisory Action Before the Filing of an Appeal Brief	Application No. 14/634,428	Applicant(s) Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	AIA (FITF) Status Yes

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

THE REPLY FILED 24 June 2019 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☑ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:
   a) ☑ The period for reply expires 3 months from the mailing date of the final rejection.
   b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection.The current period for reply expires ____ months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.
   Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANTS FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37CFR 41.37(a).

AMENDMENTS

3. ☑ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☑ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: See Continuation Sheet (See 37CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicants reply has overcome the following rejection(s): _____
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s):(a) ☐ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____
9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____
14. ☑ Other: PTO-2323. PTO-413B.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
    Claim(s) allowed:_____.
    Claim(s) objected to:_____.
    Claim(s) rejected:1-11,14-23,26-27,30 and 32.
    Claim(s) withdrawn from consideration:_____.

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

Continuation of 3. NOTE: The newly amended limitations in the independent claim(s) 1 raise new issues. All other arguments for other claims have been previously addressed.

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	14/634,428	Westmacott et al.	
	Examiner	Art Unit	AIA (FITF) Status
	RICHARD T TORRENTE	2485	Yes

All participants (applicant, applicant's representative, PTO personnel):

(1) RICHARD T. TORRENTE. (3) _____.

(2) Grant Houston. (4) _____.

Date of Interview: 16 July 2019.

Type: ☑ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☑ No.
If Yes, brief description: _____.

Issues Discussed ☐ 101 ☐ 112 ☑ 102 ☐ 103 ☐ Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1.

Identification of prior art discussed: Ahiska.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The Examiner discussed the newly amended limitations in the independent claim 1 raises new issue. The amendments overcome the previous office action rejection. An allowance could not be determined because the quick search result required more time than the allotted from the AFCP..

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

AFCP 2.0 Decision	Application No.	Applicant(s)	
	14/634,428	Westmacott et al.	
	Examiner	Art Unit	AIA (FITF) Status
	RICHARD T TORRENTE	2485	Yes

This is in response to the After Final Consideration Pilot request filed 24 June 2019.

1. **Improper Request** – The AFCP 2.0 request is improper for the following reason(s) and the after final amendment submitted with the request will be treated under pre-pilot procedure.

   ☐ An AFCP 2.0 request form PTO/SB/434 (or equivalent document) was not submitted.

   ☐ A non-broadening amendment to at least one independent claim was not submitted.

   ☐ A proper AFCP 2.0 request was submitted in response to the most recent final rejection.

   ☐ Other: _____

2. **Proper Request**

   A. After final amendment submitted with the request will not be treated under AFCP 2.0.
   The after final amendment cannot be reviewed and a search conducted within the guidelines of the pilot program.

   ☐ The after final amendment will be treated under pre-pilot procedure.

   B. Updated search and/or completed additional consideration.
   The examiner performed an updated search and/or completed additional consideration of the after final amendment within the time authorized for the pilot program. The result(s) of the updated search and/or completed additional consideration are:

   ☐ 1. All of the rejections in the most recent final Office action are overcome and a Notice of Allowance is issued herewith.

   ☐ 2. The after final amendment would not overcome all of the rejections in the most recent final Office action . See attached interview summary for further details.

   ☐ 3. The after final amendment was reviewed, and it raises a new issue(s). See attached interview summary for further details.

   ☐ 4. The after final amendment raises new issues, but would overcome all of the rejections in the most recent final Office action. A decision on determining allowability could not be made within the guidelines of the pilot. See attached interview summary for further details, including any newly discovered prior art.

   ☑ 5. Other: See Continuation Sheet

   Examiner Note: Please attach an interview summary when necessary as described above.

Continuation of Proper Request- B. 5. Other: The newly amended limitations in the independent claim 1 raise new issues. The amendments overcome the previous office action rejection. The quick search result requires more time than the allotted from the AFCP.

DO NOT ENTER: /R.T.T/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott et al.	Confirmation No:	3322
Application No:	14/634,428	Examiner:	Torrente, Richard T.
Filed:	February 27, 2015		
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV-00016 US)

AFTER FINAL AMENDMENT UNDER RULE 116

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

Sir:

In response to the pending final Office Action, mailed March 25, 2019, please amend the above-captioned patent application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

A Request under the After Final Consideration Pilot Program 2.0 is also included herewith.

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	14/634,428	Filing Date	2015-02-27	Docket Number (if applicable)	0270.0057US1/S-ACV00016U	Art Unit	2485
First Named Inventor	Ian Christopher Westmacott			Examiner Name	Richard T. Torrente		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☒ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☐ Enclosed

- ☐ Amendment/Reply
- ☐ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 505924

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

X Patent Practitioner Signature

Applicant Signature

PTO/SB/30EFS (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/grant houston/	Date (YYYY-MM-DD)	2019-07-25
Name	J. Grant Houston	Registration Number	35900

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

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

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14634428
Filing Date:	27-Feb-2015
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Filer:	Joseph G. Houston/Kelley Farr
Attorney Docket Number:	0270.0057US1/S-ACV00016US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
RCE- 2ND AND SUBSEQUENT REQUEST	1820	1	1900	1900
		Total in USD ($)		**2100**

Electronic Acknowledgement Receipt

EFS ID:	36687611
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	25-JUL-2019
Filing Date:	27-FEB-2015
Time Stamp:	14:33:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$2100
RAM confirmation Number	072619INTEFSW00000594505924
Deposit Account	505924
Authorized User	Joseph Houston

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

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

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	0270-0057US1_RCE_S-ACV-00016US.pdf	1350102 ad2e0a73f159e863bcae08045cd9139e156992a5	no	3
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32836 14c738835187604cffd2e5075ed8f2dac13281cf	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1382938		

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

To: docketing@houstonllp.com,grant.houston@houstonllp.com,gerald.bluhm@jci.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Jul 25, 2019 03:33:15 AM

Dear PAIR Customer:

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

The official date of notification of the outgoing correspondence will be indicated on the form PTOL-90 accompanying the correspondence.

Disclaimer:
The list of documents shown below is provided as a courtesy and is not part of the official file wrapper. The content of the images shown in PAIR is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTAV	07/25/2019	0270.0057US1/S-ACV00016US
	INTV.SUM.EX	07/25/2019	0270.0057US1/S-ACV00016US
	A.NE.AFCP.D	07/25/2019	0270.0057US1/S-ACV00016US

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

If you have any questions, please email the Electronic Business Center (EBC) at EBC@uspto.gov with 'e-Office Action' on the subject line or call 1-866-217-9197 during the following hours:

Monday - Friday 6:00 a.m. to 12:00 a.m.

Thank you for prompt attention to this notice,

UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $420 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	07/25/2019	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 25	Minus	** 29	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/JACQUELYN L WILLIAMS/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US	3322

103122 7590 10/11/2019

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

EXAMINER	
TORRENTE, RICHARD T	

ART UNIT	PAPER NUMBER
2485	

NOTIFICATION DATE	DELIVERY MODE
10/11/2019	ELECTRONIC

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

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

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

docketing@houstonllp.com
gerald.bluhm@jci.com
grant.houston@houstonllp.com

Office Action Summary	Application No. 14/634,428	Applicant(s) Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	AIA (FITF) Status Yes

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 7/25/19.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

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

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-6,9-20,23-27,30 and 32 is/are pending in the application.

5a) Of the above claim(s) 12-13 and 24-25 is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-6,9-11,14-20,23,26-27,30 and 32 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/25/19 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 of this title, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 6, 14-16, 20 and 30 are rejected under 35 U.S.C. 103 as being unpatentable over Crossen (US 2012/0140067 A1) in view of Dedeoglu et al. (US 2014/0333776 A1).

Regarding claim 1, Crossen discloses a video surveillance system (see fig. 7), comprising: one or more surveillance cameras (see 20 in fig. 7) that capture image data; an object detection system (see 50 in fig. 7) that detects objects of interest within the image data

and extracts portions of frames that include the detected objects of interest (see 60 in fig. 7) and sends the extracted portions of the frames (see 70 to 80 in fig. 7).

Although Crossen discloses a video system (see 80 in fig. 7; e.g. see DVR in ¶ [0036]) that receives only the extracted portions of the frames of the image data, transmitted over a network (e.g. see ¶ [0019]), from the object detection system, the image data received by the video system corresponding to objects of interest detected by the object detection system (see 70 in fig. 7), wherein the video system receives the image data from object detection system after being transmitted over the network (see 80 in fig. 7), it is noted that Crossen does not provide the particular wherein the video system is a video analytics system, wherein the video analytics system receive the image data from multiple systems, and the video analytics system analyzing the objects of interest.

However, Dedeoglu discloses a video surveillance system wherein the video system is a video analytics system (see 300 in fig. 3; see 704 in fig. 7), wherein the video analytics system receive the image data from multiple systems (see 302 in fig. 3), the video analytics system analyzing the objects of interest (see 704 in fig. 7), and the video analytics system is operated by a different business entity than the one or more surveillance cameras (see 312 in fig. 3).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was filed to incorporate Dedeoglu teachings of video analytics into Crossen video surveillance system for the benefit of an operator to be able to actively monitor events in a multitude of video channels.

Regarding claims 2 and 15, Crossen further discloses wherein the object detection system creates cropped images (see 40 in fig. 7) from the image data that include the detected objects of interest and sends the cropped images to the video analytics system (see 80 in fig. 7).

Regarding claims 3 and 16, Crossen further discloses wherein the image data include video data (see 70 in fig. 7) and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data (see 80 in fig. 7).

Regarding claims 6 and 20, Crossen further discloses wherein the object detection system is integrated within the one or more surveillance cameras (see 20 and 50 in fig. 7).

Regarding claim 14, the claim(s) recite analogous limitations to claim 1, and is/are therefore rejected on the same premise.

Regarding claim 30, the claim(s) recite analogous limitations to claim 1 and is/are therefore rejected on the same premise.

Furthermore, the references discloses wherein the object of interest is faces of individual and license plates of vehicle (see Crossen 40 in fig. 7 and fig. 4), and by applying object classification functions to the image data (e.g. see Dedeoglu ¶ [0042]).

The motivation is the same as that of claim 1.

3. Claims 4-5, 9-10 and 17-19 are under 35 U.S.C. 103 as being unpatentable over Crossen and Dedeoglu in view of Chen et al. (US 2014/0044348 A1).

Regarding claims 4 and 17, Crossen does not disclose wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest

to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors (e.g. see ¶ [0034]) including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest (e.g. see ¶ [0087]).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Crossen images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 5, 9 and 18, although the references disclose wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system (e.g. see Dedeoglu 704 in fig. 7), it is noted that the references do not provide the particular wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

However, Chen, in the same field of endeavor, discloses a surveillance system wherein the object detection is by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data (see 112-124 in fig. 1).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Chen teachings of ranking images into Crossen images for the benefit of quality can be used to select the better quality images for further processing which in turn improves the accuracy of object recognition.

Regarding claims 10 and 19, the references further discloses comprising a database that receives metadata associated with the identified objects of interest from the video analytics system (see Chen 506 in fig. 5).

4. Claims 11, 23 and 26-27 are under 35 U.S.C. 103 as being unpatentable over Crossen and Dedeoglu in view of Miasnik et al. (US 2014/0282934 A1).

Regarding claims 11, 23 and 26-27, the references do not disclose wherein the transmittal is over various types and combination of communication network.

However, Miasnik, in the same field of endeavor, discloses a surveillance system comprising a gateway system that provides access to the video analytics system over a public network (see fig. 1); wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network (see fig. 2); wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network (see fig. 2); wherein the object detection system and the video analytics system are in different nodes on an enterprise network (see fig. 2); wherein the network includes a cloud network (see fig. 2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate Miasnik teachings of various networking

into the references remote devices for the benefit of remote monitoring with various web based entity and video management.

5. Claim 32 is under 35 U.S.C. 103 as being unpatentable over Crossen and Dedeoglu in view of Raghavan et al. (US 10,108,157 B1).

Regarding claim 32, the references do not disclose the object detection system of the surveillance cameras determines if the image data includes a product on a shelf of a large supermarket, and the video analytics system determines a type of product and provides information for restocking and inventory management, and for marketing and sales purposes to determine how long the products remain on the shelf.

However, Raghavan disclose another uses of object tracking is to determine if the image data includes a product on a shelf of a large supermarket (see fig. 11), and the video analytics system determines a type of product and provides information for restocking and inventory management (see fig. 12; e.g. see 1510 in fig. 15), and for marketing and sales purposes to determine how long the products remain on the shelf (see 1512 in fig. 15).

Therefore, taking the combined teachings of Raghavan and the references as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to exploit the different type's application of object recognition such as inventory management to obtain the same predictable result of tracking object and recognizing object for statistical purpose.

Response to Arguments

1. Applicant's arguments with respect to claims 1-6, 9-11, 14-20, 23, 26-27, 30 and 32 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD T TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-F: 6:45-3:15 pm.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/RICHARD T TORRENTE/
Primary Examiner, Art Unit 2485

Notice of References Cited	Application/Control No. 14/634,428	Applicant(s)/Patent Under Reexamination Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20110080495-A1	04-2011	BUSSE; Erik	G06K9/3233	348/222.1
*	B	US-20140044348-A1	02-2014	Chen; Shaokang	G06K9/00221	382/159
*	C	US-20140282934-A1	09-2014	Miasnik; Guy	H04L63/08	726/5
*	D	US-20140333776-A1	11-2014	Dedeoglu; Goksel	H04N7/181	348/159
*	E	US-20100002070-A1	01-2010	Ahiska; Yavuz	G08B13/19691	348/36
*	F	US-10108157-B1	10-2018	Raghavan; Sudarshan Narasimha	G06K9/00771	1/1
*	G	US-20120140067-A1	06-2012	Crossen; Scott	H04N7/0125	348/143
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

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

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

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

CLAIMS

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

CLAIM		DATE								
Final	Original	10/18/2016	02/07/2017	06/10/2017	10/24/2017	03/28/2018	10/18/2018	03/19/2019	10/05/2019	
	1	÷	✓	✓	✓	✓	✓	✓	✓	
	2	÷	✓	✓	✓	✓	✓	✓	✓	
	3	÷	✓	✓	✓	✓	✓	✓	✓	
	4	÷	✓	✓	✓	✓	✓	✓	✓	
	5	÷	✓	✓	✓	✓	✓	✓	✓	
	6	÷	✓	✓	✓	✓	✓	✓	✓	
	7	÷	✓	✓	✓	✓	✓	✓	-	
	8	÷	✓	✓	✓	✓	✓	✓	-	
	9	÷	✓	✓	✓	✓	✓	✓	✓	
	10	÷	✓	✓	✓	✓	✓	✓	✓	
	11	÷	✓	✓	✓	✓	✓	✓	✓	
	12	÷	N	N	N	N	N	N	N	
	13	÷	N	N	N	N	N	N	N	
	14	÷	✓	✓	✓	✓	✓	✓	✓	
	15	÷	✓	✓	✓	✓	✓	✓	✓	
	16	÷	✓	✓	✓	✓	✓	✓	✓	
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	18	÷	✓	✓	✓	✓	✓	✓	✓	
	19	÷	✓	✓	✓	✓	✓	✓	✓	
	20	÷	✓	✓	✓	✓	✓	✓	✓	
	21	÷	✓	✓	✓	✓	✓	✓	-	
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	23	÷	✓	✓	✓	✓	✓	✓	✓	
	24	÷	N	N	N	N	N	N	N	
	25	÷	N	N	N	N	N	N	N	
	26			✓	✓	✓	✓	✓	✓	
	27			✓	✓	✓	✓	✓	✓	
	28			✓	✓	-	-	-	-	
	29			✓	✓	-	-	-	-	
	30					✓	✓	✓	✓	
	31					✓	✓	-	-	
	32							✓	✓	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT
Updated search	6/9/17	RT
Updated search	10/24/17	RT
Updated search	3/28/17	RT
Updated search	10/18/18	RT
Updated search	03/19/2019	RT
Updated search	10/04/2019	RT

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

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

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	14/634428.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2016/10/18 16:14
S2	7	("7257273" | "8824750").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:35
S3	2668	(extract$3 or crop$4 or section$3) with (object or interest) and transmit$4 with (extracted or cropped or sectioned or portion) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:39
S4	331	(extract$3 or crop$4 or section$3) with (object or interest) and only with transmit$4 with (extracted or cropped or sectioned or portion) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:40
S5	8	recogni$4 with object with compar$3 and S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:42
S6	210	recogni$4 with object and S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:42
S7	13	recogni$4 with object and (compar$3 or match$3) with reference and S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:43
S8	92	(crop$4 or section$3) with (object or	US-PGPUB;	ADJ	ON	2017/02/06

		interest) with (image or picture or frame) and transmit$4 with (cropped or sectioned) with (image or frame or picture) with (object or interest)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			21:42
S9	70	recogni$4 with object and S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 21:43
S10	1	("2011/0080495").URPN.	USPAT	ADJ	ON	2017/02/06 21:47
S11	601	recogni$4 with object and (compar$3 or match$3) with reference and rank$3 with (distance or quality or contrast or clarity or resolution)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:40
S12	269	recogni$4 with object and (compar$3 or match$3) with reference and rank$3 with (image or picture or frame) with (distance or quality or contrast or clarity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:43
S13	2	gateway with network and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:43
S14	36	gateway with network and S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:44
S15	18	video with (monitoring or surveillance) and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:51
S16	281	recogni$4 with object and (compar$3 or match$3) with reference and rank$3 with (image or picture or frame) with (distance or quality or contrast or clarity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 11:54
S17	2	enterprise with network and cloud and S16	US-PGPUB; USPAT; USOCR; FPRS; EPO;	ADJ	ON	2017/06/10 11:54

			JPO; DERWENT; IBM_TDB			
S18	55	video with camera and object with detection and remote with (monitor$3 or surveillanc$3) and enterprise with network and cloud and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 11:57
S19	1995	video with (monitor$3 or surveillanc$3) and enterprise with network and cloud and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:15
S20	74	object with detection and S19	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:15
S21	204	object with detection and video with (monitor$3 or surveillanc$3) and enterprise with network and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:22
S22	130	S21 not S20	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:22
S23	822	video with (monitor$3 or surveillanc$3) and enterprise adj2 network and cloud and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:30
S24	15	video with analytic and S23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:30
S25	1010	video with (monitor$3 or surveillanc$2) and enterprise adj2 network and cloud and (gateway or node) and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:34
S26	45	video with (analytic or intrusion or detection) and S25	US-PGPUB; USPAT;	ADJ	ON	2017/06/10 12:35

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S27	30	S26 not S24	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:35
S28	7035	(crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:44
S29	1184	server with network and S28	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:45
S30	1736	(crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (object or interest) with (image or picture or frame) and transmit$4 with (cropped or sectioned or extracted or isolated or removed) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:46
S31	520	server with network and S30	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:46
S32	106	video with (analytic or intrusion or detection) and S31	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:47
S33	15	reduc$3 with transmission with bandwidth and (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (object or interest) with (image or picture or frame) and transmit$4 with (cropped or sectioned or extracted or isolated or removed) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:57
S34	266	video with (monitor$3 or surveillanc$3) and (crop$4 or section$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2017/10/24 14:08

		or interest)	IBM_TDB			
S35	6	video with (monitor$3 or surveillanc$3) and crop$4 (portion or section$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:09
S36	8	video with (monitor$3 or surveillanc$3) and crop$4 with (portion or section$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:11
S37	99	video with (monitor$3 or surveillanc$3) and (crop$4 or bound$3 or box$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or bound$3 or box$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:15
S38	1	reduc$4 with transmission with bandwidth and S37	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:15
S39	898	video with (monitor$3 or surveillanc$3) and (crop$4 or section$3 or extract$3) with (object or interest or region or foreground or portion) with (image or picture or frame) with transmit$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2018/10/18 10:45
S40	32	detect$3 with object with (integrated or remote$2 or local$2) with camera and S39	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2018/10/18 10:50
S41	1	(supermarket or grocery or convenient) with (camera or image or picture or frame) with object with inventory	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:27
S42	7950	(H04N7/181).cpc.	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:28
S43	121	determin$3 with (item or stock or object) with shelf with (camera or image or picture or frame) and (inventory or product) with (maintenance or management or restocking)	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:31
S44	159	determin$3 with (item or stock or object) with shelf with (camera or image or picture or frame) and (inventory or product) with (maintenance or management or restocking or track$3)	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:31
S45	128	(expir$3 or time or period) with (product or item) and S44	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:35

S46	7	track$3 with (count or sale or volume) with (item or product) with shelf and S45	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:44
S47	23	track$3 with (count or sale or volume or inventory) with (item or product) with shelf and S44	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:45
S48	19	(determin$3 or track$3) with (item or product) with (selling or long) and S44	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:49
S49	69	object with recognition and (determin$3 or track$3) with (how long or period or time) with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:57
S50	8	object with recognition and (determin$3 or track$3) with how long with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/03/19 17:05
S51	2	object with recognition and (determin$3 or track$3) with sale with (statistic or rate) with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/03/19 17:06
S60	2	14/998670	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/07/15 23:48
S61	15	object with recognition and (determin$3 or track$3) with sale with (statistic or rate) with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/07/16 15:13
S62	3415	(extract$3 or crop$4 or section$3) with (object or interest or foreground) and transmit$4 with (extracted or cropped or sectioned or portion or foreground) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:03
S63	1769	(extract$3 or crop$4 or section$3) with (object or interest or foreground) and transmit$4 with (extracted or cropped or sectioned or portioned or foreground) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:04
S64	1738	(extract$3 or crop$4) with (object or interest or foreground) and transmit$4 with (extracted or cropped or foreground) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:06
S65	116	video with (monitor$3 or surveillanc$3) and (crop$4 or extract$3) with (object or interest) with (image or picture or frame) and transmit$4 with (cropped or extracted) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:07
S66	26	("2012/0140067").URPN.	USPAT	ADJ	ON	2019/10/04 18:16

10/5/2019 12:52:51 PM
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To: docketing@houstonllp.com,grant.houston@houstonllp.com,gerald.bluhm@jci.com
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Application	Document	Mailroom Date	Attorney Docket No.
14634428	CTNF	10/11/2019	0270.0057US1/S-ACV00016US
	892	10/11/2019	0270.0057US1/S-ACV00016US

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PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

Electronic Acknowledgement Receipt

EFS ID:	38263856
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	10-JAN-2020
Filing Date:	27-FEB-2015
Time Stamp:	15:32:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment/Req. Reconsideration-After Non-Final Reject	0270-0057US1_A-CLM-REM_S-ACV-00016-US_10112019.pdf	136537 6cf130351935863450cdeb375107a2c6833b3320	no	10

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re:	Ian Christopher Westmacott	Confirmation No:	3322
Application No:	14/634,428	Examiner:	Torrente, Richard T.
Filed:	February 27, 2015		
For:	System and Method for Distributed Video Analysis		
Customer No.:	103122		

Attorney Docket No.	0270.0057US1 (S-ACV-00016-US)

AMENDMENT UNDER RULE 111

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

Sir:

In response to the pending Office Action, mailed October 11, 2019, please amend the above-captioned application as follows:

-amendments to the claims are reflected in the listing of claims in the Listing of Claims section.

Finally, reconsideration is requested in view of the remarks set forth in the Remarks section.

This listing of claims will replace all prior versions and listings of claims in this application:

Listing of Claims

1. (Previously presented) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest and sends the extracted portions of the frames; and

a video analytics system that receives only the extracted portions of the frames of the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;

wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network and the video analytics system is operated by a different business entity than the one or more surveillance cameras.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Currently amended) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are

ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest to create a ranking and the ranking is saved in metadata with the image data and an object analysis system of the video analytics system reads the rankings within the metadata and decides whether or not to analyze the image data.

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Cancelled)

8. (Cancelled)

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Withdrawn) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Withdrawn) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Previously presented) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system extracting portions of frames that include the detected objects of interest and transmitting the extracted portions of the frames of the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system, which is operated by a different business entity than the one or more surveillance cameras, only receiving the extracted portions of the frames of the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Currently amended) The method of claim 14, further comprising the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest to create a ranking and the ranking is saved in metadata with the image data and an object analysis system of the video analytics system reads the rankings within the metadata and decides whether or not to analyze the image data.

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Cancelled)

22. (Cancelled)

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Withdrawn) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Withdrawn) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Cancelled)

29. (Cancelled)

30. (Previously presented) A video surveillance system, comprising:

one or more surveillance cameras that capture image data, each having an object detection system that detects faces of individuals and license plates of vehicles within the image data and creates cropped images from the image data that include the detected faces of individuals and license plates of vehicles and send the cropped images from the image data; and

a video analytics system that receives the cropped images generated by the object detection systems of the surveillance cameras, transmitted over a network, the video analytics system analyzing the faces of individuals and license plates of vehicles in the cropped images by identifying the faces of the individuals from reference images, recognizing patterns in the image data, and by applying object classification functions to the image data;

wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras.

31. (Cancelled)

32. (Previously presented) The system of claim 30, the object detection system of the surveillance cameras determines if the image data includes a product on a shelf of a large supermarket, and the video analytics system determines a type of product and provides information for restocking and inventory management, and for marketing and sales purposes to determine how long the products remain on the shelf.

Remarks

Claims 1-6, 9-20, 23-27, 30, and 32 are pending in this application. Claims 4 and 17 have been amended in various particulars as indicated hereinabove.

Claims 1-3, 6, 14-16, 20, and 30 were rejected under 35 U.S.C. 103 as being unpatentable over Crossen (U.S. Publication No. 2012/0140067 A1, hereinafter "Crossen") in view of Dedeoglu et al. (U.S. Publication No. 2014/0333776 A1, hereinafter "Dedeoglu").

In related rejections, claims 4-5, 9-10, and 17-19 were rejected under 35 U.S.C. 103 as being unpatentable over Crossen and Dedeoglu in view of Chen et al. (U.S. Publication No. 2014/0044348 A1, hereinafter "Chen"); claims 11, 23, and 26-27 were rejected under 35 U.S.C. 103 as being unpatentable over Crossen and Dedeoglu in view of Miasnik et al. (U.S. Publication No. 2014/0282934 A1, hereinafter "Miasnik"); and claim 32 was rejected under 35 U.S.C. 103 as being unpatentable over Crossen and Dedeoglu in view of Raghavan et al. (U.S. Patent No. 10,108,157 B1, hereinafter "Raghavan").

These rejections are respectfully traversed for the following reasons.

Crossen concerns a relatively primitive video surveillance system that can operate in a legacy environment. Its cameras collect frames and then analyze those frames for frame-to-frame motion. See paragraph [0019] of Crossen:

> **[0019]** An embodiment of the general inventive concept is illustrated in FIG. **7** wherein high-resolution digital camera **20** records an array of high-resolution frames **30**. The region of motion **40** is detected **50** and cropped **60** to a lower resolution standard **70** which can be transmitted over limited infrastructure to its destination **80**.

This 'motion based cropping' allows for the transmission of only the interesting portion of the original image. See paragraph [0029].

On the other hand, Dedeoglu concerns a surveillance network. Its IP cameras have image analytics capabilities enabling the detection of events in their video streams. See paragraph [0025] of Dedeoglu. A VMS then analyzes the streams and their metadata and then controls how the video might be displayed. See paragraph [0028]. Further analysis might also be performed by the VMS. See paragraph [0029].

Nevertheless, the present claimed invention would not have been obvious from the applied references. One skilled in the art would not have modified Crossen based on Dedeoglu as argued in the pending Office action.

Crossen deals with the specific case of trying to use high resolution cameras on an older network. Rather then down-sampling the image data from those cameras, it teaches motion based cropping which maintains the original resolution of the important part of the original frames.

On the other hand, Dedeoglu concerns a newer system in which the surveillance cameras have their own image analytics capabilities.

Thus, one skilled in the art, having both Crossen and Dedeoglu would modify to Crossen's cameras to have better image analytics. On the other hand, there would have been no motivation to develop the more nuanced system of the claimed invention. For example, one skilled in the art would not have provided a video analytics system that receives only the extracted portions of the frames of the image data from the object detection systems of the cameras, with the video analytics system analyzing the objects of interest.

Moreover, nothing in the applied references suggests that the video analytics system should be operated by a different business entity than the one or more surveillance cameras, as also required by the claims.

Attention is also directed to amended claim 4 which requires that objects of interest are ranked by the object detection system and the ranking is saved in metadata with the image data and an object analysis system of the video analytics system reads the

rankings within the metadata and decides whether or not to analyze the image data. Nowhere is this operation provided in the applied references.

For these reasons, the rejections should be withdrawn.

It is believed that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

By /grant houston/
J. Grant Houston
Registration No.: 35,900
Tel.: 781 863 9991

Lexington, Massachusetts 02420
Date: January 10, 2020

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD
Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
14/634,428		

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *			x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *			x $420 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT 01/10/20	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 25	Minus	** 29	= ———		x $0 =	
Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= ———		x $0 =	
☐ Application Size Fee (37 CFR 1.16(s))							
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
						TOTAL ADD'L FEE	

AMENDMENT	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))		Minus	**	=		x $0 =	
Independent (37 CFR 1.16(h))		Minus	***	=		x $0 =	
☐ Application Size Fee (37 CFR 1.16(s))							
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE

/Kreighton D. Lambert Sr./

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/634,428	Filing Date 02/27/2015	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $420 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	03/19/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 23	Minus	** 29	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/DAWN BREWER/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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NOTICE OF ALLOWANCE AND FEE(S) DUE

103122 7590 03/23/2020

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

EXAMINER	
TORRENTE, RICHARD T	
ART UNIT	PAPER NUMBER
2485	

DATE MAILED: 03/23/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US	3322

TITLE OF INVENTION: System and Method for Distributed Video Analysis

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	06/23/2020

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

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

HOW TO REPLY TO THIS NOTICE:

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

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

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

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

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

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

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

PART B - FEE(S) TRANSMITTAL

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

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

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

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

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

103122 7590 03/23/2020

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

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

Certificate of Mailing or Transmission

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

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US	3322

TITLE OF INVENTION: System and Method for Distributed Video Analysis

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$1000	$0.00	$0.00	$1000	06/23/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
TORRENTE, RICHARD T	2485	348-159000

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

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

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

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

1 _____
2 _____
3 _____

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

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

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

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

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

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

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

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

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

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

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

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

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US	3322

103122 7590 03/23/2020

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

EXAMINER	
TORRENTE, RICHARD T	
ART UNIT	PAPER NUMBER
2485	

DATE MAILED: 03/23/2020

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

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

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

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

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

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

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

Privacy Act Statement

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

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

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

Notice of Allowability	Application No. 14/634,428	Applicant(s) Westmacott et al.	
	Examiner RICHARD T TORRENTE	Art Unit 2485	AIA (FITF) Status Yes

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

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

1. ☑ This communication is responsive to the telephone conversation 3/13/20.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

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

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

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

   Certified copies:

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

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

   * Certified copies not received: _____ .

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

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

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

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

Attachment(s)

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

/RICHARD T TORRENTE/
Primary Examiner, Art Unit 2485

Continuation of 3. The allowed claim(s) is/are: 1-3,5-6,9-16,18-20,23-27,30 and 32

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

Election/Restrictions

1. Claims 1, 14 and 30 directed to an allowable method and product. Pursuant to the procedures set forth in MPEP § 821.04(B), claims12, 13, 24 and 25, directed to the process of making or using an allowable product, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on 11/4/16 is hereby withdrawn**. In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Grant Houston on 3/13/20.

The application has been amended as follows:

1. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data;

an object detection system that detects objects of interest within the image data and extracts portions of frames that include the detected objects of interest and sends the extracted portions of the frames; and

a video analytics system that receives only the extracted portions of the frames of the image data, transmitted over a network, from the object detection system, the image data received by the video analytics system corresponding to objects of interest detected by the object detection system, the video analytics system analyzing the objects of interest;

wherein the video analytics system receives the image data from multiple object detection systems after being transmitted over the network and the video analytics system is operated by a different business entity than the one or more surveillance cameras; and

wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest to create a ranking and the ranking is saved in metadata with the

image data and an object analysis system of the video analytics system reads the rankings within the metadata and decides whether or not to analyze the image data.

2. (Original) The system of claim 1, wherein the object detection system creates cropped images from the image data that include the detected objects of interest and sends the cropped images to the video analytics system.

3. (Original) The system of claim 1, wherein the image data include video data and the object detection system provides frames from the video data that include the detected objects of interest and sends the frames to the video analytics system as the image data.

4. (Cancelled)

5. (Original) The system of claim 1, wherein the video analytics system includes an object analysis system that analyzes the image data corresponding to objects of interest detected by the object detection system by comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

6. (Original) The system of claim 1, wherein the object detection system is integrated within the one or more surveillance cameras.

7. (Cancelled)

8. (Cancelled)

9. (Original) The system of claim 1, wherein the image data corresponding to objects of interest detected by the object detection system are compared by the video analytics system to reference images to identify the objects of interest.

10. (Original) The system of claim 9, further comprising a database that receives metadata associated with the identified objects of interest from the video analytics system.

11. (Original) The system of claim 1, further comprising a gateway system that provides access to the video analytics system over a public network.

12. (Original) The system of claim 11, wherein the object detection system is integrated within the gateway system.

13. (Original) The system of claim 1, wherein the one or more surveillance cameras each include a gateway system that provides access to the video analytics system over a public network.

14. (Currently amended) A method for analyzing video in a video surveillance system, the method comprising:

capturing image data from one or more surveillance cameras;

detecting objects of interest within the image data via an object detection system;

the object detection system extracting portions of frames that include the detected objects of interest and transmitting the extracted portions of the frames of the image data over a network, the image data transmitted by the object detection system corresponding to objects of interest detected by the object detection system; and

a video analytics system, which is operated by a different business entity than the one or more surveillance cameras, only receiving the extracted portions of the frames of the image data from the object detection system and analyzing the objects of interest;

the video analytics system further receiving image data from other object detection systems;

the object detection system ranking the image data corresponding to objects of interest detected by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest to create a ranking and the ranking is saved in metadata with the image data; and

an object analysis system of the video analytics system reading the rankings within the metadata and deciding whether or not to analyze the image data.

15. (Original) The method of claim 14, further comprising the object detection system creating cropped images from the image data that include the detected objects of interest and sending the cropped images to the video analytics system.

16. (Original) The method of claim 14, further comprising the image data including video data and the object detection system providing frames from the video data that include the detected objects of interest and sending the frames to the video analytics system as the image data.

17. (Cancelled)

18. (Original) The method of claim 14, wherein the video analytics system analyzing the image data corresponding to objects of interest detected by the object detection system

comprises comparing the image data to reference images to identify the objects of interest, by recognizing patterns in the image data, and/or by applying image processing functions, neural network functions, deep learning functions, and/or object classification functions to the image data.

19. (Original) The method of claim 18, further comprising receiving metadata associated with the identified objects of interest from the video analytics system.

20. (Original) The method of claim 14, further comprising integrating the object detection system within the one or more surveillance cameras.

21. (Cancelled)

22. (Cancelled)

23. (Original) The method of claim 14, further comprising providing access to the video analytics system over a public network via a gateway system.

24. (Original) The method of claim 23, further comprising integrating the object detection system within the gateway system.

25. (Original) The method of claim 14, further comprising the one or more surveillance cameras each including a gateway system that provides access to the video analytics system over a public network.

26. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over an enterprise network.

27. (Previously presented) The system of claim 1, wherein the video analytics system receives the image data from the object detection system after being transmitted over a cloud network.

28. (Cancelled)

29. (Cancelled)

30. (Currently amended) A video surveillance system, comprising:

one or more surveillance cameras that capture image data, each having an object detection system that detects faces of individuals and license plates of vehicles within the image data and creates cropped images from the image data that include the detected faces of individuals and license plates of vehicles and send the cropped images from the image data; and

a video analytics system that receives the cropped images generated by the object detection systems of the surveillance cameras, transmitted over a network, the video analytics system analyzing the faces of individuals and license plates of vehicles in the cropped images by identifying the faces of the individuals from reference images, recognizing patterns in the image data, and by applying object classification functions to the image data;

wherein the video analytics system is operated by a different business entity than the one or more surveillance cameras; and

wherein the image data corresponding to objects of interest detected by the object detection system are ranked by the object detection system according to factors including close proximity of the objects of interest to the one or more surveillance cameras, picture quality of the objects of interest, and/or contrast of the objects of interest to create a ranking and the ranking is saved in metadata with the

image data and an object analysis system of the video analytics system reads the rankings within the metadata and decides whether or not to analyze the image data.

31. (Cancelled)

32. (Previously presented) The system of claim 30, the object detection system of the surveillance cameras determines if the image data includes a product on a shelf of a large supermarket, and the video analytics system determines a type of product and provides information for restocking and inventory management, and for marketing and sales purposes to determine how long the products remain on the shelf.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD T TORRENTE whose telephone number is (571)270-3702. The examiner can normally be reached on M-F: 6:45-3:15 pm.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RICHARD T TORRENTE/
Primary Examiner, Art Unit 2485

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	**Art Unit**
	RICHARD T TORRENTE	2485

CPC							
Symbol						**Type**	**Version**
H04N	/	7	/	181		F	2013-01-01

CPC Combination Sets								
Symbol						**Type**	**Set**	**Ranking**	**Version**
	/		/						

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	23	
/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	13 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office — Part of Paper No.: 20200313-A

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H04N	/	7	/	18

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS
348	159

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE (Assistant Examiner) (Date)	Total Claims Allowed: 23	
/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485 (Primary Examiner) 13 March 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	**Art Unit**
	RICHARD T TORRENTE	2485

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

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	7	10	17	19		28								
2	2	8	11	18	20		29								
3	3	9	12		21	22	30								
	4	10	13		22		31								
4	5	13	14	19	23	23	32								
5	6	14	15	20	24										
	7	15	16	21	25										
	8		17	11	26										
6	9	16	18	12	27										

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	23	
/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	13 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office Part of Paper No.: 20200313-A

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

CPC - Searched*		
Symbol	Date	Examiner
H04N7/181	2/17/17	RT

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

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

Search Notes		
Search Notes	Date	Examiner
Searched EAST	2/7/17	RT
Searched CPC	2/7/17	RT
Searched inventor	2/7/17	RT
Updated search	6/9/17	RT
Updated search	10/24/17	RT
Updated search	3/28/17	RT
Updated search	10/18/18	RT
Updated search	03/19/2019	RT
Updated search	10/04/2019	RT
Updated search	03/13/2020	RT

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14/634,428	Westmacott et al.
	Examiner	Art Unit
	RICHARD T TORRENTE	2485

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	General interference and search of claims (USPGPUB, USPAT)	03/13/2020	RT

/RICHARD T TORRENTE/ Primary Examiner, Art Unit 2485	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	373	recogni$4 with object and (compar$3 or match$3) with reference and rank$3 with (image or picture or frame) with (distance or quality or contrast or clarity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2020/03/13 16:12
L2	1	(decid$3 or determin$3) with (analyz$3 or detect$3 or recogniz$3) with object with (based or accord$3 or "not") with (rank$3 or priorit$3) and 1	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2020/03/13 16:14
L3	33	((("WESTMACOTT") near3 ("Ian")) OR (("CARNEY") near3 ("Steve"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	ADJ	ON	2020/03/13 16:30
L4	1	1 AND 3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2020/03/13 16:30
L5	142	Object with (detect$3 or recogni$5) with rank$3 and (decid$3 or determin$3) with (skip$4 or analyz$3 or detect$3 or recogniz$3) with object with (based or accord$3 or "not") with rank$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2020/03/13 16:33
L6	56	(extract$3 or crop$4 or section$3) with (object or interest) and 5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2020/03/13 16:34
S1	1	14/634428.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2016/10/18 16:14
S2	7	("7257273" | "8824750").PN.	US-PGPUB; USPAT; USOCR;	ADJ	ON	2017/02/06 18:35

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S3	2668	(extract$3 or crop$4 or section$3) with (object or interest) and transmit$4 with (extracted or cropped or sectioned or portion) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:39
S4	331	(extract$3 or crop$4 or section$3) with (object or interest) and only with transmit$4 with (extracted or cropped or sectioned or portion) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:40
S5	8	recogni$4 with object with compar$3 and S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:42
S6	210	recogni$4 with object and S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:42
S7	13	recogni$4 with object and (compar$3 or match$3) with reference and S4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 18:43
S8	92	(crop$4 or section$3) with (object or interest) with (image or picture or frame) and transmit$4 with (cropped or sectioned) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 21:42
S9	70	recogni$4 with object and S8	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/06 21:43
S10	1	("2011/0080495").URPN.	USPAT	ADJ	ON	2017/02/06 21:47
S11	601	recogni$4 with object and (compar$3 or match$3) with reference and rank$3 with (distance or quality or contrast or clarity or resolution)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2017/02/07 09:40

			IBM_TDB			
S12	269	recogni$4 with object and (compar$3 or match$3) with reference and rank$3 with (image or picture or frame) with (distance or quality or contrast or clarity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:43
S13	2	gateway with network and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:43
S14	36	gateway with network and S11	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:44
S15	18	video with (monitoring or surveillance) and S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/02/07 09:51
S16	281	recogni$4 with object and (compar$3 or match$3) with reference and rank$3 with (image or picture or frame) with (distance or quality or contrast or clarity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 11:54
S17	2	enterprise with network and cloud and S16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 11:54
S18	55	video with camera and object with detection and remote with (monitor$3 or surveillanc$3) and enterprise with network and cloud and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 11:57
S19	1995	video with (monitor$3 or surveillanc$3) and enterprise with network and cloud and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:15
S20	74	object with detection and S19	US-PGPUB; USPAT; USOCR; FPRS; EPO;	ADJ	ON	2017/06/10 12:15

			JPO; DERWENT; IBM_TDB			
S21	204	object with detection and video with (monitor$3 or surveillanc$3) and enterprise with network and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:22
S22	130	S21 not S20	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:22
S23	822	video with (monitor$3 or surveillanc$3) and enterprise adj2 network and cloud and gateway and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:30
S24	15	video with analytic and S23	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:30
S25	1010	video with (monitor$3 or surveillanc$2) and enterprise adj2 network and cloud and (gateway or node) and internet	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:34
S26	45	video with (analytic or intrusion or detection) and S25	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:35
S27	30	S26 not S24	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/06/10 12:35
S28	7035	(crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:44
S29	1184	server with network and S28	US-PGPUB; USPAT;	ADJ	ON	2017/10/24 13:45

			USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S30	1736	(crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (object or interest) with (image or picture or frame) and transmit$4 with (cropped or sectioned or extracted or isolated or removed) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:46
S31	520	server with network and S30	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:46
S32	106	video with (analytic or intrusion or detection) and S31	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:47
S33	15	reduc$3 with transmission with bandwidth and (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (object or interest) with (image or picture or frame) and transmit$4 with (cropped or sectioned or extracted or isolated or removed) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 13:57
S34	266	video with (monitor$3 or surveillanc$3) and (crop$4 or section$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:08
S35	6	video with (monitor$3 or surveillanc$3) and crop$4 (portion or section$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:09
S36	8	video with (monitor$3 or surveillanc$3) and crop$4 with (portion or section$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or section$3 or extract$3 or isolat$3 or remov$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:11
S37	99	video with (monitor$3 or surveillanc$3) and (crop$4 or bound$3 or box$3) with (object or interest) with (image or picture or frame) and transmit$4 with (crop$4 or bound$3 or box$3) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	ADJ	ON	2017/10/24 14:15

			IBM_TDB			
S38	1	reduc$4 with transmission with bandwidth and S37	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2017/10/24 14:15
S39	898	video with (monitor$3 or surveillanc$3) and (crop$4 or section$3 or extract$3) with (object or interest or region or foreground or portion) with (image or picture or frame) with transmit$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2018/10/18 10:45
S40	32	detect$3 with object with (integrated or remote$2 or local$2) with camera and S39	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2018/10/18 10:50
S41	1	(supermarket or grocery or convenient) with (camera or image or picture or frame) with object with inventory	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:27
S42	7950	(H04N7/181).cpc.	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:28
S43	121	determin$3 with (item or stock or object) with shelf with (camera or image or picture or frame) and (inventory or product) with (maintenance or management or restocking)	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:31
S44	159	determin$3 with (item or stock or object) with shelf with (camera or image or picture or frame) and (inventory or product) with (maintenance or management or restocking or track$3)	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:31
S45	128	(expir$3 or time or period) with (product or item) and S44	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:35
S46	7	track$3 with (count or sale or volume) with (item or product) with shelf and S45	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:44
S47	23	track$3 with (count or sale or volume or inventory) with (item or product) with shelf and S44	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:45
S48	19	(determin$3 or track$3) with (item or product) with (selling or long) and S44	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:49
S49	69	object with recognition and (determin$3 or track$3) with (how long or period or time) with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/03/19 16:57
S50	8	object with recognition and (determin$3 or track$3) with how long with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/03/19 17:05
S51	2	object with recognition and (determin$3 or track$3) with sale with (statistic or rate) with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/03/19 17:06
S60	2	14/998670	US-PGPUB; USPAT; USOCR;	ADJ	ON	2019/07/15 23:48

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S61	15	object with recognition and (determin$3 or track$3) with sale with (statistic or rate) with (item or product) with shelf	US-PGPUB; USPAT	ADJ	ON	2019/07/16 15:13
S62	3415	(extract$3 or crop$4 or section$3) with (object or interest or foreground) and transmit$4 with (extracted or cropped or sectioned or portion or foreground) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:03
S63	1769	(extract$3 or crop$4 or section$3) with (object or interest or foreground) and transmit$4 with (extracted or cropped or sectioned or portioned or foreground) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:04
S64	1738	(extract$3 or crop$4) with (object or interest or foreground) and transmit$4 with (extracted or cropped or foreground) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:06
S65	116	video with (monitor$3 or surveillanc$3) and (crop$4 or extract$3) with (object or interest) with (image or picture or frame) and transmit$4 with (cropped or extracted) with (image or frame or picture) with (object or interest)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2019/10/04 18:07
S66	26	("2012/0140067").URPN.	USPAT	ADJ	ON	2019/10/04 18:16

3/13/2020 4:43:10 PM
C:\Users\rtorrente\Documents\EAST\Workspaces\14 Series Cases\146 Series\14634428 Search.wsp

Bibliographic Data

Application No: 14/634,428

Foreign Priority claimed: ○ Yes ◉ No

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

Verified and Acknowledged: /RICHARD T TORRENTE/ (Examiner's Signature) ____ (Initials)

Title: System and Method for Distributed Video Analysis

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
02/27/2015 **RULE**	348	2485	0270.0057US1/S-ACV00016US

APPLICANTS

Sensormatic Electronics, LLC, Boca Raton, FL,

INVENTORS

Ian Christopher Westmacott Tewksbury, MA, UNITED STATES

Steve Carney Foxborough, MA, UNITED STATES

CONTINUING DATA

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

03/12/2015

STATE OR COUNTRY

UNITED STATES

ADDRESS

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

FILING FEE RECEIVED

$2,140

To: docketing@houstonllp.com,grant.houston@houstonllp.com,gerald.bluhm@jci.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Mar 23, 2020 03:41:04 AM

Dear PAIR Customer:

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 103122 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	NOA	03/23/2020	0270.0057US1/S-ACV00016US

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PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
14634428	27-Feb-2015	Ian Westmacott	0270.0057US1/S-ACV00016	3322

TITLE OF INVENTION :

System and Method for Distributed Video Analysis

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Regular Undiscounted	Utility under 35 USC 111(a)	2485	159000	RICHARD TORRENTE

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$1000	$0	$1000	23-Jun-2020	$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
103122 HoustonHogle LLP Joseph Houston, HoustonHogle LLP 1666 Massachusetts Avenue, Suite 12 Lexington MA 02420 UNITED STATES 781-863-9991 docketing@houstonllp.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

○ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

◉ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee

☐ I authorize USPTO to apply my previously paid issue fee to the current fees due

☐ Publication Fee

☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____

☐ Advance Order - # of copies _____

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4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. HoustonHogle LLP
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

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

Name	City	State	Country	Category
Sensormatic Electronics, LLC	Boca Raton	FLORIDA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/grant houston/	**Date**	05-22-2020
Name	J. Grant Houston	**Registration Number**	35900

Electronic Patent Application Fee Transmittal

Application Number:	14634428
Filing Date:	27-Feb-2015
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Filer:	Joseph G. Houston
Attorney Docket Number:	0270.0057US1/S-ACV00016US

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**1000**

Electronic Acknowledgement Receipt

EFS ID:	39517840
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Joseph G. Houston
Filer Authorized By:	
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	22-MAY-2020
Filing Date:	27-FEB-2015
Time Stamp:	14:00:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$1000
RAM confirmation Number	E20205LE00363439
Deposit Account	505924
Authorized User	Joseph Houston
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.20 (Post Issuance fees) 37 CFR 1.21 (Miscellaneous fees and charges)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	46029 ce0ed4b111cb5f44cfbf6850e8d8010f6cd37e25	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32281 bf55a51dcd19baaa959308ff9f23f13e3235f5e9	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	78310		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/634,428	06/30/2020	10701321	0270.0057US1/S-ACV00016US	3322

103122 7590 06/10/2020

HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 106 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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

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

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

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

Ian Christopher Westmacott, Tewksbury, MA;
Sensormatic Electronics, LLC, Boca Raton, FL
Steve Carney, Foxborough, MA;

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To: docketing@houstonllp.com,grant.houston@houstonllp.com,gerald.bluhm@jci.com
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 103122

Jun 11, 2020 04:13:38 AM

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HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420
UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
14634428	ISSUE.NTF	06/10/2020	0270.0057US1/S-ACV00016US

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Application Number	14/634,428
Filing Date	February 27, 2015
First Named Inventor	Ian Christopher Westmacott et al.
Title	SYSTEM AND METHOD FOR DISTRIBUTED VIDEO ANALYSIS
Art Unit	2485
Examiner Name	TORRENTE, Richard T
Attorney Docket Number	186063.TR001

SIGNATURE of Applicant or Patent Practitioner

Signature	/Hao Tan/	Date (Optional)	September 25, 2023
Name	Hao Tan	Registration Number	73,711
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

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

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Doc Code: PA
Document Description: Power of Attorney

PTO/AIA/82B (12-13)
Approved for use through 01/31/2014. OMB 0651-0035
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I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

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163979

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☐ The address associated with Customer Number:

OR

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

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

Hanshow Technology Co., Ltd.

☐ Inventor or Joint Inventor (title not required below)

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

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

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

SIGNATURE of Applicant for Patent

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

Signature	Date (Optional)
Name	
Title	

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

☑ Total of 1 forms are submitted

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

PTO/AIA/122 (08-12)
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CHANGE OF CORRESPONDENCE ADDRESS
Application

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

Application Number	14/634,428
Filing Date	February 27, 2015
First Named Inventor	Ian Christopher Westmacott
Art Unit	2485
Examiner Name	TORRENTE, Richard T
Attorney Docket Number	186063.TR001

Please change the Correspondence Address for the above-identified patent application to:

☒ The address associated with Customer Number: 153979

OR

☐ Firm or Individual Name

Address

City	State	Zip

Country

Telephone	Email

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

I am the:

☐ Applicant

☒ Attorney or agent of record. Registration Number 73,711.

☐ Registered practitioner named in the application transmittal papers who acts in a representative capacity under 37 CFR 1.34. See 37 CFR 1.33(a)(1). Registration Number _____.

Signature /Hao Tan/

Typed or Printed Name Hao Tan

Date	Telephone
September 25, 2023	312-558-1368

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

☒ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Electronic Acknowledgement Receipt

EFS ID:	48637538
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Hao Tan/Kimberly Ewing
Filer Authorized By:	Hao Tan
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	25-SEP-2023
Filing Date:	27-FEB-2015
Time Stamp:	22:47:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	General_Transmittal.pdf	190813 14c5838baa0fa9ab20f7f0f59fee96ecf5733d94	no	1

Warnings:

Information:					
2	Power of Attorney	POA.pdf	322802 b90af04a01408868700fe33b0b2507c13cecbf6e	no	2
Warnings:					
Information:					
3	Change of Address	PTO_AIA-122_Address_Change_Request.pdf	236075 801e28b532c94b950ae787d84a0b2a9465131f9b	no	1
Warnings:					
Information:					
			Total Files Size (in bytes):	749690	

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	14/634,428
Filing Date	February 27, 2015
First Named Inventor	Ian Christopher Westmacott
Art Unit	2485
Examiner Name	TORRENTE, Richard T
Attorney Docket Number	186063.TR001

Total Number of Pages in This Submission

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☑ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  1. Power of Attorney
  2. Change of Correspondence Address

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	ARCH & LAKE LLP		
Signature	/Hao Tan/		
Printed name	Hao Tan		
Date	September 25, 2023	Reg. No.	73,711

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	/Hao Tan/		
Typed or printed name	Hao Tan	Date	September 25, 2023

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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CHANGE OF CORRESPONDENCE ADDRESS
Patent

Address to:
Mail Stop Post Issue
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Patent Number	10,701,321
Issue Date	June 30, 2020
Application Number	14/634,428
Filing Date	February 27, 2015
First Named Inventor	Ian Christopher Westmacott
Attorney Docket Number	186063.TR001

Please change the Correspondence Address for the above-identified patent to:

☑ The address associated with Customer Number: 153979

OR

☐ **Firm *or* Individual Name**

Address

City | **State** | **ZIP**

Country

Telephone | **Email**

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

This form will not affect any "fee address" provided for the above-identified patent. To change a "fee address" use the "Fee Address Indication Form" (PTO/SB/47).

I am the:

☐ Patentee.

☑ If the Patentee was not the applicant for patent (37 CFR 1.42), then a Statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is enclosed or was filed on _____. See 37 CFR 3.71.

☑ Attorney or agent of record. Registration Number 73,711.

☐ Patent practitioner acting in a representative capacity whose correspondence address is the correspondence address of record. Notice has been given to the patentee or owner. Registration Number 73,711.

Signature /Hao Tan/

Typed or Printed Name Hao Tan

Date September 26, 2023 | Telephone 312-558-1368

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

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop Post Issue, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/AIA/82A (07-13)
Approved for use through 01/31/2018. OMB 0651-0035
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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

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

Application Number	14/634,428
Filing Date	February 27, 2015
First Named Inventor	Ian Christopher Westmacott et al.
Title	SYSTEM AND METHOD FOR DISTRIBUTED VIDEO ANALYSIS
Art Unit	2485
Examiner Name	TORRENTE, Richard T
Attorney Docket Number	186063.TR001

SIGNATURE of Applicant or Patent Practitioner

Signature	/Hao Tan/	Date (Optional)	September 26, 2023
Name	Hao Tan	Registration Number	73,711
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

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

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Doc Code: PA
Document Description: Power of Attorney

PTO/AIA/82B (12)
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POWER OF ATTORNEY BY APPLICANT

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

Application Number	Filing Date

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

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

OR

163979

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

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

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

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

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

Hanshow Technology Co., Ltd.

☐ Inventor or Joint Inventor (title not required below)

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

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

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

SIGNATURE of Applicant for Patent

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

Signature	Date (Optional)
Name	
Title	

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

☑ Total of 1 forms are submitted

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: HANSHOW TECHNOLOGY CO., LTD.

Application No./Patent No.: 10,701,321 Filed/Issue Date: June 30, 2020

Titled: SYSTEM AND METHOD FOR DISTRIBUTED VIDEO ANALYSIS

HANSHOW TECHNOLOGY CO., LTD., a Corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Ian Christopher Westmacott et al. To: Sensormatic Electronics, LLC

   The document was recorded in the United States Patent and Trademark Office at
   Reel 035301, Frame 0531, or for which a copy thereof is attached.

2. From: Sensormatic Electronics, LLC To: Johnson Controls US Holdings LLC

   The document was recorded in the United States Patent and Trademark Office at
   Reel 058600, Frame 0001, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: Johnson Controls US Holdings LLC To: Johnson Controls Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 058600, Frame 0080, or for which a copy thereof is attached.

4. From: Johnson Controls Inc. To: Johnson Controls Tyco IP Holdings LLP

The document was recorded in the United States Patent and Trademark Office at
Reel 058600, Frame 00126, or for which a copy thereof is attached.

5. From: Sensormatic Electronics, LLC To: Johnson Controls US Holdings LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 058957, Frame 0138, or for which a copy thereof is attached.

6. From: Johnson Controls US Holdings LLC To: Johnson Controls, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 058955, Frame 0394, or for which a copy thereof is attached.

☑ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Hao Tan/	September 26, 2023
Signature	Date
Hao Tan	73,711
Printed or Typed Name	Title or Registration Number

[Page 2 of 2]

7. From: Johnson Controls Inc. To: Johnson Controls Tyco IP Holdings LLP

The document was recorded in the United States Patent and Trademark Office at Reel 058955, Frame 0472, or for which a copy thereof is attached.

8. From: Johnson Controls Tyco IP Holdings LLP To: HANSHOW TECHNOLOGY CO., LTD.

The document was recorded in the United States Patent and Trademark Office at Reel 065002, Frame 0756, or for which a copy thereof is attached.

An official website of the United States government
Here's how you know

14/634,428 | 0270.0057US1/S-ACV00016US:

System and Method for Distributed Video Analysis PUBLIC VIEW

Application #	Confirmation #	Attorney Docket #	Patent #
14/634,428	3322	0270.0057US1/S-ACV00016US	10,701,321 Download PDF Issued - 06/30/2020

Filing or 371 (c) date	Status
02/27/2015	Patented Case 06/10/2020

Show/hide menu

8 Assignments found

Assignment 1

Reel/frame	Date recorded	Pages
035301/0531	03/31/2015	3

Conveyance
ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent
WESTMACOTT, IAN CHRISTOPHER	03/27/2015	J. GRANT HOUSTON HOUSTON & ASSOCIATES, LLP 1666 MASSACHUSETTS AVENUE, SUITE 12 LEXINGTON, MA 02420
CARNEY, STEVE	03/27/2015	

Assignee
SENSORMATIC ELECTRONICS, LLC
4700 EXCHANGE COURT
SUITE 300
BOCA RATON, FLORIDA 33431

Assignment 2

Reel/frame	Date recorded	Pages
058600/0001	12/30/2021	46

Conveyance
ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent

SENSORMATIC ELECTRONICS LLC	06/17/2021	CPA GLOBAL CASTLE HOUSE, LIBERATION STREET, ST HELIER JERSEY, JE1 1BL UNITED KINGDOM

Assignee
JOHNSON CONTROLS US HOLDINGS LLC
5757 N. GREEN BAY AVENUE
MILWAUKEE, WISCONSIN 53209

Assignment 3

Reel/frame	Date recorded	Pages
058600/0080	12/30/2021	46

Conveyance
ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent
JOHNSON CONTROLS US HOLDINGS LLC	06/17/2021	CPA GLOBAL CASTLE HOUSE, LIBERATION STREET, ST HELIER JERSEY, JE1 1BL UNITED KINGDOM

Assignee
JOHNSON CONTROLS INC
5757 N. GREEN BAY AVENUE
MILWAUKEE, WISCONSIN 53209

Assignment 4

Reel/frame	Date recorded	Pages
058600/0126	12/30/2021	46

Conveyance
ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent
JOHNSON CONTROLS INC	06/17/2021	CPA GLOBAL CASTLE HOUSE, LIBERATION STREET, ST HELIER JERSEY, JE1 1BL UNITED KINGDOM

Assignee
JOHNSON CONTROLS TYCO IP HOLDINGS LLP
5757 N. GREEN BAY AVENUE
MILWAUKEE, WISCONSIN 53209

Assignment 5

Reel/frame	Date recorded	Pages
058957/0138	02/04/2022	47

Conveyance
NUNC PRO TUNC ASSIGNMENT (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent
SENSORMATIC ELECTRONICS, LLC	08/06/2021	CPA GLOBAL LIMITED LIBERATION HOUSE CASTLE ST ST HELIER, JE1 1BL JERSEY

Assignee
JOHNSON CONTROLS US HOLDINGS LLC
5757 N. GREEN BAY AVENUE
MILWAUKEE, WISCONSIN 53209

Assignment 6

Reel/frame	Date recorded	Pages
058955/0394	02/04/2022	47

Conveyance
NUNC PRO TUNC ASSIGNMENT (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent
JOHNSON CONTROLS US HOLDINGS LLC	08/06/2021	CPA GLOBAL LIMITED LIBERATION HOUSE CASTLE ST ST HELIER, JE1 1BL JERSEY

Assignee
JOHNSON CONTROLS, INC.
5757 N. GREEN BAY AVENUE
MILWAUKEE, WISCONSIN 53209

Assignment 7

Reel/frame	Date recorded	Pages
058855/0472	02/04/2022	47

Conveyance
NUNC PRO TUNC ASSIGNMENT (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent
JOHNSON CONTROLS, INC.	08/06/2021	CPA GLOBAL LIMITED LIBERATION HOUSE CASTLE ST ST HELIER, JE1 1BL JERSEY

Assignee
JOHNSON CONTROLS TYCO IP HOLDINGS LLP
5757 N. GREEN BAY AVENUE
MILWAUKEE, WISCONSIN 53209

Assignment 8

Reel/frame	Date recorded	Pages
065302/0758	09/22/2023	4

Conveyance

ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS).

Assignors	Execution date	Correspondent
JOHNSON CONTROLS TYCO IP HOLDINGS LLP	09/21/2023	ARCH & LAKE LLP 203 N. LASALLE STREET SUITE 2100 CHICAGO, IL 60601

Assignee

HANSHOW TECHNOLOGY CO., LTD.
FLOOR 4, BUILDING 1 AND FLOOR 7, BUILDING 5,
JIAXING GUANGFU INNOVATION PARK,
NO. 1288 KANGHE ROAD, XIUZHOU DISTRICT
JIAXING, ZHEJIANG PROVINCE, CHINA

10 per page Page 1 of 1

Disclaimer: Assignment information on the assignment database reflects assignment documents that have been actually recorded. If the assignment for a patent was not recorded, the name of the assignee on the patent application publication or patent may be different. If you have any comments or questions concerning the data displayed, contact OPR / Assignments at 571-272-3350.

Exhibit D

ASSIGNMENT AGREEMENT

This Assignment Agreement ("Agreement") is made and entered into this 21st of September, 2023 ("Effective Date") by and between Johnson Controls Tyco IP Holdings LLP ("Assignor"), a company organized and existing under the laws of Wisconsin, having its principal place of business at 5757 N. Green Bay Avenue, Milwaukee, Wisconsin 53209, and Hanshow Technology Co., Ltd. ("Assignee"), a company organized and existing under the laws of China, having its principal place of business at Floor 4, Building 1 and Floor 7, Building 5, Jiaxing Guangfu Innovation Park, No. 1288 Kanghe Road, Xiuzhou District, Jiaxing, Zhejiang Province, China.

RECITALS

A. Assignor is the owner of (select as appropriate):

X the United States Patents set forth on Exhibit A hereto (the "US Patents");

which collectively shall be referred to herein as the "Patents".

B. Assignor and Assignee have agreed by way of a purchase agreement (the "Purchase Agreement") dated Sept. 8, 2023 by and between Assignor and Assignee, the terms of which are incorporated herein by reference, that Assignor shall sell, transfer, and assign and set over unto Assignee and Assignee shall accept, all rights, title and interest in and to the Patents as specified in this Agreement. In the event of any conflict between the terms of this Agreement and the referenced Purchase Agreement, the terms of the Purchase Agreement shall prevail.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing premises, and the covenants and agreements in this Agreement, Assignor and Assignee agree as follows:

1. Assignor does hereby sell, transfer, convey, assign and deliver to Assignee all of Assignor's right, privilege, title and interest in, to and under the Patents and in the case of patent applications in and to any patents that may issue therefrom, including, in all instances, any counterparts of any of the foregoing in any jurisdiction throughout the world, and any and all divisions, continuations, reissues or reexaminations of any of the foregoing, and, further, all applications for industrial property protection claiming the benefit of the Patents, including without limitation, all applications for patents, utility models, copyright, and designs which may hereafter be filed for any inventions claimed in said Patents in any country or countries, together with the right to file such applications and the right to claim for the same the priority rights derived from the inventions claimed in the Patents under the laws of the United States, the International Convention for the Protection of Industrial Property, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, in each instance the same to be held by Assignee for Assignee's own use and enjoyment, and for the use and enjoyment of Assignee's successors, assigns and other legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment and sale had not been made; together with all claims for damages, royalties, income or other remuneration (hereinafter "Damages") by reason of past, present and future infringements of the Patents or other rights being assigned hereunder, along with the right to sue for and collect such Damages for the use and benefit of Assignee and its successors, assigns and other legal representatives.

2. Assignor hereby authorizes and requests the Commissioner for Patents of the United States, and any officer of any country or countries foreign to the United States, whose duty it is to issue patents or other evidence or forms of intellectual property protection or applications as aforesaid, to issue the same to

Assignee and its successors, assigns and other legal representatives in accordance with the terms of Section 1 of this instrument.

3. Assignor agrees that, whenever reasonably requested by Assignee, Assignor will execute all papers, take all rightful oaths, and do all acts which may be reasonably necessary for securing and maintaining the Patents in any country and for vesting title thereto in Assignee, its successors, assigns and legal representatives or nominees.

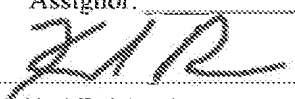
4. Solely as it relates to the Patents and the rights assigned in Section 1 of this instrument, assignor authorizes and empowers Assignee, its successors, assigns and legal representatives or nominees, to invoke and claim for any application for patent or other form of protection for the inventions of the Patents, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, or any other international agreement or the domestic laws of the country in which any such application is filed, as may be applicable, and to invoke and claim such right of priority without further written or oral authorization from Assignor.

5. Assignor hereby acknowledges and agrees that all of the rights, title and interest in and to the Patents sold, transferred, assigned and set over to Assignee hereunder include all income, royalties, damages and payments now or hereafter due or payable with respect thereto, and all causes of action (whether in law or equity) and the right to sue, counterclaim, and recover for the past, present and future infringement of the rights assigned or to be assigned hereunder.

6. Assignor hereby consents that a copy of this Agreement shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document that may be required in any country for any purpose and more particularly in proof of the right of Assignee or nominee to claim the aforesaid benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

IN WITNESS WHEREOF, the Parties have executed this Agreement on the Effective Date.

Assignor: Johnson Controls Tyco IP Holdings LLP

By: 

Name: Karl Reichenberger

Title: Vice President

Assignee: Hangkow Technology Co. LTD

By: Min Liang

Name: min Liang

Title: CTO

4862-3444-1071.1

EXHIBIT A

TO ASSIGNMENT AGREEMENT

Title	Patent Number	Issue Date
System and method for distributed video analysis	US10701321B2	6/20/2020
Systems and methods for occlusion handling in a neural network via activation subtraction	US10713541B2	7/14/2020

Electronic Acknowledgement Receipt

EFS ID:	48641813
Application Number:	14634428
International Application Number:	
Confirmation Number:	3322
Title of Invention:	System and Method for Distributed Video Analysis
First Named Inventor/Applicant Name:	Ian Christopher Westmacott
Customer Number:	103122
Filer:	Hao Tan/Kimberly Ewing
Filer Authorized By:	Hao Tan
Attorney Docket Number:	0270.0057US1/S-ACV00016US
Receipt Date:	26-SEP-2023
Filing Date:	27-FEB-2015
Time Stamp:	16:00:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	186063-TR001_General_Transmittal.pdf	200966 27e29eaff33d7cba5c58ec4210dad4de7e854532	no	1

Warnings:

Information:					
2	Change of Address	186063-TR001_PTO_AIA-123_Address_Change_Request.pdf	280413 e9bbbb8d501d4a6d20d3187af6f8fb46438cae8a	no	1
Warnings:					
Information:					
3	Power of Attorney	186063-TR001_POA.pdf	326884 e68d91832d5e17d18698cbb5aeab721419c864b2	no	2
Warnings:					
Information:					
4	Assignee showing of ownership per 37 CFR 3.73	186063-TR001_Statement373.pdf	12083490 1d8ad83a001ce00ef227e31b9e3985b280c709b6	no	10
Warnings:					
Information:					
		Total Files Size (in bytes):	12891753		

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

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc Code: TRAN.LET

Document Description: Transmittal Letter

PTO/SB/21 (07-09)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	14/634,428
Filing Date	February 27, 2015
First Named Inventor	Ian Christopher Westmacott
Art Unit	2485
Examiner Name	TORRENTE, Richard T
Attorney Docket Number	186063.TR001

Total Number of Pages in This Submission

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☑ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  1. Power of Attorney
  2. Change of Correspondence Address
  3. Statement 3.73(c)

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	ARCH & LAKE LLP		
Signature	/Hao Tan/		
Printed name	Hao Tan		
Date	September 26, 2023	Reg. No.	73,711

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	/Hao Tan/		
Typed or printed name	Hao Tan	Date	September 26, 2023

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US

CONFIRMATION NO. 3322

153979
Arch & Lake LLP
203 North LaSalle Street, Suite 2100
Chicago, IL 60601

POA ACCEPTANCE LETTER

OC000000062658353

Date Mailed: 10/03/2023

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/26/2023.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/vostuart/

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/634,428	02/27/2015	Ian Christopher Westmacott	0270.0057US1/ S-ACV00016US

CONFIRMATION NO. 3322

POWER OF ATTORNEY NOTICE

OC000000062658241

103122
HoustonHogle LLP
Joseph Houston, HoustonHogle LLP
1666 Massachusetts Avenue, Suite 12
Lexington, MA 02420

Date Mailed: 10/03/2023

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 09/26/2023.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/vostuart/

TO: USPTO@dockettrak.com,shenwang@archlakelaw.com,haotan@archlakelaw.com
FROM: noreply@uspto.gov
CC: patentcenter_eofficeaction@uspto.gov
SUBJECT: USPTO: Patent Electronic System - Correspondence Notification for Customer Number 153979

Tue Oct 03 05:07:22 EDT 2023

Dear Patent Center Customer:

Correspondence Address:

Arch &Lake LLP
203 North LaSalle Street, Suite 2100
Chicago,ILLINOIS,60601
UNITED STATES

This is a courtesy notification regarding the following USPTO patent application(s) associated with your Customer Number, 153979, that have new outgoing correspondence. This correspondence is now available for viewing in Patent Center.

The official date of notification of the outgoing correspondence will be indicated on the form (e.g., PTOL-90) accompanying the correspondence.

Disclaimer:
The list of documents shown below are provided as a courtesy and is not part of the official file wrapper. The content of the images shown in the Image File Wrapper is the official record.

Application	Document	Mailroom Date	Attorney Docket No.
14634428	N570	10/03/2023	0270.0057US1/S-ACV00016US
14634428	N570	10/03/2023	0270.0057US1/S-ACV00016US

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If you have any questions, please contact the Patent Electronic Business Center (EBC) at ebc@uspto.gov or 866-217-9197 Monday – Friday, 6 a.m. to midnight ET.

Please do not reply to this email as it was sent from an unmonitored mailbox.

Sincerely,

The Patent Center Team