IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent of Woei Ling Leow *et al.*	§	Attorney Docket No.: COL803
	§	
U.S. Patent No. 7,446,803	§	Customer No.: 165774
	§	
Issue Date: November 4, 2008	§	
	§	
Filing Date: December 15, 2003	§	
	§	
For: SYNCHRONOUS VIDEO AND DATA ANNOTATIONS	§	

REQUEST FOR *EX PARTE* REEXAMINATION OF U.S. PATENT 7,446,803

Mail Stop "*Ex Parte* Reexam"
Attn: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Pursuant to the provisions of 35 U.S.C. §§ 301-307, Unified Patents, LLC ("Unified" or "Requester") hereby requests an *ex parte* reexamination of claims 1-33 (the "Challenged Claims") of U.S. Patent 7,446,803 (the "'803 Patent," Ex. 1001), which issued on November 4, 2008, based on U.S. Patent Application 10/736,113, filed December 15, 2003. The '328 Patent is currently assigned to Columbia Peak Ventures, LLC ("CPV" or "Patent Owner"). The assignment is recorded in the U.S. Patent and Trademark Office ("USPTO") at reel/frame 058268/0086.

This Request presents prior art references and analyses that are noncumulative of the prior art that was before the Examiner during the original prosecution of the '803 Patent and speak directly to the reasons the original claims were originally allowed. As demonstrated herein, the Challenged Claims are invalid over these references. Unified therefore requests that an order for reexamination and an Office Action rejecting claims 1-33 be issued.

Ex Parte Patent Reexamination Filing Requirements

Pursuant to 37 C.F.R. § 1.510(b)(1), statements pointing out at least one substantial new question of patentability based on material, non-cumulative reference patents and printed publications for the Challenged Claims (claims 1-33) of the '803 Patent are provided in Sections III and IV of this Request.

Pursuant to 37 C.F.R. § 1.510(b)(2), reexamination of the Challenged Claims (claims 1-33) of the '803 Patent is requested, and a detailed explanation of the pertinence and manner of applying the cited references to the Challenged Claims is provided in Sections III and IV of this Request.

Pursuant to 37 C.F.R. § 1.510(b)(3), copies of every patent or printed publication relied upon or referred to in the statement pointing out each substantial new question of patentability or in the detailed explanation of the pertinence and manner of applying the cited references are provided as Exhibits 1001-1016 (with Exhibits 1004-1011 forming the basis for the SNQs presented herein) of this Request.

Pursuant to 37 C.F.R. §1.510(b)(4), a copy of the '803 Patent is provided as Exhibit 1001 of this Request, along with a copy of any disclaimer, certificate of correction, and reexamination certificate issued corresponding to the patent.

Pursuant to 37 C.F.R. § 1.510(b)(5), the attached Certificate of Service indicates that a copy of this Request, in its entirety, has been served on Patent Owner at the following address of record for Patent Owner, in accordance with 37 C.F.R. § 1.33(c):

Honeywell International Inc.
Intellectual Property Services Group
855 S. Mint St.
Charlotte, NC 28202

Also submitted herewith is the fee set forth in 37 C.F.R. § 1.20(c)(1).

Pursuant to 37 C.F.R. § 1.510(b)(6), Unified hereby certifies that the statutory estoppel provisions of 35 U.S.C. § 315(e)(1) and 35 U.S.C. § 325(e)(1) do not prohibit Unified from filing this *ex parte* patent reexamination request.

TABLE OF CONTENTS

TABLE OF EXHIBITS

I. CLAIMS FOR WHICH REEXAMINATION IS REQUESTED

Of Challenged Claims 1-33, claims 1, 11, and 22 are independent. Each of the independent claims provide for surveillance systems or methods. Challenged claims 2-10 depend from independent claim 1, challenged claims 12-21 depend from independent claim 11, and challenged claims 23-33 depend from independent claim 22. Exemplary claim 1 of the '803 Patent is provided below.

> **Claim 1.** *A surveillance system comprising:*
>
> *a camera arranged to output images of a protected area;*
>
> *an input device arranged to provide a data annotation; and*
>
> *a server arranged to synchronously store the images and the data annotation so that the data annotation can be used to search for a segment of the images;*
>
> *wherein the server is arranged to time stamp the data annotation; and further*
>
> *wherein the server is arranged to directly compare the time stamp of the data annotation to an image count when searching for the segment of the images.*

II. U.S. PATENT 7,446,803

A. Overview

The '803 Patent's alleged "invention relates to synchronous annotation of data to video, such as surveillance video taken of a secured area." Ex. 1001, 1:6-8. The '803 Patent acknowledges that the use of video surveillance systems were well known but describes that it was laborious and time consuming to find a particular segment of the surveillance video. Ex. 1001, 1:12-32. Therefore, the alleged invention allows for annotating of the video stream and subsequent searching of the annotations to find the desired portion of the video stream. Ex. 1001, 1:33-36.

To accomplish this goal, the '803 Patent discloses, as shown in Figure 1 below, video/data surveillance system 10 that includes one or more video cameras (e.g., video cameras 12 and 14) and/or other types of cameras such as thermal imagers, IR cameras, etc. Ex. 1001, 2:18-25. System 10 further includes camera streamers 16 and 18 for formatting the video feed for efficient storage and processing video server 20 (which may be a standard desktop server). Ex. 1001, 2:27-46.

System 10 further includes input device 22 such as a barcode scanner, a keyboard having one or more keys, an audio device that may or may not convert voice to text, etc. Ex. 1001, 2:47-50. Additionally or alternatively, input device 22 may be a device that provides biometric signatures such as from fingerprinting, facial recognition, retina scans, etc. Ex. 1001, 2:56-59. Input device 22 may be used by a person such as a security guard or a foot patrol to annotate the video being recorded and stored in video server 20 to indicate that conditions are normal or to indicate a particular abnormality. Ex. 1001, 2:60-3:5.

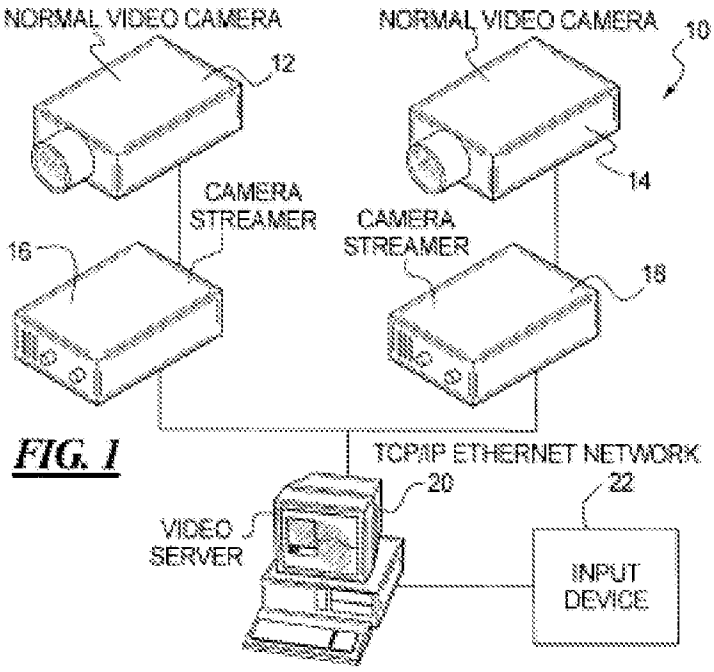

FIG. 1

Video server 20 is programmed so that data annotations (also referred to as data tags) are stored in a format that allows for searching. Ex. 1001, 3:6-10. Video server 20 also saves the time stamp associated with the data annotation. Ex. 1001, 3:16-23. The time stamp synchronizes or links the data annotation with the corresponding video segment of the stored video. Ex. 1001, 3:23-26, 1:33-36. The '803 Patent describes that preferably the time stamp of the data annotation and the video count associated with the video recording are in the same format. Ex. 1001, 3:36-28. Thus, when "a user wishes to find and view a particular segment of video, a data searching program 50 . . . is executed by the video server 20" and data annotations corresponding to the search as displayed and the corresponding video sequences can be played. Ex. 1001, 3:41-61. To play the appropriate video sequence, the system checks to see if the playback time counter for the video sequence corresponds to the time stamp of the data annotation. Ex. 1003, 3:62-4:16.

The '803 Patent also discloses that instead of data annotations or data tags, a flag or pointer, such as temperature stamps or luminosity stamps, can be used to find associated video segments. Ex. 1001, 4:28-43. For example, a video may be flagged with a temperature stamp when thermal video indicates that a certain temperature has been exceeded. Ex. 1001, 4:39-41. In addition, a video segment may be flagged with a luminosity stamp when certain lighting conditions exist. Ex. 1001, 4:41-43.

The use of annotation and search mechanisms to find desired video segments of videos in general as well as of surveillance videos was well known before December 2003. Ex. 1003, ¶¶41-124.

B. Prosecution History

The '803 Patent was issued based on U.S. Application 10/736,113 ("the '113 Application"), filed December 15, 2003.

During prosecution of the '113 Application, the Examiner issued multiple office actions and the Applicant filed various amendments in response to the office actions. On February 7, 2007, the Examiner issued an initial non-final office action rejecting pending claims 1-37 over WO02/082275 to Fiore et al. ("Fiore") alone or in combination with WO01/13637 to Brown et al. ("Brown") and/or US Patent 6,330,025 to Arazi et al. ("Arazi"). Ex. 1002, 185-93. In response, the Applicant amended the independent claims to include "wherein the server is arranged to time stamp the data annotation; and further wherein the server is arranged to compare the time stamp of the data annotation to an image count when searching for the segment of the images"[1] and cancelled claims 2, 3, 14, and 28. Ex. 1002, 172-84.

In a final office action dated August 6, 2007, the Examiner maintained the previous rejections over the pending claims and indicated that the Applicant's arguments were not persuasive. Ex. 1002, 154-65. The Examiner noted that

> Applicant's specification supports the [position that an image count of a video segment corresponds to time stamps of data frames] in that the 'image count (as referred to in the instant claims), or the 'video count' (as referred to in the remainder of Applicant's disclosure), may be reasonably interpreted as a sequential time

[1] This is the amendment to pending independent claim 1. The amendments to pending independent claims 13 and 25 were similar.

> stamp for each video frame, i.e., a time count with the same format as a time stamp (see page 8, lines 2-4 of Applicant's specification). Furthermore, Applicant's specification also suggests that a 'time stamp' corresponding to a data tag may be reasonably interpreted as a 'video count' for the data tag (see page 9, lines 9-11).

Ex. 1002, 162.

The Examiner further noted that:

> if the intended definition for the term "image count" excludes the meaning selected by the examiner, i.e., a plurality of sequential time stamps for each frame of a video segment, then a matter of lack of enablement may be raised because Applicant's specification does not reasonabl[y] enable a skilled artisan on how to compare a 'time stamp' to an 'image count' if not in the same format.

Ex. 1002, 162.

In response, the Applicant filed a response after final arguing that the prior art does not disclose "compar[ing] the time stamp of the data annotation to an image count when searching for the segment of the images." Ex. 1002, 144-46. The Applicant argued that despite the specification's recitation that a video count (coextensive with the claimed image count) can have the same format as a time stamp, a video count is not a time stamp. Ex. 1002, 146. Finally, the Applicant argued that its limited disclosure of a link that can link the data annotations to corresponding image segments of the stored images provides sufficient enablement for the claimed comparison of data with different formats. Ex. 1002, 146-47. In an advisory action, the Examiner maintained her rejections despite the arguments made by the Applicant. Ex. 1002, 133-34.

The Applicant then filed an appeal brief on November 7, 2007 and a substitute appeal brief on January 4, 2008. Ex. 1002, 67-90, 96-119. The appeal briefs presented substantially similar arguments to those presented in the response after final. *Compare* Ex. 1002, 67-90, 96-119 *with* Ex. 1002, 144-47. Following the filing of the appeal briefs but before the Board could act, the Examiner issued a subsequent non-final office action that rejected the pending claims over Fiore in view of U.S. Patent 5,857,044 to Ogawa et al. as well as additional combinations in view of Brown and/or Arazi. Ex. 1002, 50-60. The Examiner argued that:

> The concept of obtaining a frame number, i.e., an image count, from a time code, i.e., a timestamp, is old and well known in the art, as evidenced by Ogawa. Therefore, it would have been obvious to one having ordinary skill in the art at the

> time the invention was made to compare a timestamp with an image count, i.e., to calculate an image count from an associated timestamp and compare said image count to the image count of the relevant image segment, since a person with ordinary skill has good reason to pursue the known options within his or her technical grasp if this leads to an anticipated result, e.g., to find a relevant image segment by searching for a specific frame number.

Ex. 1002, 53-54 (internal citations omitted).[2]

Following the issuance of the office action, the Examiner and Applicant held an interview, but no agreement was reached. Ex. 1002, 48-49.

The Applicant then filed an amendment to the pending independent claims as follows: "directly compare the time stamp of the data annotation to an image count when searching for the segment of the images." [3] Ex. 1002, 35-41. The Applicant argued that:

> A practical example of such comparison would be in the instance when an operator knows that there is, for example, one hour of recorded video data, and that there are 120,000 frames in that one hour of video data. Then, and the half hour point of that video database, the frame number will be approximately 60,000. That is, the operator can ***directly*** compare the half hour time stamp with the 60,000 image count.

Ex. 1002, 43 (emphasis in original).

On July 29, 2008, the Examiner issued a Notice of Allowance indicating that the prior art does not disclose "directly compar[ing] the time stamp of the data annotation to an image count when searching for the segment of the images." Ex. 1002, 17-23.

C. Level of Ordinary Skill in the Art

A person of ordinary skill in the art as of December 15, 2003 would have had: (1) an undergraduate degree in electrical engineering or physics, or a closely related field, or similar post-undergraduate education; and (2) two to three years of experience with video processing. *See, e.g.,*

---

[2] As discussed in further detail below, the Examiner did not appear to be aware of the distinctions between a time stamp and a time code as formatted per SMPTE standards during the prosecution of the '113 application. *See, e.g.,* Ex. 1004, 6:44-56.

[3] This is the amendment to pending independent claim 1. The amendments to pending independent claims 13 and 25 were substantively identical.

Ex. 1003, ¶14 Additional work experience can substitute for specific educational background, and vice versa. Ex. 1003, ¶14.

D. Claim Construction

"During patent examination, the pending claims must be 'given their broadest reasonable interpretation consistent with the specification.'" MPEP § 2111. However, "[i]n a reexamination proceeding involving claims of an expired patent, claim construction pursuant to the principle set forth by court in *Philips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005) (words of a claim "are generally given their ordinary and customary meaning" as understood by a person of ordinary skill in the art in question at the time of the invention) should be applied since the expired claim[s] are not subject to amendment." *See Ex parte Papst-Motoren*, 1 USPQ2d 1655 (Bd. Pat. App. & Inter. 1986). The '803 Patent is not currently expired but is set to expire December 2, 2025. Because it is possible that the '803 Patent may expire during the pendency of this reexamination, the present Request presents the following claim analysis in a manner that is consistent with the broadest reasonable standard and submits that the same analysis would apply under the *Philips* claim construction standard for these claim terms. *See also,* Ex. 1003, ¶¶24, 26.

Unified submits that an express construction[4] is not required for any term at least because prior art presented herein renders the claims unpatentable under any reasonable claim construction. Ex. 1003, ¶24.

Nevertheless, a review of the support for some claim terms may be beneficial and is provided below.

1. *synchronously store the images and the data annotations so that the data annotation can be used to search for a segment of the images* (claim 1) / *synchronizing the stored data annotations to the corresponding video segments so that the data annotations can be used to search for the video*

[4] Unified does not concede that the claims are capable of express construction, are definite, or that there is written description support for the terms. Nevertheless, Unified's request is proper, however, because as long as the claims are not "impossible for the Board" to analyze, the Board can review the "patentability of the claims on section 102 and 103 grounds." *Samsung Elecs. Am. Inc. v. Prisua Eng. Corp.*, 948 F.3d 1342, 1355 (Fed. Cir. 2020); *Intel Corp. v. Qualcomm Inc.*, Nos. 2020-1828, 2020-1867, slip op. at 18-21, 20 (Fed. Cir. Dec. 28, 2021), *available at* https://cafc.uscourts.gov/opinions-orders/20-1828.OPINION.12-28-2021_1885998.pdf (A patentability analysis is only precluded when the claims indefiniteness "renders it logically impossible for the Board to reach such a decision").

***segment of interest* (claim 11)**

Unified submits that an express construction for *synchronously stor[ing] the images and the data annotations so that the data annotation can be used to search for a segment of the images* as recited in independent claim 1 and *synchronizing the stored data annotations to the corresponding video segments so that the data annotations can be used to search for the video segment of interest* as recited in independent claim 11 is not required at least because the prior art herein presents this element under any reasonable construction.

Nevertheless, to the extent this becomes an issue, Unified submits that *synchronously stor[ing] the images and the data annotations so that the data annotation can be used to search for a segment of the images* and *synchronizing the stored data annotations to the corresponding video segments so that the data annotations can be used to search for the video segment of interest* be construed as "storing the images/video segments and the data annotations in a manner that allows for the data annotations to be used to search for and retrieve the corresponding image/video segment(s)." Ex. 1003, ¶28.

Starting with the language of the claims, *synchronous* is something that identifies how the data annotations correspond to the image/video segment(s). Ex. 1001, claims 1, 11; Ex. 1003, ¶29. Looking at the following independent claim language, the claims recite that *the data annotation can be used to search for a segment of the images* or *the video segment of interest*. Ex. 1001, claims 1, 11; Ex. 1003, ¶29. Thus, a POSITA would have understood that the *synchronously stor[ing]* or *synchronizing* is used so that the desired image segment or video segment can be obtained by searching the data annotations. Ex. 1003, ¶29.

The specification supports the understanding that the *synchronously stor[ing]* or *synchronizing* is used so that the desired image segment or video segment can be obtained by searching the data annotations, and it provides examples of synchronizing. Ex. 1003, ¶30. First, the specification states that "data annotations are synchronized or linked to the video recordings and can enable a user to more easily locate video segments of interest." Ex. 1001, 1:33-36; Ex. 1003, ¶30. The specification explains that the stored time stamp of the data annotation or data tag "synchronizes" the data annotation or data tag with the corresponding video segment that is also stored in memory. Ex. 1001, 3:16-28. That is, the time stamp associated with the data annotation or data tag provides a way to retrieve the corresponding image or video segment. Ex. 1001, 3:42-62.

Thus, for at least these reasons, a POSITA would have understood that *synchronously stor[ing] the images and the data annotations so that the data annotation can be used to search for a segment of the images* and *synchronizing the stored data annotations to the corresponding video segments so that the data annotations can be used to search for the video segment of interest* to broadly refer to "storing the images/video segments and the data annotations in a manner that allows for the data annotations to be used to search for and retrieve the corresponding image/video segment(s)" under any reasonable construction. Ex. 1003, ¶31.

2. *image count* (claims 1, 8, 11, and 22)

Unified submits that an express construction for *image count* as recited in independent claims 1, 11, and 22 and dependent claim 8 is not required at least because the prior art herein presents this element under any reasonable construction.

Nevertheless, to the extent this becomes an issue, Unified submits that *image count* be construed to at least encompass "a value, such as a frame number in a time code, identifying the image or video frame." According to the SMPTE (Society of Motion Picture and Television Engineers), "time code" was a term of art for a piece of data that "includes hours, minutes, seconds, and frames relative to a fixed time origin." Ex. 1003, ¶32 (citing Ex. 1004, 6:44-56). As a general concept known to POSITAs, the video generated by the cameras described in the '803 patent and those generally used for video recording and broadcasting, including those described in the prior art references, capture a series of still images at a rate fast enough to give the viewer the impression of continuous motion. Ex. 1003, ¶32. It was customary to count each individual image, also referred to as a "frame," and affix a sequence number/frame number/image count (e.g., a time code as defined by the SMPTE) for later indexing of the sequence of images. Ex. 1003, ¶32.

Turning to the prosecution history, despite the limited disclosure in the specification regarding the image count being a frame number, the Applicant argued extensively through the prosecution that image count was not merely a time stamp and instead needed to indicate a count or frame number. Ex. 1002, 34-44, 67-90, 96-119, 144-47. That is, a time stamp is related to a real-time clock, which might not correspond to the frame count. Ex. 1003, ¶33. In alleging that that the claimed comparison of a time stamp associated with the data annotation and an image count identifying an image or video frame is supported (because the Examiner initially questioned support), Applicant argued that "the specification does not limit the comparison of a timestamp and an image count to a direct

comparison of the two entities." Ex. 1002, 80. The Applicant explained that an example of the claimed comparison includes "a simple determination of at what timestamp does the video data reach a certain image count, and/or at what timestamp is the video data at the 50% mark (which can easily be determined from a current image count and a total image count)." Ex. 1002, 80. Following these arguments, although the Examiner did not explicitly endorse the construction by the Applicant, the Examiner appeared to concede to the Applicant's arguments that the *image count* is a value identifying the image or video frame because the Examiner issued a new Office Action adding additional prior art that detailed converting time codes to frame numbers. Ex. 1002, 50-60.

This prosecution history is consistent with the proposed construction that the *image count* is "a value, such as a frame number in a time code, identifying the image or video frame." Ex. 1003, ¶34. In particular, a time code provides additional information than a mere time stamp, which does not necessarily include a frame count. Ex. 1003, ¶34 (citing Ex. 1015). As noted above, the time code standard according to the SMPTE (Society of Motion Picture and Television Engineers) includes hours, minutes, seconds, and frames relative to a fixed time origin. Ex. 1004, 6:44-56; *see also* Ex. 1006, [0040]. A time code captures the time but also synchronizes it with a greater precision by counting frames since a time event, e.g., the top of the minute or second. Ex. 1003, ¶34. That is, a time code contains more information and precision than a time stamp. Ex. 1003, ¶34. Time codes are always frame accurate, whereas a time stamp alone provides the timing but not the additional frame information. Ex. 1003, ¶34 (citing Ex. 1015). Thus, a POSITA would have understood that a time code indicates not only a time stamp, but also a frame count, or *image count*. Ex. 1003, ¶34.

Thus, for at least these reasons, a POSITA would have understood *image count* to broadly refer to "a value, such as a frame number in a time code, identifying the image or video frame." Ex. 1003, ¶35.

Nevertheless, as noted above, the prior art presented herein discloses *image count[s]* that correspond to the frame number. Ex. 1003, ¶36. Therefore, it is Unified's position that a specific construction is not required.

3. *storing a link that links the stored data annotations to corresponding image segments of the stored images so that the data annotations can be*

***used to search for an image segment of interest* (claim 22)**

Unified submits that an express construction for *storing a link that links the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest* as recited in independent claim 22 is not required at least because the prior art herein presents this element under any reasonable construction.

Nevertheless, to the extent this becomes an issue, Unified submits that *storing a link that links the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest* be construed as "storing related elements, such as a row of data linking time stamps and a data attribute, that associates the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest." Ex. 1003, ¶37.

Starting with the language of the claims, *a link* is something that identifies how the data annotations relate to (correspond with) the image segment(s). Ex. 1001, claim 22; Ex. 1003, ¶38. Looking at the following independent claim language, the claims recite that *the data annotations can be used to search an image segment of interest*. Ex. 1001, claim 22; Ex. 1003, ¶38. Thus, a POSITA would have understood that the *storing a link that links* is used so that the desired image segment can be obtained by searching the data annotations. Ex. 1003, ¶38.

The specification supports the understanding that the *link* is used so that the desired image segment or video segment can be obtained by searching the data annotations, and it provides an example of such a link. Ex. 1003, ¶39. First, the specification states that "a time stamp is used to link a data tag with the video that the data tag annotates." Ex. 1001, 4:28-29; Ex. 1003, ¶39. The specification explains that "the data tags can be searched for a specific data tag to more easily find a video segment of interest that is linked to that specific data tag, and the time stamps of data tags found from the search can be compared to the video count of the video to identify the video segment of interest." Ex. 1001, 4:29-34. That is, the time stamp associated with the data annotation or data tag provides a way to retrieve the corresponding image or video segment. Ex. 1001, 3:42-62.

Thus, for at least these reasons, a POSITA would have understood that *storing a link that links the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest* to broadly refer to "storing related elements, such as a row of data linking time stamps and a data attribute, that associates

the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest." Ex. 1003, ¶40.

III. THE PRIOR ART REFERENCES, ARGUMENTS, AND EVIDENCE PRESENT SUBSTANTIAL NEW QUESTIONS OF PATENTABILITY

A. Listing of Prior Art Patents and Printed Publications

Reexamination of claims 1-33 of the '803 Patent is requested in view of the following references:

U.S. Patent 6,378,132 to Grandin et al. ("Grandin"), which issued on April 23, 2002, is prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) because it is a patent (as well as a printed publication) by another in this country before (for § 102(a))—indeed more than one year before (for § 102(b))—the earliest possible priority data of the '803 Patent. A copy of Grandin is submitted as Exhibit 1004.

International Patent Application Publication WO 99/04557 to Lassiter ("Lassiter"), which published on January 28, 1999, is prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) because it is a patent (as well as a printed publication) by another in a foreign country before (for § 102(a))—indeed more than one year before (for § 102(b))—the earliest possible priority data of the '803 Patent. A copy of Lassiter is submitted as Exhibit 1005.

U.S. Published Patent Application 2002/0145622 to Kauffman et al. ("Kauffman"), which published on October 10, 2002, is prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) because it is a printed publication by another in this country before (for § 102(a))—indeed more than one year before (for § 102(b))—the earliest possible priority data of the '803 Patent. A copy of Kauffman is submitted as Exhibit 1006.

U.S. Published Patent Application 2002/0018135 to Amano ("Amano"), which published on February 14, 2002, is prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) because it is a printed publication by another in this country before (for § 102(a))—indeed more than one year before (for § 102(b))—the earliest possible priority data of the '803 Patent. A copy of Amano is submitted as Exhibit 1007.

International Patent Application Publication WO 01/13637 to Brown et al. ("Brown"), which published on February 21, 2001, is prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) because it is a patent (as well as a printed publication) in a foreign country before (for §

102(a))—indeed more than one year before (for § 102(b))—the earliest possible priority data of the '803 Patent. A copy of Brown is submitted as Exhibit 1008.

U.S. Patent 5,219,226 to James ("James"), which issued on June 15, 1993, is prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) because it is a patent (as well as a printed publication) by another in this country before (for § 102(a))—indeed more than one year before (for § 102(b))—the earliest possible priority data of the '803 Patent. A copy of James is submitted as Exhibit 1009.

U.S. Published Patent Application 2002/0141617 to Yamashiro et al. ("Yamashiro"), which published on October 3, 2002, is prior art at least under pre-AIA 35 U.S.C. §§ 102(a) and (b) because it is a printed publication by another in this country before (for § 102(a))—indeed more than one year before (for § 102(b))—the earliest possible priority data of the '803 Patent. A copy of Yamashiro is submitted as Exhibit 1010.

U.S. Published Patent Application 2004/0993349 to Buinevicius et al. ("Buinevicius"), which was filed on November 21, 2001, and published on May 13, 2004, is prior art at least under pre-AIA 35 U.S.C. § 102(e) because it is an application for patent by another filed in the United States before the earliest possible priority data of the '803 Patent. A copy of Buinevicius is submitted as Exhibit 1011.

Grandin, Lassiter, Kauffman, Amano, James, Yamashiro, and Buinevicius were neither cited in an IDS nor applied during the original prosecution of the '803 Patent. Ex. 1002, generally; Ex. 1001, References Cited. Although Brown was cited by the Examiner during prosecution, it is only being used for the same reasons applied by the Examiner during prosecution for features of dependent claims, which were not disputed by the applicant and did not form the basis of patentability for the issued claims. Ex. 1001, References Cited; Ex. 1002, 42-43, 54-57, 59, 75, 80-81, 104, 109-10, 147, 157-61, 182, 188-92.

As demonstrated below, Grandin, Lassiter, Kauffman, Amano, Brown, James, Yamashiro, and Buinevicius present substantial new questions of patentability.

B. Grandin, Lassiter, Kauffman, Amano, Brown, James, Yamashiro, and Buinevicius Present Substantial New Questions of Patentability

1. Overview of the SNQs

Unified submits that the prior art references Grandin, Lassiter, Kauffman, Amano, Brown, James, Yamashiro, and Buinevicius raise new "substantial question[s] of patentability" because

"the teaching of the (prior art) patents and printed publications is such that a reasonable examiner would consider the teaching to be important in deciding whether or not the claim is patentable." *See* MPEP § 2242.

While the original examiner was unable to locate prior art that disclosed the claimed methods and systems, the examiner did not have the primary prior art relied upon in this Request. *See, e.g.,* Ex. 1001, "References Cited" (listing only Brown out of the references used in this Request).

As presented in this Request, Grandin, Lassiter, Kauffman, Amano, Brown, James, Yamashiro, and Buinevicius each present substantial new questions of patentability that were not previously considered by the Office during the original examination. Therefore, the substantial new questions of patentability presented herein warrant reexamination of the Challenged Claims of the '803 patent. *See, e.g.,* Section IV.

This Request presents several substantial new questions of patentability (SNQs) for resolution. These SNQs are referred to using a reference number for convenience herein (e.g., SNQ1, SNQ2, etc.). The SNQs presented in this Request are the following:

- **SNQ1:** Claims 1-3, 11-19, and 22-27 are rendered obvious by Grandin under 35 U.S.C. § 103. Section IV.A.
- **SNQ2:** Claims 1-3, 11-19, and 22-27 are rendered obvious by Grandin in view of Lassiter under 35 U.S.C. § 103. Section IV.A.
- **SNQ3:** Claims 1-3, 11-19, and 22-27 are rendered obvious by Grandin in view of Kauffman under 35 U.S.C. § 103. Section IV.A.
- **SNQ4:** Claims 1-3, 11-19, and 22-27 are rendered obvious by Grandin in view of Lassiter, and Kauffman under 35 U.S.C. § 103. Section IV.A.
- **SNQ5:** Claims 4-5 and 30-31 are rendered obvious by Grandin in view of Amano under 35 U.S.C. § 103. Section IV.B.
- **SNQ6:** Claims 4-5 and 30-31 are rendered obvious by Grandin in view of Lassiter and Amano under 35 U.S.C. § 103. Section IV.B.
- **SNQ7:** Claims 4-5 and 30-31 are rendered obvious by Grandin in view of Kauffman and Amano under 35 U.S.C. § 103. Section IV.B.
- **SNQ8:** Claims 4-5 and 30-31 are rendered obvious by Grandin in view of Lassiter, Kauffman, and Amano under 35 U.S.C. § 103. Section IV.B.

- **SNQ9:** Claims 6-10, 20-21, and 28-29 is rendered obvious by Grandin in view of Brown under 35 U.S.C. § 103. Section IV.C.
- **SNQ10:** Claims 6-10, 20-21, and 28-29 is rendered obvious by Grandin in view of Lassiter and Brown under 35 U.S.C. § 103. Section IV.C.
- **SNQ11:** Claims 6-10, 20-21, and 28-29 is rendered obvious by Grandin in view of Kauffman and Brown under 35 U.S.C. § 103. Section IV.C.
- **SNQ12:** Claims 6-10, 20-21, and 28-29 is rendered obvious by Grandin in view of Lassiter, Kauffman, and Brown under 35 U.S.C. § 103. Section IV.C.
- **SNQ13:** Claims 30 and 31 are rendered obvious by Grandin in view of Amano and James under 35 U.S.C. § 103. Section IV.D.
- **SNQ14:** Claims 30 and 31 are rendered obvious by Grandin in view of Lassiter, Amano, and James under 35 U.S.C. § 103. Section IV.D.
- **SNQ15:** Claims 30 and 31 are rendered obvious by Grandin in view of Kauffman, Amano, and James under 35 U.S.C. § 103. Section IV.D.
- **SNQ16:** Claims 30 and 31 are rendered obvious by Grandin in view of Lassiter, Kauffman, Amano, and James under 35 U.S.C. § 103. Section IV.D.
- **SNQ17:** Claim 32 is rendered obvious by Grandin in view of Amano and Yamashiro under 35 U.S.C. § 103. Section IV.E.
- **SNQ18:** Claim 32 rendered obvious by Grandin in view of Lassiter, Amano, and Yamashiro under 35 U.S.C. § 103. Section IV.E.
- **SNQ19:** Claim 32 is rendered obvious by Grandin in view of Kauffman, Amano, and Yamashiro under 35 U.S.C. § 103. Section IV.E.
- **SNQ20:** Claim 32 is rendered obvious by Grandin in view of Lassiter, Kauffman, Amano, and Yamashiro under 35 U.S.C. § 103. Section IV.E.
- **SNQ21:** Claim 32 is rendered obvious by Grandin in view of Amano, James, and Yamashiro under 35 U.S.C. § 103. Section IV.E.
- **SNQ22:** Claim 32 is rendered obvious by Grandin in view of Lassiter, Amano, James, and Yamashiro under 35 U.S.C. § 103. Section IV.E.
- **SNQ23:** Claim 32 is rendered obvious by Grandin in view of Kauffman, Amano, James, and Yamashiro under 35 U.S.C. § 103. Section IV.E.

- **SNQ24:** Claim 32 is rendered obvious by Grandin in view of Lassiter, Kauffman, Amano, James, and Yamashiro under 35 U.S.C. § 103. Section IV.E.
- **SNQ25:** Claim 33 is rendered obvious by Grandin in view of Amano and Buinevicius under 35 U.S.C. § 103. Section IV.F.
- **SNQ26:** Claim 33 rendered obvious by Grandin in view of Lassiter, Amano, and Buinevicius under 35 U.S.C. § 103. Section IV.F.
- **SNQ27:** Claim 33 is rendered obvious by Grandin in view of Kauffman, Amano, and Buinevicius under 35 U.S.C. § 103. Section IV.F.
- **SNQ28:** Claim 33 is rendered obvious by Grandin in view of Lassiter, Kauffman, Amano, and Buinevicius under 35 U.S.C. § 103. Section IV.F.
- **SNQ29:** Claim 33 is rendered obvious by Grandin in view of Amano, James, and Buinevicius under 35 U.S.C. § 103. Section IV.F.
- **SNQ30:** Claim 33 is rendered obvious by Grandin in view of Lassiter, Amano, James, and Buinevicius under 35 U.S.C. § 103. Section IV.F.
- **SNQ31:** Claim 33 is rendered obvious by Grandin in view of Kauffman, Amano, James, and Buinevicius under 35 U.S.C. § 103. Section IV.F.
- **SNQ32:** Claim 33 is rendered obvious by Grandin in view of Lassiter, Kauffman, Amano, James, and Buinevicius under 35 U.S.C. § 103. Section IV.F.

In brief, SNQs 1-4 disclose surveillance methods and systems for annotating and searching for desired image or video segments using time stamps associated with the annotations, SNQs 5-8 disclose methods and systems that also incorporate using an infrared camera of thermal imager for sensing temperature in a monitored area, SNQs 9-12 disclose methods and systems that use an SQL based system for storing and searching the annotations, SNQs 13-16 disclose methods and systems including data such as temperature data with the desired image or video segment, SNQs 17-24 disclose methods and systems including using luminosity as a desired attribute to determine in a surveillance system, and SNQs 25-32 disclose methods and systems using biometric indicators in a surveillance system.

For SNQ 1, Grandin discloses methods and systems for monitoring that includes annotating obtained video and searching the annotations to view the desired video segments.

For SNQ 2, to the extent additional disclosure of a surveillance system is required as opposed to a general monitoring system, Lassiter is added to address this limitation.

For SNQs 3 and 4, to the extent additional disclosure of comparing a time stamp to a frame number is required, Kauffman is added to address this limitation.

For SNQs 5-8, Amano is added to address limitations of dependent claims such as using infrared or thermal imaging for gathering temperature data.

For SNQs 9-12, Brown is added to address limitations of dependent claims such as using an SQL based system for storing and searching the annotations.

For SNQs 13-16, James is added to address limitations of dependent claims such as retrieving data (e.g., temperature values) with the desired video segments.

For SNQs 17-24, Yamashiro is added to address limitations of a dependent claim including using luminosity as a desired attribute to determine in a surveillance system.

For SNQs 25-32, Buinevicius is added to address limitations of a dependent claim including using biometric indicators as a desired attribute to determine in a surveillance system.

2. Grandin

Grandin provides disclosure of a monitoring system for capturing video of events. Ex. 1004, 1:9-13. Grandin discloses examples of the events that may include, but are not limited to, sporting events, such as football or basketball games. Specifically, Grandin discloses event capture system 110 that includes a number of cameras 210 for capturing video of the event. Ex. 1004, 6:11-17, 11:66-12:11. Ex. 1004, 1:9-13. Grandin discloses that event capture system 110 "also accepts observer annotation input 124 from an observer who views the event." Ex. 1004, 6:23-24, 4:67-5:4. The observer may use a keyboard associated with console 225 to type the annotations. Ex. 1004, 6:24-27, 6:35-43. Alternatively, the annotations may be inputted by speaking into a microphone. Ex. 1004, 7:51-55. The annotations provide information for what is happening in the video. Ex. 1004, 6:27-32. For example, in the context of the event being a football game, the annotations include information about the game such as "which team has possession and information related to each play such as the type of play, which players were involved, and the outcome of the play." Ex. 1004, 6:27-32.

Grandin further discloses that the cameras output video signals 212 from the event to signal pre-processor 215 so they can be received by event processing system 140. Ex. 1004, 6:11-13, 9:21-37. Grandin discloses that to synchronize the video signal and the annotations, a time signal 201 is generated by time signal generator 200 and sent to signal pre-processor 215 and annotations

pre-processor 230. Ex. 1004, 6:44-48. Time signal 201 is generated according to a SMPTE (Society of Motion Picture and Television Engineers) time code standard, which defines a continuous serial digital signal which includes hours, minutes, seconds, and frames relative to a fixed time origin. Ex. 1004, 6:48-53. Event processing system 140 includes signal storage 610 for storing the video signals that are received from camera 210 of event capture system 110. Ex. 1004, 9:20-37. Event processing system 140 also includes annotation storage 620 for storing an annotations table 610. Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53.

Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29. This allows for the data annotations to be used to search for a particular video segment. Ex. 1004, 9:20-10:29. Specifically, content selector 640 is used for performing "a database search function using stored annotations table 610." Ex. 1004, 10:8-9. A user may enter a query 712 and query engine 710 of content selector 640 "accesses stored annotations table 610 and identifies the segments that match the query." Ex. 1004, 10:10-15. To identify the matching video segments, event processing system 140 "receives distribution signals 130 and distribution annotations 132, and either directly from explicit timing information in the distribution signals, or by another implicit mechanism, determines a time reference for the distribution signals that allows it to access time intervals in the distribution signals based on the times specified in the distribution annotations." Ex. 1004, 5:48-55. Event processing system 140 "processes the received distribution signals and annotation signals from one or more events" to assemble related time intervals from the received distribution signals. Ex. 1004, 5:56-63. That is, because the video signal and annotations are synchronized using corresponding time codes, the time codes of the video signal can be matched to the time codes of the desired annotation such that the desired portions of the video signal can be identified. Ex. 1004, 6:44-53, 10:8-15.

Once the video segment is identified, content selector 640 retrieves that video recording for the segment which spans, for example, frames f_1 to f_2. Ex. 1004, 10:33-42. There may be multiple cameras recording the event, and, in that case, content selector 640 may retrieve the multiple video recordings that correspond to the annotated segment time. Ex. 1004, 10:33-42. The

retrieved video segments are displayed on display device 665, such as a video monitor. Ex. 1004, 9:60-64.

Grandin is analogous to the '803 Patent. Grandin is in the same field of endeavor as the '803 Patent, which includes annotating and searching videos to locate video segments of interest. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1004, Abstract. Grandin is also reasonably pertinent to several particular problems with which the inventor was concerned, such as being able to quickly find desired video segments. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, Grandin discloses using annotations to identify the substance of what is happening in various video segment so that the desired segments can be found. Ex. 1004, Abstract, 2:16-32, 3:5-7.

3. Lassiter

Lassiter discloses applications for which the ability to search video is desired. Ex. 1005, 6:10-33, 5:15-23. Specifically, Lassiter discloses that there is a desire to easily search annotated videos from a variety of applications including both security applications and TV film production applications among others. Ex. 1005, 6:10-33, 5:15-23. Lassiter discloses using video camera 101 for obtaining video of a monitored area. Ex. 1005, 9:4-10:8. A visual user interface 900 includes annotation space 904 that allows a user to make annotation regarding a recorded scene or scenes using a keyboard, touch screens or other inputs means. Ex. 1005, 36:26-31, 37:7-17, 38:10-39:1. The annotations include times associated with the corresponding video. Ex. 1005, 37:18-38:9. The user can then search the annotations to find a desired segment of the video. Ex. 1005, 39:24-35.

Lassiter is analogous to the '803 Patent. Lassiter is in the same field of endeavor as the '803 Patent, which includes annotating and searching videos to locate video segments of interest. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1005, 6:10-33, 5:15-23. Lassiter is also reasonably pertinent to several particular problems with which the inventor was concerned, such as being able to quickly find desired video segments. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, Lassiter discloses using annotations to more easily identify desired segments to view. Ex. 1005, 6:10-33, 37:18-38:9, 39:24-35.

4. Kauffman

Kauffman describes a system for obtaining and editing video content. Ex. 1006, [0017]. Specifically, Kauffman discloses encoding a video into both low resolution (MPEG1) and high

resolution (MPEG2) formats. Ex. 1006, [0018]-[0019]. The MPEG1 includes metadata such as annotations added by a user. Ex. 1006, [0018]-[0019], [0049], [0055], [0072]. Kauffman discloses synchronizing time codes between MPEG1 and MPEG2. Ex. 1006, [0019]. Kauffman's system includes Content Manager 22 for searching and browsing the video meta data including the annotations. Ex. 1006, [0023]. The appropriate video segment is found by searching MPEG1 for the annotation and then the associated MPEG2 video segment is retrieved. Ex. 1006, [0024]-[0027]. The user selects the portion of MPEG1 based on their search of the meta data. Ex. 1006, [0039]. The system automatically determines the time code associated with that portion of MPEG1. Ex. 1006, [0039]. An example "time code reads '01:00:50:02', indicating that the image frame is 50 seconds and 2 frames into MPEG1 stream '01'." Ex.1006, [0040]. Using this time code, the system is configured to find the corresponding frame of high resolution MPEG2. Ex. 1006, [0040].

Kauffman is analogous to the '803 Patent. Kauffman is in the same field of endeavor as the '803 Patent, which includes annotating and searching surveillance videos to locate video segments of interest. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1006, [0024]-[0027], [0039]-[0040]. Kauffman is also reasonably pertinent to several particular problems with which the inventor was concerned, such as being able to quickly find desired video segments. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, Kauffman discloses using annotations to more easily identify desired segments to view. Ex. 1006, [0018]-[0019], [0024]-[0027], [0039]-[0040].

5. Amano

Amano discloses an image playback system associated with a monitoring system. Ex. 1007, Abstract. Amano discloses that its monitoring system includes using an electronic camera having infrared detection means 22 and temperature detection means 23 to determine periods of time in which an object within a predetermined temperature range is present. Ex. 1007, [0136]-[0142]. For example, Amano's system can use its camera to determine whether a person is present in the monitored area based on a temperature range such that certain video segments can be selectively played back. Ex. 1007, [0312], [0319]-[0324], [0263], [0294]. This allows for Amano's image playback system to filter the video and playback, for example, scenes in which persons are sensed as being present. Ex. 1007, [0263].

Amano is analogous to the '803 Patent. Amano is in the same field of endeavor as the '803 Patent, which includes taking monitoring videos and locating particular video segments of interest. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1007, [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]. Amano is also reasonably pertinent to several particular problems with which the inventor was concerned, such as being able to quickly find desired video segments for playback. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, Amano discloses filtering videos based on obtained data to playback desired video segments. Ex. 1007, [0136]-[0142], [0312], [0319]-[0324], [0263], [0294].

6. Brown

Brown discloses a digital video management system that may be implemented in a surveillance system. Ex. 1008, 1:3-10, 5:1-7:21. The system includes a plurality of cameras for obtaining video of a monitored location. Ex. 1008, 13:16-19. Brown further discloses a video server database that is implemented using SQL includes information about the contents of the obtained videos so that a user can find a particular incident based on certain search criteria. Ex. 1008, 5:1-7:21, 7:9-11, 16:11-15, 26:12-14, 33:10-16, 47:14-15, 72:11-73:23, Fig. 46-47. For example, in Brown's system the user can select particular events to view based on the search results. Ex. 1008, 73:17-23.

Brown is analogous to the '803 Patent. Brown is in the same field of endeavor as the '803 Patent, which includes taking monitoring videos and locating particular video segments of interest. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1008, 5:1-7:21, 7:9-11, 16:11-15, 26:12-14, 33:10-16, 47:14-15, 72:11-73:23, Fig. 46-47. Brown is also reasonably pertinent to several particular problems with which the inventor was concerned, such as being able to quickly find desired video segments for playback. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, Brown discloses searching surveillance system videos to playback desired video segments. Ex. 1008, 5:1-7:21, 7:9-11, 16:11-15, 26:12-14, 33:10-16, 47:14-15, 72:11-73:23, Fig. 46-47.

7. James

James discloses a combined imaging and temperature monitoring system. Ex. 1009, Abstract. Specifically, James discloses using an imaging and temperature monitoring system so that a temperature of an object in an image can be determined. Ex. 1009, 1:6-10, 2:21-25, 2:59-62, 3:19-27. James' system includes an infrared camera for measuring temperature. Ex. 1009, 3:19-

27. When a user retrieves video based on temperature, the system displays the temperature data along with the video image. Ex. 1009, Abstract, 11:29-40.

James is analogous to the '803 Patent. James is in the same field of endeavor as the '803 Patent, which includes taking monitoring videos. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1009, Abstract, 2:3-16, 2:59-62. James is also reasonably pertinent to several particular problems with which the inventor was concerned, monitoring a particular location. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, James discloses a monitoring system. Ex. 1009, Abstract, 1:6-10, 2:21-25, 2:59-62, 3:19-27, 11:29-40.

8. Yamashiro

Yamashiro discloses a surveillance camera system in which an image search can be conducted to find a particular image having the desired luminance characteristics. Ex. 1010, Abstract, [0002], [0009], [0063]. The luminance is used to determine motion in the monitored location. Ex. 1010, [0004]-[0006], [0063], Figs. 7-15.

Yamashiro is analogous to the '803 Patent. Yamashiro is in the same field of endeavor as the '803 Patent, which includes taking monitoring videos and searching for a desired video segment. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1010, [0002], [0004]-[0006], [0009], [0063], Figs. 7-15. Yamashiro is also reasonably pertinent to several particular problems with which the inventor was concerned, such as being able to quickly find desired video segments for playback. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, Yamashiro discloses searching surveillance system videos to playback desired video segments. Ex. 1010, [0002], [0004]-[0006], [0009], [0063], Figs. 7-15.

9. Buinevicius

Buinevicius discloses a surveillance system in which that stores time stamped biometric information, such as facial or voiceprint data, from various sources, such as a video clip, that is searched to determine an individual that is in the monitored area. Ex. 1011, Abstract, [0010], [0031]-[0032], [0045][0046], [0050]-[0051], [0056], [0061], [0066]-[0067], claim 10. For example, a video clip may be analyzed to determine biometric signatures in the recording. Ex. 1011, [0056]. Those biometric signatures are then be matched to individuals with stored biometric information to determine if the individual in the monitored area is known. Ex. 1011, [0059]-[0067].

Buinevicius is analogous to the '803 Patent. Buinevicius is in the same field of endeavor as the '803 Patent, which includes taking monitoring videos and searching for a desired video segment. *Compare* Ex. 1001, 1:12-36 *with* Ex. 1011, Abstract, [0010], [0031]-[0032], [0045][0046], [0050]-[0051], [0056], [0061], [0066]-[0067], claim 10. Buinevicius is also reasonably pertinent to several particular problems with which the inventor was concerned, such as being able to quickly find desired video segments for playback. Ex. 1001, 1:12-36. Indeed, similar to the '803 Patent, Buinevicius discloses searching surveillance system videos to playback desired video segments. Ex. 1011, Abstract, [0010], [0031]-[0032], [0045][0046], [0050]-[0051], [0056], [0061], [0066]-[0067], claim 10.

IV. DETAILED EXPLANATION OF THE PERTINENCE AND MANNER OF APPLYING THE PRIOR ART REFERENCES TO EVERY CLAIM FOR WHICH REEXAMINATION IS REQUESTED

The present request presents proposed rejections based on the references Grandin, Lassiter, Kauffman, Amano, James, Yamashiro, and Buinevicius.

Unified notes that the proposed rejections based on SNQs 1-32 below are based on obviousness under 35 U.S.C. § 103(a). Unified notes that, even if there are minor differences between cited disclosures of the prior art and the claimed concepts, the claims are still obvious, as a POSITA would not have appreciated "some new synergy" or unexpected results from the limitations given the disclosures of the prior art and the general knowledge of a POSITA. *KSR Intern. Co. v. Teleflex Inc.*, 550 US 398, 417 (2007). When compared with the prior art described below and in light of the knowledge of a POSITA, any "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." 35 U.S.C. § 103.

The proposed rejections (SNQs) are listed above and are described below in further detail.

A. SNQs 1-4: Grandin (SNQ1); Grandin in View of Lassiter (SNQ2); Grandin in View of Kauffman (SNQ3); and Grandin in View of Lassiter and Kauffman (SNQ4) Each Present a Significant New Question of Patentability for Challenged Claims 1-3, 11-19, and 22-27

1. The challenges based on combinations of Grandin, Lassiter, and Kauffman (SNQs 1-4) present substantial new questions of

patentability that were not addressed during the original examination

Grandin is used in SNQs 1-4 because in describing the operation of its monitoring system, it renders obvious the claims. Specifically, Grandin discloses event capture system 110 that includes a number of cameras 210 for capturing video of the event. Ex. 1004, 6:11-17, 11:66-12:11. Ex. 1004, 1:9-13. Grandin discloses that event capture system 110 "also accepts observer annotation input 124 from an observer who views the event." Ex. 1004, 6:23-24, 4:67-5:4. Grandin further discloses that the cameras output video signals 212 from the event to signal pre-processor 215 so they can be received by event processing system 140. Ex. 1004, 6:11-13, 9:21-37. Event processing system 140 includes signal storage 610 for storing the video signals that are received from camera 210 of event capture system 110. Ex. 1004, 9:20-37. Event processing system 140 also includes annotation storage 620 for storing an annotations table 610. Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53. Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29. This allows for the data annotations to be used to search for a particular video segment. Ex. 1004, 9:20-10:29. Once the video segment is identified, content selector 640 retrieves that video recording for the segment which spans, for example, frames f_1 to f_2. Ex. 1004, 10:33-42. The retrieved video segments are displayed on display device 665, such as a video monitor. Ex. 1004, 9:60-64.

Lassiter is used in SNQs 2 and 4 because it describes the desire to use a monitoring system in which the obtained videos can be searched in surveillance applications. Specifically, Lassiter discloses that there is a desire to easily search annotated videos from a variety of applications including both security applications and TV film production applications among others. Ex. 1005, 6:10-33, 5:15-23.

Kauffman is used in SNQs 3-4 because it describes using a time stamp of an annotation to determine the corresponding frame of the associated video segment; thus, it teaches directly comparing a time stamp to an image count. Specifically, Kauffman discloses encoding a video into both low resolution (MPEG1) and high resolution (MPEG2) formats. Ex. 1006, [0018]-[0019]. The MPEG1 includes metadata such as annotations added by a user. Ex. 1006, [0018]-[0019], [0049], [0055], [0072]. The appropriate video segment is found by searching MPEG1 for the

annotation, and then the associated MPEG2 video segment is retrieved. Ex. 1006, [0024]-[0027]. The user selects the portion of MPEG1 stream based on their search of the meta data. Ex. 1006, [0039]. The system automatically determines the time code associated with that portion of MPEG1. Ex. 1006, [0039]. Using this time code, the system is configured to find the corresponding frame of the high resolution MPEG2 stream. Ex. 1006, [0040].

Combinations of Grandin, Lassiter, and Kauffman (for SNQs 1-4) present substantial new questions of patentability at least because their contributions to annotating and searching surveillance video show that the '803 Patent's claimed solution for searching surveillance video including directly comparing the time stamp of the annotation with an image count of the video was already known in the art. Because combinations of Grandin, Lassiter, and Kauffman (for SNQs 1-4) discloses each of the elements of Challenged Claims 1-3, 11-19, and 22-27, they present substantial new questions of patentability.

2. Independent claim 1

[1.0] ***A surveillance system, comprising:***

For SNQs 1 and 3, Grandin discloses, or at least renders obvious, element [1.0]. Additionally or alternatively, for SNQs 2 and 4, Grandin in view of Lassiter renders obvious element [1.0].

Grandin discloses a surveillance system, referred to as a monitoring system, for capturing video of events. Ex. 1004, 1:9-13. Specifically, Grandin discloses event capture system 110 that includes a number of cameras 210 for capturing video of the event. Ex. 1004, 6:11-17, 11:66-12:11. Grandin discloses examples of the events that may be monitored include sporting events, such as football or basketball games. Ex. 1004, 1:9-13.

To the extent Patent Owner argues that the claimed *surveillance* be related to security, it would have been obvious to a POSITA in view of Grandin alone or in view of Lassiter to use the system for this purpose. Ex. 1003, ¶¶52-56. As an initial matter, the Supreme Court has long help that the application of an old process or machine to a new use that does not change the manner of application or produce unexpected results "will not sustain a patent, even if the new form of result had not before been contemplated." *Pennsylvania R Co v. Locomotive Engine Safety Truck Co*, 110 U.S. 490 (1884). The Supreme Court held that "where the public has acquired in any way the right to use a machine or device for a particular purpose, it has the right to use it for all the like

purposes to which it can be applied, and no one can take out a patent to cover the application of the device for a similar purpose." *Blake v. City and County of San Francisco*, 113 U.S. 679 (1885); *see also, In re Woodruff*, 919 F.2d 1575, 1578 (Fed. Cir. 1990) ("merely discovering and claiming a new benefit of an *old* process cannot render the process again patentable" (emphasis in original)); *In re Durden*, 763 F.2d 1406, 1410-11 (Fed. Cir. 1985).

Grandin provides a detailed disclosure regarding how to monitor events in general. Ex. 1004, 1:9-10 ("This invention relates to a system for capturing and subsequently distributing continuous signal."), 2:16-32, 4:65-5:2, 6:11-17, 11:66-12:11. Grandin discloses general monitoring and provides an example of monitoring sporting events for broadcast (Ex. 1004, 1:9-13), but Grandin does not specifically disclose using its monitoring system for security purposes. However, Grandin discloses that its description "is intended to illustrate and not limit the scope of the invention." Ex. 1004, 13:14-16. Furthermore, Grandin's claims are directed more generally to capturing and distributing video information. *See, e.g.*, Ex. 1004, 13:20-21, 14:51-52. Thus, it would have been obvious to use such a monitoring system for applications capturing events other than sporting games for TV production. Ex. 1003, ¶53. Notably, it was well known that it was desirable to use monitoring systems for security purposes, especially those that allow for annotating and searching the video, as detailed by Lassiter. Ex. 1005, 6:10-33, 5:15-23. Specifically, Lassiter discloses that there is a desire to easily search annotated videos from a variety of applications including both security applications and TV film production applications among others. Ex. 1005, 6:10-33. Indeed, the benefits of using annotations to search security videos was well known as these systems "generate a vast quantity of content, [but] an end user is only interested in seeing suspicious activity." Ex. 1003, ¶53 (quoting Ex. 1012, 7:28-8:7, 8:18-24, 15:1-5, Fig. 2).

Thus, to the extent the claims require that the system be used in security applications, motivated by the knowledge of a POSITA and/or Lassiter's disclosure that it was desirable to use such monitoring systems in security applications (e.g., having the capability to annotated and search security video was desired), a POSITA would been motivated to use Grandin's monitoring system for security applications. Ex. 1005, 6:10-33, 5:15-23; Ex. 1012, 7:28-8:7, 8:18-24, 15:1-5, Fig. 2; Ex. 1003, ¶54.

A POSITA would have turned to Lassiter, in particular, because Lassiter describes a similar system for annotating and searching video and indicates that security applications are among the

applications for which it is desired to be used. Ex. 1003, ¶55. Basically, Lassiter lays out some of the applications for which the ability to search video is desired. Ex. 1003, ¶55. Thus, given that both references are directed to monitoring systems in which annotating and searching of the stored video is used, applying Lassiter's teachings to Grandin's disclosures represents the combination of prior art elements according to known methods (e.g., Lassiter's application in the security field with Grandin's disclosure of the desire to annotate and search video to more quickly find particular portions of the video that a user wishes to review) to yield predictable results (e.g., using a general monitoring system with annotation and search capabilities in a security application). Ex. 1003, ¶55; MPEP § 2143.I (rationale A). This also represents applying the known techniques of Lassiter's details regarding using a monitoring system for security purposes to improve the monitoring methods of Grandin in the same ways. Ex. 1003, ¶55; MPEP § 2143.I (rationale C).

A POSITA would have had a reasonable expectation of success in applying Grandin to security applications, as taught by Lassiter, largely because Grandin discloses a general monitoring system and Lassiter provides for specific applications for which it may be utilized. Ex. 1005, 6:27-33. That is, a POSITA would have had a reasonable expectation of success in using Lassiter's teachings because using a monitoring system for security applications was known to POSITAs. Ex. 1003, ¶56.

Thus, for SNQs 1-4, Grandin as modified by knowledge of a POSITA or Lassiter renders obvious *[a] surveillance system* (e.g., event capture system 110 for monitoring security events).

[1.1] ***a camera arranged to output images of a protected area;***

For SNQs 1 and 3, Grandin discloses, or at least renders obvious, element [1.1]. Additionally or alternatively, for SNQs 2 and 4, Grandin in view of Lassiter renders obvious element [1.1].

As discussed above for [1.0], Grandin discloses event capture system 110 that includes a number of cameras 210 (e.g., *a camera*) for capturing video of the event at an event area (e.g., *protected area*). Ex. 1004, 6:11-17, 11:66-12:11. Grandin further discloses that the cameras output video signals 212 from the event to signal pre-processor 215 so they can be received by event processing system 140. Ex. 1004, 6:11-13, 9:21-37. In addition, the video segments of the event area (e.g., *protected area*) obtained by the cameras are displayed (e.g., *output*) on display device 665, such as a video monitor. Ex. 1004, 9:60-64. Thus, Grandin discloses that camera 210 is *arranged to output images*.

To the extent Patent Owner argues that the claims require that the surveillance be related to security, it would have been obvious to a POSITA in view of Grandin alone or in view of Lassiter to use the system for this purpose. Ex. 1003, ¶¶58-60.

To the extent Patent Owner argues that the claims require that the *protected area* be a secured area, it would have been obvious to a POSITA in view of Grandin alone or in view of Lassiter to monitor a secured area. As discussed above for [1.0], Grandin provides a detailed disclosure regarding how to monitor events in general but does not specifically disclose using the system for security purposes. Ex. 1004, 1:9-10 ("This invention relates to a system for capturing and subsequently distributing continuous signal."), 2:16-32, 4:65-5:2, 6:11-17, 11:66-12:11. However, Grandin discloses that its description "is intended to illustrate and not limit the scope of the invention," and Grandin's claims are directed more generally to capturing and distributing video information. Ex. 1004, 13:14-16, *see also*, Ex. 1004, 13:20-21, 14:51-52. Thus, as discussed for element [1.0], it would have been obvious in view of Grandin alone or in view of Lassiter to use Grandin's system as a surveillance system for security purposes. The '803 Patent discloses that protected areas are "areas requiring protection from intruders, unauthorized use, criminal activities, etc." Ex. 1001, 1:12-18. Therefore, when using Grandin's system as a *surveillance system* for security applications, a POSITA would have understood or at least found obvious that the areas being monitored are secured locations (e.g., *protected areas*). Ex. 1003, ¶59.

Thus, for SNQs 1-4, Grandin alone or in view of Lassiter renders obvious, *a camera* (e.g. one of cameras 210) *arranged to output images* (e.g. a video signal including images is sent from camera 210 and received by event processing system 140 so that the video including the images can be displayed to a user on display device 665) *of a protected area* (e.g., an area being monitored, including for security purposes).

[1.2] ***an input device arranged to provide a data annotation;***

For SNQs 1-4, Grandin discloses, or at least renders obvious, element [1.2].

Grandin discloses that event capture system 110 "also accepts observer annotation input 124 from an observer who views the event." Ex. 1004, 6:23-24, 4:67-5:4. The observer may use a keyboard associated with console 225 to type the annotations. Ex. 1004, 6:24-27, 6:35-43. Alternatively, the annotations may be inputted by speaking into a microphone. Ex. 1004, 7:51-55. The annotations provide information for what is happening in the video. Ex. 1004, 6:27-32. For example, in the context of the event being a football game, the annotations include information

about the game such as "which team has possession and information related to each play such as the type of play, which players were involved, and the outcome of the play." Ex. 1004, 6:27-32.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *an input device* (e.g., keyboard or microphone associated with console 225) *arranged to provide data annotations* (e.g., for providing annotations that give details about what is happening in the video)

> **[1.3]** ***a server arranged to synchronously store the images and the data annotation so that the data annotations can be used to search for a segment of the images;***

For SNQs 1-4, Grandin discloses, or at least renders obvious, element [1.3].

As discussed for [1.1], the videos obtained from camera 210 of event capture system 110 are outputted to event processing system 140. Ex. 1004, 6:11-13, 9:21-37. Event processing system 140 is a computing device that includes storage and logic processing modules. Ex. 1004, 9:20-10:7. And event capture system 110, perform pre-processing steps on obtained video and annotated data. Ex. 1004, 6:23-59. The '803 Patent describes a *server* generally as a computing device such as a standard desktop computer and that the server may be combined into a single device or divided between multiple devices. Ex. 1001, 2:35-46, Fig. 1. Thus, event processing system 140, alone or in combination with other systems such as event capture system 110, corresponds to the claimed *server*.

As discussed above in the claim construction section, *synchronously stor[ing] the images and the data annotation so that the data annotations can be used to search for a segment of the images* should be construed as "storing the images/video segments and the data annotations in a manner that allows for the data annotations to be used to search for and retrieve the corresponding image/video segment(s)." Here, event processing system 140 performs this element.

Event processing system 140 includes signal storage 610 for storing the video signals (e.g., *images*) that are received from camera 210 of event capture system 110. Ex. 1004, 9:20-37. Event processing system 140 also includes annotation storage 620 for storing an annotations table 610. Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53. Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29. The '803 Patent describes that the time stamp associated with the data annotation or data

tag "synchronizes the data tag with the corresponding (i.e. annotated) video segment of the video also saved in the memory of the video server 20," which enables a particular video to be obtained by searching the data annotations. Ex. 1001, 3:19-28, 3:42-61, 4:28-34. Similarly, Grandin discloses using a starting time 630 and ending time 632 (e.g. time stamp) associated with the annotation to synchronize the annotation with the associated video segment. Ex. 1004, 9:20-10:29. This allows for the data annotations to be used to search for a particular video segment. Ex. 1004, 9:20-10:29.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *a server* (e.g., event processing system 140, alone or in combination with other systems such as event capture system 110) *arranged to synchronously store the images and the data annotation so that the data annotations can be used to search for a segment of the images* (e.g., stores video signals in signal storage 610 and annotations in the form of annotation table 610 in annotation storage 620 such that annotation table 610 includes times associated with each of the annotations allowing for the data annotations to be searched and their corresponding video segments to be obtained).

[1.3.1] ***wherein the server is arranged to time stamp the data annotation; and further***

For SNQs 1-4, Grandin discloses, or at least renders obvious, element [1.3.1].

As discussed for element [1.3], Grandin discloses event processing system 140 that corresponds to the claimed *server*. Furthermore, as also discussed above, event processing system 140 includes an annotation table 610 having a record for each annotation that includes a starting time 630 and ending time 632 (e.g., *time stamp*) and a description which includes observer annotation input 124 (e.g., *data annotation*). Ex. 1004, 9:38-53, 4:67-5:4.

Thus, Grandin discloses, or at least renders obvious that *the server* (e.g., event processing system 140) *is arranged to time stamp the data annotation* (e.g., stores starting time 630 and ending time 632 associated with observer annotation input 124).

To the extent that Patent Owner argues that storing the time stamp and associated data annotation is not sufficient to *time stamp the data annotation*, Grandin discloses that event capture system 110 creates distribution annotations 132 that include "references to time intervals in distribution signals 130" such that the "time references in distribution annotations 132 specify definite portions of the distribution signals. Ex. 1004, 5:27-33. Event capture system 110 includes annotations pre-processor 230 that processes annotation signal 227 to produce captured annotations 235. Ex. 1004, 6:23-59. Annotations pre-processor 230 analyzes intervals of

annotation signal 227 that are related to individual segments of the event and creates a record that identifies the time interval of the segment. Ex. 1004, 6:60-7:13. Specifically, event capture system 110 then creates annotations table 340 that includes start time 360 and end time 362 for each annotation segment (e.g., captured segment record 350). Ex. 1004, 7:14-25. Event capture system 110 further includes a segment matcher 240 that associates individual captured segment records 350 with particular video segment records to produce distribution annotations 132 that includes distribution annotation table 510 having a number of distribution segment records 510 that each have an associated segment description 364, start time 450 and end time 452 that are sent to event processing system 140. Ex. 1004, 6:51-7:24. Thus, Grandin discloses that event capture system 110 adds a time interval (e.g., *time stamp*) to each data annotation.

Thus, if using annotations pre-processor 230 of event capture system 110 to add a time interval to each data annotation prior to storing the start and end times is necessary, event capture system 110 and event processing system 140 together correspond to the claimed *server*. This is consistent with the specification of the '803 Patent, which discloses that the claimed server may be divided between multiple devices. Ex. 1001, 2:35-46, Fig. 1.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, that *the server* (e.g., event processing system 140 and event capture system 110 together) *is arranged to time stamp the data annotation* (e.g., add time intervals with start time 360 and end time 362 and/or time intervals with start time 450 and end time 452 associated with observer annotation input 124).

[1.3.2] ***wherein the server is arranged to directly compare the time stamp of the data annotation to an image count when searching for the segment of the images.***

For SNQs 1-2, Grandin discloses, or at least renders obvious, element [1.3.2]. Additionally or alternatively, for SNQs 3-4, Grandin in view of Kauffman renders obvious element [1.3.2].

As discussed for elements [1.3] and [1.3.1], Grandin's event processing system 140 alone or together with event capture system 110 correspond with the claimed *server*.

As discussed above in the claim construction section, *image count* encompasses a time code, which "includes hours, minutes, seconds, **and frames** relative to a fixed time origin."

Grandin discloses that event processing system 140 includes content selector 640 for performing "a database search function using stored annotations table 610." Ex. 1004, 10:8-9. Specifically, a user may enter a query 712 and query engine 710 of content selector 640 "accesses stored annotations table 610 and identifies the segments that match the query." Ex. 1004, 10:10-15. To identify the matching video segments, event processing system 140 "receives distribution

signals 130 and distribution annotations 132, and either directly from explicit timing information in the distribution signals, or by another implicit mechanism, determines a time reference for the distribution signals that allows it to access time intervals in the distribution signals based on the times specified in the distribution annotations." Ex. 1004, 5:48-55. Event processing system 140 "processes the received distribution signals and annotation signals from one or more events" to assemble related time intervals from the received distribution signals. Ex. 1004, 5:56-63. Grandin discloses that to synchronize the video signal and the annotations, a time signal 201 is generated by time signal generator 200 and sent to signal pre-processor 215 and annotations pre-processor 230. Ex. 1004, 6:44-48. Time signal 201 is generated according to a SMPTE (Society of Motion Picture and Television Engineers) time code standard, which defines a continuous serial digital signal and includes hours, minutes, seconds, and frames relative to a fixed time origin. Ex. 1004, 6:48-53. That is, the time codes used in Grandin's system comprise both time stamps and frame counts. Because the data annotations and the video stream are synchronized, the starting time 630 and ending time 632 stored in annotations table 610 are in the format of time codes and include both a time stamp and additional frame count information. Ex. 1003, ¶63; Ex. 1004, 6:48-53, 9:38-53, 4:67-5:4. Similarly, the image count of the video stream is also in the format of a time code consisting of a time stamp and additional frame count information. Ex. 1004, 6:48-53, 9:38-53, 4:67-5:4. This allows the Grandin's system to directly compare the time code associated with the data annotation which includes time stamp information with the time code associated with the video stream which includes frame count information to find the portion of the video steam that has a matching time code. Ex. 1004, 6:48-53, 9:38-53, 4:67-5:4. Because Grandin uses time codes instead of mere time stamps, Grandin's system directly compares the time code (including a *time stamp*) of the data annotation with the times codes (including the *image count*) of the video stream to determine the matching video segment. Ex. 1004, 6:48-53, 9:38-53, 4:67-5:4.

Once the video segment is identified, content selector 640 retrieves that video recording for the segment which spans, for example, frames f_1 to f_2. Ex. 1004, 10:33-42. There may be multiple cameras recording the event, and, in that case, content selector 640 may retrieve the multiple video recordings that correspond to the annotated segment time. Ex. 1004, 10:33-42.

Therefore, a POSITA would have understood that the time code associated with the video stream in the format of hours, minutes, seconds, and frames relative to a fixed time origin which includes a frame count would correspond to *an image count* under either Requestor's proposed

construction of "a value, such as a frame number in a time code, identifying the image or video frame" or the narrower construction of "a frame count" because Grandin's time code includes both time stamp and frame count information. Ex. 1003, ¶65.

Furthermore, a POSITA would have understood that the comparison of the time code of the data annotation (which includes time stamp information) to find the matching time code associated with the video stream (which includes frame count information) when searching for the desired video segment frames to retrieve would corresponds to *directly compar[ing] the time stamp of the data annotation to an image count when searching for the segment of the images*. Ex. 1003, ¶66.

This disclosure in Grandin is consistent with the comparison described in the specification and the prosecution history. Ex. 1003, ¶67. Other than in the claims, the only recitation of a *compar[ison]* in the specification states that "the time stamps of the data tags found from the search can be compared to the video count of the video to identify the video segment of interest." Ex. 1001, 4:28-34. This Applicant relied on this disclosure when amending the claims to add this limitation. Ex. 1002, 42-43. In addition, the Applicant also cited to the specification's disclosure of "storing a link that links the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest" as allegedly providing support for the element. Ex. 1002, 42-43; Ex. 1001, 1:58-61. These are the only portions of the specification that the Applicant cited to as providing alleged disclosure for this element.

Therefore, for SNQs 1-2, Grandin discloses, or at least renders obvious, *wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *is arranged to directly compare the time stamp of the data annotation to an image count when searching for the segment of the images* (e.g., directly compares the time code (including the time stamp) of the data annotation to the time code (including the frame count) associated with the video stream when searching for the desired video segment frames to retrieve). Ex. 1003, ¶68.

Finally, to the extent Patent Owner alleges that Grandin alone does not disclose or render obvious *directly compar[ing] the time stamp of the data annotation to an image count when searching for the segment of the images*, it would have been obvious to a POSITA to modify Grandin in view of Kauffman to include this feature. Ex.1003, ¶¶69-74. It was well known to use a time code (including time stamp and frame count information) of a data annotation in one resolution to determine the frame number of the corresponding video segment in another resolution. Ex. 1003, ¶69. Specifically, Kauffman discloses encoding a video into both low

resolution (MPEG1) and high resolution (MPEG2) formats. Ex. 1006, [0018]-[0019]. The MPEG1 includes metadata such as annotations added by a user. Ex. 1006, [0018]-[0019], [0049], [0055], [0072]. Kauffman discloses that the time codes between MPEG1 and MPEG2 are synchronized. Ex. 1006, [0019]. Kauffman's system includes Content Manager 22 for searching and browsing the video meta data including the annotations. Ex. 1006, [0023]. The appropriate video segment is found by searching the MPEG1 stream for the annotation to retrieve the associated MPEG2 video segment. Ex. 1006, [0024]-[0027]. The user selects the portion of MPEG1 based on their search of the meta data. Ex. 1006, [0039]. The system automatically determines the time code associated with that portion of MPEG1. Ex. 1006, [0039]. An example "time code reads '01:00:50:02', indicating that the image frame is 50 seconds and 2 frames into MPEG1 stream '01'." Ex.1006, [0040]. Using this time code, the system is configured to find the corresponding frame of the high-resolution MPEG2 stream. Ex. 1006, [0040]. This is consistent with the example of this element presented by the Applicant during prosecution and noted above. Ex. 1002, 80.

Thus, a POSITA would have understood that Kauffman's system similarly *directly compare[s] the time stamp* (e.g., time code of MPEG1 reading, for example, "'01:00:50:02', indicating that the image frame is 50 seconds and 2 frames into MPEG1 stream '01'") *to an image count* (e.g. corresponding frame(s) of MPEG2) *when searching for the segment of the images* (e.g., when searching for the corresponding frame(s) of MPEG2). Ex. 1003, ¶70.

It would have been obvious to a POSITA to modify Grandin in view of Kauffman to use this well-known mechanism for retrieving video segments based on time codes from corresponding data annotations. Ex. 1003, ¶71. Specifically, Grandin's system is designed to obtain frames of video segments based on searching a time code of an associated data annotation. Ex. 1004, 4:67-5:4, 5:48-63, 6:44-53, 9:38-53, 10:8-15, 10:33-42. Using Kauffman's method to would provide details for how to determine the relative frame number of the video segment from the time code associated with the annotation. Ex. 1006, [0018]-[0019], [0023]-[0027], [0039]-[0040]; Ex. 1003, ¶71. Furthermore, to the extent Grandin required searching through the timecode stamps on the video, Kauffman provides disclosure of a streamlined index to the time code and other video metadata providing more efficient access. Ex. 1003, ¶71; Ex. 1006, [0038]. A POSITA would have recognized the importance of this efficiency when accessing large quantities of video content, as Kauffman highlights. Ex. 1003, ¶71; Ex. 1006, [0002].

A POSITA would have turned to Kauffman, in particular, because Kauffman describes a well-known method for using a time code to determine a corresponding frame number. Ex. 1003, ¶72. Basically, Kauffman lays out the method for determining the image frame based on an associated time code. Ex. 1003, ¶72. Thus, given that both references are directed to obtaining video segments based on time codes associated with data annotations, applying Kauffman's teachings to Grandin's disclosures represents the combination of prior art elements according to known methods (e.g., Grandin's general use of time codes in the format of hours, minutes, seconds, and frames relative to the fixed time origin) to yield predictable results (e.g., using such a time code to obtain the associated frames in the video stream). Ex. 1003, ¶72; MPEP § 2143.I (rationale A). This also represents applying the known techniques of Kauffman's details regarding obtaining video segment frames to improve the similar video segment retrieval methods of Grandin in the same ways. Ex. 1003, ¶72; MPEP § 2143.I (rationale C).

A POSITA would have had a reasonable expectation of success in applying Kauffman's teachings to Grandin largely because Kauffman provides the required details for using a time code in the format of hours, minutes, seconds, and frames to determine a corresponding video segment frame. Ex. 1006, [0018]-[0019], [0023]-[0027], [0039]-[0040]. That is, a POSITA would have had a reasonable expectation of success in using Kauffman's teachings because using a time code to determine an associated video segment frame was a simple process known to POSITAs. Ex. 1003, ¶73.

Thus, for SNQs 3-4, Grandin in view of Kauffman renders obvious *wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *is arranged to directly compare the time stamp of the data annotation to an image count when searching for the segment of the images* (e.g., directly compares the time code (including time stamp information) of the data annotation to determine the frame(s) of the associated video stream when searching for the desired video segment frame(s) to retrieve).

3. Dependent Claim 2

[2.0] ***The surveillance system of claim 1, wherein the server is arranged to cause the segment of the images matching the time stamp to be displayed.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance system of claim 1*. Section IV.A.2.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [2.0].

As discussed above for element [1.3.2], Grandin discloses that content selector 640 of event processing system 140 retrieves the desired video segment. Ex. 1004, 9:59-64, 10:33-42. Grandin further discloses that the retrieved segments are displayed on display device 665, such as a video monitor. Ex. 1004, 9:59-64.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *is arranged to cause the segment of the images matching the time stamp* (e.g., retrieved segment corresponding to the times stored in the annotation record) *to be displayed* (e.g., displayed on display device 665).

4. Dependent Claim 3

[3.0] ***The surveillance system of claim 1 wherein the camera comprises a video camera, and wherein the server comprises a video server.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance system of claim 1*. Section IV.A.2.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [3.0].

As discussed for element [1.1], Grandin discloses event capture system 110 that includes a number of cameras 210 for capturing video of the event (e.g., *video camera*). Ex. 1004, 6:11-17, 11:66-12:11. Grandin further discloses that the cameras output video signals 212 from the event to signal pre-processor 215 so they can be received by event processing system 140 (e.g., *video server*). Ex. 1004, 6:11-13, 9:21-37. That is, event processing system 140 is a *video server* because it stores video signals received from the video cameras. Ex. 1004, 6:11-13, 9:21-37.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *wherein the camera* (e.g., camera 210) *comprises a video camera* (e.g., camera 210 captures video content of an event), *and wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *comprises a video server* (e.g., event processing system 140 stores video signals received from camera 210).

5. Independent Claim 11

[11.0] ***A method, comprising:***

Element [11.0] is not a limitation of the claim. However, to the extent limiting, Grandin discloses a "method for capturing and distributing video information." *See, e.g.,* Ex. 1004, 2:16-17.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *[a] method.*

[11.1] ***storing surveillance video in memory;***

Element [11.1] is similar to aspects of elements [1.0], [1.1] and [1.3] combined. Thus, for SNQs 1 and 3, Grandin discloses, or at least renders obvious, element [11.1]. Additionally or alternatively, for SNQs 2 and 4, Grandin in view of Lassiter renders obvious element [11.1].

As discussed for [1.0], Grandin discloses a monitoring system including a number of cameras 210 for capturing video of events (e.g., *surveillance*). Ex. 1004, 1:9-13, 6:11-17, 11:66-12:11. Grandin discloses examples of the events that may be monitored include sporting events, such as football or basketball games. Ex. 1004, 1:9-13.

Furthermore, as discussed for [1.3], event processing system 140 is a computing device that includes storage and logic processing modules. Ex. 1004, 9:20-10:7. Event processing system 140 includes signal storage 610 (e.g., *memory*) for storing the video signals (e.g., *surveillance*) that are received from camera 210 of event capture system 110. Ex. 1004, 9:20-37.

To the extent Patent Owner argues that the claims require that the *surveillance video* be related to security, it would have been obvious to a POSITA in view of Grandin alone or in view of Lassiter to use the system for this purpose for the reasons discussed for [1.0]. Ex. 1003, ¶¶53-56, 75-77; Section IV.A.2.[1.0]. For example, Grandin's claims are directed more generally to capturing and distributing video information. *See, e.g.*, Ex. 1004, 13:20-21, 14:51-52. Thus, it would have been obvious to use such a monitoring system for applications capturing events other than sporting games for TV production. Notably, it was well known that it was desirable to use monitoring systems for security purposes, especially those that allow for annotating and searching the video, as detailed by Lassiter. Ex. 1005, 6:10-33, 5:15-23. Specifically, Lassiter discloses that there is a desire to easily search annotated videos from a variety of applications including both security applications and TV film production applications among others. Ex. 1005, 6:10-33. Indeed, the benefits of using annotations to search security videos was well known as these systems "generate a vast quantity of content, [but] an end user is only interested in seeing suspicious activity." Ex. 1003, ¶76 (quoting Ex. 1012, 7:28-8:7, 8:18-24, 15:1-5, Fig. 2).

Thus, for SNQs 1-4, Grandin alone or in view of Lassiter renders obvious *storing surveillance video in memory* (e.g., event processing system 140 stores video signals obtained from a security application in signal storage 610).

[11.2] ***storing data annotations in memory, wherein the data annotations are useful in searching for a video segment of the surveillance video of interest; and***

Element [11.2] is substantively identical to element [1.3]. Thus, for SNQs 1 and 3, Grandin discloses, or at least renders obvious, element [11.2]. Additionally or alternatively, for SNQs 2 and 4, Grandin in view of Lassiter renders obvious element [11.2].

As discussed for [1.3], event processing system 140 is a computing device that includes storage and logic processing modules. Ex. 1004, 9:20-10:7. Event processing system 140 includes annotation storage 620 (e.g., *memory*) for storing an annotations table 610 (e.g., *data annotations*). Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53. Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user (e.g., *data annotations are useful in searching for a video segment of the surveillance video of interest*). Ex. 1004, 9:54-10:29.

Thus, for SNQs 1-4, Grandin alone or in view of Lassiter renders obvious, *storing data annotations* (e.g., annotation table 610) *in memory* (e.g., annotation storage 620), *wherein the data annotations are useful in searching for a video segment of the surveillance video of interest a server* (e.g., annotation table 610 includes times associated with each of the annotations allowing for the data annotations to be searched and their corresponding security video segments to be obtained).

[11.3] ***synchronizing the stored data annotations to the corresponding video segments of the stored video so that the data annotations can be used to search for the video segment of interest;***

Element [11.3] is substantively identical to [1.3]. Thus, for SNQs 1-4, element [11.3] is disclosed, or at least rendered obvious, by Grandin.

As discussed for [1.3], the videos obtained from camera 210 of event capture system 110 are outputted to event processing system 140. Ex. 1004, 6:11-13, 9:21-37. Event processing system

140 is a computing device that includes storage and logic processing modules. Ex. 1004, 9:20-10:7.

As discussed above in the claim construction section, *synchronizing the stored data annotation to the corresponding video segments of the stored video so that the data annotations can be used to search for the video segment of interest* should be construed as "storing the images/video segments and the data annotations in a manner that allows for the data annotations to be used to search for and retrieve the corresponding image/video segment(s)." Here, event processing system 140 performs this element.

As also discussed for [1.3], event processing system 140 includes signal storage 610 for storing the video signals (e.g., *images*) that are received from camera 210 of event capture system 110. Ex. 1004, 9:20-37. Event processing system 140 also includes annotation storage 620 for storing an annotations table 610. Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53. Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29. The '803 Patent describes that the time stamp associated with the data annotation or data tag "synchronizes the data tag with the corresponding (i.e. annotated) video segment of the video also saved in the memory of the video server 20," which enables a particular video to be obtained by searching the data annotations. Ex. 1001, 3:19-28, 3:42-61, 4:28-34. Similarly, Grandin discloses using a starting time 630 and ending time 632 (e.g. time stamp) associated with the annotation to synchronize the annotation with the associated video segment. Ex. 1004, 9:20-10:29. This allows for the data annotations to be used to search for a particular video segment. Ex. 1004, 9:20-10:29.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, synchronizing the stored data annotation to the corresponding video segments of the stored video so that the data annotations can be used to search for the video segment of interest (e.g., stores video signals in signal storage 610 and annotations in the form of annotation table 610 in annotation storage 620 such that annotation table 610 includes times associated with each of the annotations allowing for the data annotations to be searched and their corresponding video segments to be obtained).

[11.3.1] ***wherein the data annotations include a time stamp; and***

Element [11.3.1] is similar to element [1.3.1]. Thus, for SNQs, 1-4 element [11.3.1] is disclosed, or at least rendered obvious, by Grandin.

As discussed for element [1.3], event processing system 140 includes an annotation table 610 having a record for each annotation that includes a starting time 630 and ending time 632 (e.g., *time stamp*) and a description which includes observer annotation input 124 (e.g., *data annotation*). Ex. 1004, 9:38-53, 4:67-5:4.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious that *the data annotations* (e.g., observer annotation input 124) *include a time stamp* (e.g., starting time 630 and ending time 632 associated with observer annotation input 124).

[11.3.2] ***further comprising directly comparing the time stamp of the data annotations to an image count when searching for the segment of the images.***

Element [11.3.2] is substantively identical to element [1.3.2]. Thus, for SNQs 1-2, Grandin discloses, or at least renders obvious, element [11.3.2] for the same reasons discussed for element [1.3.2]. Section IV.A.2.[1.3.2]. Additionally or alternatively, for SNQs 3-4, Grandin in view of Kauffman renders obvious element [11.3.2] for the same reasons discussed for element [1.3.2]. Section IV.A.2.[1.3.2].

Therefore, for SNQs 1-2, Grandin discloses, or at least renders obvious, *directly comparing the time stamp of the data annotation to an image count when searching for the segment of the images* (e.g., directly compares the time code (including the time stamp) of the data annotation to the time code (including the frame count) associated with the video stream when searching for the desired video segment frames to retrieve). Ex. 1003, ¶¶63-68.

Additionally or alternatively, for SNQs 3-4, Grandin in view of Kauffman renders obvious *directly compar[ing] the time stamp of the data annotation to an image count when searching for the segment of the images* (e.g., directly compares the time code (including time stamp information) of the data annotation to determine the frame(s) of the associated video stream when searching for the desired video segment frame(s) to retrieve). Ex. 1003, ¶¶69-74.

6. Dependent Claim 12

[12.0] ***The method of claim 11, further comprising searching for a particular data annotation.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 11*. Sections IV.A.2, IV.A.5.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [12.0].

As discussed for [1.3] and [11.3], Grandin's event processing system 140 includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29. That is, Grandin discloses using a query to search for a particular data annotation. Ex. 1004, 9:54-10:29.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *searching for a particular data annotation* (e.g., using a query to search for a desired data annotation).

7. Dependent Claim 13

[13.0] ***The method of claim 12, further comprising comparing the time stamp of the particular data annotation to a timing of the video when searching for the video segment of interest.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 12*. Sections IV.A.2, IV.A.5-6.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [13.0].

As discussed for [1.3.2] and [11.3.2], Grandin discloses that after the user uses a query to find desired data annotations, content selector 640 of event processing system 140 uses the time stamp of the data annotation to find the corresponding video segment with the same time stamp. Ex. 1004, 10:8-15. Because the times of the data annotations and the video signal have been synchronized, the times codes of the data annotations match the corresponding portions of the video signal. Ex. 1004, 6:44-53. Specifically, to identify the matching video segments, event processing system 140 "receives distribution signals 130 and distribution annotations 132, and . . . determines a time reference for the distribution signals that allows it to access time intervals in the distribution signals based on the times specified in the distribution annotations." Ex. 1004, 5:48-55.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *comparing the time stamp of the particular data annotation* (e.g., time stamp of the data annotation obtained from the query) *to a timing of the video* (e.g. time stamp of the video stream) *when searching for the video*

segment of interest (e.g., when searching for the video segment that corresponds to the time stamp of the obtained data annotation).

8. Dependent Claim 14

[14.0] ***The method of claim 13, further comprising displaying the video segment of interest that matches the time stamp of the particular data annotation.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 13*. Sections IV.A.2, IV.A.5-7.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [13.0]. Element [13.0] is similar to element [2.0].

As discussed for [2.0], Grandin discloses that content selector 640 of event processing system 140 retrieves the desired video segment that matches the time stamp of the particular data annotation and then the retrieved segment is displayed on display device 665, such as a video monitor. Ex. 1004, 9:59-64, 10:33-42.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *displaying the video segment of interest that matches the time stamp of the particular data annotation* (e.g., retrieved segment corresponding to the times stored in the annotation record is displayed on display device 665).

9. Dependent Claim 15

[15.0] ***The method of claim 11, further comprising searching the data annotations using a search criteria.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 11*. Sections IV.A.2, IV.A.5.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [15.0].

As discussed for [1.3.2] and [11.3.2], Grandin discloses that event processing system 140 includes content selector 640 searches for desired data annotations based on a query or search from a user. Ex. 1004, 9:54-10:29. That is, the query or search entered by the user corresponds to doing a search *using a search criteria*.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *searching the data annotations using a search criteria* (e.g., searching the data annotations based on a query or search entered by a user).

10. Dependent Claim 16

[16.0] ***The method of claim 15, wherein the synchronizing of the stored data annotations to the corresponding video segments comprises time stamping the data annotations with corresponding time stamps.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 15*. Sections IV.A.2, IV.A.5, IV.A.9.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [16.0].

As discussed for [1.3] and [11.3], Grandin discloses that annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53. Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29.

As also discussed for [1.3], to the extent this disclosure is not sufficient for *time stamping the data annotations with corresponding time stamps*, Grandin discloses that event capture system 110 creates distribution annotations 132 that include "references to time intervals in distribution signals 130" such that the "time references in distribution annotations 132 specify definite portions of the distribution signals" and includes an annotations pre-processor 230 that creates annotations table 340 that includes start time 360 and end time 362 for each annotation segment (e.g., captured segment record 350). Ex. 1004, 5:27-33, 6:23-7:25. Event capture system 110 further includes a segment matcher 240 that associates individual captured segment records 350 with particular video segment records to produce distribution annotations 132 that includes distribution annotation table 510 having a number of distribution segment records 510 that each have an associated segment description 364, start time 450 and end time 452 that are sent to event processing system 140. Ex. 1004, 6:51-7:24. Thus, Grandin discloses that event capture system 100 adds a time interval to each data annotation (e.g., *time stamps the data annotations with corresponding time stamps*).

Thus, Grandin discloses, or at least renders obvious, that *the server* (e.g., event processing system 140 and event capture system 110 together) *is arranged to time stamp the data annotation* (e.g., add time intervals with start time 360 and end time 362 and/or time intervals with start time 450 and end time 452 associated with observer annotation input 124).

As further discussed for [1.3.2] and [11.3.2], Grandin discloses that to synchronize the video signal and the annotations, a time signal 201 is generated by time signal generator 200 and sent to signal pre-processor 215 and annotations pre-processor 230. Ex. 1004, 6:44-48. Time signal 201 is generated according to a SMPTE (Society of Motion Picture and Television Engineers) time code standard, which defines a continuous serial digital signal which includes hours, minutes, seconds, and frames relative to a fixed time origin. Ex. 1004, 6:48-53. That is, this synchronization using time signal 201provides for time codes in each of the annotations tables that correspond to the video segments of the video stream. Ex. 1004, 6:48-53, 9:38-53, 4:67-5:4. This allows for the data annotations to be used to search for a particular video segment. Ex. 1004, 9:20-10:29.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *wherein the synchronizing of the stored data annotations to the corresponding video segments comprises time stamping the data annotations with corresponding time stamp*s (e.g., providing time codes for the data annotations in annotations table 340, annotations table 510, and/or annotations table 610 that correspond to the video segments of the video stream so that the video segments can be searched using the time codes).

11. Dependent Claim 17

[17.0] ***The method of claim 16, further comprising searching for a particular data annotation.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 16*. Sections IV.A.2, IV.A.5, IV.A.9-10.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [17.0]. Element [17.0] is substantially identical to element [12.0]. Thus, Grandin discloses, or at least renders obvious element [17.0] for the same reasons discussed above for element [12.0]. Section IV.A.6.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *searching for a particular data annotation* (e.g., using a query to search for a desired data annotation).

12. Dependent Claim 18

[18.0] ***The method of claim 17, wherein the searching includes matching the time stamp of the particular data annotation to a timing of the video.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 17*. Sections IV.A.2, IV.A.5, IV.A.9-11.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [18.0]. Element [18.0] is substantially identical to element [13.0]. Element [18.0] merely recites *matching* instead of *comparing* and omits *when searching for the video segment of interest*. The specification of the '803 Patent appears to use the terms matching and comparing coextensively. Ex. 1001, 3:59-61, 4:5-8, 4:28-34, claims 1-2. Thus, Grandin discloses, or at least renders obvious element [18.0] for the same reasons discussed above for element [13.0]. Section IV.A.7.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, that *the searching* (e.g., searching for the video segment that corresponds to the time stamp of the obtained data annotation) *includes matching the time stamp of the particular data annotation* (e.g., time stamp of the data annotation obtained from the query) *to a timing of the video* (e.g. time stamp of the video stream).

13. Dependent Claim 19

[19.0] ***The method of claim 18, further comprising displaying the video segment of interest that matches the time stamp of the particular data annotation.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 18*. Sections IV.A.2, IV.A.5, IV.A.9-12.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [19.0]. Element [19.0] is identical to element [14.0]. Thus, Grandin discloses, or at least renders obvious element [19.0] for the same reasons discussed above for element [14.0]. Section IV.A.8.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *displaying the video segment of interest that matches the time stamp of the particular data annotation* (e.g., retrieved segment corresponding to the times stored in the annotation record is displayed on display device 665).

14. Independent Claim 22

[22.0] ***A surveillance method, comprising:***

Element [22.0] is substantially identical to element [1.0], merely reciting a *method* instead of a *system*.

Thus, for SNQs 1 and 3, Grandin discloses, or at least renders obvious, element [22.0] for the same reasons discussed for element [1.0]. Section IV.A.2.[1.0]. Additionally or alternatively, for SNQs 2 and 4, Grandin in view of Lassiter renders obvious element [22.0] for the same reasons discussed for element [1.0]. Section IV.A.2.[1.0].

[22.1] ***capturing images of a protected area;***

Element [22.1] is substantially similar to element [1.1]. Thus, for SNQs 1 and 3, Grandin discloses, or at least renders obvious, element [22.1]. Additionally or alternatively, for SNQs 2 and 4, Grandin in view of Lassiter renders obvious element [22.1].

As discussed for [1.0], Grandin discloses a monitoring system including a number of cameras 210 for capturing video of events at an event location (e.g., *capturing images of a protected area*). Ex. 1004, 1:9-13, 6:11-17, 11:66-12:11. Grandin discloses examples of the events that may be monitored include sporting events, such as football or basketball games. Ex. 1004, 1:9-13.

To the extent Patent Owner argues that the claims require that the *protected area* be related to security, it would have been obvious to a POSITA in view of Grandin alone or in view of Lassiter to use the system for this purpose for the reasons discussed for [1.0] and [1.1]. Ex. 1003, ¶¶53-60, 78-80 ; Section IV.A.2.[1.0], [1.1].

Thus, for SNQs 1-4, Grandin alone or in view of Lassiter renders obvious *capturing images* (e.g., cameras 210 of event capture system 110 capture video) *of a protected area* (e.g., an event area or area being monitored for security purposes).

[22.2] ***storing the images in a computer readable memory;***

Element [22.2] is substantively identical to portions of element [1.3] with element [22.2] reciting that the storage is in *computer readable memory*. Thus, for SNQs 1-4, element [22.2] is disclosed or at least rendered obvious by Grandin.

As discussed for [1.3], event processing system 140 is a computing device that includes storage and logic processing modules. Ex. 1004, 9:20-10:7. Event processing system 140 includes signal storage 610 (e.g., *computer readable memory*) for storing the video signals (e.g., *images*)

that are received from camera 210 of event capture system 110. Ex. 1004, 9:20-37. A POSITA would have understood that *computer readable memory* constitutes a form of storage that contains information that can be read by a computer. Ex. 1003, ¶81 (citing Ex. 1016). For example, the Microsoft Computer Dictionary defines computer-readable as "information that can be interpreted on and acted on by a computer" and memory as a "device where information can be stored and retrieved." Ex. 1016, 3-4. Thus, a POSITA would have understood that signal storage 610 is part of the *computer readable memory* on event processing system 140. Ex. 1003, ¶81.

Thus, for SNQs 1-4, Grandin discloses or at least renders obvious, *storing the images* (e.g., video signals received from camera 210 of event capture system 110) *in a computer readable memory* (e.g., in signal storage 610).

[22.3] ***storing data annotations in the computer readable memory, wherein the data annotations are searchable using a search criteria; and***

Element [22.3] is substantively identical to elements [11.3] and [15.0], with element [22.2] reciting that the storage is in *computer readable memory*. Thus, for SNQs, 1-4 element [22.3] is disclosed or at least rendered obvious by Grandin.

As discussed for [11.3], event processing system 140 is a computing device that includes storage and logic processing modules. Ex. 1004, 9:20-10:7. Event processing system 140 includes annotation storage 620 (e.g., *computer readable memory*) for storing an annotations table 610 (e.g., *data annotations*). Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53. Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user (e.g., *data annotations are searchable using a search criteria*). Ex. 1004, 9:54-10:29; Section IV.A.9. As discussed above for [22.2], a POSITA would have understood that *computer readable memory* constitutes a form of storage that contains information that can be read by a computer. Ex. 1003, ¶¶81-84 (citing Ex. 1016). Thus, a POSITA would have understood that annotation storage 620 is part of the *computer readable memory* on event processing system 140. Ex. 1003, ¶84.

As discussed for [15.0], Grandin discloses that event processing system 140 includes content selector 640 searches for desired data annotations based on a query or search from a user. Ex. 1004, 9:54-10:29; Section IV.A.9. That is, the query or search entered by the user corresponds to doing a search *using a search criteria*.

Thus, for SNQs 1-4, Grandin alone or in view of Lassiter renders obvious, *storing data annotations* (e.g., annotation table 610) *in the computer readable memory* (e.g., annotation storage 620), *wherein the data annotations are searchable using a search criteria* (e.g., data annotations are searched based on a query or search entered by a user).

[22.4] ***storing a link that links the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest;***

For SNQs 1-4, Grandin discloses, or at least renders obvious, element [22.4].

As discussed for [22.2] and [22.4], the videos obtained from camera 210 of event capture system 110 are outputted to event processing system 140. Ex. 1004, 6:11-13, 9:21-37. Event processing system 140 is a computing device that includes storage and logic processing modules. Ex. 1004, 9:20-10:7.

As discussed above in the claim construction section, storing a link that links the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest should be construed as "storing related elements, such as a row of data linking time stamps and a data attribute, that associates the stored data annotations to corresponding image segments of the stored images so that the data annotations can be used to search for an image segment of interest." Here, the stored annotation table 610 includes a stored annotation record that includes starting time 630, ending time 632, and observer annotation input 124 in description 634. Ex. 1004, 9:38-53.

Specifically, event processing system 140 also includes annotation storage 620 for storing an annotations table 610. Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53. Event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29. The '803 Patent describes that "a time stamp is used to link a data tag with the video that the data tag annotates," which enables a particular video to be obtained by searching the data annotations. Ex. 1001, 4:28-34. Likewise, Grandin discloses using a starting time 630 and ending time 632 (e.g. time stamp) associated with the annotation to link the annotation with the associated video segment. Ex. 1004, 9:20-10:29. This allows for the data annotations to be used to search for a particular video segment. Ex. 1004, 9:20-10:29.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *storing a link* (e.g., stored annotation record including starting time 630, ending time 632, and an annotation in description 634) *that links* (e.g., associates) *the stored data annotations* (e.g., observer annotation input 124 included in description 634) *to corresponding image segments of the stored images* (e.g., video signals in signal storage 610) *so that the data annotations can be used to search for an image segment of interest* (e.g., annotation table 610 includes times associated with each of the annotations allowing for the data annotations to be searched and their corresponding video segments to be obtained).

[22.4.1] ***wherein the data annotations include a time stamp; and***

Element [22.4.1] is identical to element [11.3.1]. Thus, for SNQs, 1-4, element [22.4.1] is disclosed, or at least rendered obvious, by Grandin for the same reasons discussed for element [11.3.1]. Section IV.A.5.[11.3.1].

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious that *the data annotations* (e.g., observer annotation input 124) *include a time stamp* (e.g., starting time 630 and ending time 632 associated with observer annotation input 124).

[22.4.2] ***further comprising directly comparing the time stamp of the data annotations to an image count when searching for the segment of the images.***

Element [22.4.2] is identical to element [11.3.2]. Thus, for SNQs 1-2, Grandin discloses, or at least renders obvious, element [22.4.2]. Additionally or alternatively, for SNQs 3-4, Grandin in view of Kauffman renders obvious element [22.4.2].

Therefore, for SNQs 1-2, Grandin discloses, or at least renders obvious, *directly comparing the time stamp of the data annotation to an image count when searching for the segment of the images* (e.g., directly compares the time code (including the time stamp) of the data annotation to the time code (including the frame count) associated with the video stream when searching for the desired video segment frames to retrieve). Ex. 1003, ¶¶63-68.

Additionally or alternatively, for SNQs 3-4, Grandin in view of Kauffman renders obvious *directly compar[ing] the time stamp of the data annotation to an image count when searching for the segment of the images* (e.g., directly compares the time code (including time stamp information) of the data annotation to determine the frame(s) of the associated video stream when searching for the desired video segment frame(s) to retrieve). Ex. 1003, ¶¶69-74.

15. Dependent Claim 23

[23.0] ***The method of claim 22, further comprising searching for a particular data annotation using the search criteria.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 22*. Sections IV.A.2, IV.A.5, IV.A.14.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [23.0]. Element [23.0] is substantially identical to elements [12.0] and [15.0]; thus, element [23.0] is rendered disclosed, or at least rendered obvious, by Grandin for the same reasons discussed for elements [12.0] and [15.0]. Section IV.A.6, IV.A.9

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *searching for a particular data annotation using the search criteria* (e.g., using a query entered by a user to search for a desired data annotation).

16. Dependent Claim 24

[24.0] ***The method of claim 23, further comprising displaying the image segment of interest linked to the particular data annotation found as a result of the search.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 23*. Sections IV.A.2, IV.A.5, IV.A.15.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [24.0]. Element [24.0] is similar to elements [2.0] and [14.0].

As discussed for [2.0] and [14.0], Grandin discloses that content selector 640 of event processing system 140 retrieves the identified/desired video segment (e.g., *image segment . . . found as a result of the search*) and then the retrieved segments are displayed on display device 665, such as a video monitor. Ex. 1004, 9:59-64, 10:33-42.

Thus, Grandin discloses, or at least renders obvious, *displaying the image segment of interest linked to the particular data annotation found as a result of the search* (e.g., retrieved segment corresponding to the times stored in the annotation record is displayed on display device 665).

17. Dependent Claim 25

[25.0] ***The method of claim 22, further comprising searching for a particular data annotation using the search criteria.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 22*. Sections IV.A.2, IV.A.5, IV.A.14.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [25.0]. Element [25.0] is identical to element [23.0], and element [25.0] is disclosed, or at least rendered obvious, by Grandin for the same reasons discussed for element [23.0]. Section IV.A.14, IV.A.15. Requester further notes that in addition to the recitations of elements [23.0] and [25.0] being identical, they also both depend from claim 22. Therefore, claims 23 and 25 are identical and provide no difference in claim scope.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *searching for a particular data annotation using the search criteria* (e.g., using a query to search entered by a user for a desired data annotation).

18. Dependent Claim 26

[26.0] ***The method of claim 25, further comprising comparing the time stamp of the particular data annotation found as a result of the search to a timing of the images when searching for the image segment of interest.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 25*. Sections IV.A.2, IV.A.5, IV.A.14, IV.A.17.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [26.0]. Element [26.0] is substantially identical to element [13.0] with element [26.0] merely reciting that the *particular data annotation* is *found as a result of the search* and reciting *images* instead of *video*.

As discussed for [13.0], Grandin discloses that after the user uses a query to find desired data annotations, content selector 640 of event processing system 140 uses the time stamp of the data annotation to find the corresponding video segment with the same time stamp. Ex. 1004, 10:8-15. Because the times of the data annotations and the video signal have been synchronized, the times codes of the data annotations match the time codes of the corresponding portions (i.e., *images*) of the video signal. Ex. 1003, ¶63; Ex. 1004, 6:44-53. Specifically, to identify the matching video segments, event processing system 140 "receives distribution signals 130 and

distribution annotations 132, and . . . determines a time reference for the distribution signals that allows it to access time intervals in the distribution signals based on the times specified in the distribution annotations." Ex. 1004, 5:48-55.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *comparing the time stamp of the particular data annotation found as a result of the search* (e.g., time stamp of the data annotation obtained from the query) *to a timing of the images* (e.g. time stamp of the video stream) *when searching for the image segment of interest* (e.g., when searching for the video segment that corresponds to the time stamp of the obtained data annotation).

19. Dependent Claim 27

[27.0] ***The method of claim 26, further comprising displaying the image segment of interest whose timing matches the time stamp of the particular data annotation.***

For SNQs 1-4, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 26*. Sections IV.A.2, IV.A.5, IV.A.14, IV.A.17-18.

For SNQs 1-4, Grandin discloses, or at least renders obvious, the additional recitations in element [27.0]. Element [27.0] is similar to element [14.0] with element [27.0] merely reciting *the image segment of interest* instead of *the video segment of interest* and reciting that there is a *timing match[]*.

As discussed for [14.0], Grandin discloses that content selector 640 of event processing system 140 retrieves the desired video segment and then the retrieved segments are displayed on display device 665, such as a video monitor. Ex. 1004, 9:59-64, 10:33-42.

Thus, for SNQs 1-4, Grandin discloses, or at least renders obvious, *displaying the image segment of interest whose timing matches the time stamp of the particular data annotation* (e.g., retrieved segment corresponding to the times stored in the annotation record is displayed on display device 665).

B. SNQs 5-8: Grandin in View of Amano (SNQ5); Grandin in View of Lassiter and Amano (SNQ6); Grandin in View of Kauffman and Amano (SNQ7); and Grandin in View of Lassiter, Kauffman, and Amano (SNQ8) Each Present a Significant New Question of Patentability for Challenged Claims 4-5 and 30-31

1. The challenge based on combinations of Grandin, Lassiter, Kauffman, and Amano (SNQs 5-8) present substantial new questions of

patentability that were not addressed during the original examination

For SNQs 5-8, Amano is added to combinations of Grandin, Lassiter, and Kauffman. Amano discloses an image playback system associated with a monitoring system. Ex. 1007, Abstract. Amano discloses that its monitoring system includes using an electronic camera having infrared detection means 22 and temperature detection means 23 to determine periods of time in which an object within a predetermined temperature range is present. Ex. 1007, [0136]-[0142]. For example, Amano's system can use its camera to determine whether a person is present in the monitored area based on a temperature range such that certain video segments can be selectively played back. Ex. 1007, [0312], [0319]-[0324], [0263], [0294]. This allows for Amano's image playback system to filter the video and playback, for example, scenes in which persons are sensed as being present. Ex. 1007, [0263].

Combinations of Grandin, Lassiter, and Kauffman in view of Amano (for SNQs 5-8) present substantial new questions of patentability at least because their contributions to annotating and searching surveillance video show that the '803 Patent's claimed solution for searching surveillance video including comparing the time stamp of the annotation with an image count of the video was already known in the art. Because combinations of Grandin, Lassiter, Kauffman, and Amano (for SNQs 5-8) discloses each of the elements of Challenged Claims 4-5 and 30-31, they present substantial new questions of patentability.

2. Dependent claim 4

[4.0] ***The surveillance system of claim 1, wherein the camera comprises an IR camera.***

For SNQs 5-8, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance system of claim 1*. Section IV.A.2.

For SNQs 5-8, Grandin as modified by Amano renders obvious the additional recitations in element [4.0].

As discussed for [1.1], Grandin discloses event capture system 110 that includes a number of cameras 210 for capturing video of the event. Ex. 1004, 6:11-17, 11:66-12:11. As also discussed for [1.0] and [1.1], it would have been obvious based on Grandin alone or Grandin in view of Lassiter to utilize Grandin's system for surveillance to capture video of a protected area. Section IV.A.2.[1.0], [1.1].

Grandin does not specify that its video cameras 210 may include *an IR camera.* However, it would have been obvious to a POSITA in view of Amano to use infrared (IR) cameras. Ex. 1003, ¶88. Amano discloses using an electronic camera that includes infrared detection means 22 and temperature detection means 23 to determine periods of time in which an object within a predetermined temperature range is present. Ex. 1007, [0136]-[0142]. For example, Amano's system can use its camera to determine whether a person is present in the monitored area based on a temperature range such that certain video segments can be selectively played back. Ex. 1007, [0312], [0319]-[0324], [0263], [0294]. Thus, a POSITA would have understood that it would have been obvious to use *an IR camera* in a *surveillance system*. Ex. 1003, ¶88. Indeed, the benefits of using a variety of camera types including infrared cameras in a surveillance system was well know. Ex. 1003, ¶88 (citing Ex. 1013, [0066]-[0067], [0089], [0189]). For example, infrared cameras are helpful to use in low-light conditions or for sensing a person hiding behind another object that a traditional video camera would not be sufficient. Ex. 1003, ¶88. In addition, a POSITA would have understood that infrared cameras would have been beneficial in situations where the object being recorded has low color contrast with the surroundings due to lack of direct illumination, but has a higher temperature than its surroundings, e.g., a warm human being or animal in a lower temperature environment. Ex. 1003, ¶88. Thus, motivated by Amano's disclosure that it was desirable to use an IR camera for monitoring (e.g., having the capability to use IR cameras to determine the presence of a person at a monitored location was desired), a POSITA would been motivated to use an IR camera in Grandin's monitoring system. Ex. 1007, [0136]-[0142], [0312], [0319]-[0324]; Ex. 1013, [0066]-[0067], [0089], [0189]; Ex. 1003, ¶88.

A POSITA would have turned to Amano, in particular, because Amano describes a similar system for monitoring and selecting particular video segments to view. Ex. 1003, ¶89. Basically, Amano lays out some types of cameras used for monitoring. Ex. 1003, ¶89. Thus, given that both references are directed to monitoring systems in which selectively playing particular video segments is used, applying Amano's teachings to Grandin's disclosures represents the combination of prior art elements according to known methods (e.g., Amano's use of an IR camera with Grandin's disclosure of the desire to annotate and search video to more quickly find particular portions of the video that a user wishes to review) to yield predictable results (e.g., using a general monitoring system with an IR camera to selectively filter based on temperature ranges to determine the presence of a person in a monitored location). Ex. 1003, ¶89; MPEP § 2143.I (rationale A).

This also represents applying the known techniques of Amano's details regarding using an IR camera in a monitoring system to improve the monitoring system of Grandin in the same ways. Ex. 1003, ¶89; MPEP § 2143.I (rationale C).

A POSITA would have had a reasonable expectation of success in applying Amano's teachings to Grandin largely because Grandin discloses a general monitoring system and Amano provides for specific details regarding the types of cameras that it may use. Ex. 1007, [0136]-[0142]. That is, a POSITA would have had a reasonable expectation of success in using Amano's teachings because using an IR camera in a monitoring system was known to POSITAs. Ex. 1003, ¶90.

Thus, for SNQs 5-8, Grandin as modified by Amano renders obvious *wherein the camera* (e.g., camera 210) *comprises an IR camera* (e.g., Amano's infrared camera).

3. Dependent claim 5

[5.0] ***The surveillance system of claim 1, wherein the camera comprises a thermal imager.***

For SNQs 5-8, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance system of claim 1*. Section IV.A.2.

For SNQs 5-8, Grandin as modified by Amano renders obvious the additional recitations in element [5.0].

As discussed for [1.1], Grandin discloses event capture system 110 that includes a number of cameras 210 for capturing video of the event. Ex. 1004, 6:11-17, 11:66-12:11. As also discussed for [1.0] and [1.1], it would have been obvious based on Grandin alone or Grandin in view of Lassiter to utilize Grandin's system for surveillance to capture video of a protected area. Section IV.A.2.[1.0], [1.1].

Grandin does not specify that its video cameras 210 may include a *thermal imager*. However, it would have been obvious to a POSITA in view of Amano to use a thermal imager for the same reasons discussed above for element [4.0]. Ex. 1003, ¶93. Amano discloses using an electronic camera that includes infrared detection means 22 and temperature detection means 23 to determine periods of time in which an object within a predetermined temperature range is present. Ex. 1007, [0136]-[0142]. Amano further discloses that its infrared imaging element 87 may be of the thermal type. Ex. 1007, [0304]. This is consistent with Amano's discussion that temperature can be obtained from the video obtained using the infrared detection means. Ex. 1007,

[0136]-[0142]. Thus, for the same reasons discussed above for element [4.0] it would have been obvious to use Amano's IR camera which includes a thermal imager as one of the cameras 210 in Grandin's monitoring system. Ex. 1003, ¶93; Section IV.B.2.

Thus, for SNQs 5-8, Grandin as modified by Amano renders obvious *wherein the camera* (e.g., camera 210) *comprises a thermal imager* (e.g., Amano's infrared camera which is a thermal imager).

4. Dependent claim 30

[30.0] ***The surveillance system of claim 22, wherein the link comprises a data attribute stamp, and wherein the data attribute serves as an index to retrieve video and data segments of the same characteristic inferred by the data attribute.***

For SNQs 5-8, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance system of claim 22*. Sections IV.A.2, IV.A.5, IV.A.14.

For SNQs 5-8, Grandin as modified by Amano renders obvious the additional recitations in element [30.0].

As discussed for [4.0], Grandin as modified by Amano renders obvious using an IR camera as one of Grandin's camera's 210 to obtain temperature information regarding whether a person is present at the monitored location. Ex. 1004, 6:11-17, 11:66-12:11; Ex. 1007, [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]; Ex. 1003, ¶95; Section IV.B.2.

In the combined system, a starting time and an ending time is associated with periods of time during which the recorded information corresponds to certain pre-set conditions (e.g., a temperature range indicating that a person is present). Ex. 1007, Abstract, [0011]; Ex. 1003, ¶96. Thus, in the combined system, Grandin's table would include rows with time ranges and sensed temperatures that meet pre-set conditions (i.e., *the link comprises a data attribute stamp*) such that the appropriate corresponding video can be displayed. Ex. 1004, 9:38-10:22; Ex. 1007, Abstract, [0011], [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]; Ex. 1003, ¶96. Amano discloses that the temperatures indicate when pre-set conditions exist (e.g., a person is present); thus, the temperatures provide a means of searching (i.e., *an index*) that allows for the system to retrieve video segments that correspond to when a person is present for display (i.e., *retrieve video . . . segments of the same characteristic inferred by the data attribute*). Ex. 1007, Abstract, [0011], [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]. The '803 Patent does not provide disclosure of retrieving data segments separate from the video segments. *See generally,* Ex. 1001. Thus, a

POSITA would have understood the recitation of *retriev[ing] . . . data segments of the same characteristic inferred by the data attribute* as merely retrieving the video segment that portrays the annotated characteristic that was searched for (e.g., the video shows the IR signature indicating that a person is present at the monitored location). Here, a POSITA would have found obvious that Grandin as modified Amano would retrieve the video obtained by the IR cameras and that video feed would include the IR signatures obtained during the retrieved time periods indicating, for example, that a person is present at the location. Ex. 1003, ¶96.

Thus, for SNQ 5-8, Grandin as modified by Amano renders obvious *wherein the link* (e.g., data row containing time and temperature information) *comprises a data attribute stamp* (e.g., sensed temperature), *and wherein the data attribute* (e.g., temperature) *serves as an index* (e.g., a means of searching for when video segments meet a pre-set condition such as a person being present) *to retrieve video and data segments of the same characteristic inferred by the data attribute* (e.g., retrieves video segments showing the IR signatures corresponding to when the pre-set condition is met such as a person being present).

To the extent that Patent Owner argues that additional data must be retrieved, it would have been obvious to further modify Grandin in view of James, as discussed below for SNQ 13-16, to include temperature stamps in the retrieved video segment that indicates the temperatures sensed by the IR camera. Ex. 1003, ¶98.

5. Dependent claim 31

[31.0] ***The surveillance system of claim 30, wherein the data attribute comprises temperature.***

For SNQs 5-8, Grandin alone, or in view of Lassiter and/or Kauffman, as further modified by Amano renders obvious, *the surveillance system of claim 30*. Sections IV.A.2, IV.A.5, IV.A.14, IV.B.2.

For SNQs 5-8, Grandin as modified by Amano renders obvious the additional recitations in element [31.0].

As discussed for [30.0], Grandin as modified by Amano renders obvious using an IR camera as one of Grandin's camera's 210 to obtain temperature information regarding whether a person is present at the monitored location. Ex. 1004, 6:11-17, 11:66-12:11; Ex. 1007, [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]; Ex. 1003, ¶99; Section IV.B.2. In the combined system, that temperature is used to determine whether a pre-set condition has been met. Because

the temperatures indicate when pre-set conditions exist (e.g., a person is present), the temperatures (e.g., *data attribute(s)*) provide a means of searching for the desired video segment. Ex. 1007, Abstract, [0011], [0136]-[0142], [0312], [0319]-[0324], [0263], [0294].

Thus, for SNQs 5-8, Grandin as modified by Amano renders obvious *wherein the data attribute comprises temperature* (e.g., temperature is the data element used for searching for the desired video segments).

C. SNQs 9-12: Grandin in View of Brown (SNQ9); Grandin in View of Lassiter and Brown (SNQ10); Grandin in View of Kauffman and Brown (SNQ11); and Grandin in View of Lassiter, Kauffman, and Brown (SNQ12) Each Present a Significant New Question of Patentability for Challenged Claims 6-10, 20-21, and 28-29

1. The challenge based on combinations of Grandin, Lassiter, Kauffman, and Brown (SNQs 9-12) present substantial new questions of patentability that were not addressed during the original examination

For SNQs 9-12, Brown is added to the combinations of Grandin, Lassiter, and Kauffman. Brown discloses a digital video management system that may be implemented in a surveillance system that implements an SQL-based video server database. Ex. 1008, 1:3-10, 5:1-7:21, 7:9-11, 13:16-19, 16:11-15, 26:12-14, 33:10-16, 47:14-15, 72:11-73:23, Fig. 46-47.

Combinations of Grandin, Lassiter, and Kauffman in view of Brown (for SNQs 9-12) present substantial new questions of patentability at least because their contributions to annotating and searching surveillance video show that the '803 Patent's claimed solution for searching surveillance video including comparing the time stamp of the annotation with an image count of the video was already known in the art. Because combinations of Grandin, Lassiter, Kauffman, and Brown (for SNQs 9-12) discloses each of the elements of Challenged Claims 6-10, 20-21, and 28-29, they present substantial new questions of patentability.

2. Dependent claim 6

[6.0] ***The surveillance system of claim 1, wherein the server is arranged to save the data annotation in SQL readable form.***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance system of claim 1*. Section IV.A.2.

For SNQs 9-12, Grandin as modified by Brown renders obvious the additional recitations in element [6.0].

As discussed for [1.3], event processing system 140 includes annotation storage 620 for storing an annotations table 610. Ex. 1004, 9:38-53. Annotations table 610 includes both the annotation itself as description 634 and the starting time 630 and ending time 632 for the portion of the video that the annotation corresponds to. Ex. 1004, 9:38-53.

Other than indicating that the data annotations are searchable using database search functions (Ex. 1004, 10:8-9), Grandin does not specify the format that the data annotation should be stored in. However, it would have been obvious to a POSITA in view of Brown to use an SQL ("structured query language") readable format. Ex. 1003, ¶103. As the Examiner also recognized during prosecution, Brown "discloses that the video server database is implemented using SQL [], which is a standardized computer language to create, retrieve, update or delete data from a relational database." Ex. 1002, 55 (citing Ex. 1008, 47:14-15). Similar to Grandin, Brown discloses a monitoring system for obtaining video and searching the video database based on certain search criteria. Ex. 1008, 5:1-7:21, 16:11-15, 73:7-23, Fig. 46-47. For example, in Brown's system the user can select particular events to view based on the search results. Ex. 1008, 73:17-23. In addition, Brown discloses that its system provides benefits for using in a surveillance or security system. Ex. 1008, 5:1-7:21. As the Examiner also recognized during prosecution, it would have been obvious to use an SQL formatted video server "because the system would have been easier to create, update and maintain since SQL is such a well-known computer query language." Ex. 1002, 55. SQL has been around since the 1970s and would have been an obvious choice to a POSITA designing a system to query a database. Ex. 1003, ¶103 (citing Ex. 1014). Thus, a POSITA would have understood that it would have been obvious to *save the data annotation in SQL readable form* in a *surveillance system*. Ex. 1003, ¶103. Thus, motivated by Brown's disclosure that it was desirable use an SQL readable form in a video server database (e.g., using a well-known form for storing and searching data annotations was desired), a POSITA would been motivated to save annotations table 610 in an SQL readable form. Ex. 1008, 5:1-7:21, 16:11-15, 47:14-15, 73:7-23, Fig. 46-47; Ex. 1003, ¶103.

A POSITA would have turned to Brown, in particular, because Brown describes a similar system for monitoring and selecting particular video segments to view. Ex. 1003, ¶104. Basically, Brown lays out the form to store the data in so that it can easily be searched and accessed. Ex. 1003, ¶104. Thus, given that both references are directed to monitoring systems in which selectively playing particular video segments is used applying Brown's teachings to Grandin's

disclosures represents the combination of prior art elements according to known methods (e.g., Brown's use of an SQL readable form for storing and searching data with Grandin's disclosure of the desire to annotate and search video segments) to yield predictable results (e.g., easily storing and searching data related to video segments). Ex. 1003, ¶104; MPEP § 2143.I (rationale A). This also represents applying the known techniques of Brown's details regarding using an SQL readable form in a monitoring system to improve the monitoring system of Grandin in the same ways. Ex. 1003, ¶104; MPEP § 2143.I (rationale C).

A POSITA would have had a reasonable expectation of success in applying Brown's teachings to Grandin largely because Grandin discloses a general monitoring system and Brown provides for specific details regarding the format that the data annotations should be stored in. Ex. 1008, 5:1-7:21, 16:11-15, 47:14-15, 73:7-23, Fig. 46-47. That is, a POSITA would have had a reasonable expectation of success in using Brown's teachings because using an SQL readable form in a video server of a monitoring system was known to POSITAs. Ex. 1003, ¶105.

Thus, for SNQs 9-12, Grandin as modified by Brown renders obvious *wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *is arranged to save the data annotation in SQL readable form* (e.g., storing annotation table 610 in an SQL readable form).

3. Dependent claim 7

[7.0] ***The surveillance system of claim 6, wherein the server is arranged to time stamp the data annotation.***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, and as further modified by Brown renders obvious, *the surveillance system of claim 6*. Sections IV.A.2, IV.C.2.

For SNQs 9-12, Grandin discloses, or at least renders obvious, the additional recitations in element [7.0]. Element [7.0] is identical to element [1.3.1]. Thus, element [7.0] is disclosed, or at least rendered obvious, for the same reasons discussed for element [1.3.1]. Section IV.A.2.[1.3.1].

Thus, for SNQs 9-12, Grandin discloses, or at least renders obvious, that *the server* (e.g., event processing system 140 alone or in combination with other systems such as event capture system 110) *is arranged to time stamp the data annotation* (e.g., add time intervals with start time 360 and end time 362, time intervals with start time 450 and end time 452, and/or starting time 630 and ending time 632 associated with observer annotation input 124).

4. Dependent claim 8

[8.0] ***The surveillance system of claim 7, wherein the server is arranged to match the time stamp of the data annotation to an image count when searching for the segments of the images.***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, and as further modified by Brown renders obvious, *the surveillance system of claim 7*. Sections IV.A.2, IV.C.2-3.

For SNQs 9-10, Grandin discloses, or at least renders obvious the additional recitations in element [8.0]. Additionally or alternatively, for SNQs 11-12, Grandin in view of Kauffman renders obvious the additional recitations in element [8.0]. Element [8.0] is similar to elements [1.3.2] and [2.0].

Thus, element [8.0] is disclosed, or at least rendered obvious, for the same reasons discussed for elements [1.3.2] and [2.0]. Sections IV.A.2.[1.3.2], IV.A.3.

As discussed for elements [1.3.2] and [2.0], the claimed *server . . . compare[s] the time stamp of the data annotation to an image count when searching for the segment of the images and the server . . . cause[s] the segment of the images matching the time stamp to be displayed.* That is, to compare the time stamp of the data annotation and the image count of the images and then display the matching segment of images, the server also needs to match the time stamp to the image count before the matching segment of images can be displayed. Section IV.A.2.[1.3.2], IV.A.3.

In particular, as discussed for element [1.3.2], Grandin discloses that event processing system 140 includes content selector 640 for performing "a database search function using stored annotations table 610." Ex. 1004, 10:8-9. Event processing system 140 "processes the received distribution signals and annotation signals from one or more events" to assemble related time intervals from the received distribution signals. Ex. 1004, 5:56-63. Grandin discloses that to synchronize the video signal and the annotations, a time signal 201 is generated by time signal generator 200 and sent to signal pre-processor 215 and annotations pre-processor 230. Ex. 1004, 6:44-48. Time signal 201 is generated according to a SMPTE (Society of Motion Picture and Television Engineers) time code standard, which defines a continuous serial digital signal which includes hours, minutes, seconds, and frames relative to a fixed time origin. Ex. 1004, 6:48-53. That is, because the data annotations and the video stream is synchronized, the time codes in stored annotations table 610 are in the format of hours, minutes, seconds, and frames relative to a fixed time origin, and the *image count* associated with the video stream is also in the format of hours,

minutes, seconds, and frames relative to a fixed time origin. Ex. 1004, 6:48-53, 9:38-53, 4:67-5:4. Once the video segment is identified, content selector 640 retrieves that video recording for the segment which spans, for example, frames f_1 to f_2. Ex. 1004, 10:33-42.

Furthermore, as also discussed for [1.3.2], to the extent Patent Owner alleges that Grandin alone does not disclose or render obvious the claimed *image count*, it would have been obvious to a POSITA to modify Grandin in view of Kauffman to include this feature. Ex. 1006, [0018]-[0019], [0023]-[0027], [0039]-[0040]; Ex.1003, ¶¶63-74.

Further, as discussed for [2.0], Grandin discloses that content selector 640 of event processing system 140 retrieves the desired video segment so that the retrieved segments are displayed on display device 665, such as a video monitor. Ex. 1004, 9:59-64, 10:33-42.

Thus, for SNQs 9-12, Grandin alone, or as modified Kauffman, renders obvious, *wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *is arranged to match the time stamp of the data annotation to an image count when searching for the segments of the images* (e.g., match the time code of the data annotation in the format of house, minutes, seconds, and frames relative to a fixed time origin to the corresponding time code and/or frames of the associated video stream so that the desired video segment can be retrieved for display).

5. Dependent claim 9

[9.0] ***The surveillance system of claim 6, wherein the server is arranged to receive an SQL search string corresponding to the data annotation to be searched and to search for the data annotation based on the SQL search string.***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, and as further modified by Brown renders obvious, *the surveillance system of claim 6*. Sections IV.A.2, IV.C.2.

For SNQs 9-12, Grandin as modified by Brown renders obvious the additional recitations in element [9.0].

As discussed for [6.0], it would have been obvious to a POSITA to modify Grandin in view of Brown to use an SQL readable form for storing annotations table 610. Section IV.C.2. In the modified system, the search strings disclosed by Grandin as a query 712 would be an SQL search string as disclosed by Brown. Sections IV.A.2.[1.3], IV.C.2. In particular, event processing system 140 of Grandin includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for and retrieve the corresponding video segment based on a query

or search (e.g., *search string*) from a user. Ex. 1004, 9:54-10:29. Brown discloses a monitoring system for obtaining video and searching the SQL video database based on certain search criteria (e.g., *SQL search string*). Ex. 1008, 5:1-7:21, 16:11-15, 73:7-23, Fig. 46-47. The search then provides results so that the user can select particular events to view. Ex. 1008, 73:17-23.

Thus, for SNQs 9-12, Grandin as modified by Brown renders obvious *wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *is arranged to receive an SQL search string* (e.g., query 712 in the format of an SQL search string) *corresponding to the data annotation to be searched and to search for the data annotation based on the SQL string* (e.g., searching for the desired data annotation based on query 712).

6. Dependent claim 10

[10.0] ***The surveillance system of claim 9, wherein the server is arranged to match the data annotation found as a result of the search to the segments of the images.***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, and as further modified by Brown renders obvious, *the surveillance system of claim 9*. Sections IV.A.2, IV.C.2-3, IV.C.5.

For SNQs 9-12, Grandin discloses or renders obvious the additional recitations in element [10.0]. Element [10.0] is similar to elements [1.3.2], [2.0], and [8.0]. Thus, element [10.0] is disclosed, or at least rendered obvious, for the same reasons discussed for elements [1.3.2], [2.0], and [8.0]. Sections IV.A.2.[1.3.2], IV.A.3, IV.C.5.

As discussed for elements [1.3.2] and [2.0], the server . . . compare[s] the time stamp of the data annotation to an image count when searching for the segment of the images and the server . . . cause[s] the segment of the images matching the time stamp to be displayed. That is, to compare the time stamp of the data annotation and the image count of the images and then display the matching segment of images, the server also needs to match the time stamp to the image count before the matching segment of images can be displayed. Section IV.A.2.[1.3.2], IV.A.3.

And as discussed for [8.0], the server is arranged to match the time stamp of the data annotation to an image count when searching for the segments of the images. Before the server can match the data annotation with the segments of the images, the server obtains the data annotation via the search mechanism. Ex. 1004, 9:54-10:29; Ex. 1008, 5:1-7:21, 16:11-15, 73:7-23, Fig. 46-47. In particular, Grandin discloses that content selector 640 accesses annotations table 610 to identify the data annotation segments that match query 712 and then finds the matching

video segments. Ex. 1004, 10:8-22. Therefore, the data annotation that is match[ed] . . . to the segments of images is the one found as a result of the search.

Thus, for SNQs 9-12, Grandin discloses, or at least renders obvious, *wherein the server* (e.g., event processing system 140 alone or together with event capture system 110) *is arranged to match the data annotation found as a result of the search to the segments of the images* (e.g., match the time code of the data annotation in the format of house, minutes, seconds, and frames relative to a fixed time origin found as a result of query 712 to the corresponding time code and/or frames of the associated video stream so that the desired video segment can be retrieved for display).

7. Dependent claim 20

[20.0] ***The method of claim 15, wherein the searching of the data comprises using SQL to conduct the search.***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 15*. Sections IV.A.5, IV.A.9.

For SNQs 9-12, Grandin as modified by Brown renders obvious the additional recitations in element [20.0]. Element [20.0] is similar to elements [6.0] and [9.0]. Thus, element [20.0] is rendered obvious for the same reasons discussed above for elements [6.0] and [9.0]. Sections IV.C.2, IV.C.5.

As discussed for [6.0] and [9.0], it would have been obvious to a POSITA to modify Grandin in view of Brown to use an SQL readable form for storing annotations table 610 and then use an SQL search string for searching annotations table 610. Sections IV.C.2, IV.C.5. In the modified system, the search strings disclosed by Grandin as a query 712 would be an SQL search string as disclosed by Brown. Sections IV.A.2.[1.3], IV.C.2, IV.C.5.

Thus, for SNQs 9-12, Grandin as modified by Brown renders obvious *wherein the searching of the data* (e.g., searching of annotations table 610) *comprises using SQL to conduct the search* (e.g., using an SQL search string to search annotations table 610).

8. Dependent claim 21

[21.0] ***The method of claim 20, wherein the synchronizing of the stored data annotations to the corresponding video segments of the stored video comprises time stamping the data annotations with corresponding time stamps,***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the method of claim 20*. Sections IV.A.5, IV.A.9, IV.C.7.

For SNQs 9-12, Grandin discloses, or at least renders obvious, the additional recitations in element [21.0]. Element [21.0] is substantially identical to element [16.0], with element [21.0] merely reciting that the *video segments* are *of the stored video*. Thus, element [21.0] is rendered obvious for the same reasons discussed above for element [16.0]. Section IV.A.10.

Thus, for SNQs 9-12, Grandin discloses, or at least renders obvious, wherein the synchronizing of the stored data annotations to the corresponding video segments comprises time stamping the data annotations with corresponding time stamps (e.g., providing time codes for the data annotations in annotations table 610 that correspond to the video segments of the video stream so that the video segments can be searched using the time codes).

[21.1] ***wherein the searching comprises matching the time stamp associated with the stored data annotation that corresponds to the search criteria to a timing of the video, and***

For SNQs 9-12, Grandin discloses, or at least renders obvious, the additional recitations in element [21.1]. Element [21.1] is substantially identical to element [18.0], with element [21.1] merely reciting that the *time stamp* is *associated with the stored data annotation that corresponds to the search criteria* instead of being *of the particular data annotation* (which was obtained using a search criteria per claim 15). Thus, element [21.1] is rendered obvious for the same reasons discussed above for element [18.0]. Section IV.A.12.

Thus, for SNQs 9-12, Grandin discloses, or at least renders obvious, that *the searching* (e.g., searching for the video segment that corresponds to the time stamp of the obtained data annotation) *comprises matching the time stamp associated with the stored data annotation that corresponds to the search criteria* (e.g., time stamp of the data annotation obtained from the query) *to a timing of the video* (e.g. time stamp of the video stream).

[21.2] ***wherein the method further comprises displaying the video segment of interest whose timing matches the time stamp associated with the stored data annotation that corresponds to the search criteria.***

For SNQs 9-12, Grandin discloses, or at least renders obvious, the additional recitations in element [21.2]. Element [21.2] is substantially identical to element [19.0], with element [21.2] merely reciting that the *time stamp* is *associated with the stored data annotation that corresponds to the search criteria* instead of being *of the particular data annotation* (which was obtained using

a search criteria per claim 15). Thus, element [21.2] is rendered obvious for the same reasons discussed above for element [19.0]. Section IV.A.13.

Thus, for SNQs 9-12, Grandin discloses, or at least renders obvious, displaying the video segment of interest whose timing matches the time stamp associated with the stored data annotation that corresponds to the search criteria (e.g., retrieved segment corresponding to the times stored in the annotation record obtained using query 712 is displayed on display device 665).

9. Dependent claim 28

[28.0] ***The surveillance method of claim 22, wherein the search criteria comprises an SQL search criteria.***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance method of claim 22*. Sections IV.A.2, IV.A.5, IV.A.14.

For SNQs 9-12, Grandin as modified by Brown renders obvious the additional recitations in element [28.0]. Element [28.0] is similar to elements [6.0] and [9.0]. Thus, element [28.0] is rendered obvious for the same reasons discussed above for elements [6.0] and [9.0]. Sections IV.C.2, IV.C.5.

As discussed for [6.0] and [9.0], it would have been obvious to a POSITA to modify Grandin in view of Brown to use an SQL readable form for storing annotations table 610 and then use an SQL search string (e.g., *SQL search criteria*) for searching annotations table 610. Sections IV.C.2, IV.C.5. In the modified system, the search strings disclosed by Grandin as a query 712 would be an SQL search string as disclosed by Brown. Sections IV.A.2.[1.3], IV.C.2, IV.C.5.

Thus, for SNQs 9-12, Grandin as modified by Brown renders obvious *wherein the search criteria* (e.g., query 712 for searching of annotations table 610) *comprises an SQL search criteria* (e.g., using an SQL search string for query 712).

10. Dependent claim 29

[29.0] ***The surveillance method of claim 28 further comprising: searching for a particular data annotation using the SQL search criteria,***

For SNQs 9-12, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance method of claim 28*. Sections IV.A.2, IV.A.5, IV.A.14, IV.C.9.

For SNQs 9-12, Grandin as modified by Brown renders obvious the additional recitations in element [29.0]. Element [29.0] is similar to elements [20.0] and [23.0]. Thus, element [29.0] is

rendered obvious for the same reasons discussed above for elements [20.0] and [23.0]. Sections IV.A.15, IV.C.9.

Element [23.0] recites *searching for a particular data annotation using the search criteria* and element [20.0] recites *using SQL to conduct the search*. Sections IV.A.15, IV.C.9. Thus, Grandin as modified by Brown for element [28.0] to use an *SQL search criteria* renders obvious this limitation for the same reasons discussed above.

Thus, for SNQs 9-12, Grandin as modified by Brown renders obvious *searching for a particular data annotation using the SQL search criteria* (e.g., using an SQL search string for query 712 entered by a user to search for a desired data annotation).

[29.1] ***finding the image segment of interest linked to the particular data annotation; and, displaying the image segment of interest.***

For SNQs 9-12, Grandin discloses, or at least renders obvious, the additional recitations in element [29.1]. Element [29.1] is similar to element [24.0], Thus, element [29.1] is rendered obvious for the same reasons discussed above for element [24.0]. Section IV.A.16.

Element [24.0] recites displaying the image segment of interest linked to the particular data annotation found as a result of the search. Section IV.A.16. As discussed for [24.0], because Grandin discloses that the image segment found or identified based on the search is displayed, Grandin also discloses, or at least renders obvious element [29.1]. Section IV.A.16. In particular, Grandin discloses that event processing system 140 further includes content selector 640 that uses the starting and ending time associated with a particular annotation to search for, identify, and retrieve the corresponding video segment based on a query or search from a user. Ex. 1004, 9:54-10:29. Then the retrieved segments are displayed on display device 665, such as a video monitor. Ex. 1004, 9:59-64, 10:33-42.

Thus, for SNQs 9-12, Grandin discloses, or at least renders obvious, *finding the image segment of interest linked to the particular data annotation* (e.g., retrieving the image segment that corresponds to times stored in the annotation record)*; and, displaying the image segment of interest* (e.g., retrieved segment corresponding to the times stored in the annotation record is displayed on display device 665).

D. SNQs 13-16: Grandin in View of Amano and James (SNQ13); Grandin in View of Lassiter, Amano, and James (SNQ14); Grandin in View of Kauffman, Amano, and James (SNQ15); and Grandin in View of Lassiter, Kauffman, Amano, and James (SNQ16) Each Presents a Significant New Question of Patentability for Challenged Claims 30 and 31

1. The challenge based on combinations of Grandin, Lassiter, Kauffman, Amano, and James (SNQs 13-16) present substantial new questions of patentability that were not addressed during the original examination

For SNQs 13-16, James is added to combinations of Grandin, Lassiter, Kauffman, and Amano. James discloses using an imaging and temperature monitoring system so that a temperature of an object can be determined and displayed along with the corresponding video image. Ex. 1009, Abstract, 1:6-10, 2:21-25, 2:59-62, 3:19-27, 11:29-40.

Combinations of Grandin, Lassiter, Kauffman, and Amano in view of James (for SNQs 13-16) present substantial new questions of patentability at least because their contributions to annotating and searching surveillance video show that the '803 Patent's claimed solution for searching surveillance video including comparing the time stamp of the annotation with an image count of the video was already known in the art. Because combinations of Grandin, Lassiter, Kauffman, Amano, and James (for SNQs 13-16) discloses each of the elements of Challenged Claims 30 and 31, they present substantial new questions of patentability.

2. Dependent claim 30

[30.0] ***The surveillance system of claim 22, wherein the link comprises a data attribute stamp, and wherein the data attribute serves as an index to retrieve video and data segments of the same characteristic inferred by the data attribute.***

For SNQs 13-16, Grandin alone, or in view of Lassiter and/or Kauffman, renders obvious, *the surveillance system of claim 22*. Sections IV.A.2, IV.A.5, IV.A.14.

For SNQs 13-16, Grandin as modified by Amano and James renders obvious the additional recitations in element [30.0].

As discussed for element [30.0] for SNQs 5-8, it would have been obvious to modify Grandin in view of Amano to disclose the features of element [30.0]. Section IV.B.4. However, to the extent that Patent Owner argues that Grandin as modified by Amano does not render obvious *retriev[ing] . . . data segments of the same characteristic inferred by the data attribute*, it would have been obvious to further modify Grandin in view of James to include this feature. Ex. 1003, ¶108. That is, a POSITA would have been motivated to include temperature stamps, or other data

stamps, in the retrieved video segment that indicates, for example, the temperatures sensed by the IR camera. Ex. 1003, ¶108. James discloses using an imaging and temperature monitoring system so that a temperature of an object can be determined. Ex. 1009, 1:6-10, 2:21-25, 3:19-27. James' system includes an infrared camera for measuring temperature. Ex. 1009, 2:59-62, 3:19-27. When a user retrieves video based on temperature, the system displays the temperature data along with the video image. Ex. 1009, Abstract, 11:29-40. Thus, a POSITA would have understood that it would have been obvious to *retrieve . . . data segments of the same characteristic inferred by the data attribute*. Ex. 1003, ¶108.

A POSITA would have turned to James, in particular, because James describes a similar system for monitoring and selecting particular video segments to view. Ex. 1003, ¶109. Basically, James describes details that a user may be interested in viewing when viewing the selected video segments taken by an infrared camera. Ex. 1003, ¶109. Thus, given that both references are directed to monitoring systems in which selectively playing particular video segments is used applying James' teachings to Grandin's disclosures represents the combination of prior art elements according to known methods (e.g., James' use of retrieving and displaying temperature data with Grandin's disclosure of the desire to annotate and search video to more quickly find particular portions of the video that a user wishes to review) to yield predictable results (e.g., using a general monitoring system with sensor such as an IR camera to selectively filter based on data stamps (e.g., temperature ranges) to determine the presence of a person in a monitored location and display the obtained data (e.g., temperature data), in the retrieved video segment). Ex. 1003, ¶109; MPEP § 2143.I (rationale A). This also represents applying the known techniques of James' details regarding displaying data, such as temperature data when using a sensor, such as an IR camera, in a monitoring system to improve the monitoring system of Grandin in the same ways. Ex. 1003, ¶109; MPEP § 2143.I (rationale C).

A POSITA would have had a reasonable expectation of success in applying James' teachings to Grandin largely because Grandin discloses a general monitoring system and James provides for specific details regarding the types of information that should be displayed in a retrieved video segment. Ex. 1009, Abstract, 1:6-10, 2:21-25, 3:19-27, 11:29-40. That is, a POSITA would have had a reasonable expectation of success in using James' teachings because displaying data that was gathered along with the corresponding video segment was known to POSITAs. Ex. 1003, ¶110.

Thus, for SNQs 13-16, Grandin as modified by Amano and James renders obvious *wherein the link* (e.g., data row containing time and temperature information) *comprises a data attribute stamp* (e.g., sensed temperature), *and wherein the data attribute* (e.g., temperature) *serves as an index* (e.g., indicates which video segments meet a pre-set condition such as a person being present) *to retrieve video and data segments of the same characteristic inferred by the data attribute* (e.g., retrieves video segments showing the IR signatures and gathered temperature data corresponding to when the pre-set condition is met such as a person being present).

[31.0] ***The surveillance system of claim 30, wherein the data attribute comprises temperature.***

For SNQs 13-16, Grandin alone, or in view of Lassiter and/or Kauffman, as further modified by Amano and James renders obvious, *the surveillance system of claim 30*. Sections IV.A.2, IV.A.5, IV.A.14, IV.B.4, IV.D.2.

For SNQs 13-16, Grandin as modified by Amano renders obvious the additional recitations in element [31.0] for the same reasons discussed for element [31.0] of SNQs 5-8. Section IV.B.5.

As discussed for [30.0], Grandin as modified by Amano renders obvious using an IR camera as one of Grandin's camera's 210 to obtain temperature information regarding whether a person is present at the monitored location. Ex. 1004, 6:11-17, 11:66-12:11; Ex. 1007, [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]; Ex. 1003, ¶¶99, 108-110; Sections IV.B.2, IV.B.4. In the combined system, that temperature is used to determine whether a pre-set condition has been met. Because the temperatures indicate when pre-set conditions exist (e.g., a person is present), the temperatures (e.g., *data attribute*) provide a means of searching for the desired video segment. Ex. 1007, Abstract, [0011], [0136]-[0142], [0312], [0319]-[0324], [0263], [0294].

Thus, for SNQs 13-16, Grandin as modified by Amano renders obvious *wherein the data attribute comprises temperature* (e.g., temperature is the data element used for searching for the desired video segments).

E. SNQs 17-24: Grandin in View of Amano, and Yamashiro (SNQ17); Grandin in View of Lassiter, Amano, and Yamashiro (SNQ18); Grandin in View of Kauffman, Amano, and Yamashiro (SNQ19); and Grandin in View of Lassiter, Kauffman, Amano, and Yamashiro (SNQ20); Grandin in View of Amano, James, and Yamashiro (SNQ21); Grandin in View of Lassiter, Amano, James, and Yamashiro (SNQ22); Grandin in View of Kauffman, Amano, James, and Yamashiro (SNQ22); and Grandin in View of Lassiter, Kauffman, Amano, James, and Yamashiro (SNQ22) Each Present a Significant New Question of Patentability for Challenged Claim 32

1. The challenge based on combinations of Grandin, Lassiter, Kauffman, Amano, James, and Yamashiro (SNQs 17-24) present substantial new questions of patentability that were not addressed during the original examination

For SNQs 17-24, Yamashiro is added to combinations of Grandin, Lassiter, Kauffman, Amano, and James. Yamashiro discloses a surveillance camera system in which an image search can be conducted to find a particular image having the desired luminance characteristics. Ex. 1010, Abstract, [0002], [0009], [0063]. The luminance is used to determine motion in the monitored location. Ex. 1010, [0004]-[0006], [0063], Figs. 7-15.

Combinations of Grandin, Lassiter, Kauffman, Amano, and James in view of Yamashiro (for SNQs 17-24) present substantial new questions of patentability at least because their contributions to annotating and searching surveillance video show that the '803 Patent's claimed solution for searching surveillance video including comparing the time stamp of the annotation with an image count of the video was already known in the art. Because combinations of Grandin, Lassiter, Kauffman, Amano, James, and Yamashiro (for SNQs 17-24) discloses each of the elements of Challenged Claim 32, they present substantial new questions of patentability.

[32.0] ***The surveillance system of claim 30, wherein the data attribute comprises luminosity.***

For SNQs 17-24, Grandin in view of Lassiter, Kauffman, Amano and/or James renders obvious, *the surveillance system of claim 30*. Sections IV.A.2, IV.A.5, IV.A.14, IV.B.4, IV.D.2.

For SNQs 17-24, Grandin as modified by Yamashiro renders obvious the additional recitations in element [32.0].

As discussed for [30.0], Grandin as modified by Amano renders obvious using an IR camera as one of Grandin's camera's 210 to obtain temperature information regarding whether a person is present at the monitored location. Ex. 1004, 6:11-17, 11:66-12:11; Ex. 1007, [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]; Ex. 1003, ¶113; Sections IV.B.2, IV.B.4. In the

combined system, that temperature is used to determine whether a pre-set condition has been met. Because the temperatures indicate when pre-set conditions exist (e.g., a person is present), the temperatures (e.g., *data attribute*) provide a means of searching for the desired video segment. Ex. 1007, Abstract, [0011], [0136]-[0142], [0312], [0319]-[0324], [0263], [0294].

Although the combined system does not disclose using *luminosity* as the *data attribute*, it would have been obvious to a POSITA to use *luminosity* as a *data attribute* based on the teachings of Yamashiro. Ex. 1003, ¶114. Yamashiro discloses a surveillance camera system in which an image search can be conducted to find a particular image having the desired luminance characteristics. Ex. 1010, Abstract, [0002], [0009], [0063]. The luminance is used to determine motion in the monitored location. Ex. 1010, [0004]-[0006], [0063], Figs. 7-15. For example, using luminance is helpful to use in low-light conditions or for sensing a person hiding behind another object that a traditional video camera would not be sufficient. Ex. 1003, ¶114. That is, just as a human's eye is drawn to a light in a dark scene, it would have been obvious to a POSITA to adjust a video processing system to use luminance to identify objects or events in an otherwise dark image recording. Ex. 1003, ¶114. Thus, a POSITA would have understood that it would have been obvious to use *luminosity* as a *data attribute* in a surveillance system for detecting motion. Ex. 1003, ¶114.

A POSITA would have turned to Yamashiro, in particular, because Yamashiro describes a similar system for monitoring and selecting particular video segments to view. Ex. 1003, ¶115. Basically, Yamashiro describes details that a user may be interested in viewing particular image segments based on the detected luminance. Ex. 1003, ¶115. Thus, given that both references are directed to monitoring systems in which selectively playing particular video/image segments is used applying Yamashiro's teachings to Grandin's disclosures represents the combination of prior art elements according to known methods (e.g., Yamashiro's use of luminance data to determine desired images to view with Grandin's disclosure of the desire to annotate and search video to more quickly find particular portions of the video that a user wishes to review) to yield predictable results (e.g., using a general monitoring system with luminance detection capabilities to selectively filter based on luminance to determine motion in a monitored location). Ex. 1003, ¶115; MPEP § 2143.I (rationale A). This also represents applying the known techniques of Yamashiro's details regarding using luminance detection in a monitoring system to improve the monitoring system of Grandin in the same ways. Ex. 1003, ¶115; MPEP § 2143.I (rationale C).

A POSITA would have had a reasonable expectation of success in applying Yamashiro's teachings to Grandin largely because Grandin discloses a general monitoring system and Yamashiro provides for specific details regarding the types of information that should be determined for filtering for desired segments. Ex. 1009, Abstract, 1:6-10, 2:21-25, 3:19-27, 11:29-40. That is, a POSITA would have had a reasonable expectation of success in using Yamashiro's teachings because using luminance that was gathered along with the corresponding video segment was known to POSITAs. Ex. 1003, ¶116.

Thus, for SNQs 17-24, Grandin as modified by Yamashiro renders obvious *wherein the data attribute comprises luminosity* (e.g., detected luminance is used to determine times in which motion occurs in the monitored location).

F. SNQs 25-32: Grandin in View of Amano, and Buinevicius (SNQ24); Grandin in View of Lassiter, Amano, and Buinevicius (SNQ26); Grandin in View of Kauffman, Amano, and Buinevicius (SNQ27); and Grandin in View of Lassiter, Kauffman, Amano, and Buinevicius (SNQ28); Grandin in View of Amano, James, and Buinevicius (SNQ29); Grandin in View of Lassiter, Amano, James, and Buinevicius (SNQ30); Grandin in View of Kauffman, Amano, James, and Buinevicius (SNQ31); and Grandin in View of Lassiter, Kauffman, Amano, James, and Buinevicius (SNQ32) Each Present a Significant New Question of Patentability for Challenged Claim 33

1. The challenge based on combinations of Grandin, Lassiter, Kauffman, Amano, James, and Buinevicius (SNQs 25-32) present substantial new questions of patentability that were not addressed during the original examination

For SNQs 25-32, Buinevicius is added to combinations of Grandin, Lassiter, Kauffman, Amano, and James. Buinevicius discloses a surveillance system in which that stores time stamped biometric information, such as facial or voiceprint data, from various sources, such as a video clip, that is searched to determine an individual that is in the monitored area. Ex. 1011, Abstract, [0010], [0031]-[0032], [0045][0046], [0050]-[0051], [0056], [0061], [0066]-[0067], claim 10. For example, a video clip may be analyzed to determine biometric signatures in the recording. Ex. 1011, [0056]. Those biometric signatures are then be matched to individuals with stored biometric information to determine if the individual in the monitored area is known. Ex. 1011, [0059]-[0067].

Combinations of Grandin, Lassiter, Kauffman, Amano, and James in view of Buinevicius (for SNQs 25-32) present substantial new questions of patentability at least because their contributions to annotating and searching surveillance video show that the '803 Patent's claimed

solution for searching surveillance video including comparing the time stamp of the annotation with an image count of the video was already known in the art. Because combinations of Grandin, Lassiter, Kauffman, Amano, James, and Buinevicius (for SNQs 25-32) discloses each of the elements of Challenged Claim 33, they present substantial new questions of patentability.

[32.0] ***The surveillance system of claim 30, wherein the data attribute comprises a biometric signature.***

For SNQs 25-32, Grandin in view of Lassiter, Kauffman, Amano and/or James renders obvious, *the surveillance system of claim 30*. Sections IV.A.2, IV.A.5, IV.A.14, IV.B.4, IV.D.2.

For SNQs 25-32, Grandin as modified by Buinevicius renders obvious the additional recitations in element [33.0].

As discussed for [30.0], Grandin as modified by Amano renders obvious using an IR camera as one of Grandin's camera's 210 to obtain temperature information regarding whether a person is present at the monitored location. Ex. 1004, 6:11-17, 11:66-12:11; Ex. 1007, [0136]-[0142], [0312], [0319]-[0324], [0263], [0294]; Ex. 1003, ¶119; Sections IV.B.2, IV.B.4. In the combined system, that temperature is used to determine whether a pre-set condition has been met. Because the temperatures indicate when pre-set conditions exist (e.g., a person is present), the temperatures (e.g., *data attribute*) provide a means of searching for the desired video segment. Ex. 1007, Abstract, [0011], [0136]-[0142], [0312], [0319]-[0324], [0263], [0294].

Although the combined system does not disclose using a *biometric signature* as the *data attribute*, it would have been obvious to a POSITA to use a *biometric signature* as a *data attribute* based on the teachings of Buinevicius. Ex. 1003, ¶120. Buinevicius discloses a surveillance system in which that stores time stamped biometric information, such as facial or voiceprint data, from various sources, such as a video clip, that is searched to determine an individual that is in the monitored area. Ex. 1011, Abstract, [0010], [0031]-[0032], [0045][0046], [0050]-[0051], [0056], [0061], [0066]-[0067], claim 10. For example, a video clip may be analyzed to determine biometric signatures in the recording. Ex. 1011, [0056]. Those biometric signatures are then be matched to individuals with stored biometric information to determine if the individual in the monitored area is known. Ex. 1011, [0059]-[0067]. Thus, a POSITA would have understood that it would have been obvious to use a *biometric signature* as a *data attribute* in a surveillance system for detecting motion. Ex. 1003, ¶120.

A POSITA would have turned to Buinevicius, in particular, because Buinevicius describes a similar system for monitoring and searching video segments. Ex. 1003, ¶121. Basically,

Buinevicius describes details that a user may be interested in obtaining biometric information about a person in the monitored location. Ex. 1003, ¶121. Thus, given that both references are directed to monitoring systems in which video segments are searched, applying Buinevicius' teachings to Grandin's disclosures represents the combination of prior art elements according to known methods (e.g., Buinevicius' use of biometric data to identify individuals within a monitored location with Grandin's disclosure of the desire to annotate and search video to more quickly find particular portions of the video that a user wishes to review) to yield predictable results (e.g., using a general monitoring system with time-based biometric signature detection capabilities to selectively filter based on the biometric signature to determine when a particular individual is in a monitored location). Ex. 1003, ¶121; MPEP § 2143.I (rationale A). This also represents applying the known techniques of Buinevicius' details regarding using biometric signature detection in a monitoring system to improve the monitoring system of Grandin in the same ways. Ex. 1003, ¶121; MPEP § 2143.I (rationale C).

A POSITA would have had a reasonable expectation of success in applying Buinevicius' teachings to Grandin largely because Grandin discloses a general monitoring system and Buinevicius provides for specific details regarding the types of information that should be determined for filtering for desired segments. Ex. 1009, Abstract, 1:6-10, 2:21-25, 3:19-27, 11:29-40. That is, a POSITA would have had a reasonable expectation of success in using Buinevicius' teachings because determining and using biometric signature information that was gathered along with the corresponding video segment was known to POSITAs. Ex. 1003, ¶122.

Thus, for SNQs 25-32, Grandin as modified by Buinevicius renders obvious *wherein the data attribute comprises a biometric signature* (e.g., detected voice and facial data are used to determine times in which a particular individual is in the monitored location).

G. Secondary Considerations

This Request demonstrates that the Challenged Claims of the '803 Patent are unpatentable as obvious in view of the prior art references. *See also* Ex. 1003, ¶124. Applicants did not identify any evidence of secondary considerations during prosecution. Further, the clear teachings in the prior art cannot be overcome by any supposed "secondary considerations." *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 36 (1966).

V. DISCLOSURE OF CONCURRENT LITIGATION, REEXAMINATION, AND RELATED PROCEEDINGS

Based on information available to Unified, Unified is unaware of any other litigations, reexaminations, or other post-grant proceedings that the '803 Patent is or has been involved in.

VI. CONCLUSION

Reexamination and cancellation of claims 1-33 of the '803 Patent is respectfully requested. The Commissioner is hereby authorized to charge Deposit Account 50-6990 under Docket No. COL803 the *Ex Parte* Reexamination fee of $12,600 under 37 C.F.R. § 1.20(c)(1). Unified believes no other fee is due with this submission, however, the Commissioner is hereby authorized to charge any fee deficiency or credit any over-payment to Deposit Account 50-6990.

Please direct all correspondence in this matter to the undersigned.

Dated: September 26, 2024

Respectfully submitted,

By: /Alyssa J. Holtslander/

Alyssa J. Holtslander (Reg. No. 64,026)
Unified Patents, LLC
4445 Willard Avenue, Suite 600
Chevy Chase, MD 20815
202.750.3605
alyssa@unifiedpatents.com

Michelle Aspen (Reg. 75,665)
Unified Patents, LLC
4445 Willard Avenue, Suite 600
Chevy Chase, MD 20815
559.214.3388
michelle@unifiedpatents.com

Counsel for Requester Unified Patents, LLC