PTO/SB/13/PCT (06-04)
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22764 U.S. PTO 071604

19587 U.S. PTO 10/892690 071604

REQUEST FOR FILING A CONTINUATION OR DIVISION OF AN INTERNATIONAL APPLICATION

DOCKET NUMBER	ANTICIPATION CLASSIFICATION OF THIS APPLICATION		PRIOR APPLICATION EXAMINER	ART UNIT
	CLASS	SUBCLASS		

Address to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

This is a request for filing a [X] continuation [ ] divisional application under 37 CFR 1.53(b) of pending prior international application Number PCT US02/00503, filed on 16 January 2002 entitled Optimized Data Transmission System & Method which designated the United States.

CLAIMS	(1) FOR	(2) NUMBER FILED	(3) NUMBER EXTRA	(4) RATE	(5) CALCULATIONS
	TOTAL CLAIMS (37 CFR 1.16(c))	20 - 20 =	0	x $ =	$ 0
	INDEPENDENT CLAIMS (37 CFR 1.16(b))	3 - 3 =	0	x $ =	0
	MULTIPLE DEPENDENT CLAIMS (if applicable) (37 CFR 1.16(d))			x $ =	0
			Small entity	BASIC FEE (37 CFR 1.16(a))	385.00
				Total of above Calculations =	385.00
				~~Reduction by 50% for filing small entity (Note 37 CFR 1.27)~~	
				Total =	385.00

1. [X] Enclosed are the specification, claims and drawing(s).
2. [X] Applicant claims small entity status. See 37 CFR 1.27.
3. [X] The Director is hereby authorized to charge any fees which may be required under 37 CFR 1.16 and 1.17, or credit any overpayment of Deposit Account No. 61-0657. A duplicate copy of this sheet is enclosed.
4. [ ] A check in the amount of $ _____ is enclosed.
5. [ ] Payment by credit card. Form PTO-2038 is attached.
6. [X] Application Data Sheet is enclosed. See 37 CFR 1.76.
7. [X] If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in the first sentence of the specification following the title, or in an Application Data Sheet under 37 CFR 1.76:
   [X] Continuation [ ] Divisional of prior PCT application No.: PCT/US02/00503, filed 16 January 2002

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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IPR of US Pat. No. 7,974,339

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REQUEST FOR FILING A CONTINUING APPLICATION OF AN INTERNATIONAL APPLICATION

7. ☒ A declaration under CFR 1.63 is enclosed.

8. ☐ Priority of foreign application number PCT/US02/00503, filed on 16 January 2002 in PCT is claimed under 35 U.S.C. 119(a)-(d).

   ☐ The certified copy is enclosed.

9. ☐ A preliminary amendment is enclosed.

10. ☐ Also enclosed: _____

Address all future correspondence to: (May only be completed by applicant, or attorney or agent of record).

Connie Nash, Cornerstone Group Ltd. [redacted] 2020 Glenneyre
Laguna Beach, CA 92651

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Signature — 7/16/04 Date

Christopher J. Rourk — 39369 Registration Number, if applicable

Typed or printed name

Telephone Number

☐ Inventor(s)/Applicant(s)

☐ Assignee of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

☒ Attorney or agent of record

☐ Filed under 37 CFR 1.34
Registration number if acting under 37 CFR 1.34 _____

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 4 forms are submitted.

22764 U.S.PTO
071604

PTO/SB/17 (10-03)
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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 385.00

Complete if Known	
Application Number	To be Assigned
Filing Date	Herewith
First Named Inventor	Alexander Krichevsky
Examiner Name	To be Assigned
Art Unit	To be Assigned
Attorney Docket No.	B74216PCTUS

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☑ Deposit Account:

Deposit Account Number: 01-0657

Deposit Account Name: Akin Gump Deposit Account

The Director is authorized to: *(check all that apply)*

☑ Charge fee(s) indicated below ☐ Credit any overpayments

☑ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	385.00
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 385.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

		Extra Claims		Fee from below	Fee Paid
Total Claims	20	-20** = 0	X	18	= 0
Independent Claims	3	- 3** = 0	X	86	= 0
Multiple Dependent				290	= 0

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
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1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) ($)

SUBMITTED BY				(Complete *(if applicable)*)	
Name *(Print/Type)*	Christopher J. Rourk	Registration No. *(Attorney/Agent)*	39,348	Telephone	214-969-4669
Signature				Date	07/16/2004

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Connie Nash, Cornerstone Group Ltd. [redacted] 2020 Glenneyre
Laguna Beach, CA 92651

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Signature — 7/16/04 Date

Christopher J. Rourk — 39369 Registration Number, if applicable

Typed or printed name

Telephone Number

☐ Inventor(s)/Applicant(s)

☐ Assignee of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

☒ Attorney or agent of record

☐ Filed under 37 CFR 1.34
Registration number if acting under 37 CFR 1.34 _____

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☑ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 385.00

Complete if Known	
Application Number	To be Assigned
Filing Date	Herewith
First Named Inventor	Alexander Krichevsky
Examiner Name	To be Assigned
Art Unit	To be Assigned
Attorney Docket No.	B74216PCTUS

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☑ Deposit Account:

Deposit Account Number: 01-0657

Deposit Account Name: Akin Gump Deposit Account

The Director is authorized to: *(check all that apply)*

☑ Charge fee(s) indicated below ☐ Credit any overpayments

☑ Charge any additional fee(s) or any underpayment of fee(s)

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Independent Claims	3	- 3** = 0	X	86	= 0
Multiple Dependent				290	= 0

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1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

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**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

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1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
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1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
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8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
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1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) ($)

SUBMITTED BY				(Complete *(if applicable)*)	
Name (Print/Type)	Christopher J. Rourk	*Registration No. (Attorney/Agent)*	39,348	*Telephone*	214-969-4669
Signature				*Date*	07/16/2004

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IN THE UNITED STATES RECEIVING OFFICE

SPECIFICATION

accompanying

TITLE OF THE INVENTION:

OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

FIELD OF THE INVENTION

[0001] The present invention pertains to the field of data transmission, and more particularly to a system and method for optimizing data transmission that decreases bandwidth requirements for data transmission.

BACKGROUND OF THE INVENTION

[0002] Data transmission systems are known in the art. Such data transmission systems often use compression to decrease bandwidth requirements. For example, compression techniques have been characterized as "lossless" when no reduction in data occurs, or "lossy" when a loss of data occurs that does not adversely affect the intended use.

[0003] One drawback with such data transmission systems is that the compressed data must be "decompressed" on the receiving end. Thus, for lossless data compression systems, the exact configuration of the data must be achieved when the data is decompressed. Likewise, even for lossy data compression systems, the data is decompressed and the lost data is then approximated. The need for such decompression contributes to the overall difficulty in implementing data transmission in conjunction with compression.

SUMMARY OF THE INVENTION

[0004] In accordance with the present invention, a system and method for transmitting data are provided that overcome known problems with data transmission systems and methods.

[0005] In particular, a system and method for data transmission are provided that use data optimization instead of compression, so as to provide a mixed lossless and lossy data transmission technique.

[0006] In accordance with an exemplary embodiment of the present invention, a system for transmitting data is provided. The system includes a frame analysis system receiving frame data, such as a frame of video data, audio data, graphical data, text data, or other suitable data, and generating region data, such as a uniform matrix size that is used to divide the frame into a predetermined set of matrices. A pixel selection system receives the region data and generates one set of pixel data for each region, such as by selecting one of the pixels contained within each of the original matrices that comprise the frame. For data that is used for purposes other than the generation of a display, the pixel data can instead be audio data, text data, or other suitable data.

[0007] The present invention provides many important technical advantages. One important technical advantage of the present invention is a system and method for transmitting data that do not require the data to be compressed at the sending end and decompressed at the receiving end. The present invention uses data optimization to transmit only the data that is necessary for the application, such that decompression of the data on the receiving end is not

required. In this manner, the present invention incorporates features of both lossless and lossy compression without requiring the data to be decompressed on the receiving end.

[0008] Those skilled in the art will further appreciate the advantages and superior features of the invention together with other important aspects thereof on reading the detailed description that follows in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIGURE 1 is a diagram of a system for transmitting data in accordance with an exemplary embodiment of the present invention;

[0010] FIGURE 2 is a diagram of a system for performing frame analysis in accordance with an exemplary embodiment of the present invention;

[0011] FIGURE 3 is a diagram of a system for selecting optimized pixel data for transmission in accordance with an exemplary embodiment of the present invention;

[0012] FIGURE 4 is a diagram of a system for generating a frame in accordance with an exemplary embodiment of the present invention;

[0013] FIGURE 5 is a flow chart of a method for optimizing data transmission in accordance with an exemplary embodiment of the present invention;

[0014] FIGURE 6 is a flowchart of a method for determining or assigning matrix or region size based on an exemplary embodiment of the present invention;

[0015] FIGURE 7 is a flowchart of a method for selecting a pixel within a region in accordance with an exemplary embodiment of the present invention;

[0016] FIGURE 8 is a flowchart for method for generating optimized frame data in accordance with an exemplary embodiment of the present invention;

[0017] FIGURE 9 is a diagram 900 showing an exemplary uniform matrix segmentation of an array of pixel data; and

[0018] FIGURE 10 is a diagram 1000 showing an exemplary non-uniform matrix segmentation of an array of pixel data.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0019] In the description that follows, like parts are marked throughout the specification and drawings with the same reference numerals, respectively. The drawing figures might not be to scale, and certain components can be shown in generalized or schematic form and identified by commercial designations in the interest of clarity and conciseness.

[0020] **FIGURE 1** is a diagram of a system 100 for transmitting data in accordance with an exemplary embodiment of the present invention. System 100 allows data such as video data to be transmitted in a manner that does not require the data to be compressed, and which results in significant decreases in bandwidth requirements for data transmission.

[0021] System 100 includes data transmission system 102, which is coupled to data receiving system 104 over a suitable communications medium 114. As used herein, the term "couple" and its cognate terms, such as "couples" and "coupled," can include a physical connection (such as a copper conductor), a virtual connection (such as through randomly assigned memory locations of a data memory device), a logical connection (such as through logical gates of a semiconducting device), other suitable connections, or a suitable combination of such connections. In one exemplary embodiment, systems and components are coupled to other systems and components through intervening systems and components, such as through an operating system of a general purpose computing platform. Communications medium 114 can be the Internet, the public switched telephone network, a

wireless network, a local area network, an optical network, other suitable communications media, or a suitable combination of such communications media.

[0001] Data transmission system 102 includes frame analysis system 106 and pixel selection system 108, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processing platform. As used herein, a software system can include one or more objects, agents, threads, lines of code, subroutines, separate software applications, user-readable (source) code, machine-readable (object) code, two or more lines of code in two or more corresponding software applications, databases, or other suitable software architectures. In one exemplary embodiment, a software system can include one or more lines of code in a general purpose software application, such as an operating system, and one or more lines of software in a specific purpose software application.

[0022] Data transmission system 102 reduces data transmission requirements by eliminating data that is not required for the application of the data on the receiving end. In one exemplary embodiment, data transmission system 102 can receive frames of video data, and can select pixels of data for transmission that are needed in order to allow the frames of video data to be viewed by the human eye. In this exemplary embodiment, a video display having a quiescent state of pixels in either the "on" or "off" states can be used to generate video data by selecting a subset of pixels within the frame to display image data. In this

exemplary embodiment, if a frame of video data has low detail, it may only be necessary to provide a data value for one of every twenty-five pixels or less in order to create the image to be viewed by the human eye. Likewise, if the frame of video data has a large amount of detail, it may be necessary to transmit each pixel in order to generate a suitable image. When a frame of video data includes regions of high detail and low detail, it may likewise be desirable to transmit only the necessary number of pixels in each region that are required to generate the image. In this exemplary embodiment, the number of pixels to transmit can be decided on a region-by-region basis within the frame.

[0023] Data receiving system 104 includes pixel data system 110 and display generation system 112, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processor platform. Data receiving system 104 receives the data from data transmission system 102, and generates a display for a user that utilizes the optimized data set transmitted by data transmission system 102. In one exemplary embodiment, data receiving system 104 can generate a video display, such as by illuminating predetermined pixels within a frame based on the determination of the level of detail required for the frame, and by leaving the remaining pixels in a quiescent state of either "off" or "on." Likewise, data receiving system 104 can generate frames of video data that have variable levels of detail, to accommodate the image data being transmitted.

[0024] Frame analysis system 106 receives frame data including pixel data and generates matrix size data based upon the pixel data. In one exemplary embodiment, frame analysis system 106 can analyze adjacent pixel data values in the frame, and can apply one or more predetermined variation tolerances to select a matrix size for a data optimization region. In this exemplary embodiment, the matrix size for each data optimization region of a frame can be uniform, such that each data optimization matrix has the same dimensions. Thus, if a 640 x 480 pixel frame is being transmitted, then the 640 x 480 pixel frame can be split up into a 64 x 48 frame of matrices, where each matrix is a 10 x 10 matrix. Likewise, frame analysis system 106 can assign a different matrix size on a frame by frame basis, such as where a first frame is transmitted using 10 x 10 matrices for a 64 x 48 matrix frame, and a subsequent frame could then be transmitted using 5 x 5 data matrices, for a 128 x 96 matrix frame. In another exemplary embodiment, the size of matrices within the frame can be varied, such that a given frame is made up of matrices varying in size, such as from a 1 x 1 matrix to a 5 x 5 matrix or greater. In yet another exemplary embodiment, the size of the matrices can be nonsymmetrical, such that an N x M matrix can be used where N and M are integer values that are not equivalent. Likewise, other suitable data optimization regions can be selected, such as ones that are not based on a matrix structure, but which may be circular, elliptical, amorphous, or based on other suitable structures.

[0025] Pixel selection system 108 selects one or more pixel within a predefined matrix or other region for

transmission in an optimized data transmission system. In one exemplary embodiment, pixel selection system 108 can randomly select a pixel from a location within a matrix or other region, can use a sequence selection scheme such that the pixel is selected in accordance with a predetermined sequence, or other suitable selection criteria can be used. Pixel selection system 108 can further generate pixel location data within the matrix, such that the pixel can be regenerated at a predetermined location, at a random location, or in other suitable manners. For example, if a predetermined location is used, the predetermined location can be the same for each matrix or other region, such as by assigning a quadrant or other location (e.g., the first row and column position in the matrix). Likewise, if randomization is used, control data can be generated that will cause data receiving system 104 to randomize the location of each pixel in each matrix or other region without requiring individual control data for each matrix or other region. Likewise, other suitable pixel selection data can be generated.

[0026] Pixel data system 110 receives matrix data and pixel data and assembles frame data based on the matrix data and pixel data. In one exemplary embodiment, pixel data system 110 receives a matrix size identifier for an entire frame, such that it can be determined that a uniform matrix size is used for each frame. Likewise, pixel data system 110 can receive matrix map data, such that a sequence of matrices and the size of each matrix can be determined. Likewise, pixel data system 110 can receive pixel data for each matrix, such as pixel data with each matrix identifier,

pixel data in a predetermined order based on the order of matrix data transmitted, or other suitable data.

[0027] Display generation system 112 receives frames of data from pixel data system 110 and generates video data, audio data, graphical data, textual data, or other suitable data for use by a user. In one exemplary embodiment, display generation system 112 receives an entire frame of data after it has been reconstructed by pixel data system 110. In another exemplary embodiment, display generation system 112 can receive frame data as it is generated by pixel data system 110 prior to the generation of the entire frame. Other suitable configurations can be used.

[0028] In operation, system 100 allows data transmission to be optimized so as to decrease bandwidth requirements. System 100 determines the optimal data for transmission based on the end use of the data. For example, system 100 can reduce the data transmitted for video display generation, such as by determining the level of detail required, and then transmitting data based on the level of detail required. Likewise, similar optimization processes can be used for audio data, graphical data, textual data, or other suitable data. Thus, system 100 is a lossy data transmission system, but can also be a lossless data transmission system depending on the data fields within a set of data for which lossy or lossless data transmission is desired. In this exemplary embodiment, system 100 allows data sets to be processed in a manner that allows data transmission to be both lossless and lossy based on application criteria for the data on the receiving end.

[0029] System 100 can also be used in conjunction with a compression system, a frame elimination system, or with other suitable systems or processes to achieve further savings in bandwidth requirements. For example, after data optimization has been achieved, the optimized data can then be compressed using a lossy or lossless compression technique. Likewise, frame elimination can be used where such techniques do not result in an unacceptable decrease in the quality of the data at the receiving end.

[0030] **FIGURE 2** is a diagram of a system 200 for performing frame analysis in accordance with an exemplary embodiment of the present invention. System 200 includes frame analysis system 106 and pixel variation system 202, matrix size system 204, and matrix identification system 206, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processing platform.

[0031] Pixel variation system 202 determines the level of detail required based on variations in pixel data. In one exemplary embodiment, pixel variation system 202 can receive pixel data values, such as (x/y/z) in a suitable pixel color pixel system (e.g., 16-bit values for R/G/B, Y/Cb/Cr, Y/U/V, or other suitable color data formats). Pixel variation system 202 can then compare two adjacent pixels to determine whether the amount of variation between those two adjacent pixels exceeds a predetermined tolerance, such that the amount of pixel data required to transmit image data or other suitable data for perception by a human eye or other suitable applications can be determined. In this exemplary

embodiment, pixel variation system 202 can have a number of tolerance settings, so that a matrix size, region, or other data optimization set can be determined. For example, consider the following pixel set:

P1(121/34/187) P2(119/39/198) P3(117/42/202)

[0032] In this example, the variation between P1 and P2 may be lower than a first tolerance for the purposes of selecting a first data set, such as a 2 x 2 matrix, but the variation between P1 and P3 may be greater than a second tolerance for the purpose of selecting a second data set, such as a 3 x 3 matrix. In this manner, increasing groups of pixels can be analyzed so as to insure that desired levels of detail are not inadvertently omitted. For example, if video data includes an image of an essentially uniform object, such as the ocean or a grassy field, and where that essentially uniform object has details that are nonetheless of interest to the viewer, such as wave whitecaps or wildflowers, pixel variation system 202 can include tolerance settings such that variations between pixels that identify such details would be identified, but where such variations between two adjacent pixels within the field would be ignored. Likewise, other suitable pixel variation detection functionality can be provided.

[0033] Matrix size system 204 generates matrix size data based on pixel variation data. In one exemplary embodiment, matrix size system 204 can receive pixel variation data based on an analysis of an entire frame of data, such that a uniform matrix size can be assigned. Likewise, matrix size

system 204 can receive pixel variation data from pixel variation system 202, and can generate nonsymmetrical matrix dimensional data, such as N x M dimensions where "N" and "M" are integers that are not equivalent, circular region data, elliptical region data, amorphous region data, or other suitable region identification data. Matrix size system 204 can also generate matrix size control data, such as where a non-uniform matrix or region size is used within a frame. In this exemplary embodiment, matrix size system 204 can identify a sequence for matrices, coordinate data for matrices, size data for matrices, or other suitable data that can be used to assemble or sequence pixel data within matrices.

[0034] Matrix identification system 206 receives matrix size data and generates matrix identification data. In one exemplary embodiment, matrix identification system 206 can receive matrix sequence data, and can assemble the matrix sequence data for use with pixel data generated by pixel selection system 108. In this exemplary embodiment, matrix identification system 206 can identify whether a uniform matrix size is being generated, the number of matrices within a frame, sequence data for the matrices when a non-uniform matrix or region is being used, or other suitable data. Matrix identification system 206 generates matrix identification data for use by data receiving system 104, so as to allow data receiving system 104 to generate the optimized data display.

[0035] In operation, system 200 allows frames to be analyzed so as to determine the optimal data to be transmitted, based on the intended use of the frame. In one

exemplary embodiment, pixel variation system 202 or other suitable systems can be used to identify lossy and lossless regions within the frame. Likewise, uniform lossy regions can be identified, such as matrices having predetermined dimensions of greater than 1 x 1 or other suitable data.

[0036] **FIGURE 3** is a diagram of a system 300 for selecting optimized pixel data for transmission in accordance with an exemplary embodiment of the present invention. System 300 includes pixel selection system 108 and pixel randomizer system 302, pixel sequencer system 304, and pixel identification system 306, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processor platform.

[0037] Pixel randomizer system 302 selects a random pixel within a matrix or other region. In one exemplary embodiment, pixel randomizer system 302 can generate a random number and can select a pixel based upon a pixel sequence and the relationship of the generated random number to that pixel sequence. In this exemplary embodiment, pixel randomizer system 302 can generate a random number between 0 and 1, and can multiply that random number times the number of pixels within a region, and can then select the pixel based upon a pixel sequence from a predetermined location. Likewise, other suitable random pixel selection processes can be used. Pixel randomizer system 302 generates random pixel location data and random pixel value data.

[0038] Pixel sequencer system 304 generates pixel selection data based on pixel sequence data. In one

exemplary embodiment, such as when a uniform frame matrix size is being used, pixel sequencer system 304 can select pixels in a predetermined order, such that if a 3 x 3 matrix is used uniformly across the frame, the pixel at location (1,1) is transmitted in the first frame, the pixel at location (1,2) is transmitted in the second frame, the pixel at location (1,3) is transmitted in the third frame, and so forth, until the pixel at location (3,3) has been transmitted, after which the pixel at location (1,1) will be transmitted. Pixel sequencer system 304 can likewise send other suitable sequences, such as skipping every other pixel, skipping pixels based on predetermined display generation characteristics, or other suitable sequences.

[0039] Pixel identification system 306 generates pixel identification data, such as may be required by a data receiving system to illuminate the pixel in a display. In one exemplary embodiment, pixel identification system 306 can identify the coordinates of a pixel where generation of the pixel by the data receiving system at the exact location is desired. Likewise, pixel identification system 306 can identify a uniform pixel location within each matrix or other region, such as location (1,1) for all matrices, such as randomizer control data that will randomly place a pixel within a matrix or region, or other suitable pixel identification data.

[0040] In operation, system 300 allows a pixel within a matrix or other suitable region to be selected based on data optimization. System 300 allows random, sequenced, or other suitable processes to be used to select and locate pixels within optimized regions.

[0041] **FIGURE 4** is a diagram of a system 400 for generating a frame in accordance with an exemplary embodiment of the present invention. System 400 includes pixel data system 110, matrix definition system 402 and pixel location system 404, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processor platform.

[0042] Matrix definition system 402 receives matrix definition data for use in generating frame data. In one exemplary embodiment, matrix definition data can include data that identifies a uniform matrix size throughout the frame. In another exemplary embodiment, matrix definition data can include data that identifies matrix dimensions and sequences, so that a sequence of non-similar matrices can be assembled into a frame. Likewise, matrix definition system 402 can include region definition data, such as for ellipses, circles, amorphous shapes, or other suitable definition data.

[0043] Pixel location system 404 receives pixel location data for locating a pixel within a matrix or other region. In one exemplary embodiment, pixel location system 404 can receive data that locates pixels for each matrix within a frame on a uniform basis, such that each pixel received will be generated in a predetermined location (e.g. (1,1) in a 3 x 3 matrix). Likewise, pixel location system 404 can receive randomization data, such that the location of a pixel within a matrix or other region is randomly assigned. In yet another exemplary embodiment, pixel location system 404 can receive exact coordinates for placement of pixels.

Other suitable processes can be implemented by pixel location system 404.

[0044] In operation, system 400 is used to locate pixels of data within a matrix or other region in an optimized data transmission system. System 400 thus allows optimized data, such as video data, audio data, or other suitable data, to be used to generate a display, an audio stream, graphic images, textual data, and other suitable data on a frame by frame basis.

[0045] **FIGURE 5** is a flow chart of a method 500 for optimizing data transmission in accordance with an exemplary embodiment of the present invention. Method 500 begins at 502 where a matrix size is determined. In one exemplary embodiment, the matrix size can be uniformly assigned across the frame, a matrix size can assigned based upon regions within the frame, a region other than a matrix can be used, or other suitable matrix sizes or region sizes can be determined. The method then proceeds to 504.

[0046] At 504 a pixel within the matrix is selected. In one exemplary embodiment, the pixel can be selected based on a predetermined location within the matrix, such as when uniform matrix sizes are used within a frame, or in other suitable manners. In another exemplary embodiment, pixel selection can be performed based on random selection, based upon predetermined rules regarding selection of pixels, or in other suitable manners. The method then proceeds to 506.

[0047] At 506 the matrix and pixel data is transmitted. In one exemplary embodiment, the matrix and pixel data can be transmitted in pairs, such that each set of matrix definition data or location data is paired with

corresponding pixel brightness data. Likewise, matrix data and pixel data can be transmitted in sequence, such that the sequence of matrix data is received first, and the sequence of pixel data for each corresponding matrix is then received. Other suitable transmission sequences can likewise be used. The method then proceeds to 508.

[0048] At 508 the matrix and pixel data is assembled into a frame. In one exemplary embodiment, the frame assembly can be performed on a line-by-line basis, such that each line of data can be generated as it is created. In another exemplary embodiment, an entire frame of data can be generated prior to utilization of the frame of data. The method then proceeds to 510.

[0049] At 510 a display is generated using the matrix and pixel data. As previously described, the display can be generated from an entire frame data set after it has been completed. Likewise, the display can be generated on a line-by-line basis, audio streams or graphical displays can be generated, or other suitable displays can be generated. The method then proceeds to 512.

[0050] At 512 it is determined whether a frame is completed. If the frame is not completed the method returns to 508. Otherwise the frame is complete, the method proceeds to 514 and the method proceeds to the next frame.

[0051] **FIGURE 6** is a flowchart of a method 600 for determining or assigning matrix or region size based on an exemplary embodiment of the present invention. Method 600 begins at 602 where a pixel variation is determined. In one exemplary embodiment, the pixel data values for two adjacent pixels can be compared, and it can be determined whether the

variations between the two adjacent pixel data values exceed predetermined allowable variations. The suitable variation techniques can be implemented. The method then proceeds to 604.

[0052] At 604 it is determined whether the variation is greater than a predetermined tolerance. If it is determined at 604 that the variation is greater than the tolerance the method proceeds to 606 where the matrix size is assigned based on the number of pixels under consideration. In one exemplary embodiment, if a first and second pixel have been compared and it is determined that the variation between pixels exceeds the tolerance, then a matrix size of 1 x 1 (i.e., an individual pixel), can be transmitted such that data transmission is lossless. If it is determined that the variation is not greater than the tolerance, the method proceeds to 608.

[0053] At 608, the next pixel is selected. In one exemplary embodiment, the next pixel can be selected based upon an N x N matrix size, an N x M matrix size, a circular region size, an elliptical region size, an amorphous region size, or other suitable regions. The method then proceeds to 610.

[0054] At 610 the tolerance is modified. In one exemplary embodiment, the tolerance can be modified with each increasing region size, such that smaller tolerances are imposed for larger regions. Likewise, a maximum region size can be imposed such that the tolerance is set to zero. Likewise, if it is determined at 604 that the maximum region size has been reached, the method can proceed directly to

606. After the tolerance is modified at 610, the method returns to 602.

[0055] In operation, method 600 allows a matrix or other suitable region size to be determined based upon pixel variations. In one exemplary embodiment, pixel variation can be determined at 602 on a frame basis, such that a first tolerance is set for having uniform matrices of 2 x 2 size, a second tolerance is set for having uniform matrices of a 3 x 3 size, and other suitable tolerances can be used. Likewise, tolerances can be set and regions can be determined based on a region-by-region basis, such that in areas having low information consent, the matrix size is increased whereas in areas having high information content the matrix size is decreased. In one exemplary embodiment, the matrix size can be decreased to 1 x 1, such that in areas having high information content, the data transmission can be lossless, but in areas having low information content, the data transmission can be lossy.

[0056] **FIGURE 7** is a flowchart of a method 700 for selecting a pixel within a region in accordance with an exemplary embodiment of the present invention. Method 700 begins at 702 where matrix or other region data is received. In one exemplary embodiment, the matrix data can include a matrix size, a region size, a region boundary for amorphous regions, or other suitable data. The method then proceeds to 704.

[0057] At 704, it is determined whether random or sequencing selection is being used for selecting the pixel data. If it is determined that sequencing data is used, the method proceeds to 706 where the sequence data is obtained.

In one exemplary embodiment, such as where a uniform matrix size is used within the frame, a sequence of pixels can be used such that the pixels are "swept" across the matrix. Likewise, other suitable sequence data can be used. After the sequence is obtained at 706 the method proceeds to 708 where a pixel is selected based on the sequence data. The pixel data for the matrix is then stored.

[0058] Likewise, if it is determined at 704 that a random pixel selection is being used, the method proceeds to 710 where a random number is generated. The method then proceeds to 712.

[0059] At 712 a pixel is selected based on a random number. In one exemplary embodiment, a random number generated between 0 and 1 can be multiplied by the number of pixels within the matrix or region, and a predetermined sequence can be used to select the pixel. Likewise, the pixel data values can be randomly identified or other suitable random selection processes can be used.

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which as based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content is being transmitted or in other suitable applications.

[0061] **FIGURE 8** is a flowchart of a method 800 for generating optimized frame data in accordance with an exemplary embodiment of the present invention. Method 800 begins at 802 where matrix and pixel data are received. In one exemplary embodiment, the matrix and pixel data can

include a standard or uniform matrix size and a sequence of pixels for the frame. In another exemplary embodiment, the matrix and pixel data can include a sequence of matrix sizes that define a frame and a sequence of pixels for generation within each matrix. In yet another exemplary embodiment, the matrix and pixel data can be region and pixel data, such as where the region data defines one or more regions within a frame and the pixel data includes points that go within that region. Other suitable data can also be used, such as audio data, graphical data, text data, or other suitable data. The method then proceeds to 802.

[0062] At 802 the matrix and pixel data are combined into a frame. In one exemplary embodiment, the frame can be generated on a line-by-line basis, such that the matrices are assembled in rows and that the pixel for each matrix are assigned after a row is complete. In this exemplary embodiment, such as where matrix sizes exceed 2 x 2, then assembling a row of matrices can result in the assembly or two or more lines of data, such as where video data is generated by scanning lines from the top of a display to the bottom of a display. In this exemplary embodiment, the frame can be generated as each line is completed. The method then proceeds to 804.

[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be reconstituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable processed can also be used. If it is

determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

[0064] In operation, method 800 allows frames of data, such as video data, audio data, graphical data, textual data, or other suitable data, to be generated in an optimized manner, such that lossy, lossless, or a combination of lossy and lossless data transmission is used based upon the end use of the data. In this exemplary embodiment, uniform or non-uniform matrices or regions can be used, such that only one of two or more points of data within a data set for each region needs to be transmitted.

[0065] **FIGURE 9** is a diagram 900 showing an exemplary uniform matrix segmentation of an array of pixel data. Each matrix of the array is of uniform size, such as 4 x 4. Thus, the matrix size data for the entire frame can be represented by a single data set.

[0066] In the first row of matrices, the location "X" of a single pixel of data is identical (e.g. (2,2)), such as where the location of the pixel in each matrix is based on sequential data. In the second row, the location of the pixel in each matrix is different, such as where the location of the pixel in each matrix is random. In this exemplary embodiment, the matrix data can include the single uniform size (e.g. 4 x 4), the pixel location data can include the location of the pixel in each matrix (e.g. (2,2), "random," or the coordinates of each pixel starting with the first matrix and sweeping across from left to right until the last matrix in the last row is reached (e.g. (4,1) (1,4), (3,2), (3,4)) and the pixel data for each matrix can

include the (X/Y/Z) data, such as where the pixel is a color pixel. Likewise, other suitable data can be used.

[0067] **FIGURE 10** is a diagram 1000 showing an exemplary non-uniform matrix segmentation of an array of pixel data. Each matrix of the array can be of different size, but the matrices must form the array when combined. In each matrix, the location of the pixel in each matrix is different, such as where the location of the pixel in each matrix is random. In this exemplary embodiment, the matrix data can include the size of each matrix in series, starting from the first matrix and sweeping across from left to right until the last matrix is reached (e.g. (7 x 3), (5 x 6), (5 x 4), (7 x 7), (2 x 3), (2 x 7)), the pixel location data can include the location of the pixel in each matrix (e.g. (2,2), "random," or the coordinates of each pixel starting with the first matrix and sweeping across from left to right until the last matrix in the last row is reached (e.g. (2,1), (4,4), (2,2), (5,6), (2,2), (2,2)), and the pixel data for each matrix can include the (X/Y/Z) data, such as where the pixel is a color pixel. Likewise, other suitable data can be used.

[0068] Although exemplary embodiments of a system and method of the present invention have been described in detail herein, those skilled in the art will also recognize that various substitutions and modifications can be made to the systems and methods without departing from the scope and spirit of the appended claims.

WHAT IS CLAIMED IS

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and generating region data; and

a pixel selection system receiving the region data and generating one set of pixel data for each region.

2. The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel data from a matrix of sets of pixel data.

15. The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. A method for transmitting data comprising:

dividing an array of pixel data into two or more regions;

selecting a set pixel of pixel data from each region; and

transmitting region data and the pixel data for each region.

17. The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

ABSTRACT OF THE DISCLOSURE

A system for transmitting data is provided. The system includes a frame analysis system receiving frame data, such as a frame of video data, and generating region data, such as a uniform matrix size that is used to divide the frame into a predetermined set of matrices. A pixel selection system receives the region data and generates one set of pixel data for each region, such as by selecting one of the pixels contained within each of the original matrices that comprise the frame.

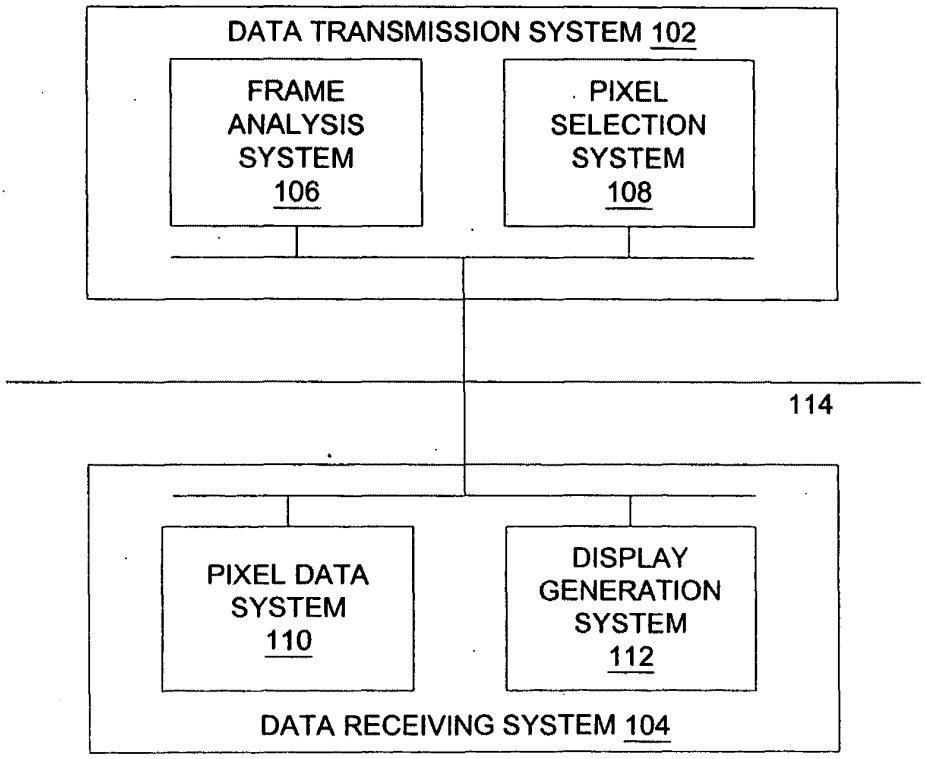

FIGURE 1 100

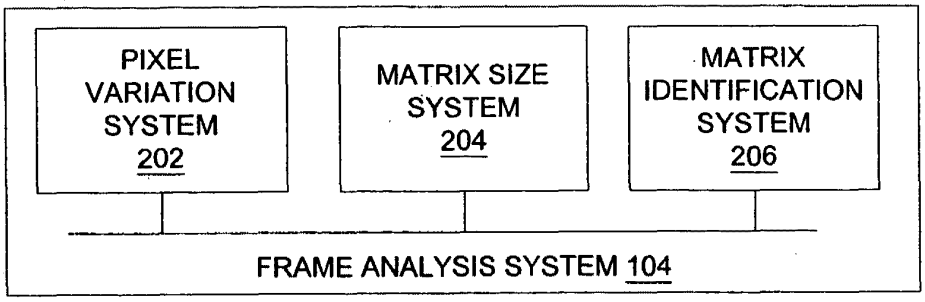

FIGURE 2 200

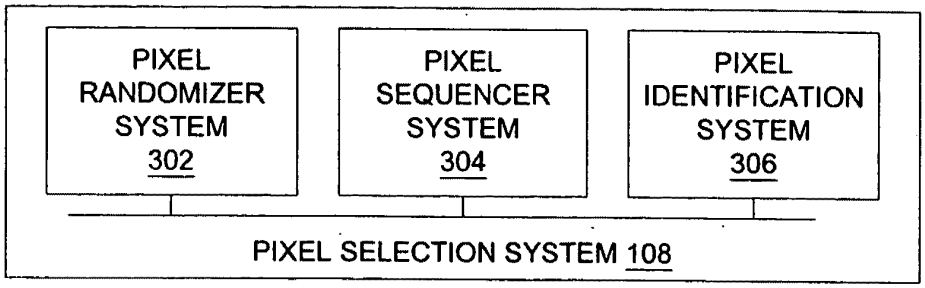

FIGURE 3 300

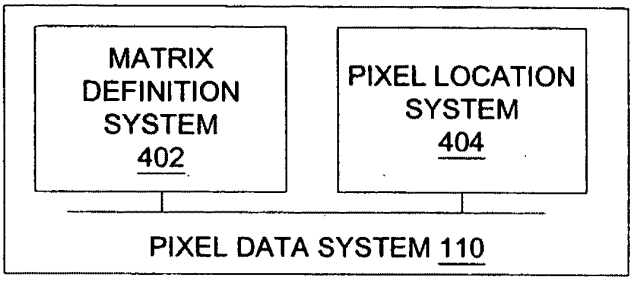

FIGURE 4 400

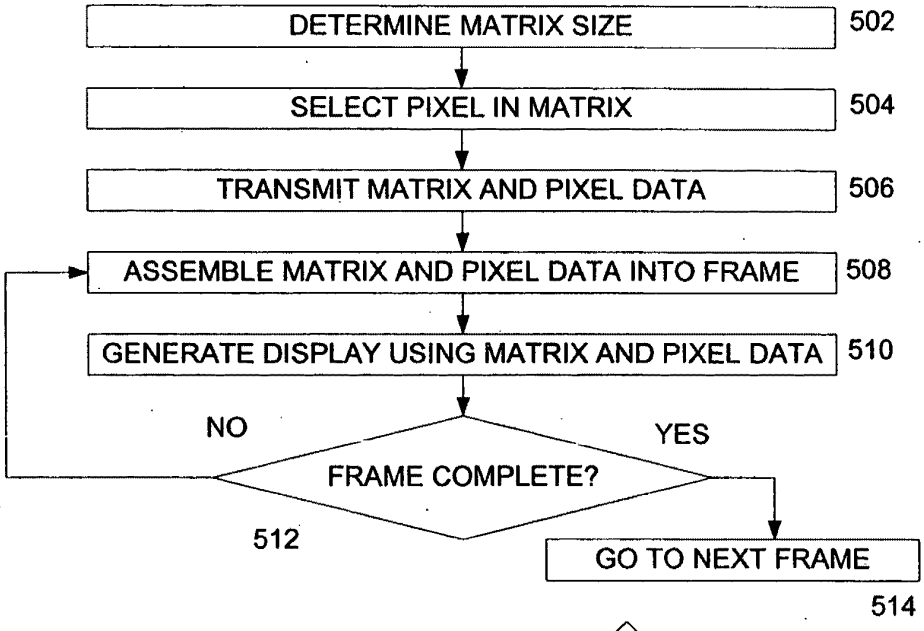

FIGURE 5 500

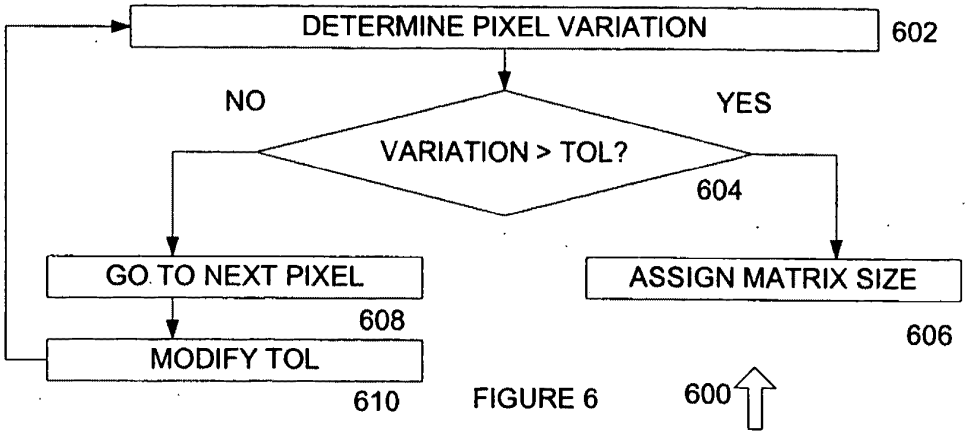

FIGURE 6 600

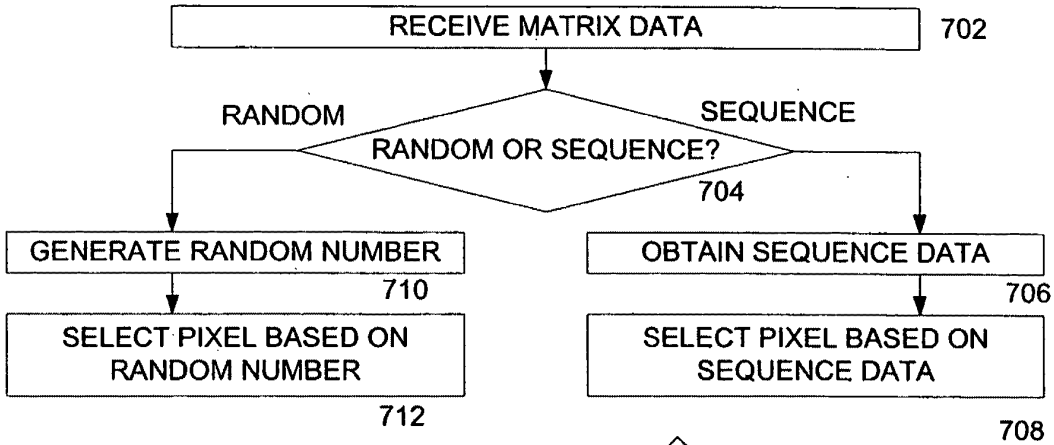

FIGURE 7 700

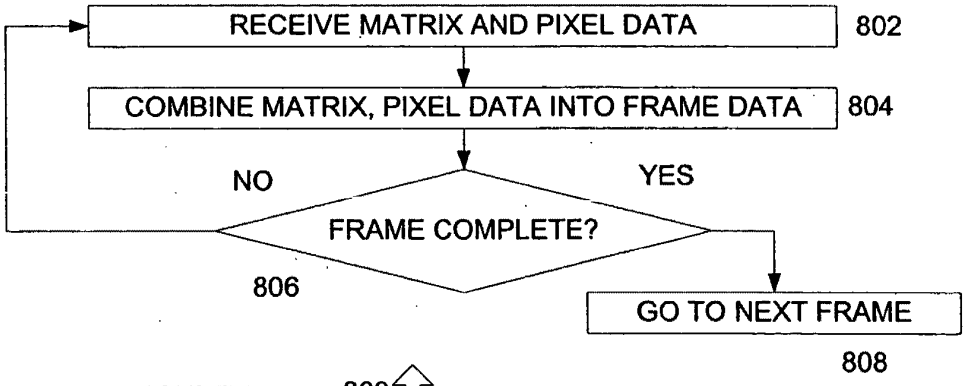

FIGURE 8 800

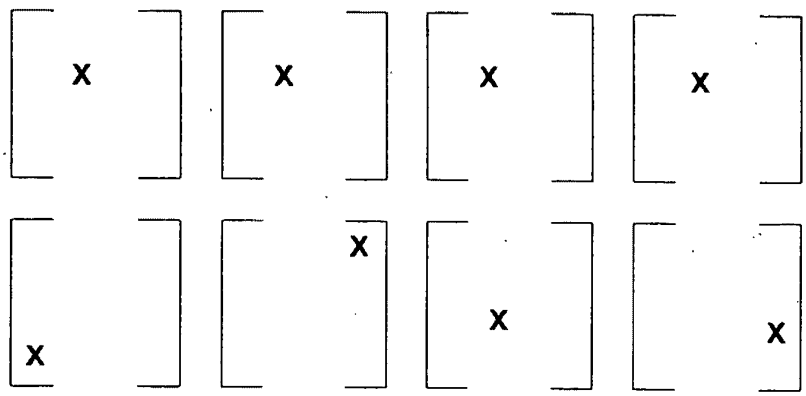

FIGURE 9 900

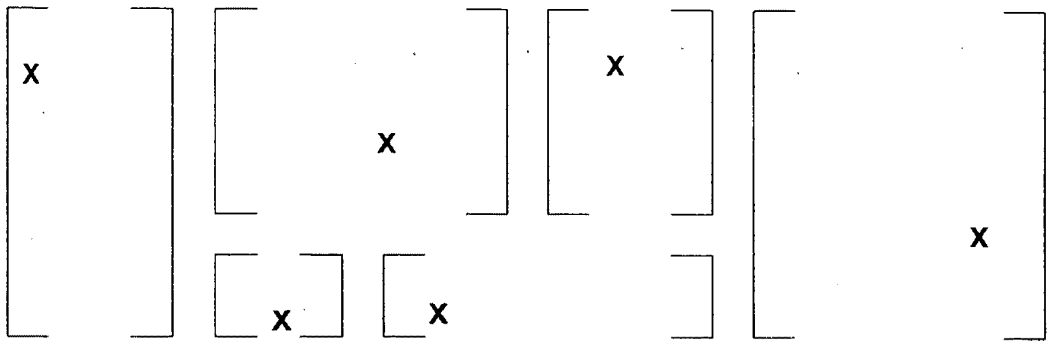

FIGURE 10 1000

Box No. VIII (iv) DECLARATION: INVENTORSHIP (only for the purposes of the designation of the United States of America)

The declaration must conform to the standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box. No. VIII (iv). If this Box is not used, this sheet should not be included in the request.

Declaration of inventorship (Rules 4.17(iv) and 51*bis*.1(a)(iv))
for the purposes of the designation of the United States of America

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

This declaration is directed to international application No. PCT / US02/00503 ..... (if furnishing declaration pursuant to Rule 26*ter*).

I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.

I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications," by application number, country or Member of the World Trade Organization, day, month and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.

Prior applications: .....

.....

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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(of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26*ter* after the filing of the international application)

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Citizenship: .....

Inventor's Signature: ..... Date: .....

(if not contained in the request, or if declaration is corrected or added under Rule 26*ter* after the filing of the international application. The signature must be that of the inventor, not that of the agent)

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☐ This declaration is continued on the following sheet, "Continuation of Box No. VIII (iv)".

See Notes to the request form

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(PCT Rule 90.5)

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Date: 1/25/02

Form PCT/Model of general power of attorney (for several international applications) (July 1992)

121648.0001 DALLAS 536893 v1

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Date: 4-11-2002

121648.0001 DALLAS 536893 v1

PATENT APPLICATION BIBLIOGRAPHIC DATA SHEET

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— *of inventorship (Rule 4.17(iv)) for US only*

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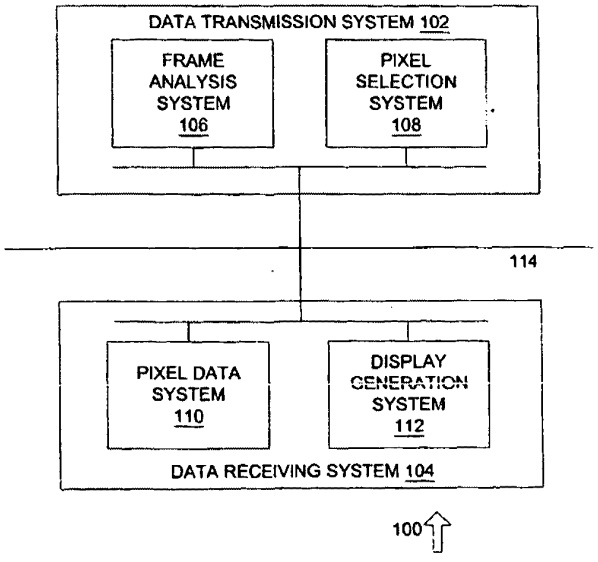
[Continued on next page]

(54) Title: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD



(57) Abstract: A system for transmitting data is provided (See fig. 2). The system includes a frame analysis system (See fig. 2, item 106) receiving frame data such as a frame of video data, and generating region data (See fig. 2, item 112), such as a uniform matrix size (fig. 2, item 204) that is used to divide the frame into a predetermined set of matrices. A pixel selection system (fig. 2, item 108) receives the region data and generates one set of pixel data for each region, such as by selecting one of the pixels contained within each of the original matrices that comprise the frame (fig. 2, item 104).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

IN THE UNITED STATES RECEIVING OFFICE

SPECIFICATION

accompanying

TITLE OF THE INVENTION:

OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

FIELD OF THE INVENTION

[0001] The present invention pertains to the field of data transmission, and more particularly to a system and method for optimizing data transmission that decreases bandwidth requirements for data transmission.

BACKGROUND OF THE INVENTION

[0002] Data transmission systems are known in the art. Such data transmission systems often use compression to decrease bandwidth requirements. For example, compression techniques have been characterized as "lossless" when no reduction in data occurs, or "lossy" when a loss of data occurs that does not adversely affect the intended use.

[0003] One drawback with such data transmission systems is that the compressed data must be "decompressed" on the receiving end. Thus, for lossless data compression systems, the exact configuration of the data must be achieved when the data is decompressed. Likewise, even for lossy data compression systems, the data is decompressed and the lost data is then approximated. The need for such decompression contributes to the overall difficulty in implementing data transmission in conjunction with compression.

SUMMARY OF THE INVENTION

[0004] In accordance with the present invention, a system and method for transmitting data are provided that overcome known problems with data transmission systems and methods.

[0005] In particular, a system and method for data transmission are provided that use data optimization instead of compression, so as to provide a mixed lossless and lossy data transmission technique.

[0006] In accordance with an exemplary embodiment of the present invention, a system for transmitting data is provided. The system includes a frame analysis system receiving frame data, such as a frame of video data, audio data, graphical data, text data, or other suitable data, and generating region data, such as a uniform matrix size that is used to divide the frame into a predetermined set of matrices. A pixel selection system receives the region data and generates one set of pixel data for each region, such as by selecting one of the pixels contained within each of the original matrices that comprise the frame. For data that is used for purposes other than the generation of a display, the pixel data can instead be audio data, text data, or other suitable data.

[0007] The present invention provides many important technical advantages. One important technical advantage of the present invention is a system and method for transmitting data that do not require the data to be compressed at the sending end and decompressed at the receiving end. The present invention uses data optimization to transmit only the data that is necessary for the application, such that decompression of the data on the receiving end is not

required. In this manner, the present invention incorporates features of both lossless and lossy compression without requiring the data to be decompressed on the receiving end.

[0008] Those skilled in the art will further appreciate the advantages and superior features of the invention together with other important aspects thereof on reading the detailed description that follows in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] FIGURE 1 is a diagram of a system for transmitting data in accordance with an exemplary embodiment of the present invention;

[0010] FIGURE 2 is a diagram of a system for performing frame analysis in accordance with an exemplary embodiment of the present invention;

[0011] FIGURE 3 is a diagram of a system for selecting optimized pixel data for transmission in accordance with an exemplary embodiment of the present invention;

[0012] FIGURE 4 is a diagram of a system for generating a frame in accordance with an exemplary embodiment of the present invention;

[0013] FIGURE 5 is a flow chart of a method for optimizing data transmission in accordance with an exemplary embodiment of the present invention;

[0014] FIGURE 6 is a flowchart of a method for determining or assigning matrix or region size based on an exemplary embodiment of the present invention;

[0015] FIGURE 7 is a flowchart of a method for selecting a pixel within a region in accordance with an exemplary embodiment of the present invention;

[0016] FIGURE 8 is a flowchart for method for generating optimized frame data in accordance with an exemplary embodiment of the present invention;

[0017] FIGURE 9 is a diagram 900 showing an exemplary uniform matrix segmentation of an array of pixel data; and

[0018] FIGURE 10 is a diagram 1000 showing an exemplary non-uniform matrix segmentation of an array of pixel data.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0019] In the description that follows, like parts are marked throughout the specification and drawings with the same reference numerals, respectively. The drawing figures might not be to scale, and certain components can be shown in generalized or schematic form and identified by commercial designations in the interest of clarity and conciseness.

[0020] **FIGURE 1** is a diagram of a system 100 for transmitting data in accordance with an exemplary embodiment of the present invention. System 100 allows data such as video data to be transmitted in a manner that does not require the data to be compressed, and which results in significant decreases in bandwidth requirements for data transmission.

[0021] System 100 includes data transmission system 102, which is coupled to data receiving system 104 over a suitable communications medium 114. As used herein, the term "couple" and its cognate terms, such as "couples" and "coupled," can include a physical connection (such as a copper conductor), a virtual connection (such as through randomly assigned memory locations of a data memory device), a logical connection (such as through logical gates of a semiconducting device), other suitable connections, or a suitable combination of such connections. In one exemplary embodiment, systems and components are coupled to other systems and components through intervening systems and components, such as through an operating system of a general purpose computing platform. Communications medium 114 can be the Internet, the public switched telephone network, a

wireless network, a local area network, an optical network, other suitable communications media, or a suitable combination of such communications media.

[0001] Data transmission system 102 includes frame analysis system 106 and pixel selection system 108, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processing platform. As used herein, a software system can include one or more objects, agents, threads, lines of code, subroutines, separate software applications, user-readable (source) code, machine-readable (object) code, two or more lines of code in two or more corresponding software applications, databases, or other suitable software architectures. In one exemplary embodiment, a software system can include one or more lines of code in a general purpose software application, such as an operating system, and one or more lines of software in a specific purpose software application.

[0022] Data transmission system 102 reduces data transmission requirements by eliminating data that is not required for the application of the data on the receiving end. In one exemplary embodiment, data transmission system 102 can receive frames of video data, and can select pixels of data for transmission that are needed in order to allow the frames of video data to be viewed by the human eye. In this exemplary embodiment, a video display having a quiescent state of pixels in either the "on" or "off" states can be used to generate video data by selecting a subset of pixels within the frame to display image data. In this

exemplary embodiment, if a frame of video data has low detail, it may only be necessary to provide a data value for one of every twenty-five pixels or less in order to create the image to be viewed by the human eye. Likewise, if the frame of video data has a large amount of detail, it may be necessary to transmit each pixel in order to generate a suitable image. When a frame of video data includes regions of high detail and low detail, it may likewise be desirable to transmit only the necessary number of pixels in each region that are required to generate the image. In this exemplary embodiment, the number of pixels to transmit can be decided on a region-by-region basis within the frame.

[0023] Data receiving system 104 includes pixel data system 110 and display generation system 112, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processor platform. Data receiving system 104 receives the data from data transmission system 102, and generates a display for a user that utilizes the optimized data set transmitted by data transmission system 102. In one exemplary embodiment, data receiving system 104 can generate a video display, such as by illuminating predetermined pixels within a frame based on the determination of the level of detail required for the frame, and by leaving the remaining pixels in a quiescent state of either "off" or "on." Likewise, data receiving system 104 can generate frames of video data that have variable levels of detail, to accommodate the image data being transmitted.

[0024] Frame analysis system 106 receives frame data including pixel data and generates matrix size data based upon the pixel data. In one exemplary embodiment, frame analysis system 106 can analyze adjacent pixel data values in the frame, and can apply one or more predetermined variation tolerances to select a matrix size for a data optimization region. In this exemplary embodiment, the matrix size for each data optimization region of a frame can be uniform, such that each data optimization matrix has the same dimensions. Thus, if a 640 x 480 pixel frame is being transmitted, then the 640 x 480 pixel frame can be split up into a 64 x 48 frame of matrices, where each matrix is a 10 x 10 matrix. Likewise, frame analysis system 106 can assign a different matrix size on a frame by frame basis, such as where a first frame is transmitted using 10 x 10 matrices for a 64 x 48 matrix frame, and a subsequent frame could then be transmitted using 5 x 5 data matrices, for a 128 x 96 matrix frame. In another exemplary embodiment, the size of matrices within the frame can be varied, such that a given frame is made up of matrices varying in size, such as from a 1 x 1 matrix to a 5 x 5 matrix or greater. In yet another exemplary embodiment, the size of the matrices can be nonsymmetrical, such that an N x M matrix can be used where N and M are integer values that are not equivalent. Likewise, other suitable data optimization regions can be selected, such as ones that are not based on a matrix structure, but which may be circular, elliptical, amorphous, or based on other suitable structures.

[0025] Pixel selection system 108 selects one or more pixel within a predefined matrix or other region for

transmission in an optimized data transmission system. In one exemplary embodiment, pixel selection system 108 can randomly select a pixel from a location within a matrix or other region, can use a sequence selection scheme such that the pixel is selected in accordance with a predetermined sequence, or other suitable selection criteria can be used. Pixel selection system 108 can further generate pixel location data within the matrix, such that the pixel can be regenerated at a predetermined location, at a random location, or in other suitable manners. For example, if a predetermined location is used, the predetermined location can be the same for each matrix or other region, such as by assigning a quadrant or other location (e.g., the first row and column position in the matrix). Likewise, if randomization is used, control data can be generated that will cause data receiving system 104 to randomize the location of each pixel in each matrix or other region without requiring individual control data for each matrix or other region. Likewise, other suitable pixel selection data can be generated.

[0026] Pixel data system 110 receives matrix data and pixel data and assembles frame data based on the matrix data and pixel data. In one exemplary embodiment, pixel data system 110 receives a matrix size identifier for an entire frame, such that it can be determined that a uniform matrix size is used for each frame. Likewise, pixel data system 110 can receive matrix map data, such that a sequence of matrices and the size of each matrix can be determined. Likewise, pixel data system 110 can receive pixel data for each matrix, such as pixel data with each matrix identifier,

pixel data in a predetermined order based on the order of matrix data transmitted, or other suitable data.

[0027] Display generation system 112 receives frames of data from pixel data system 110 and generates video data, audio data, graphical data, textual data, or other suitable data for use by a user. In one exemplary embodiment, display generation system 112 receives an entire frame of data after it has been reconstructed by pixel data system 110. In another exemplary embodiment, display generation system 112 can receive frame data as it is generated by pixel data system 110 prior to the generation of the entire frame. Other suitable configurations can be used.

[0028] In operation, system 100 allows data transmission to be optimized so as to decrease bandwidth requirements. System 100 determines the optimal data for transmission based on the end use of the data. For example, system 100 can reduce the data transmitted for video display generation, such as by determining the level of detail required, and then transmitting data based on the level of detail required. Likewise, similar optimization processes can be used for audio data, graphical data, textual data, or other suitable data. Thus, system 100 is a lossy data transmission system, but can also be a lossless data transmission system depending on the data fields within a set of data for which lossy or lossless data transmission is desired. In this exemplary embodiment, system 100 allows data sets to be processed in a manner that allows data transmission to be both lossless and lossy based on application criteria for the data on the receiving end.

[0029] System 100 can also be used in conjunction with a compression system, a frame elimination system, or with other suitable systems or processes to achieve further savings in bandwidth requirements. For example, after data optimization has been achieved, the optimized data can then be compressed using a lossy or lossless compression technique. Likewise, frame elimination can be used where such techniques do not result in an unacceptable decrease in the quality of the data at the receiving end.

[0030] **FIGURE 2** is a diagram of a system 200 for performing frame analysis in accordance with an exemplary embodiment of the present invention. System 200 includes frame analysis system 106 and pixel variation system 202, matrix size system 204, and matrix identification system 206, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processing platform.

[0031] Pixel variation system 202 determines the level of detail required based on variations in pixel data. In one exemplary embodiment, pixel variation system 202 can receive pixel data values, such as (x/y/z) in a suitable pixel color pixel system (e.g., 16-bit values for R/G/B, Y/Cb/Cr, Y/U/V, or other suitable color data formats). Pixel variation system 202 can then compare two adjacent pixels to determine whether the amount of variation between those two adjacent pixels exceeds a predetermined tolerance, such that the amount of pixel data required to transmit image data or other suitable data for perception by a human eye or other suitable applications can be determined. In this exemplary

embodiment, pixel variation system 202 can have a number of tolerance settings, so that a matrix size, region, or other data optimization set can be determined. For example, consider the following pixel set:

P1(121/34/187) P2(119/39/198) P3(117/42/202)

[0032] In this example, the variation between P1 and P2 may be lower than a first tolerance for the purposes of selecting a first data set, such as a 2 x 2 matrix, but the variation between P1 and P3 may be greater than a second tolerance for the purpose of selecting a second data set, such as a 3 x 3 matrix. In this manner, increasing groups of pixels can be analyzed so as to insure that desired levels of detail are not inadvertently omitted. For example, if video data includes an image of an essentially uniform object, such as the ocean or a grassy field, and where that essentially uniform object has details that are nonetheless of interest to the viewer, such as wave whitecaps or wildflowers, pixel variation system 202 can include tolerance settings such that variations between pixels that identify such details would be identified, but where such variations between two adjacent pixels within the field would be ignored. Likewise, other suitable pixel variation detection functionality can be provided.

[0033] Matrix size system 204 generates matrix size data based on pixel variation data. In one exemplary embodiment, matrix size system 204 can receive pixel variation data based on an analysis of an entire frame of data, such that a uniform matrix size can be assigned. Likewise, matrix size

system 204 can receive pixel variation data from pixel variation system 202, and can generate nonsymmetrical matrix dimensional data, such as N x M dimensions where "N" and "M" are integers that are not equivalent, circular region data, elliptical region data, amorphous region data, or other suitable region identification data. Matrix size system 204 can also generate matrix size control data, such as where a non-uniform matrix or region size is used within a frame. In this exemplary embodiment, matrix size system 204 can identify a sequence for matrices, coordinate data for matrices, size data for matrices, or other suitable data that can be used to assemble or sequence pixel data within matrices.

[0034] Matrix identification system 206 receives matrix size data and generates matrix identification data. In one exemplary embodiment, matrix identification system 206 can receive matrix sequence data, and can assemble the matrix sequence data for use with pixel data generated by pixel selection system 108. In this exemplary embodiment, matrix identification system 206 can identify whether a uniform matrix size is being generated, the number of matrices within a frame, sequence data for the matrices when a non-uniform matrix or region is being used, or other suitable data. Matrix identification system 206 generates matrix identification data for use by data receiving system 104, so as to allow data receiving system 104 to generate the optimized data display.

[0035] In operation, system 200 allows frames to be analyzed so as to determine the optimal data to be transmitted, based on the intended use of the frame. In one

exemplary embodiment, pixel variation system 202 or other suitable systems can be used to identify lossy and lossless regions within the frame. Likewise, uniform lossy regions can be identified, such as matrices having predetermined dimensions of greater than 1 x 1 or other suitable data.

[0036] **FIGURE 3** is a diagram of a system 300 for selecting optimized pixel data for transmission in accordance with an exemplary embodiment of the present invention. System 300 includes pixel selection system 108 and pixel randomizer system 302, pixel sequencer system 304, and pixel identification system 306, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processor platform.

[0037] Pixel randomizer system 302 selects a random pixel within a matrix or other region. In one exemplary embodiment, pixel randomizer system 302 can generate a random number and can select a pixel based upon a pixel sequence and the relationship of the generated random number to that pixel sequence. In this exemplary embodiment, pixel randomizer system 302 can generate a random number between 0 and 1, and can multiply that random number times the number of pixels within a region, and can then select the pixel based upon a pixel sequence from a predetermined location. Likewise, other suitable random pixel selection processes can be used. Pixel randomizer system 302 generates random pixel location data and random pixel value data.

[0038] Pixel sequencer system 304 generates pixel selection data based on pixel sequence data. In one

exemplary embodiment, such as when a uniform frame matrix size is being used, pixel sequencer system 304 can select pixels in a predetermined order, such that if a 3 x 3 matrix is used uniformly across the frame, the pixel at location (1,1) is transmitted in the first frame, the pixel at location (1,2) is transmitted in the second frame, the pixel at location (1,3) is transmitted in the third frame, and so forth, until the pixel at location (3,3) has been transmitted, after which the pixel at location (1,1) will be transmitted. Pixel sequencer system 304 can likewise send other suitable sequences, such as skipping every other pixel, skipping pixels based on predetermined display generation characteristics, or other suitable sequences.

[0039] Pixel identification system 306 generates pixel identification data, such as may be required by a data receiving system to illuminate the pixel in a display. In one exemplary embodiment, pixel identification system 306 can identify the coordinates of a pixel where generation of the pixel by the data receiving system at the exact location is desired. Likewise, pixel identification system 306 can identify a uniform pixel location within each matrix or other region, such as location (1,1) for all matrices, such as randomizer control data that will randomly place a pixel within a matrix or region, or other suitable pixel identification data.

[0040] In operation, system 300 allows a pixel within a matrix or other suitable region to be selected based on data optimization. System 300 allows random, sequenced, or other suitable processes to be used to select and locate pixels within optimized regions.

[0041] **FIGURE 4** is a diagram of a system 400 for generating a frame in accordance with an exemplary embodiment of the present invention. System 400 includes pixel data system 110, matrix definition system 402 and pixel location system 404, each of which can be implemented in hardware, software, or a suitable combination of hardware and software, and which can be one or more software systems operating on a general purpose processor platform.

[0042] Matrix definition system 402 receives matrix definition data for use in generating frame data. In one exemplary embodiment, matrix definition data can include data that identifies a uniform matrix size throughout the frame. In another exemplary embodiment, matrix definition data can include data that identifies matrix dimensions and sequences, so that a sequence of non-similar matrices can be assembled into a frame. Likewise, matrix definition system 402 can include region definition data, such as for ellipses, circles, amorphous shapes, or other suitable definition data.

[0043] Pixel location system 404 receives pixel location data for locating a pixel within a matrix or other region. In one exemplary embodiment, pixel location system 404 can receive data that locates pixels for each matrix within a frame on a uniform basis, such that each pixel received will be generated in a predetermined location (e.g. (1,1) in a 3 x 3 matrix). Likewise, pixel location system 404 can receive randomization data, such that the location of a pixel within a matrix or other region is randomly assigned. In yet another exemplary embodiment, pixel location system 404 can receive exact coordinates for placement of pixels.

Other suitable processes can be implemented by pixel location system 404.

[0044] In operation, system 400 is used to locate pixels of data within a matrix or other region in an optimized data transmission system. System 400 thus allows optimized data, such as video data, audio data, or other suitable data, to be used to generate a display, an audio stream, graphic images, textual data, and other suitable data on a frame by frame basis.

[0045] **FIGURE 5** is a flow chart of a method 500 for optimizing data transmission in accordance with an exemplary embodiment of the present invention. Method 500 begins at 502 where a matrix size is determined. In one exemplary embodiment, the matrix size can be uniformly assigned across the frame, a matrix size can assigned based upon regions within the frame, a region other than a matrix can be used, or other suitable matrix sizes or region sizes can be determined. The method then proceeds to 504.

[0046] At 504 a pixel within the matrix is selected. In one exemplary embodiment, the pixel can be selected based on a predetermined location within the matrix, such as when uniform matrix sizes are used within a frame, or in other suitable manners. In another exemplary embodiment, pixel selection can be performed based on random selection, based upon predetermined rules regarding selection of pixels, or in other suitable manners. The method then proceeds to 506.

[0047] At 506 the matrix and pixel data is transmitted. In one exemplary embodiment, the matrix and pixel data can be transmitted in pairs, such that each set of matrix definition data or location data is paired with

corresponding pixel brightness data. Likewise, matrix data and pixel data can be transmitted in sequence, such that the sequence of matrix data is received first, and the sequence of pixel data for each corresponding matrix is then received. Other suitable transmission sequences can likewise be used. The method then proceeds to 508.

[0048] At 508 the matrix and pixel data is assembled into a frame. In one exemplary embodiment, the frame assembly can be performed on a line-by-line basis, such that each line of data can be generated as it is created. In another exemplary embodiment, an entire frame of data can be generated prior to utilization of the frame of data. The method then proceeds to 510.

[0049] At 510 a display is generated using the matrix and pixel data. As previously described, the display can be generated from an entire frame data set after it has been completed. Likewise, the display can be generated on a line-by-line basis, audio streams or graphical displays can be generated, or other suitable displays can be generated. The method then proceeds to 512.

[0050] At 512 it is determined whether a frame is completed. If the frame is not completed the method returns to 508. Otherwise the frame is complete, the method proceeds to 514 and the method proceeds to the next frame.

[0051] **FIGURE 6** is a flowchart of a method 600 for determining or assigning matrix or region size based on an exemplary embodiment of the present invention. Method 600 begins at 602 where a pixel variation is determined. In one exemplary embodiment, the pixel data values for two adjacent pixels can be compared, and it can be determined whether the

variations between the two adjacent pixel data values exceed predetermined allowable variations. The suitable variation techniques can be implemented. The method then proceeds to 604.

[0052] At 604 it is determined whether the variation is greater than a predetermined tolerance. If it is determined at 604 that the variation is greater than the tolerance the method proceeds to 606 where the matrix size is assigned based on the number of pixels under consideration. In one exemplary embodiment, if a first and second pixel have been compared and it is determined that the variation between pixels exceeds the tolerance, then a matrix size of 1 x 1 (i.e., an individual pixel), can be transmitted such that data transmission is lossless. If it is determined that the variation is not greater than the tolerance, the method proceeds to 608.

[0053] At 608, the next pixel is selected. In one exemplary embodiment, the next pixel can be selected based upon an N x N matrix size, an N x M matrix size, a circular region size, an elliptical region size, an amorphous region size, or other suitable regions. The method then proceeds to 610.

[0054] At 610 the tolerance is modified. In one exemplary embodiment, the tolerance can be modified with each increasing region size, such that smaller tolerances are imposed for larger regions. Likewise, a maximum region size can be imposed such that the tolerance is set to zero. Likewise, if it is determined at 604 that the maximum region size has been reached, the method can proceed directly to

606. After the tolerance is modified at 610, the method returns to 602.

[0055] In operation, method 600 allows a matrix or other suitable region size to be determined based upon pixel variations. In one exemplary embodiment, pixel variation can be determined at 602 on a frame basis, such that a first tolerance is set for having uniform matrices of 2 x 2 size, a second tolerance is set for having uniform matrices of a 3 x 3 size, and other suitable tolerances can be used. Likewise, tolerances can be set and regions can be determined based on a region-by-region basis, such that in areas having low information consent, the matrix size is increased whereas in areas having high information content the matrix size is decreased. In one exemplary embodiment, the matrix size can be decreased to 1 x 1, such that in areas having high information content, the data transmission can be lossless, but in areas having low information content, the data transmission can be lossy.

[0056] **FIGURE 7** is a flowchart of a method 700 for selecting a pixel within a region in accordance with an exemplary embodiment of the present invention. Method 700 begins at 702 where matrix or other region data is received. In one exemplary embodiment, the matrix data can include a matrix size, a region size, a region boundary for amorphous regions, or other suitable data. The method then proceeds to 704.

[0057] At 704, it is determined whether random or sequencing selection is being used for selecting the pixel data. If it is determined that sequencing data is used, the method proceeds to 706 where the sequence data is obtained.

In one exemplary embodiment, such as where a uniform matrix size is used within the frame, a sequence of pixels can be used such that the pixels are "swept" across the matrix. Likewise, other suitable sequence data can be used. After the sequence is obtained at 706 the method proceeds to 708 where a pixel is selected based on the sequence data. The pixel data for the matrix is then stored.

[0058] Likewise, if it is determined at 704 that a random pixel selection is being used, the method proceeds to 710 where a random number is generated. The method then proceeds to 712.

[0059] At 712 a pixel is selected based on a random number. In one exemplary embodiment, a random number generated between 0 and 1 can be multiplied by the number of pixels within the matrix or region, and a predetermined sequence can be used to select the pixel. Likewise, the pixel data values can be randomly identified or other suitable random selection processes can be used.

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which as based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content is being transmitted or in other suitable applications.

[0061] **FIGURE 8** is a flowchart of a method 800 for generating optimized frame data in accordance with an exemplary embodiment of the present invention. Method 800 begins at 802 where matrix and pixel data are received. In one exemplary embodiment, the matrix and pixel data can

include a standard or uniform matrix size and a sequence of pixels for the frame. In another exemplary embodiment, the matrix and pixel data can include a sequence of matrix sizes that define a frame and a sequence of pixels for generation within each matrix. In yet another exemplary embodiment, the matrix and pixel data can be region and pixel data, such as where the region data defines one or more regions within a frame and the pixel data includes points that go within that region. Other suitable data can also be used, such as audio data, graphical data, text data, or other suitable data. The method then proceeds to 802.

[0062] At 802 the matrix and pixel data are combined into a frame. In one exemplary embodiment, the frame can be generated on a line-by-line basis, such that the matrices are assembled in rows and that the pixel for each matrix are assigned after a row is complete. In this exemplary embodiment, such as where matrix sizes exceed 2 x 2, then assembling a row of matrices can result in the assembly or two or more lines of data, such as where video data is generated by scanning lines from the top of a display to the bottom of a display. In this exemplary embodiment, the frame can be generated as each line is completed. The method then proceeds to 804.

[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be reconstituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable processed can also be used. If it is

determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

[0064] In operation, method 800 allows frames of data, such as video data, audio data, graphical data, textual data, or other suitable data, to be generated in an optimized manner, such that lossy, lossless, or a combination of lossy and lossless data transmission is used based upon the end use of the data. In this exemplary embodiment, uniform or non-uniform matrices or regions can be used, such that only one of two or more points of data within a data set for each region needs to be transmitted.

[0065] **FIGURE 9** is a diagram 900 showing an exemplary uniform matrix segmentation of an array of pixel data. Each matrix of the array is of uniform size, such as 4 x 4. Thus, the matrix size data for the entire frame can be represented by a single data set.

[0066] In the first row of matrices, the location "X" of a single pixel of data is identical (e.g. (2,2)), such as where the location of the pixel in each matrix is based on sequential data. In the second row, the location of the pixel in each matrix is different, such as where the location of the pixel in each matrix is random. In this exemplary embodiment, the matrix data can include the single uniform size (e.g. 4 x 4), the pixel location data can include the location of the pixel in each matrix (e.g. (2,2), "random," or the coordinates of each pixel starting with the first matrix and sweeping across from left to right until the last matrix in the last row is reached (e.g. (4,1) (1,4), (3,2), (3,4)) and the pixel data for each matrix can

include the (X/Y/Z) data, such as where the pixel is a color pixel. Likewise, other suitable data can be used.

[0067] **FIGURE 10** is a diagram 1000 showing an exemplary non-uniform matrix segmentation of an array of pixel data. Each matrix of the array can be of different size, but the matrices must form the array when combined. In each matrix, the location of the pixel in each matrix is different, such as where the location of the pixel in each matrix is random. In this exemplary embodiment, the matrix data can include the size of each matrix in series, starting from the first matrix and sweeping across from left to right until the last matrix is reached (e.g. (7 x 3), (5 x 6), (5 x 4), (7 x 7), (2 x 3), (2 x 7)), the pixel location data can include the location of the pixel in each matrix (e.g. (2,2), "random," or the coordinates of each pixel starting with the first matrix and sweeping across from left to right until the last matrix in the last row is reached (e.g. (2,1), (4,4), (2,2), (5,6), (2,2), (2,2)), and the pixel data for each matrix can include the (X/Y/Z) data, such as where the pixel is a color pixel. Likewise, other suitable data can be used.

[0068] Although exemplary embodiments of a system and method of the present invention have been described in detail herein, those skilled in the art will also recognize that various substitutions and modifications can be made to the systems and methods without departing from the scope and spirit of the appended claims.

WHAT IS CLAIMED IS

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and generating region data; and

a pixel selection system receiving the region data and generating one set of pixel data for each region.

2. The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel data from a matrix of sets of pixel data.

15. The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. A method for transmitting data comprising:

dividing an array of pixel data into two or more regions;

selecting a set pixel of pixel data from each region; and

transmitting region data and the pixel data for each region.

17. The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2003

Application or Docket Number: 10892690

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	20	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	20 minus 20=	*
INDEPENDENT CLAIMS	3 minus 3 =	*
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐		OR	OTHER THAN SMALL ENTITY	
RATE	FEE		RATE	FEE
BASIC FEE	385.00	OR	BASIC FEE	770.00
XS 9=		OR	XS18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL		OR	TOTAL	

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
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PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
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FEE RECORD SHEET

07/20/2004 MBERHE 00000081 010657 10892690
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RE: **Applicant: Krichevsky**
Serial No. 60/351,470 & 10/397,475
Filed: January 25, 2002 & July 16, 2004
For: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD
Attorney Docket No. B74216 (121744-0001)

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Attorney Docket No.
121648-0001 (B74216)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:
Krichevsky

Serial No.: 10/892,690

Filed: July 16, 2004

For: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

Group Art Unit: N/A

Examiner: N/A

CERTIFICATE OF TRANSMISSION
(37 CFR 1.8(a))

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1. I hereby apply to withdraw as attorney or agent for the above-identified patent application.

2. The reason for this request is that the client has requested that the files be returned and the firm has complied with client's request See 37 C.F.R. §10.40 (b)(4).

3. Please change the correspondence address and direct all future correspondence to:

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CORNERSTONE GROUP, LTD.
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Tel: (949) 723-0700; Cell: (949) 295-0080
StoneLtd@aol.com

4. This request is made on behalf of myself and all the attorneys/agents of record. This request is enclosed in triplicate.

Respectfully submitted,

8/06/04
Date

By: _____

John M. Cone
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1 Fee

PTO/SB/21 (09-04)
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Total Number of Pages in This Submission: 3

Application Number	10/892,690
Filing Date	07/16/2004
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	
Attorney Docket Number	3319/1

ENCLOSURES *(Check all that apply)*

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  - ☐ Fee Attached
- ☐ Amendment/Reply
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- ☐ Reply to Missing Parts/ Incomplete Application
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Date	02/18/2005	Reg. No.	29,037

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REVOCATION OF POWER OF ATTORNEY WITH NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	10/853,660
Filing Date	07/16/2004
First Named Inventor	Kalefowsky
Art Unit	3621
Examiner Name	
Attorney Docket Number	3378/1

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☐ A Power of Attorney is submitted herewith.

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☑ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Signature			
Name	CONSTANCE NASH		
Date	FEB 10, 2005	Telephone	704-375-8249

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ Total of 1 forms are submitted.

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Alexander Krichevsky

Application No./Patent No.: 10/895,690 Filed/Issue Date: 07/18/2004

Entitled: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

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

states that it is:

1. ☑ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.
   The extent (by percentage) of its ownership interest is _____ %

In the patent application/patent identified above by virtue of either:

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 012720, Frame 0038, or for which a copy thereof is attached.

OR

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

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☐ Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3. If the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

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

Constance Nash — FEB. 10, 2005
Signature — Date

CONSTANCE NASH — 704-375-9249
Printed or Typed Name — Telephone Number

PRESIDENT
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	B74216PCTUS (121648/0001)

CONFIRMATION NO. 6612

OC000000015905044

CORNERSTONE GROUP LTD.
Connie Nash
P.O. Box 1892
laguna Beach, CA 92652

Date Mailed: 04/28/2005

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/22/2005.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Theresa B. Lindsay

THERESA B LINDSAY
2600 (571) 272-7267

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Attorneys
A Limited Liability Partnership

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From Christopher J. Rourk 214-939-8657

Client/Matter Number 20354.0012

Comments

In re Application of: Alexander Krichevsky
Serial No.: 10/892,690
Filing Date: July 16, 2005
Group Art Unit: 2621
Examiner: Not Yet Assigned
Title: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

Attached for official filing under 37 CFR 3.73 (b), please find:

PTO/SB/96 (1 page); and
PTO/SB/82 (1 page)

If you do not receive all materials being transmitted, please call Lorraine Davidoff at 214-939-8628

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REVOCATION OF POWER OF ATTORNEY WITH NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	10/892,690
Filing Date	July 16, 2005
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Not Yet Assigned
Attorney Docket Number	20354.0012

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☑ I hereby appoint the practitioners associated with the Customer Number: 33649

☑ Please change the correspondence address for the above-identified application to:

☑ The address associated with Customer Number: 33649

OR

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

I am the:

☐ Applicant/Inventor.

☑ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Signature			
Name	Constance Nash		
Date	17 July 2005	Telephone	

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Alexander Krichevsky

Application No./Patent No.: 10/892,680 Filed/Issue Date: July 16, 2005

Entitled: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

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

states that it is:

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

2. ☐ an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____ %

in the patent application/patent identified above by virtue of either:

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 012720, Frame 0038, or for which a copy thereof is attached.

OR

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

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

Signature — 17 July 2005 Date

Constance Nash — Printed or Typed Name — Telephone Number

President — Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	20354.0012

CONFIRMATION NO. 6612

OC0000000016710301

33649
Mr. Christopher John Rourk
GODWIN GRUBER, LLP
1201 Elm Street, Renaissance Tower
DALLAS, TX 75270

Date Mailed: 08/05/2005

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 07/17/2005.

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

M. Stephanos

MENBE STEPHANOS
SALLY ()-

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	B74216PCTUS (121648/0001)

CONFIRMATION NO. 6612

OC000000016710278

23630
MCDERMOTT WILL & EMERY LLP
ATTN: INTELLECTUAL PROPERTY DEPTARTMENT DOCKETING
28 STATE STREET
BOSTON, MA 02109

Date Mailed: 08/05/2005

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This is in response to the Power of Attorney filed 07/17/2005.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

M. Stephanos
MENBE STEPHANOS
SALLY ()-

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/892,690	Confirmation No. 6612
Applicant	:	Alexander Krichevsky	
Filed	:	July 16, 2004	
Art Unit	:	2621	
Examiner	:	Not Yet Assigned	
Docket No.	:	20354.0012	
Customer No.	:	33649	

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I hereby certify that these documents are being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the address indicated on the date indicated below:
Dated: October 12, 2005

Lorraine Davidoff

Lorraine Davidoff

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with the requirements of 37 C.F.R. §§ 1.97 and 1.98, attached please find Forms PTO/SB/08A and PTO/SB/08A listing information for consideration by the U.S. Patent and Trademark Office in connection with its examination of the above-referenced patent application. A copy of each document listed is enclosed herewith.

Applicants submit that no representation is made, and no representation is intended, that more relevant material does not exist, or that the order of presentation of these materials in any way reflects their relative pertinence. The listings on the attached Forms PTO/SB/08A PTO/SB/08B are not intended to constitute an admission of any kind. Specifically, this presentation is not an admission that any of the items listed are properly citable against the above-identified application as prior art. Applicants respectfully submit that their invention is patentable over the enclosed documents listed on Forms PTO/SB/08A and PTO/SB/08B.

Pursuant to §1.97(e)(1), each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this information disclosure statement and, therefore, no fee is believed to be due.

No fee is believed to be due with the filing of this Information Disclosure Statement; however, the Commissioner of Patents and Trademarks is hereby authorized to charge any fee deficiency or to credit any fee overpayment relating to this matter to Deposit Account No. 50-0530.

Dated: October 12, 2005

Respectfully submitted,

GODWIN GRUBER LLP

By _____
Christopher J. Rourk
Reg. No. 39,348

1201 Elm Street, Suite 1700
Dallas, Texas 75270-2084
Telephone: (214) 939-4400
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	10/892,690
Filing Date	July 16, 2005
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Not Yet Assigned
Attorney Docket Number	20354.0012

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US- 5,778,092	07-07-1998	MacLeod et al.	
		US- 5,784,175	07-21-1998	Lee	
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
		EP 0 712 088 A2	05-15-1996	Shin-Ywan Wang		
		EP 1 006 715 A2	06-07-2000	Holladay et al.		
		EP 1 006 717 A2	06-07-2000	de Queiroz et al.		

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	10/892,690
Filing Date	July 16, 2005
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Not Yet Assigned
Attorney Docket Number	20354.0012

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	1	Supplementary European Search Report, dated 09-23-2005.	

Examiner Signature		Date Considered	

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1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 712 088 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
15.05.1996 Bulletin 1996/20

(51) Int Cl.[6]: **G06K 9/20**

(21) Application number: **95307880.5**

(22) Date of filing: **06.11.1995**

(84) Designated Contracting States:
DE FR GB

(30) Priority: **10.11.1994 US 338781**

(71) Applicant: **CANON KABUSHIKI KAISHA**
Tokyo (JP)

(72) Inventor: **Wang, Shin-Ywan**
Tustin, California 92680 (US)

(74) Representative:
Beresford, Keith Denis Lewis et al
BERESFORD & Co.
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High Holborn
London WC1R 5DJ (GB)

(54) Page analysis system

(57) A page analysis system, which utilizes a block selection application to analyze image data of a page in a multi-page document, includes the features of 1) returning an error code in the case that data to be stored in either a common memory work area or a hierarchical tree storage memory area exceeds the allocated memory space, 2) calculating a skew angle of a page and returning an error code in the case the skew angle exceeds a predefined maximum skew angle, 3) designating a default processing direction in the case a user fails to input directional information of the image data in the page, 4) determining and indicating whether identified picture image information represents a halftone image, a line drawing, a joint line, or unknown picture type, 5) analyzing image data of a portion of a page which has been designated by input coordinates, and 6) identifying a block which contains at least two image types as a composite block and identifying the type of image data within the composite block.

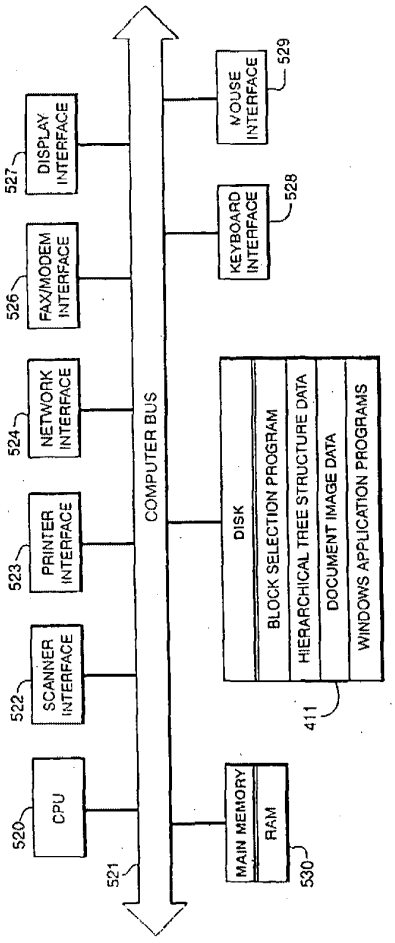

FIG. 5

EP 0 712 088 A2

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Description

The present invention relates to a page analysis system for analyzing image data of a document page utilizing block selection, and particularly to such a system in which, prior to block selection, various parameters of the block selection application are designated, such as document type, memory space, document portion to be analyzed, etc. As a result, block selection processing is more accurate.

EP-A-0567344 and EP-A-0660256, corresponding respectively to U.S. applications Serial No. 07/873,012, "Method And Apparatus For Character Recognition" and Serial No. 08/171,720, "Method And Apparatus For Selecting Text And/Or Non-Text Blocks In A Stored Document", are both incorporated herein by reference. (Representative's refs: 2251730 and 2336430).

Recently developed block selection techniques, such as the techniques described in the aforementioned U.S. patent application Serial Nos. 07/873,012 and 08/171,720, are used in page analysis systems to provide automatic analysis of images within a document page in order to distinguish between different types of image data within the document page. The result of such a block selection technique is used to determine the type of subsequent processing to be performed on the image, such as optical character recognition (OCR), data compression, data routing, etc. For example, image data which is designated as text data will be subjected to OCR processing, whereas image data which is designated as picture data would not be subjected to OCR processing. As a result, different types of image data can be input and automatically processed without an operator's intervention.

An example of how a block selection technique operates, such as the ones referenced above, will be discussed below with respect to Figures 1-3.

Figure 1 shows the page of a representative document. Document page 101 is arranged in a two-column format. The page includes title 102, horizontal line 104, text areas 105, 106 and 107, which include lines of text data, halftone picture area 108, which includes a graphic image which is non-text, table 110, which includes text information, framed area 116, halftone picture area 121 accompanied by caption data 126, and picture areas 132 and 135 accompanied by caption data 137. According to the block selection techniques described in Serial Nos. 07/873,012 and 08/171,720, each area of document page 101 is designated in accordance with a type of image data obtained therein and image data is then segmented based on its respective type. As the block selection application processes the document page, a hierarchical tree structure is created as shown in Figure 2.

In Figure 2, hierarchical tree structure 200 contains a plurality of nodes which represent segmented blocks of image data. Each node of the tree contains feature data which defines the feature of each block of image data in the processed document page. For example, the feature data may include block location data, size data, attribute data (image type, such as text, picture, table, etc.), sub-attribute data, and child node and parent node pointers. In the present invention, child or "descendent" nodes represent image data which exist entirely within a larger block of image data. Child nodes are depicted in the hierarchical tree structure as a node branching from a parent node, such as the nodes at the same level as node 211, which branch from parent or root node 201. In addition to the feature data described above, a node which represents a text block may also contain feature data defining the block's reading orientation and reading order.

Once a hierarchical tree structure, such as hierarchical tree structure 200, has been created, it is stored in memory. Upon receiving a request to process the image data in the document image, hierarchical tree structure 200 is retrieved from memory and image data which has been blocked together is processed according to the feature data stored in its corresponding node.

In addition to using the hierarchical tree structure to process image data of a document page, the hierarchical tree structure is used to generate and display a comprehensible format of document page 101, such as the display of block template 301 on display 300 which is shown in Figure 3. Block template 301 of the document page is generated and displayed to the user based on the feature data stored in the hierarchical tree structure shown in Figure 2.

The block template of the document page directly reflects the structure of the hierarchical tree as well as the feature data stored in each node of the hierarchical tree structure. The feature data in the node is utilized to generate the block outline, location, and size. In addition, feature data in each node is used to identify the type of image data contained within the block and, if appropriate, reading order and reading orientation. For example, as shown in Figure 3, block template 301 includes text blocks 302, 304, 305 and 309, each of which corresponds to nodes 202, 204, 205 and 209, respectively. As shown, each text block includes feature data which designate the block as text and also define a block's reading order and reading orientation.

In the foregoing block selection techniques, difficulties have been encountered. For example, erroneous block selection processing of text data results in poor OCR processing. Also erroneous processing of joint-lines (lines which are connected at a 90° angle, and which do not form a frame) creates problems when extracting image data to be processed. Moreover, the previously discussed block selection techniques do not inform the user of application errors which inhibit block selection, such as out-of-memory or page skew too large. There is, therefore, a need to provide a block selection application which includes features to address the foregoing problems.

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The page analysis system according to the present invention analyzes image data in a multi-page document. The system includes a first memory area utilized for receiving and storing input image data of one page of the multi-page document and for processing the image data of one page in accordance with a block selection application, and a second memory area for receiving and for storing the results of the processed page stored in the first memory area. An out-of-memory indicator is output by allocating, in the first memory area, memory space for storing input image data of a page to be analyzed, allocating, in the second memory area, memory space for storing a plurality of process results of block selection, and outputting a first error code in the case the image data of the one page of the multi-page document to be analyzed exceeds the memory space allocated in the first memory area, and outputting a second error code in the case no additional memory space is available to store the results of block selection can be stored in the second memory area.

In another aspect of the present invention, a page analysis system analyzes image data in a document page, and selects at least one portion of the document page to be analyzed. The document page is displayed utilizing the input image data, then coordinates of at least one portion of the document page to be analyzed are designated, using a coordinate designation device. Image data within the designated portion of the document page is then extracted and block selection on the extracted portion is performed to analyze the image data within the at least one portion.

In another aspect of the present invention, a page analysis system analyzes image data of a document page in at least one designated direction. Image data of a document page is input and directional information of the image data in the document page is received. It is then determined whether directional information has been received. In the case that it has been determined that directional information has been received, the direction designated by the received directional information is then analyzed. In the case that directional information has not been received, the document page is analyzed in a predefined default direction.

In another aspect of the present invention, a page analysis system inputs image data of a document page to be analyzed, commences block selection processing which includes a calculation of the skew angle of the page, compares the calculated skew angle to a predefined maximum skew angle, and determines whether the calculated skew angle is greater than the predefined maximum skew angle. In the case that the skew angle does not exceed a predefined maximum skew angle, block selection is completed, and, in the case that the skew angle exceeds the predefined skew angle, block selection is terminated.

In another aspect of the present invention, a page analysis system inputs image data of a page of a multi-page document, identifies and separates image data into blocks having the same image type, and identifies at least one block of image data which has an association to another separate block of image data. According to this aspect of the invention, associated blocks of image data are combined within a composite block, for example, a composite block representative of a figure and its caption, and the composite block is represented in the hierarchical tree as a root node having descendent nodes which represent each of the associated blocks of image data.

In another aspect of the present invention, a page analysis system inputs image data of a page of a multi-page document, identifies and separates image data into blocks having the same image type, and identifies blocks of image data which contain picture information. According to this aspect of the invention, the type of picture information within the block of picture information is recognized to be a halftone image, a line drawing, a joint line, or an unknown picture type. The recognized type of picture is stored in a node representing a block of picture information in the hierarchical tree.

This brief summary of the invention has been provided so that the nature of the invention may be understood quickly. A more complete understanding of the invention and its advantages may be obtained by reference to the following detailed description in connection with the appended drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a representational view of a document page;

Figure 2 is a representational view of a hierarchical tree structure resulting from a block selection operation on the document page illustrated in Figure 1;

Figure 3 is a view showing how the document page which is created based on the hierarchical tree structure shown in Figure 2 might be displayed on a display screen;

Figure 4 is a perspective view showing the outward appearance of an apparatus according to the present invention;

Figure 5 is a block diagram of the Figure 1 apparatus;

Figures 6A-6D comprise a flowchart showing the method for performing page analysis utilizing the block selection technique of the present invention;

Figure 7A is a flow chart describing the method of designating a portion to be analyzed of the input document page;

Figure 7B is a representational view of the portion of the document page which has been designated for page analysis;

Figure 8 is a pictorial representation of the manner of allocating memory space for page analysis;

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Figure 9A is a view for explaining 8-direction tracing of the exterior of connected components, and Figure 9B is a view for explaining 4-direction tracing of interior white contours;

Figure 10 is a flow diagram showing how non-text connected components are classified;

Figure 11 is a flow chart describing the method of checking the picture-type of picture blocks;

Figures 12A and 12B are representational views of a document page containing a joint-line;

Figure 13 is a flow chart describing the method of processing composite regions;

Figures 14A and 14B are representational views of a document page containing a composite region;

Figures 15A and 15B are views showing hierarchical tree structures of the document page shown in Figures 14A and 14B; and

Figure 16 is a view of a standard document used in explaining text extraction from the document.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Figure 4 is a view showing the outward appearance of a representative embodiment of the invention. Shown in Figure 4 is computing equipment 410, such as a MacIntosh or an IBM PC or PC compatible computer having a windowing environment, such as Microsoft Windows. Provided with computing equipment 410 is display screen 412, such as a color monitor, keyboard 413 for entering user commands, and pointing device 414, such as a mouse for pointing to and for manipulating objects displayed on screen 412.

Computing equipment 410 includes a mass storage device such as computer disk 411 for storing data files which include document image files, in either compressed or uncompressed format, and for storing application program files which includes the block selection application of the present invention. Also stored in disk 411 are various hierarchical tree structure data for each document page which has been subjected to the block selection application.

The multi-page document is input by scanner 416 which scans each page of the document or other images and provides bit map image data of those pages to computing equipment 410. The image data may also be input into computing equipment 410 from a variety of other sources such as network interface 424 or other external devices via facsimile/modem interface 426. Printer 418 is provided for outputting process document images.

It should be understood that, although a programmable general purpose computer arrangement is shown in Figure 4, a dedicated or stand alone computer or other type of data processing equipment can be used to practice the present invention.

Figure 5 is a detailed block diagram showing the internal construction of computing equipment 410. As shown in Figure 5, computing equipment 410 includes a central processing unit (CPU) 520 interfaced with computer bus 521. Also interfaced with computer bus 521 is scanner interface 522, printer for interface 523, network interface 524, fax/modem interface 526, display interface 527, keyboard interface 28, mouse interface 529, main memory 530, and disk 411.

Main memory 530 interfaces with computer bus 521 so as to provide random access memory storage for use by CPU 520 while executing stored process steps such as process steps in the block selection application. More specifically, CPU 520 loads those process steps from disk 411 into main memory 530 and executes those stored process steps out of main memory 530.

In accordance with a user's instructions, stored application programs provide for image processing and manipulating of data. For example, a desktop processing program, such as Wordperfect® for Windows, may be activated by an operator to create, manipulate, and view documents before and after block selection has been applied. Likewise, a page analysis program may be executed to run a block selection operation to analyze various types of image data in an input document page and to display the results of the page analysis to an operator via a windowing environment.

Figures 6A-6D comprise a flowchart showing the method for performing page analysis utilizing the block selection application according to the present invention. The process steps shown in Figures 6A-6D are executed by CPU 520 in accordance with a computer program stored in disk 411.

In step S601, pixel image data is input into the system and is stored in disk 411. Image data is a pixel-by-pixel representation of the image. Preferably, the pixel data is binary pixel data, that is, black and white image data. But it is possible for the image data to be halftone image data, in which each pixel is represented by one of plural grey scale levels, or for the image data to be color image data in which each pixel is represented by a multi-bit word which encodes the color for the pixel. In such cases, or in any other case where the pixel data is not binary pixel data, then threshold processing should be performed so as to convert the non-binary pixel data into binary pixel data prior to storage in disk 411.

Thus, in step S602, the block selection application is initialized by setting the various internal variables which are utilized by the block selection application and parameters. In step S603, the user is queried as to whether the entire input document page is to be analyzed utilizing the block selection application. If only a portion of the document page is to be analyzed, in step S604, the user inputs the coordinates of the portion to be analyzed.

The method of designating at least one portion to be analyzed of the document page (step S604) will be discussed below in greater detail with respect to Figures 7A and 7B.

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Figure 7A is a detailed flow diagram for selecting a portion of a page to be analyzed. In step S701, a page pf image data is input. For example, as shown in Figure 7B, document page 750 is input and the image data resulting therefrom is stored in disk 411. In step S702, the input page of image data is retrieved from disk 411 and is displayed to the user.

In step S703, the user is requested to input x-y coordinates of a portion of the input page to be analyzed. For example, in order to analyze text portion 751 in page 750, a user must input coordinates (x_1, y_1), (x_2, y_2), (x_3, y_3), and (x_4, y_4). In step S705, after the user has input the coordinates, the page analysis program determines whether the coordinates input in step S703 are within the boundaries of the input page. For example, as shown in Figure 7B, it is determined in step S705 whether the input coordinates are within the boundaries of page 750. If it is determined that the input coordinates are not within the boundaries of the input page, then the flow returns to step S703. This process is repeated until a user inputs coordinates which are within the boundaries of the input page, or until the user indicates that the entire page is to be analyzed. If, on the other hand, it is determined that the coordinates are within the boundaries of the input page, then the flow proceeds to step S706.

In step S706, image data within the portion of the input page defined by the input coordinates is extracted. The extracted image data is then subjected to block selection in step S710, and flow returns to step S605.

In the event that the entire document page is to be analyzed, or after page portion selection in step S604, flow advances to step S605. In step S605, memory is allocated to perform block selection for either the entire page or for the portion of the page designated in step S604. In addition to allocating memory to perform block selection, memory to store the resulting hierarchical tree structure for the analyzed page is allocated as well.

The manner by which memory is allocated in step S605 will be described in greater detail below with respect to Figure 8.

Figure 8 shows a pictorial representation of memory allocated to perform block selection, and of memory allocated for multiple hierarchical tree storage. For example, document page 800 is a document page which is input into common page memory area 801. Common page memory area 801 is a working memory area used by CPU 520 to store the page image of the scanned in document page (at area 801a) and to provide working storage area for block selection processing (at area 801b). In this regard, CPU 520 utilizes this area to store image data of a document page for processing as well as for storing intermediate block selection results. Memory area 803, comprised of a plurality of page memory sections, three of which are shown as 804, 805, and 806, stores a plurality of hierarchical tree structures, which result from block selection processing of image data in the document page 800. In this regard, since the hierarchical tree structure for each page is typically different (some pages are simple and some are complex), each of the trees ordinarily takes up a different amount of memory.

Upon initialization, both common page memory area 801 and hierarchical tree storage memory 803 are set to a fixed amount of memory space based on a predefined parameter set in the block selection application. It is to be noted that the user may change the predefined memory space allocated for common page memory 801 as well as for hierarchical tree storage memory 803 prior to performing block selection. In addition, memory might be allocated based on a fixed number of pages, such as 10, rather than being allocated to a fixed amount based on the predefined parameter.

After the memory has been allocated in step S605, flow advances to step S607 in which the user is queried as to the type of document which has been input. For example, the document image which is scanned in step S601 could be an English language document which would require horizontal processing, or a Japanese document which would require vertical processing. If the document contains both vertical and horizontal text, then mixed processing would be required. In any case, the user is provided with four choices, namely, unidirectional, vertical, horizontal, or mixed.

A "mixed" document type is the default type, which means that the user need not take any action if he is satisfied with the "mixed" choice for document type. Thus, in step S608, it is determined whether the user has input a non-default document-type. In the case that the user has input the document-type, the information is stored in the root node of the page. The document-type is used as a global parameter which, during the processing of the page, is essential for accurate results. For example, a horizontal setting will be utilized by an OCR program when performing optical character recognition on text data stored in the analyzed page.

If, in step S606, no setting has been input by the user, in step S611, the document type is set to the default setting. In the present invention, and as mentioned above, the default setting treats the input document page as a mixed document-type. Once again, the default setting is stored in the root node of the page and is used as a global parameter when processing the document.

Once the document type has been set, flow advances to steps S615 through S635 in which block selection is performed. Briefly, and as described above, block selection works on a binary image of a document so as to identify the following different types of block units: (1) text including paragraph text, title text, text in a table, or caption text; (2) lines including horizontal lines, vertical lines, dotted lines and slanted lines; (3) joint lines which are line segments connected perpendicularly to each other; (4) images which could be halftone, continuous tone, grey scale or the like; (5) line art pictures; (6) a framing structure, such as a box-shaped line, in which each field of the frame is identified, such as the different fields in frame structure 116 of Figure 1; (7) a table, such as table 110 in Figure 1 in which each

cell of the table is identified; and (8) white space which represents each independent field inside a frame or a line art picture.

Moreover, while conventional block selection and page segmentation techniques de-skew an image prior to block selection and page segmentation, the present invention saves skew detection for later steps whereby skew detection may be utilized for applying different processing steps on either skewed or upright document images. In the case of large skew angle, the block rectangles which enclose each of the blocks segmented out in steps S615 through S635 may look overlapped, but in fact when de-skewed those rectangles are not overlapped. Moreover, by using rectangles in operating on skewed images, more information is provided for block image extraction.

Briefly, according to steps S615 through S635, a tree structure is used to represent a page image, the root node of the tree structure representing the page and all of the text and non-text blocks on the page being direct or indirect descendants of the root node. To select blocks on the page, connected components are searched for in the page image, and the connected components are classified into text or non-text units. The text and non-text connected components are then grouped to form cleaner and more compact block representations, whereby for example text connected components belonging to the same text paragraph are gathered to become a text block, and whereby for example connected components of one picture entity are gathered so as to become a picture block.

In more detail, in step S615, data image reduction may optionally be performed. Image reduction increases processing speed and is therefore desirable, but it also can have an adverse effect on ultimate OCR processing. Experimentally, it has been found that image connectivity is maintained when a four-for-one reduction approach is adopted for 200 dpi to 400 dpi document samples. Different reduction techniques may be applied to different image resolutions, and it has been found that image reduction yielding images of 50 to 75 dpi image resolution-generates acceptable results both for speed and accuracy.

In step S616 pixel data of the image is analyzed so as to detect connected components and so as to classify the connected components into text and non-text connected components based on their relative size and location. A connected component, as described in the aforementioned Serial Nos. 07/873,012 and 08/171,720, is a group of black pixels that is completely surrounded by white pixels. Thus, connected component detection starts by searching the outline 901 of a connected component 902 in which the pixels which outline of the connected component are connected in any of the eight sector directions which are shown in Figure 9A. Inner pixels of connected component 902 which are enclosed by outline 901 are skipped and analyzed later based on the result of text/non-text classification (step S618). Each connected component is then rectangularized by using the smallest rectangle circumscribing it.

Based on the size of the connected components and the fact that non-text objects are usually bigger than text objects, step S617 roughly classifies the connected components into text and non-text groups. Incorrect classifications are corrected in the following steps. The size threshold used for text and non-text classification is determined based on all connected components and is thus a global statistical value obtained from the connected components themselves. Separation in step S617 proceeds in two phases: first, extremely large connected components are filtered out and considered to be non-text components. Then, in the second phase, the average height and width of the remaining connected components are calculated. Based on these average values, a reasonable text size (i.e., a text size for a horizontal text case or a text width for a vertical text case) is computed and used as a threshold for further text/non-text separation.

Each of the text and non-text connected components obtained in step S617 is assigned a tree node located as a direct descendant of the page root node in the hierarchical tree. The text and non-text classification is made at each level of the tree according to the statistical values obtained from the connected components of the descendant level being processed. This distinction becomes important in later phases when there are more levels. For example, in a case where there are inconsistent text sizes inside and outside a frame block, since classification inside the frame block is carried out at a different descendant level from classification outside the frame block, classification both within and without the frame block works properly.

In step S618, non-text connected components are further analyzed to determine whether they are lines (horizontal, vertical, dotted or slanted), joint lines, pictures, line art, frame, table or unknown (i.e., none of the above). The connected components inside tables, frames and line art pictures are further searched and classified by repeating steps S617 and S618 at a deeper descendant level in the hierarchical tree. A hierarchical tree structure is therefore developed for each connected component and the objects that the connected component contains. However, in order to search internal connected components inside a frame or a table, eight-direction searching (as in Figure 9A) of black pixels is not performed, but rather four-direction searching of white pixels is performed instead. This is illustrated in Figure 9B in which a white contour 903 which is complete enclosed by black framing pixels 904 is searched based on four-direction searching. Four-direction searching of white contours has the advantage that internal connected components can be searched and classified.

Non-text classification of step S618, since it results in a classification into lines, joint lines, frames, tables, pictures, line art and unknown, is best illustrated in a separate flow diagram which is given at Figure 10. The processing shown in Figure 10 is performed on each non-text connected component and is performed sequentially as shown in Figure

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10 such that, as soon as a type is determined for a non-text connected component, then no further processing in accordance with Figure 10 is performed. Thus, if early on in processing of a particular non-text connected component in Figure 10 it is determined that the non-text connected component is a halftone picture (for example), then no further processing in accordance with Figure 10 is performed for that connected component, and processing then proceeds with the next non-text connected component.

Non-text classification, as illustrated in Figure 10, is performed based on criteria thresholds which are formulated mathematically and calculated dynamically based on the size and width and the like of the objects being analyzed.

Thus, in step S1001, the non-text connected component is analyzed to determine if it is a halftone (or a continuous tone) picture. This determination is made based on a comparison of white and black pixel run lengths and black pixel density within the picture area. If the black pixel run length is much longer than white pixel run length inside the area, and the black pixel density is high or many noise-like connected components are located inside the area, then the non-text connected component is considered to be a halftone picture connected component, and flow advances to step S1002 which stores a "halftone picture" sub-attribute in the node for the connected component.

If the non-text connected component is not determined to be a halftone picture connected component, then flow advances to step S1003 in which a determination is made as to whether the non-text connected component is a frame. In frames, the height of the connected component is larger than the text size, and parallel horizontal edges and parallel vertical edges are straight enough and approximately close to the edges of the rectangle which circumscribe the unit so as to conclude that the connected component is a frame. Moreover, internal black pixel density is similar to or less than the density of a text paragraph (very high density connected components are determined to be picture components in step S1001). If the non-text connected component is designated as a frame, then flow advances to step S1004 which stores a "frame" sub-attribute in the node of the hierarchical tree that corresponds to this connected component.

If step S1003 did not determine that the non-text connected component was a frame, then step S1005 determines if the non-text connected component is a horizontal or vertical line. For horizontal and vertical lines, the ratio of width and height is large, and the thickness of the connected component is not much greater than the thickness of a text-size connected components on the same page and at the same hierarchical level. Furthermore, black pixel density inside the connected component is very dense. Both sides of the connected component should be straight, but if only one side is straight and the thickness of the connected component is similar to a text connected component, then it is considered that the connected component encapsulates underlined text. In this case, the attached text part and the line part are split from each other and analysis of steps S617 and S618 are re-performed. If the non-text connected component meets the criteria for a horizontal or vertical line, then it is so-designated in step S1006 by storing "horizontal line" or "vertical line" sub-attribute information in the hierarchical tree node.

If step S1005 did not determine that the non-text connected component was a vertical or a horizontal line, then step S1007 determines whether the non-text connected component is a table. To determine whether a non-text connected component is a table, internal white contours of the connected component are searched in four directions. If four internal white contours are found, and if the arrangement of the white contours is in a table-like grid such that the white contours are enclosed by horizontal and vertical lines, then the non-text connected component is designated as a table (step S1008) by storing a "table" sub-attribute in the hierarchical tree. In addition, the interior of the table is re-analyzed in accordance with steps S617 and S618 so as to identify and classify internal text and non-text connected components and add those connected components to the hierarchical tree.

If step S1007 did not determine that the non-text connected component was a table, then flow advances to step S1009 which determines whether the non-text connected component is a slanted line. For slanted lines, the-ratio of length and thickness of the connected component is large, but the thickness of the connected component is no larger than a text size. Moreover, a black pixel density inside the connected component is high and the edges of the connected components are aligned by slanted. In the event that the non-text connected component is determined to meet these criteria, then flow advances to step S1010 in which the non-text connected component is designated as a slant line by storing "slant line" sub-attribute information. Moreover, the slant angle of the slanted line is determined utilizing well-known angle-detection techniques, and the slant angle of the line is stored in the hierarchical node together with attribute information which can be used for post-processing purposes.

If step S1009 did not determine that a non-text connected component was a slanted line, then step S1011 determines whether the non-text connected component is a line art picture or a joint line. For line art pictures and joint lines, although the unit is larger than a predetermined size, like halftone pictures in step S1001, line art pictures are different than halftone pictures in that the continuous white-pixel run length is much longer than the continuous black-pixel run length inside the outline, and, in addition, black pixel density is low. If the non-text connected component meets this criteria, then processing proceeds to step S1012 to distinguish between a joint line and line art picture.

Figure 12A illustrates the difference between joint lines and line art pictures. In Figure 12A, document page 1050 contains title 1051, text areas 1052 and 1053, and picture 1055. Text areas 1052 and 1053 are separated from each other and from picture 1055 by joint-line 1054. More generally, for joint lines, the following two groups of shapes are identified separately from each other, with those in group #1 being re-designated as a joint line, while those in group

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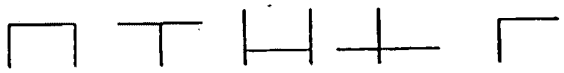
#2 being re-designated as a frame (i.e., if they were not already so-designated in step S1003). Detection is based on each element being long and thin, and each intersecting at right angles (horizontal mirror images, vertical mirror images, and diagonal mirror images are permitted):



group #1

group #2

Accordingly, reverting to Figure 12A, since joint-line 1054 matches group #1, above, flow advances to step S1014 where a joint-line sub-attribute is appended to its respective picture node.

On the other hand, for those non-text connected components which do not match group #1 (for which a joint line attribute is attached) or group #2 (for which a frame attribute is attached), then flow advances to step S1013 where the connected component is designated as a line art picture and, in addition, "line art picture" sub-attribute information is stored in the hierarchical tree node.

Figure 12B is included to illustrate how the various image data in Figure 12A is designated and separated using the block selection application of the present invention. In Figure 12B, title 1051, text areas 1052 and 1053, and picture 1055 are represented by blocks 1060, 1061, 1062 and 1065, respectively. Joint-line 1054 is represented by block 1063 which overlaps text blocks 1061 and 1062. The coordinates and attributes of each block is stored in corresponding nodes in the hierarchical tree so that selected image data can be extracted for further processing.

Reverting to Figure 10, if step S1011 did not determine that the non-text connected component was a line art picture or a joint line, then flow advances to step S1015 in which the non-text connected component is designated as an unknown type, and "unknown" is stored as sub-attribute information in the hierarchical tree node.

Reverting to Figure 6, after non-text connected components are classified in step S618, flow advances to step S619 in which dotted lines are detected. Dotted lines are generally difficult to detect since each dot in a dotted line forms a separate connected component. These connected components are all sized approximately the same as a text connected component. Accordingly to detect dotted lines, text connected components having small horizontal or vertical size which is similar to a dot size are all collected. Those collected components are divided into different groups based on the relative distances between them. Each group is then checked to see if it can be qualified to be a broken vertical, horizontal, or slanted dotted line based on the size and surrounding line of neighbors. For each detected dotted line, a connected component with an outline enclosing all of the dotted line elements is created artificially and is used to represent a new unit which is given an attribute in the hierarchical tree as a dotted horizontal, vertical or slanted line.

Joint dotted lines can also be detected in step S619. More specifically, if the grouped connected components are comprised by dotted horizontal and dotted vertical lines that intersect or nearly intersect perpendicularly, then the group is designated as a joint dotted line, and the hierarchical tree node corresponding to the artificially created outline is stored with a "joint dotted line" attribute.

Flow then advances to step S620 in which invisible lines are searched along the edge of non-text connected components. Invisible lines, such as the white space between columns, are used so as to assist in determining whether adjacent text connected components should be grouped together or in separate columnar blocks.

Flow then advances to step S621 in which, for documents having a "unidirectional" direction type stored from steps S607 through S611, the page direction is determined (step S621a). The determination of page direction depends on the size of connected components on the page plus size variation among the connected components. For example, connected components of a horizontal-direction page have a more uniform height than width, whereas the connected components of a vertical-direction page have a more uniform width than height. In addition, horizontal and vertical gap number and size are additional factors considered in determining page direction.

Whatever direction is detected in Step S621a is stored in the root node of the page because, for unidirectional documents, the direction is a global parameter.

In step S622, any non-text connected components that could not be classified in step S618 (i.e., all non-text connected components having an "unknown" type) are further analyzed to determine if they might in fact be part of a larger-font-size title line. Title lines are formed in either a horizontal or a vertical direction by grouping unknown connected components with adjacent text or unknown units. Title grouping direction is determined based on the distance between those connected components considered to be grouped and possible title line length.

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Flow then advances to step S623 in which text blocks are formed. In this step, no skew detection or image rotation is performed prior to forming the text or non-text blocks. This results in considerable time savings by avoiding unnecessary image rotation and also avoids inaccuracies (which may cause failures in OCR processings) caused by skew detection and de-skewing. Moreover, it is possible that some areas of the same page are edited in a slanted way to achieve some special visual effects whereas the remaining areas of the page are not so slanted. Skew detection may therefore not be useful to correct the page into an upright form since no one skew angle will be effective to de-skew the entire page. Therefore, in this step S621, text and non-text blocks are formed directly regardless of skew.

More particularly, for each text connected component, close horizontal and vertical neighbors are searched and aggregated into text blocks. Thresholds for judging closeness between text connected components are based on a statistical analysis of horizontal and vertical gaps between neighboring text units on this same hierarchical tree level. Therefore, the definition of closeness is dynamically determined based on the document and the page area.

Flow then advances to step S624 in which text blocks which have inadvertently been aggregated in step S623 are split if some visible or invisible line passes through it. Specifically, an invisible line detected in step S620 may be caused by the existence of extremely narrow column gaps in the page, such as a gap which occurs when a picture area is followed closely by a text paragraph. In such a case, there will not be a visible line separator between the text and the non-text block, but the invisible line detected in step S620 provides a suitable separator. Of course, the existence of physical separators, in the form of horizontal or vertical or slanted lines, is also applied to split inadvertently aggregated blocks in this step S624.

Flow then advances to step S625 which, for documents having a "mixed" direction type stored from steps S607 through S611, detects the direction of each text block. Specifically, for document types designated as "mixed", each text block is analyzed in step S625a to determine whether it is vertical, horizontal or an unknown direction. This direction (or the direction determined in step S621a or entered by the user in step S609) is used in the following step so as to form text lines within each text block. In addition, the direction of text blocks is useful for judging if two neighboring text blocks can be combined. For example, if the text directions of the two blocks are inconsistent, then they ordinarily should not be combined.

The determination of text block direction depends on the size of the block and the size of connected components inside the block plus size variation among the connected components. For example, connected components of a horizontal-direction text block have a more uniform height than width, whereas the connected components of a vertical-direction text block have a more uniform width than height. In addition, horizontal and vertical gap number and size are additional factors considered in determining text block direction.

Flow then advances to step S626 which forms text lines inside each text block. If the text direction is horizontal, connected components which have close horizontal distances and a certain degree of overlap with neighboring components along the vertical position are gathered into horizontal text lines. Similarly, if text direction is determined to be vertical, connected components which have close vertical distance and a certain degree of overlap with neighboring components along the horizontal position are gathered into vertical text lines. Formation of text line considers not only upright pages, but also pages with some skew angle.

Flow then advances to step S627 in which skew is detected. Skew of the entire page is calculated using a least-squares approach to measure the skew of each of the text lines formed in step S626. The page skew is then the average, in the least-squares sense, of the skew angles of the text lines on the page.

The skew angle calculated in step S627 is stored as a global parameter in the root node of the hierarchical tree for the document page. Like the document type stored in steps S607 through S611, the skew angle is used as a global parameter when performing, for example, OCR processing or other types of processing which requires this information so as to process the image data properly.

Flow then advances to step S628 which determines whether the skew angle exceeds a predefined maximum angle. More specifically, in step S628, the skew angle is compared to a predefined maximum angle set in the block selection application. If the skew angle exceeds the predefined maximum angle, then in step S628a, the block selection application outputs an error code which signals to the user that the page is too skewed to complete block selection.

Flow then advances to step S629 in which post-processing is performed. Post-processing is designed mostly to make block representation more compact and cleaner. Also, post-processing could be tailored to suit a particular follow-up work such as character recognition, data compression, and the like. Mostly, in post-processing, text blocks are combined with other text or non-text blocks, and text blocks are also combined with other non-text or text blocks.

Post-processing procedures are applied based on the page skew obtained in step S627. If the page is only minimally skewed such that column gaps are still clear, then blocks are combined aggressively. On the other hand, if the page has a larger skew and rectangular areas of many of the blocks are overlapped, then blocks are combined more conservatively. Specifically, for pages with smaller skew, text blocks are combined according to column information analyzed based on text blocks around the local area. Combination of text blocks basically depends on whether the text blocks are within the same column, if they are close to each other, if their directions are consistent, and if their combination would cause overlap with other blocks. Combination of non-text blocks is based on the principle that some

separated non-text pieces should have been included within the non-text entity. For example, some picture objects may actually be formed of several unconnected pieces. Once those unconnected pieces are judged to be the same picture, then a new composite region, which is represented by a dummy node in the hierarchical tree, is created so as to cover all of those pieces. Moreover, if some text is determined to be associated with a picture object, such as a caption, then a composite region is designated, in which case a dummy node in the hierarchical tree is used to cover both the picture and the text part. Composite region processing is discussed in further detail below in connection with step S634.

Once post-processing has been performed, a first block of information is selected for special processing in accordance with whether the block is a text block, line block, picture block, a frame block, non-text block, a composite region block, or a table block. In the presently preferred embodiment, special processing is needed only for pictures or composite regions, and other blocks are therefore not specially-processed. For those blocks, block selection is complete. The special processing for pictures and for composite regions is as follows.

Figure 11 is a detailed flow diagram showing special processing in the event that image data is designated and identified as picture image information (step S632). That is, when block selection identifies image data as picture image information, it tries to identify the type of picture information such as halftone, line drawing, joint line, etc. For those picture blocks which cannot be so-identified, special processing of Figure 11 designates them as "unknown pictures".

Thus, in step S1101, picture-type blocks are selected for special processing. In step S1102, if sub-attribute information is already stored, then special processing for the selected picture-type block is done (step S1102). Thus, if a sub-attribute information of "halftone" or "line art" or "joint line" is already stored (i.e., from the processing shown in Figure 10), then special processing for this picture-type block is complete.

On the other hand, if the image data has not been identified as a halftone image, a line drawing, or a joint-line, then the picture-type block is identified as unknown and an "unknown" sub-attribute is appended to the picture node (step S1104). In step S1104, the processing of the picture image data is terminated.

Figure 13 is a detailed flow diagram showing special processing in the event that image data within a block is determined to be a composite region which includes more than one image type (step S634). That is, block selection identifies a block of image data which contains more than one image data type. According to the present invention, process steps of block selection are applied to composite regions in order to identify the types of image data therein.

Thus, in step S1301, a determination is made as to whether blocks exist which have associated images therein. For example, as shown in Figure 14A, document page 1300 includes title 1301, text areas 1302 and 1303, and picture areas 1305, 1307 and 1309. In the example shown in Figure 14A, a text caption 1306 is also included. Block selection will have created a separate block for each of those regions, resulting in the hierarchical structure shown in Figure 15A.

As shown in Figure 14B, title 1300 and text areas 1302 and 1303 are treated as individual blocks 1319, 1320 and 1321, respectively. However, picture areas 1305, 1307 and 1309 together with text caption 1306 are grouped together as a "composite region" 1323, that is, a region containing more than one image.

More generally, composite regions may also include blocks which have the same attribute but which have inadvertently been split into plural blocks. For example, a picture containing unconnected picture pieces would ordinarily be split by block selection into separate picture blocks. Composite region processing will create a "dummy" hierarchical node to contain each of those picture pieces as one block.

If in step S1301, it is determined that associated blocks do not exist then flow returns to step S1302. However, if associated blocks are identified, then flow proceeds to step S1303 in which the block is identified as a "composite region" and a composite region node is appended in the hierarchical tree node (step S1304).

In step S1305, for each associated block, the location of its hierarchical tree node is changed so that it descends form the "composite region" node. This is shown in Figure 15B in which nodes for pictures 1305, 1307 and 1309 and the node for text 1306 are caused to branch from composite region node 1323.

Reverting to Figure 6C, once the hierarchical tree has been created for the page, in step S640, the resulting hierarchical tree structure is stored in the memory space allocated in step S605 for hierarchical tree storage. In this regard, although a rectangle is the simplest way to describe each block, sometimes the block may not exist in an isolated rectangular area, and overlapping may occur for the block rectangles. Overlapping may confuse the block image extraction operations. Accordingly, in addition to using rectangles, other representations are also provided to describe each block, and users can extract the correct block directly from the representation. The other representations originate from the connected component outline search, but the outline data is simplified to be a series of outline pairs or further to be a series of non-overlapping rectangles for each block. An artificial outline is created to cover all of the connected components in case more than one connected component is included in the block. This means that each block could be represented simply by a series of outline pairs or a series of non-overlapping rectangles. Based on the simplified representation, the block image can be directly extracted from the region of each outline pair or rectangle.

In step S641, the block selection program queries the user if more pages are to be analyzed. If no further pages are to be entered, then in step S642, the block selection application is terminated. However, if the user indicates that more pages are to be analyzed, step S643 determines whether there is enough hierarchical tree storage remaining in

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the allocated memory area.

If sufficient memory is remaining in the hierarchical tree storage, then flow returns to step S603. However, if no additional hierarchical tree storage space remains in the allocated memory area, an error code is returned to the user in step S646. At this point, either the block selection application will automatically terminate, or the user can reallocate the memory space for storing additional hierarchical tree structures.

Possible Applications

Optical character recognition (OCR) is not the only application which needs to collect text blocks as output by block selection described above. Other applications which need document image manipulation purposes can also use block selection, such as document storage and transmission, form identification and processing, document understanding, and document retrieval.

For example, using block selection, different image compression methods could be used to store and transmit page images more efficiently. Thus, text blocks could be stored by binary compression and picture blocks can be stored by multi-level picture compressions.

For form identification and processing, block selection can be utilized to avoid the need for placing special marks on each form so as to distinguish one form from another. Using block selection, form identification and processing can proceed in more general ways such that each form, after block selection, will be represented by a hierarchical tree structure which can be identified based on comparison with a dictionary of hierarchical tree structures for blank forms.

Document understanding provides logical analysis for the document. Basically, document understanding labels a page image according to predetermined layout conventions. Due to hierarchical characteristics of block selection, structural fundamentals of the document can be obtained so as to assist in the physical analysis of pages.

Document retrieval and storage can also make great use of block selection described above. For example, using block selection, a page image can be represented in block format, as shown above in Figure 3 in which blocks are displayed to the user rather than the document itself. As a user glances through the block format of the document, the user may receive layout information which provides visual clues as to whether the document being viewed is the document desired. Then, a user would be able to obtain information from certain text or non-text blocks based on the predetermined document format and some other specific requests. For example, consider a standard business memo which includes, as shown in Figure 16, a "To:" field, a "From:" field, a "cc:" (carbon copy) field, and the body of the memo. When viewing this business memo in the block-oriented format shown in Figure 3, a user may request specific information based on location, such as "the third line" to indicate the "cc:" field. The manner in which specific fields of information are obtained are varied. For example, a user may instead specify "the last text line above the horizontal line located in the upper page half" which would also specify the same "cc:" field. Once the user's specification is properly interpreted, then the area in which the user is interested can automatically be extracted.

The invention has been described with respect to a particular illustrative embodiment. It is to be understood that the invention is not limited to the above described embodiment and that various changes and modifications may be made by those of ordinary skill in the art without departing from the spirit and scope of the appended claims.

Claims

1. In a page analysis system for analyzing image data in a multi-page document, wherein the system includes a first memory area utilized for receiving and storing input image data of one page of the multi-page document to be processed in accordance with a block selection application and a second memory area for receiving and for storing the results of the processed page stored in the first memory area, a method for outputting an out-of-memory indicator, comprising the steps of:

   allocating, in the first memory area, memory space for storing input image data of a page to be analyzed and for performing block selection processing on the stored image data;

   allocating, in the second memory area, memory space for storing a plurality of process results of block selection processing; and

   outputting a first error code in the case the image data of the one page of the multi-page document to be analyzed exceeds the memory space allocated in the first memory area, and outputting a second error code in the case no additional memory space is available to store the results of block selection processing in the second memory area.

2. A method according to Claim 1, wherein the results of block selection processing which are stored in the second memory area include a hierarchical tree structure.

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3. In a page analysis system for analyzing image data in a document page, a method for selecting at least one portion of the document page to be analyzed, comprising the steps of:

inputting image data of a document page;
displaying the document page utilizing the input image data;
designating coordinates, using a coordinate designating device, of at least one portion of the document page to be analyzed;
extracting image data within the at least one portion of the document page designated in the designating step; and
performing block selection on the at least one portion in order to analyze the image data within the at least one portion.

4. In a page analysis system for analyzing image data in a document page, a method for designating at least one direction to analyze image data in the document page, comprising the steps of:

inputting image data of a document page;
receiving directional information of the image data in the document page;
determining whether directional information has been received; and
analyzing the document page;
wherein, in the case that it has been determined that directional information has been received, said analyzing step is performed in the direction designated by the received directional information; and
wherein, in the case that directional information has not been received, said analyzing step is performed in a predefined default direction.

5. A method according to Claim 4, wherein the predefined default direction is in a mixed horizontal and a vertical direction.

6. In a page analysis system for analyzing a document page and for creating a hierarchical tree structure of the analyzed page utilizing a block selection application, wherein the hierarchical tree structure includes a root node and at least a descendent node, a method for obtaining a skew angle of the document page to be analyzed, comprising the steps of:

inputting image data of the document page to be analyzed;
commencing block selection analysis on the image data of the document page, block selection analysis including a calculation of a skew angle of the page;
comparing the calculated skew angle to a predefined maximum skew angle;
determining whether the calculated skew angle is greater than the predefined maximum skew angle;
completing block selection analysis on the input image data of the document page in the case the skew angle does not exceed the predefined maximum skew angle; and
terminating block selection analysis in the case that the skew angle exceeds the predefined maximum skew angle.

7. A method according to Claim 6, wherein the skew angle is stored in the root node of the hierarchical tree structure.

8. In a page analysis system for analyzing image data in a multi-page document, wherein the system incudes a first memory area utilized for receiving and storing input image data of one page of the multi-page document to be processed in accordance with a block selection application and a second memory area for receiving and for storing the results of the processed page stored in the first memory area, an apparatus for outputting an out-of-memory indicator, comprising:

memory allocating means for allocating, in the first memory area, memory space for storing input image data of a page to be analyzed and for performing block selection processing on the stored image data, and for allocating, in the second memory area, memory space for storing a plurality of process results of block selection processing; and
outputting means for outputting a first error code in the case the image data of the one page of the multi-page document to be analyzed exceeds the memory space allocated by the first memory allocating means, and for outputting a second error code in the case no additional memory space is available to store the results of block selection processing in the second memory area.

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9. An apparatus according to Claim 8, wherein the results of block selection processing which are stored in the second memory area include a hierarchical tree structure.

10. In a page analysis system for analyzing image data in a document page, an apparatus for selecting at least one portion of the document page to be analyzed, comprising:

inputting means for inputting image data of a document page;
displaying means for displaying the document page utilizing the input image data;
a coordinate designating device for designating coordinates of at least one portion of the document page to be analyzed;
image data extracting means for extracting image data within the at least one portion of the document page designated by the coordinate designating device; and
block selection means for performing block selection on the at least one portion in order to analyze the image data within the at least one portion.

11. In a page analysis system for analyzing image data in a document page, an apparatus for designating at least one direction to analyze image data in the document page, comprising:

inputting means for inputting image data of a document page;
receiving means for receiving directional information of the image data in the document page;
determining means for determining whether directional information has been received; and
analyzing means for analyzing the document page;
wherein, in the case that it has been determined that directional information has been received, said analyzing means analyzes the document in the direction designated by the received directional information; and
wherein, in the case that directional information has not been received, said analyzing means analyzes the document page in a predefined default direction.

12. An apparatus according to Claim 11, wherein the predefined direction is in a mixed horizontal and a vertical direction.

13. In a page analysis system in which a page is analyzed and a hierarchical tree structure of the analyzed page is created utilizing a block selection application, wherein the hierarchical tree structure includes a root node and at least a descendent node, an apparatus for obtaining a skew angle of the document page to be analyzed, comprising:

inputting means for inputting image data of the document page to be analyzed;
comparing means for comparing a calculated skew angle to a predefined maximum skew angle;
determining means for determining whether the calculated skew angle is greater than the predefined maximum skew angle; and
block selection means for performing block selection processing on the input image data of the document page, block selection processing including a calculation of skew angle of the page;
wherein said block selection means is adapted to commence block selection processing, to use said comparing means so as to compare the calculated skew angle to the predefined maximum skew angle, and to complete block selection processing in a case where the skew angle does not exceed the predefined maximum skew angle.

14. An apparatus according to Claim 13, wherein the skew angle is stored in the root node of the hierarchical tree structure.

15. In a page analysis system for analyzing image data in a multi-page document, wherein a hierarchical tree structure of the analyzed pages is created utilizing a block selection program, and wherein the hierarchical tree structure includes a root node and at least one descendant node, a method for indicating a composite region of image data in a page of the multi-page document, comprising the steps of:

inputting image data of a page of a multi-page document;
preparing block selection processing so as to identify and separate the image data into blocks having the same image type;
identifying at least one block of image data which has an association to another separate block of image data;

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combining said associated blocks of image data within a composite block; and
representing the composite block in the hierarchical tree as a root node having descendant nodes which represent each of the associated blocks of image data.

16. In a page analysis system for analyzing image data in a multi-page document, wherein a hierarchical tree structure is created for the analyzed pages, and wherein the hierarchical tree structure includes a root node and at least one descendant node, an apparatus for creating a composite region of image data in a page of the multi-page document, comprising:

input means for inputting image data of a page of a multi-page document;
block selection processing means for identifying and separating the image data into blocks having the same image type;
identifying means for identifying at least one block of image data which has an association to another separate block of image data;
combining means for combining said associated blocks of image data within a composite block; and
modifying means for modifying the hierarchical tree such that the composite block in the hierarchical tree is represented as a root node having descendant nodes which represent each of the associated blocks of image data.

17. In a page analysis system which creates a hierarchical tree structure corresponding to a block template of a document image wherein the hierarchical tree structure includes a plurality of nodes each of which represents a block image data in the block template of a document image and contains feature data defining features of the block template of a document image, a method of identifying and indicating a picture type, the method comprising steps of:

inputting image data of a page of a multi-page document;
performing block selection processing so as to identify and separate the image data into blocks having the same image type;
identifying blocks of image data which contain picture information;
determining the type of picture information within the block of picture information, wherein, in the determining step, it is determined whether picture information is half-tone, line-drawing, joint-line, or unknown; and
storing, in a node representing the block of picture information in the hierarchical tree, the type of picture determined in the determining step.

18. In a page analysis system which creates a hierarchical tree structure corresponding to a block template of a document image wherein the hierarchical tree structure includes a plurality of nodes each of which represents a block image data in the block template of a document image and contains feature data defining features of the block template of a document image, an apparatus for identifying and indicating a picture type, comprising:

input means for inputting image data of a page of a multi-page document;
block selection processing means for identifying and separating the image data into blocks having the same image type;
identifying means for identifying blocks of image data which contain picture information;
determining means for determining the type of picture information within the block of picture information, wherein said determining means determines whether picture information is half-tone, line-drawing, joint-line, or unknown; and
storing means for storing, in a node representing the block of picture information in the hierarchical tree, the type of picture determined by said determining means.

19. A page analysis system, method or apparatus having the features of any combination of the preceding claims.

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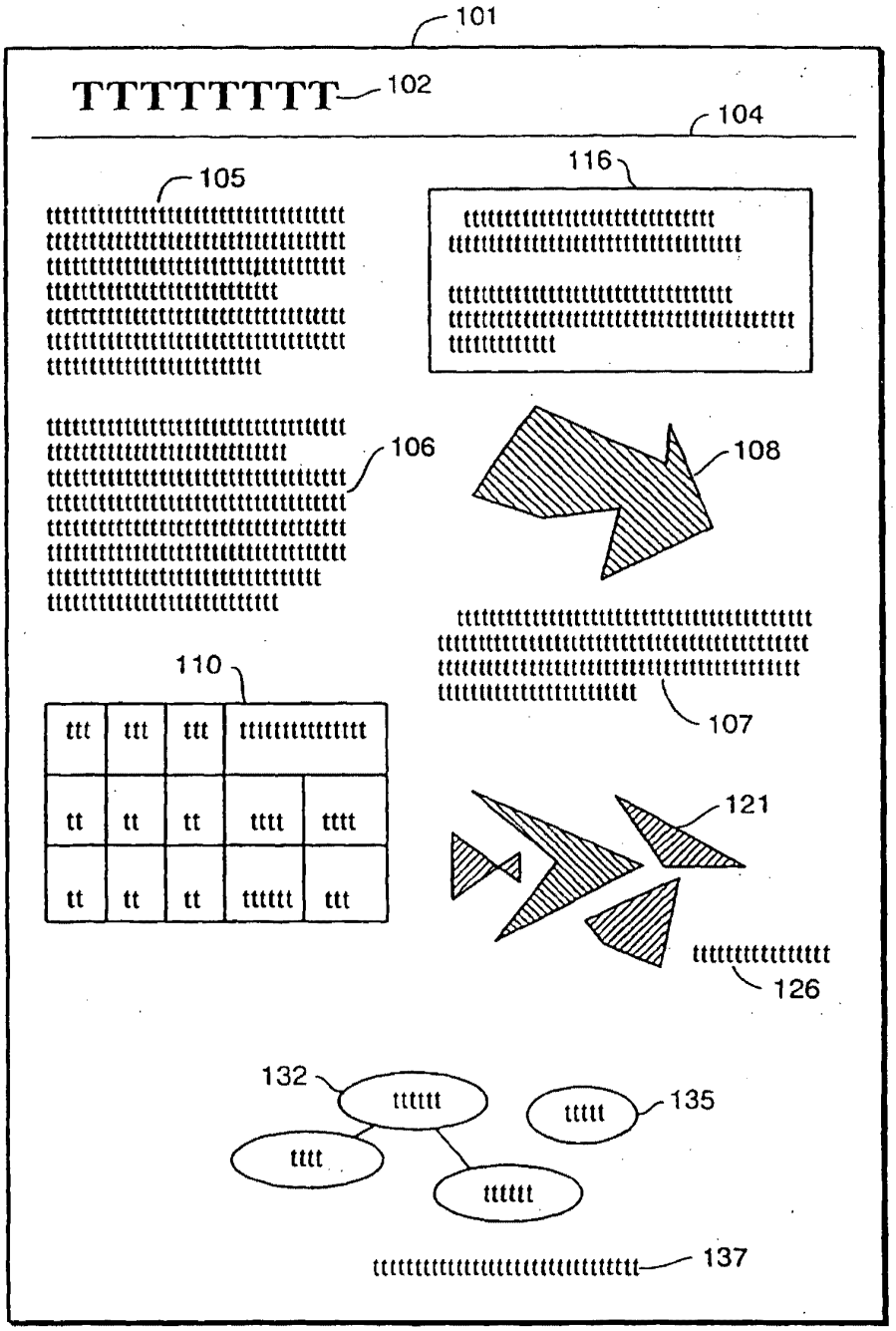

FIG. 1

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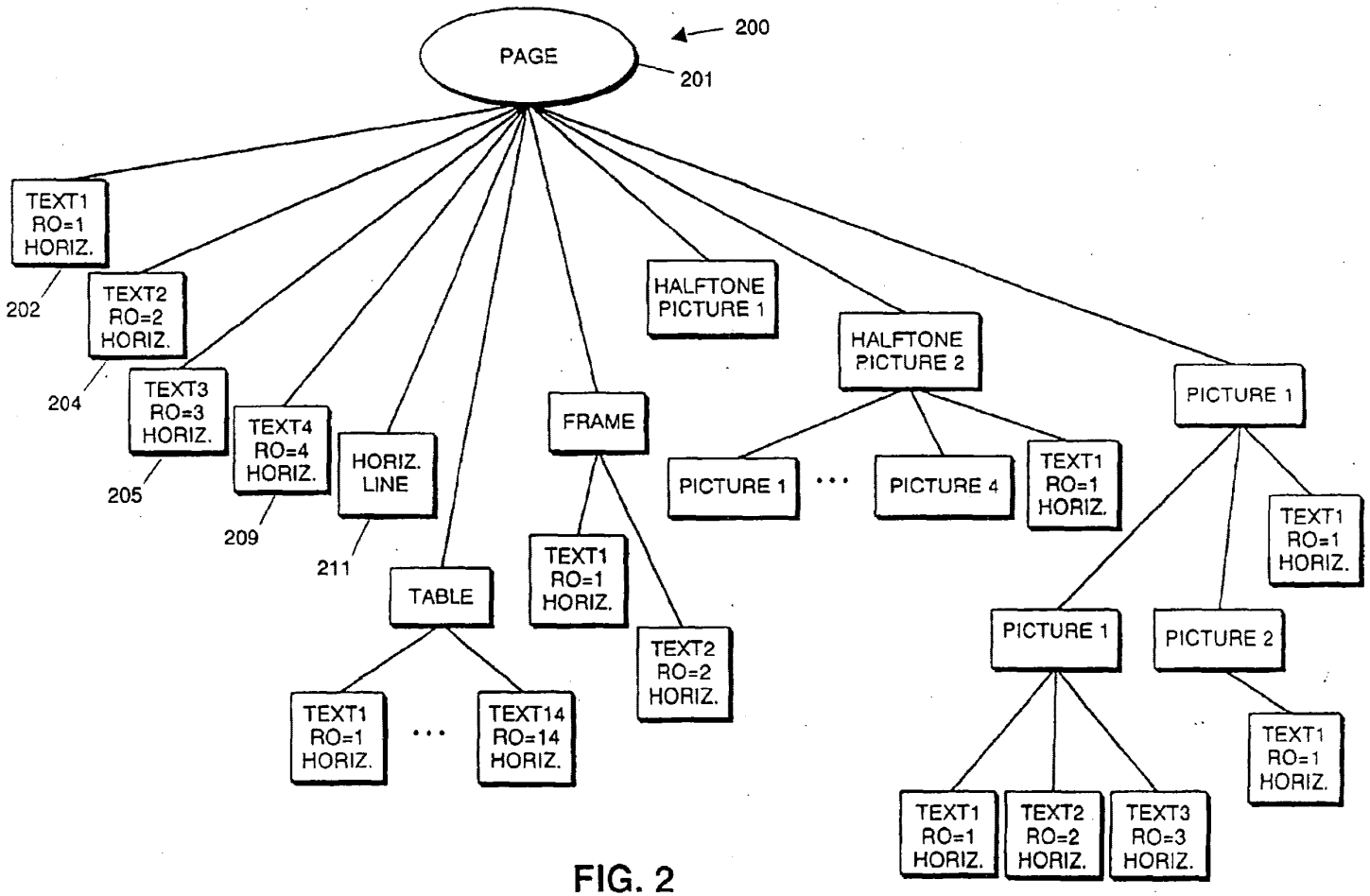
PAGE
200
201
TEXT1 RO=1 HORIZ.
202
TEXT2 RO=2 HORIZ.
204
TEXT3 RO=3 HORIZ.
205
TEXT4 RO=4 HORIZ.
209
HORIZ. LINE
211
TABLE
TEXT1 RO=1 HORIZ.
TEXT14 RO=14 HORIZ.
FRAME
TEXT1 RO=1 HORIZ.
TEXT2 RO=2 HORIZ.
HALFTONE PICTURE 1
HALFTONE PICTURE 2
PICTURE 1
PICTURE 4
TEXT1 RO=1 HORIZ.
PICTURE 1
TEXT1 RO=1 HORIZ.
PICTURE 1
PICTURE 2
TEXT1 RO=1 HORIZ.
TEXT1 RO=1 HORIZ.
TEXT2 RO=2 HORIZ.
TEXT3 RO=3 HORIZ.

FIG. 2

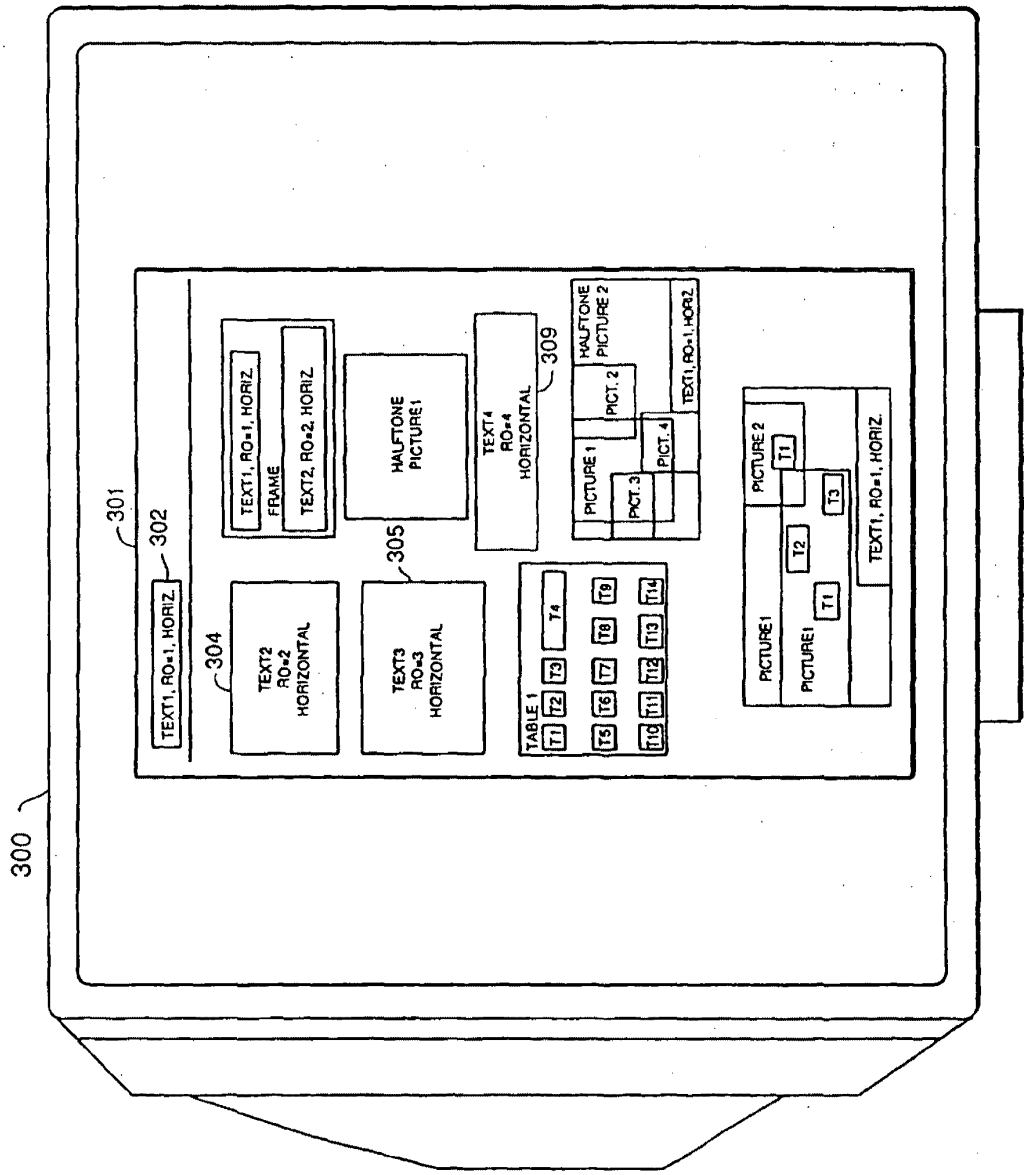
300
301
302
TEXT1, RO=1, HORIZ.
304
TEXT2 RO=2 HORIZONTAL
305
TEXT3 RO=3 HORIZONTAL
TEXT1, RO=1, HORIZ.
FRAME
TEXT2, RO=2, HORIZ.
HALFTONE PICTURE1
TEXT4 RO=4 HORIZONTAL
309
TABLE 1
T1 T2 T3 T4 T5 T6 T7 T8 T9 T10 T11 T12 T13 T14
HALFTONE PICTURE 2
PICTURE 1
PICT. 2
PICT. 3
PICT. 4
TEXT1, RO=1, HORIZ.
PICTURE 2
PICTURE1
PICTURE1
T1
T2
T3
TEXT1, RO=1, HORIZ.

FIG. 3

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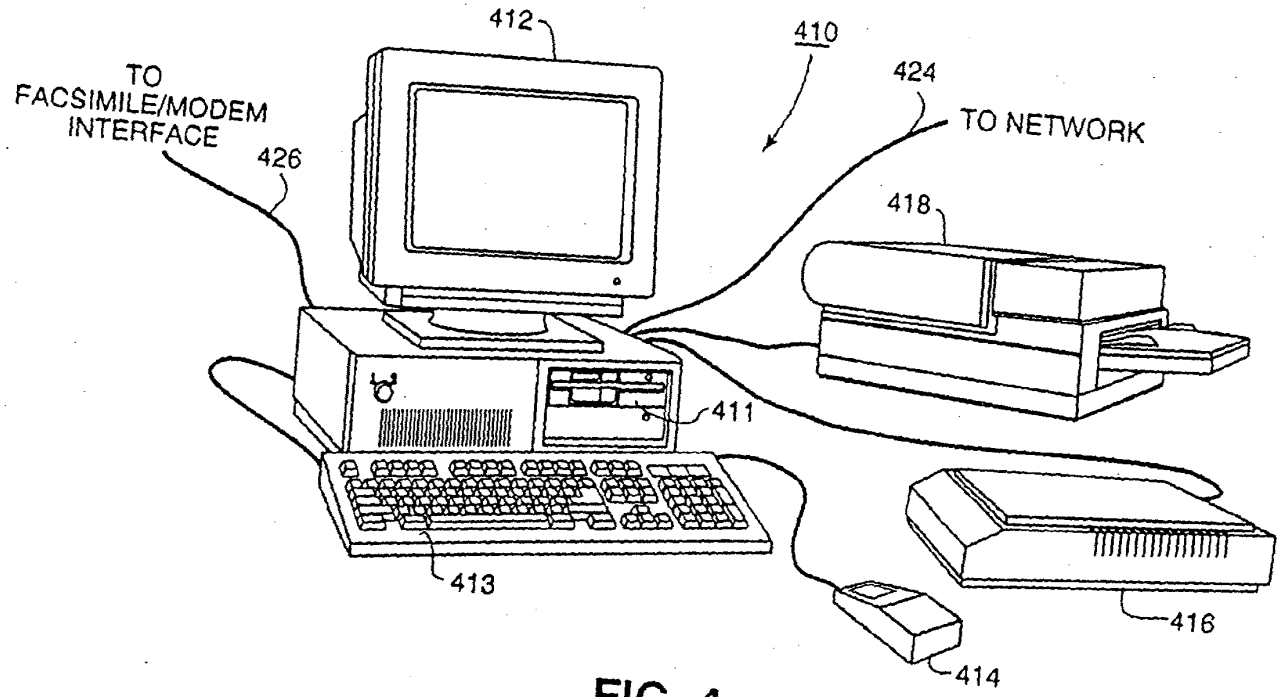
412
410
424
TO NETWORK
TO
FACSIMILE/MODEM
INTERFACE
426
418
411
413
416
414

FIG. 4

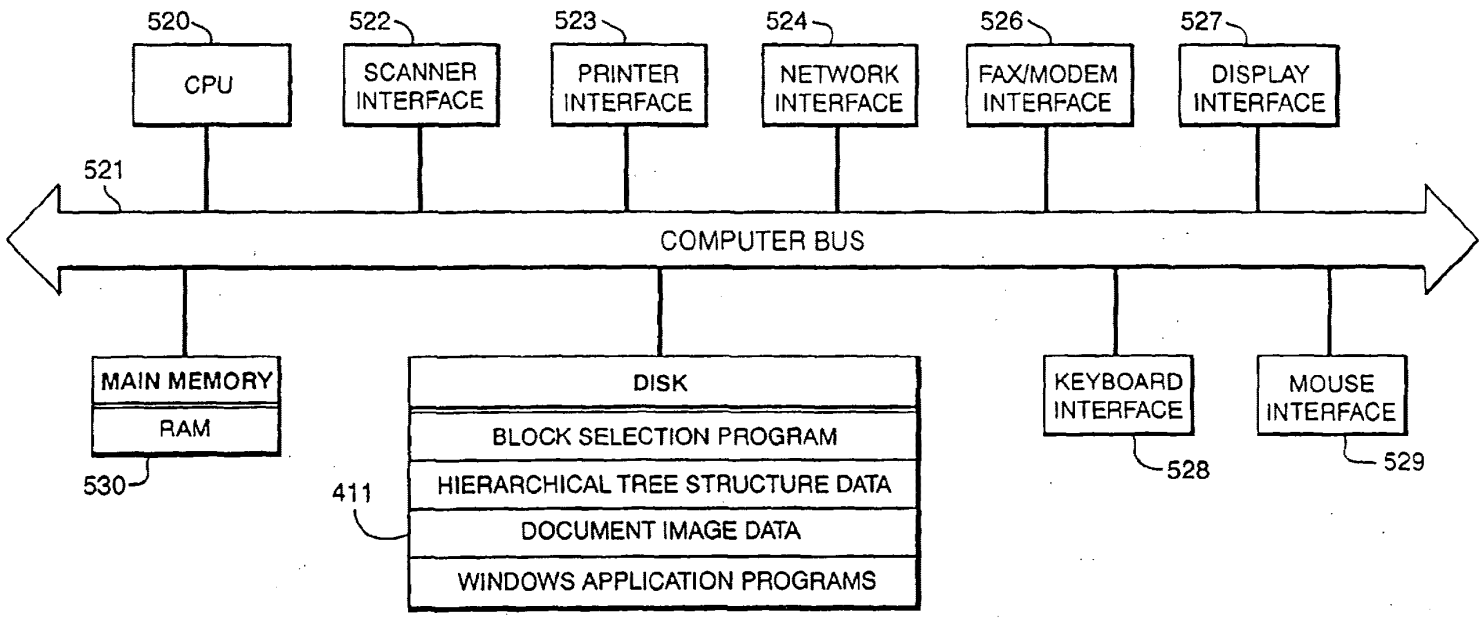
520
CPU
522
SCANNER INTERFACE
523
PRINTER INTERFACE
524
NETWORK INTERFACE
526
FAX/MODEM INTERFACE
527
DISPLAY INTERFACE
521
COMPUTER BUS
MAIN MEMORY
RAM
530
411
DISK
BLOCK SELECTION PROGRAM
HIERARCHICAL TREE STRUCTURE DATA
DOCUMENT IMAGE DATA
WINDOWS APPLICATION PROGRAMS
KEYBOARD INTERFACE
528
MOUSE INTERFACE
529

FIG. 5

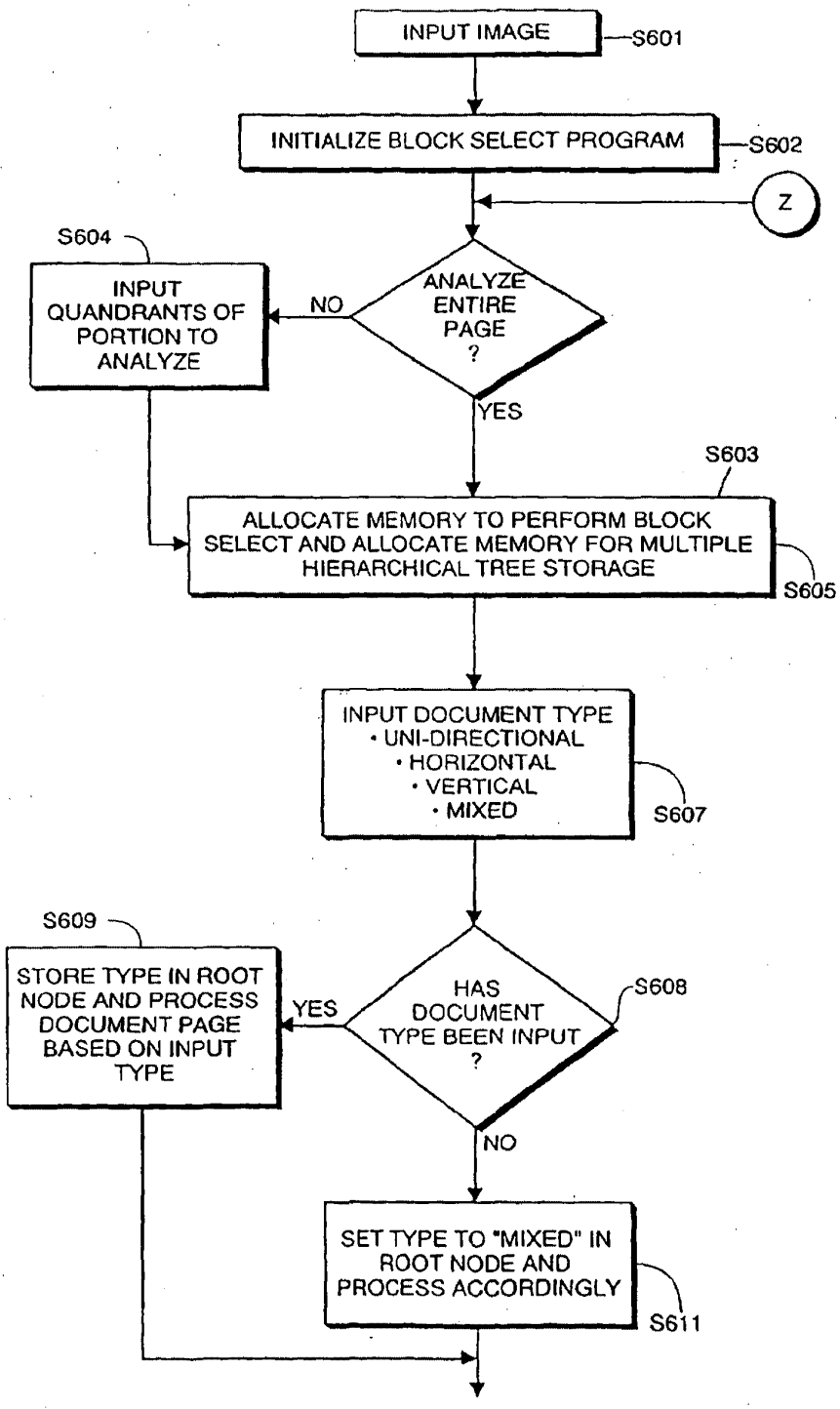

FIG. 6A

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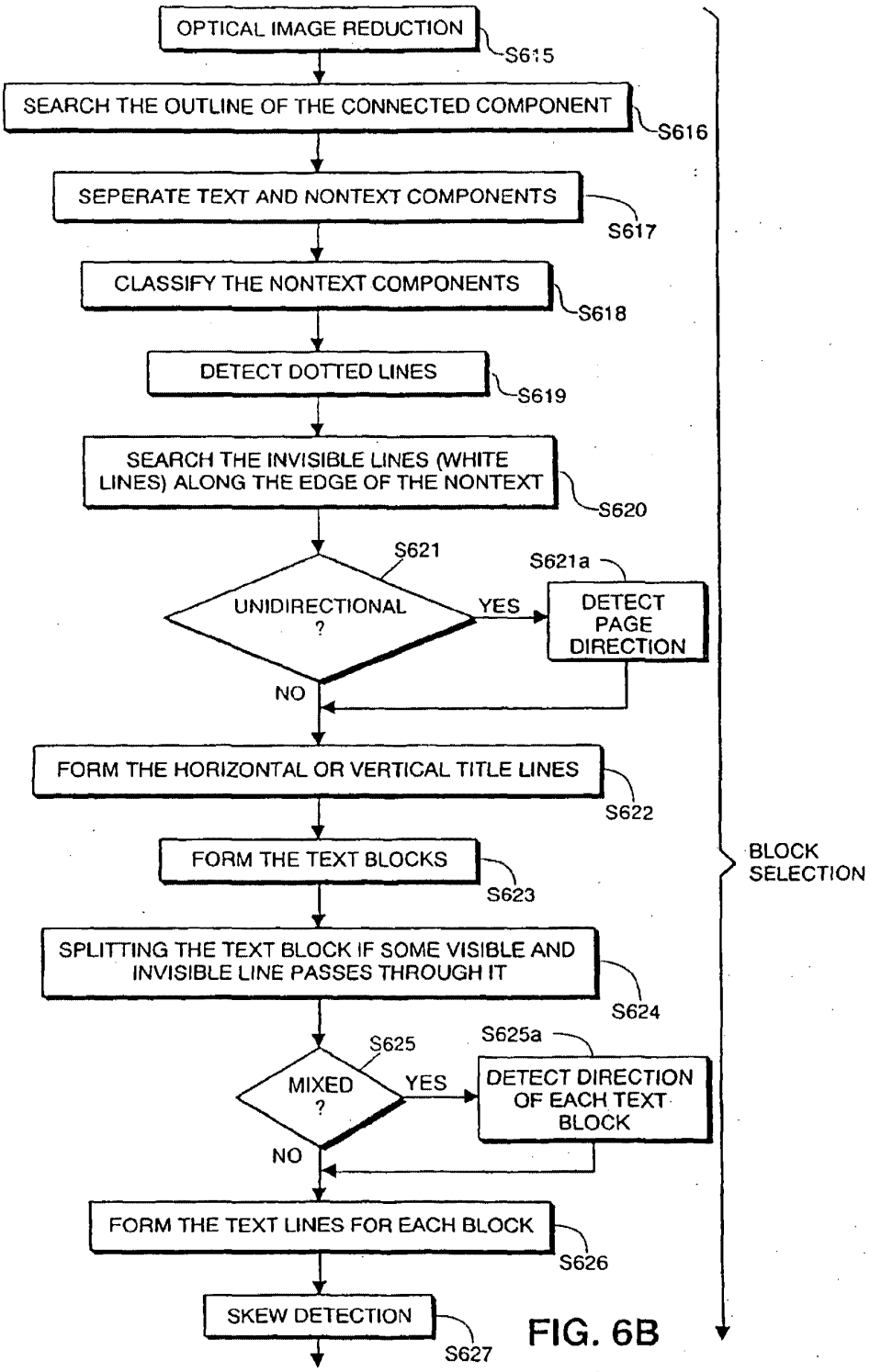

FIG. 6B

ENSDOCID: <EP 0712088A2 I >

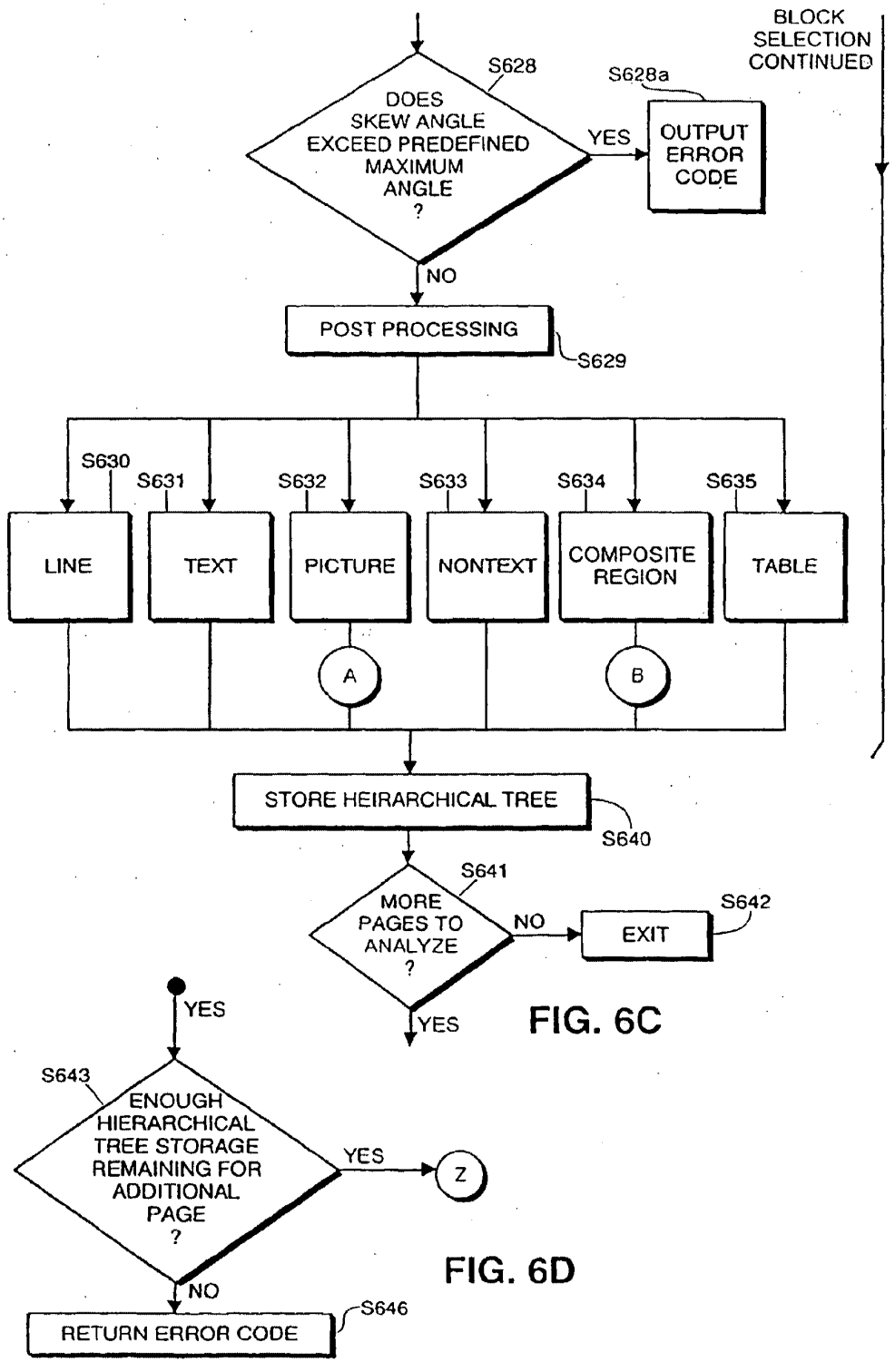

FIG. 6C

FIG. 6D

ENSDOCID: <EP 0712088A2 I >

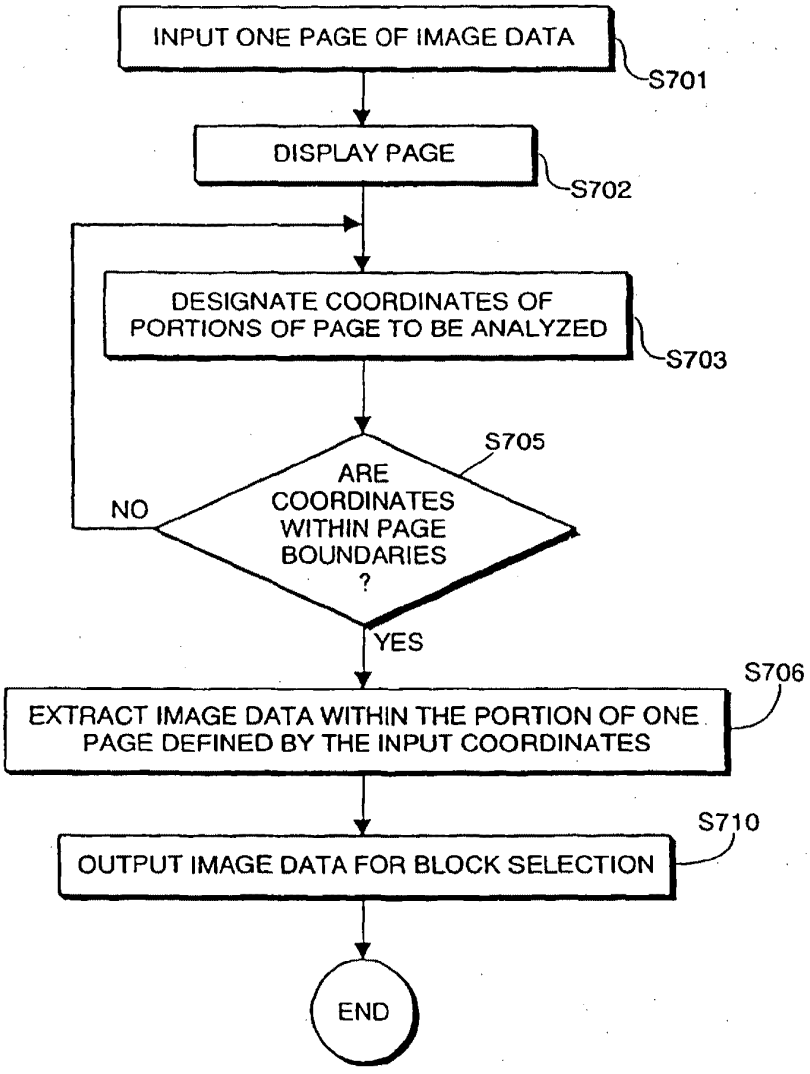

FIG. 7A

0712088A2 ( )

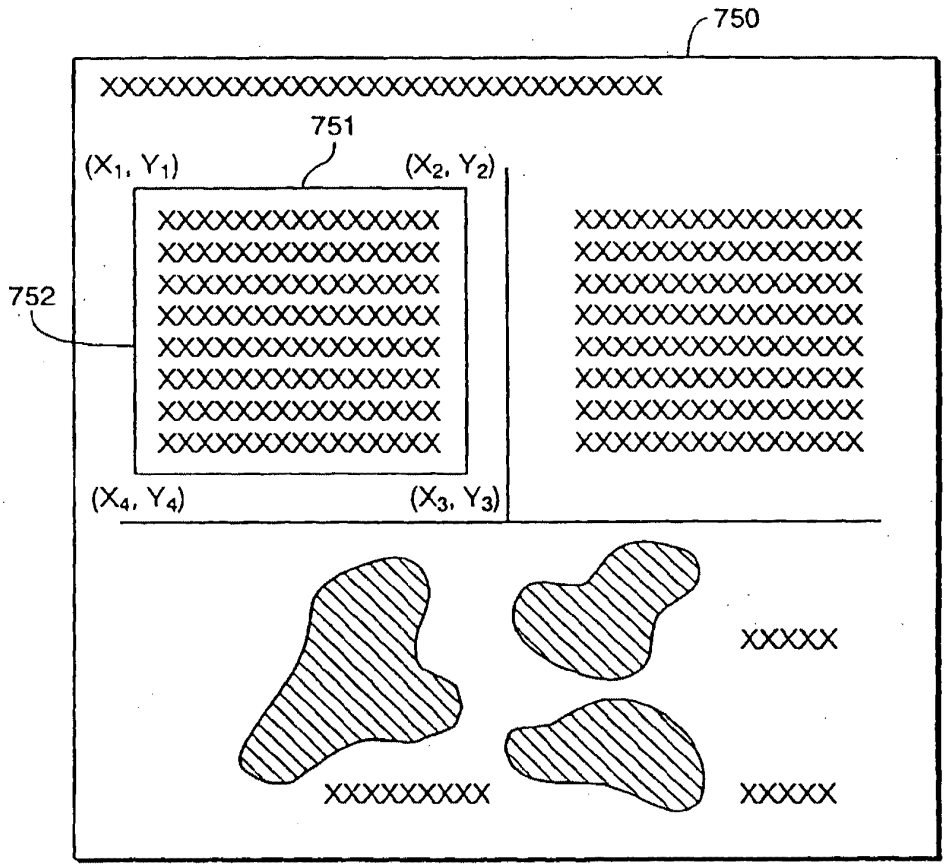

FIG. 7B

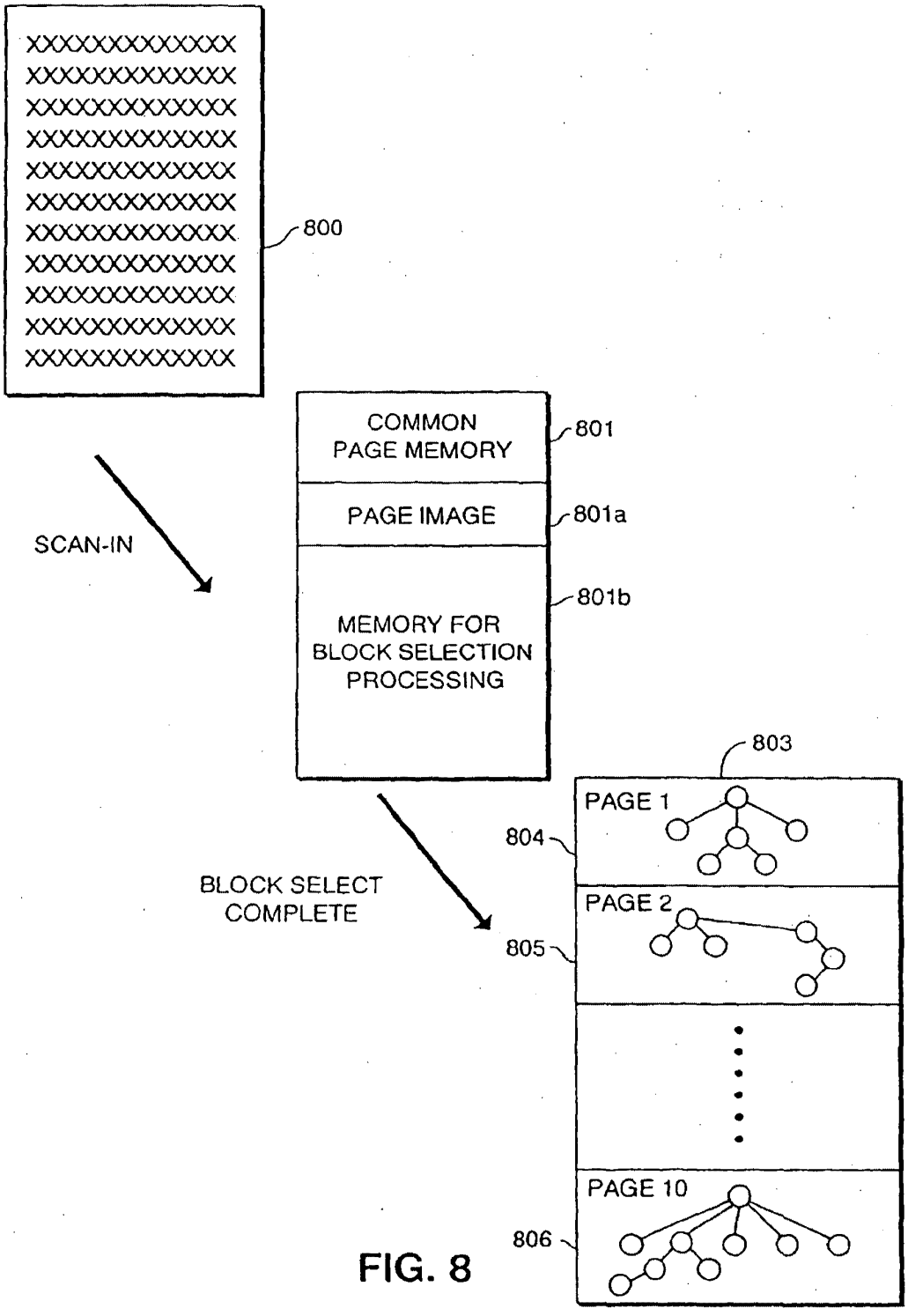
800
COMMON PAGE MEMORY
801
PAGE IMAGE
801a
801b
MEMORY FOR BLOCK SELECTION PROCESSING
SCAN-IN
BLOCK SELECT COMPLETE
803
804
805
806
PAGE 1
PAGE 2
PAGE 10

FIG. 8

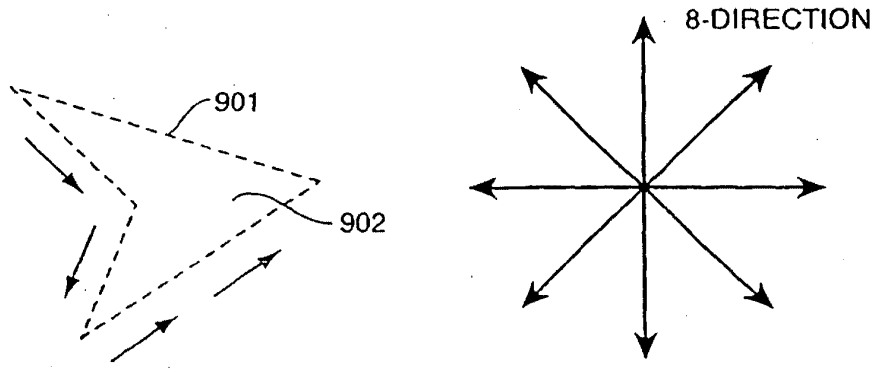

FIG. 9A

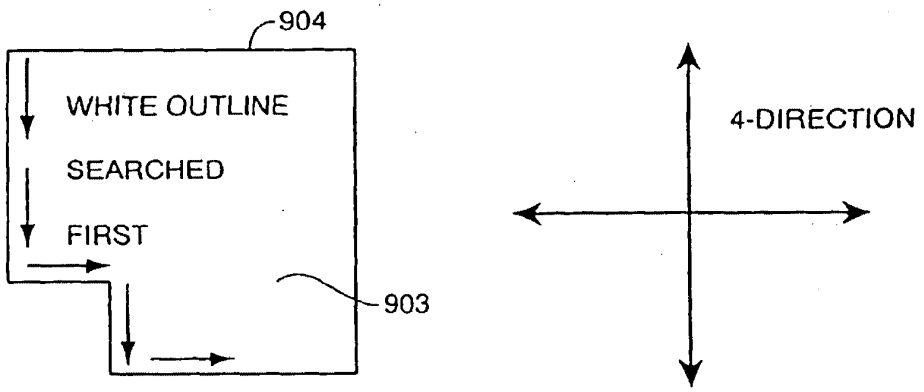

FIG. 9B

ANSDOCID: <EP 0712088A2 I >

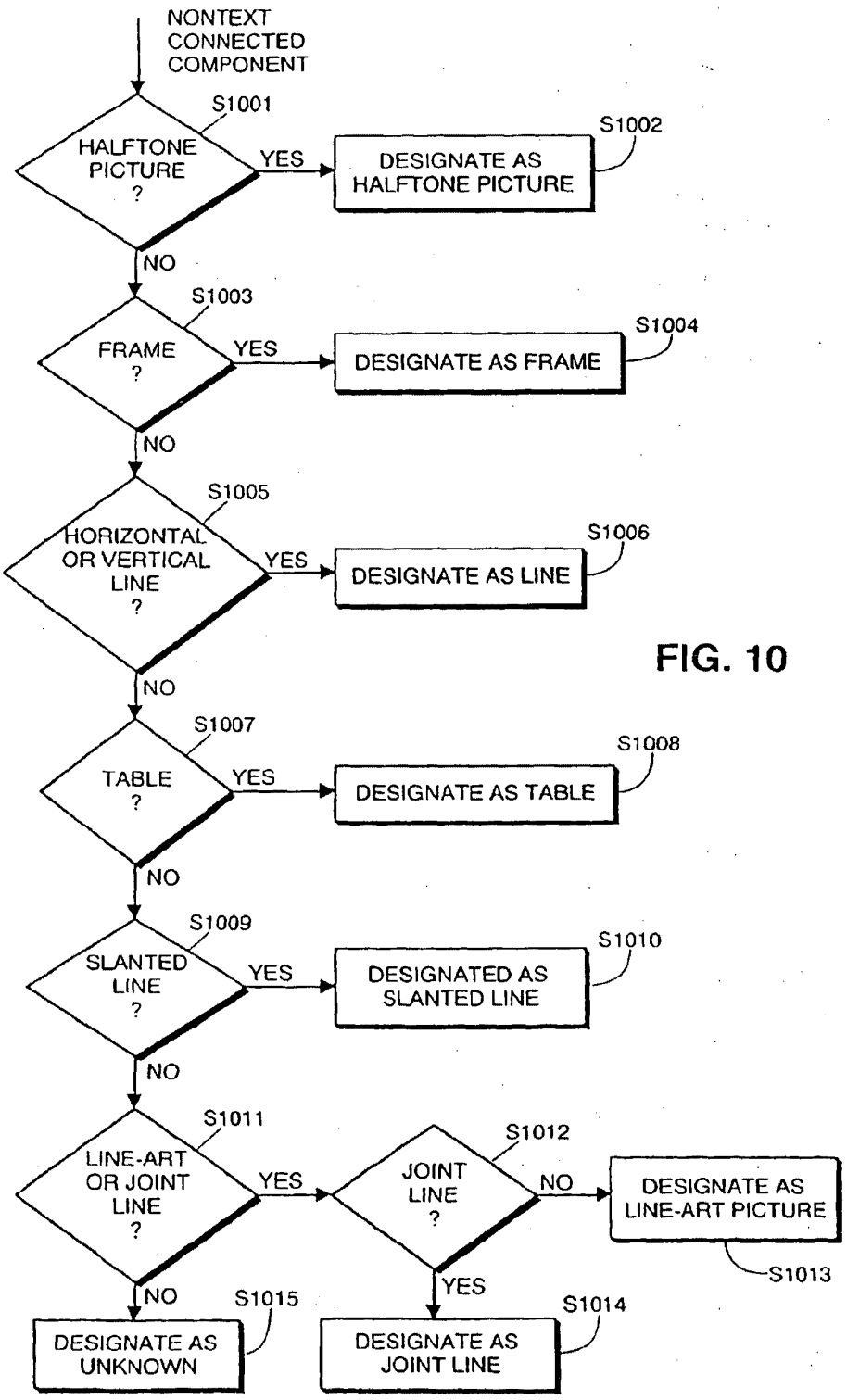
NONTEXT CONNECTED COMPONENT
S1001
HALFTONE PICTURE ?
YES
S1002
DESIGNATE AS HALFTONE PICTURE
NO
S1003
FRAME ?
YES
S1004
DESIGNATE AS FRAME
NO
S1005
HORIZONTAL OR VERTICAL LINE ?
YES
S1006
DESIGNATE AS LINE
NO
S1007
TABLE ?
YES
S1008
DESIGNATE AS TABLE
NO
S1009
SLANTED LINE ?
YES
S1010
DESIGNATED AS SLANTED LINE
NO
S1011
LINE-ART OR JOINT LINE ?
YES
S1012
JOINT LINE ?
NO
DESIGNATE AS LINE-ART PICTURE
S1013
YES
S1014
DESIGNATE AS JOINT LINE
NO
S1015
DESIGNATE AS UNKNOWN

FIG. 10

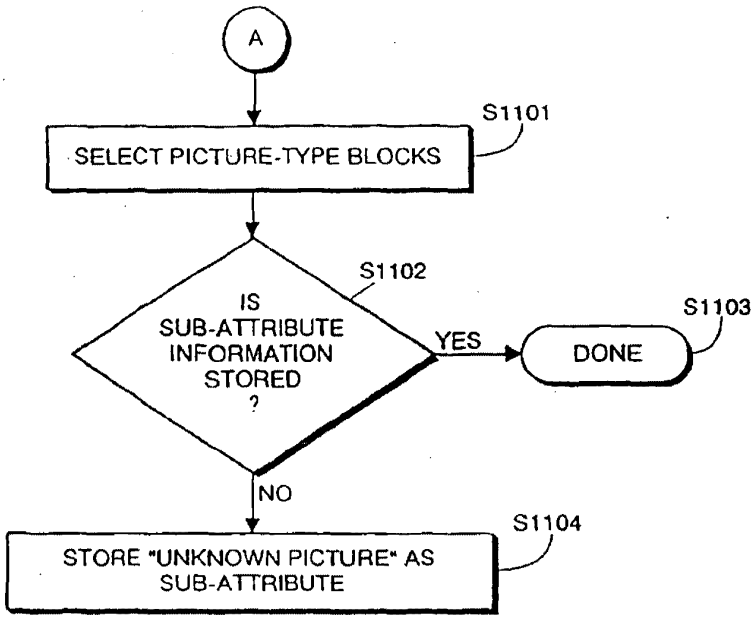
A
S1101
SELECT PICTURE-TYPE BLOCKS
S1102
IS SUB-ATTRIBUTE INFORMATION STORED ?
YES
S1103
DONE
NO
S1104
STORE "UNKNOWN PICTURE" AS SUB-ATTRIBUTE

FIG. 11

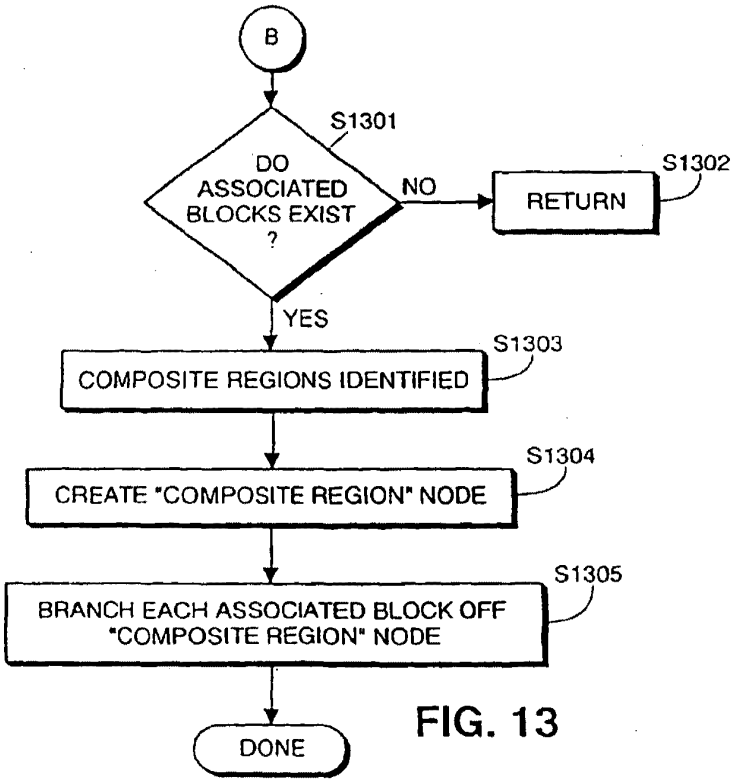
B
S1301
DO ASSOCIATED BLOCKS EXIST ?
NO
S1302
RETURN
YES
S1303
COMPOSITE REGIONS IDENTIFIED
S1304
CREATE "COMPOSITE REGION" NODE
S1305
BRANCH EACH ASSOCIATED BLOCK OFF "COMPOSITE REGION" NODE
DONE

FIG. 13

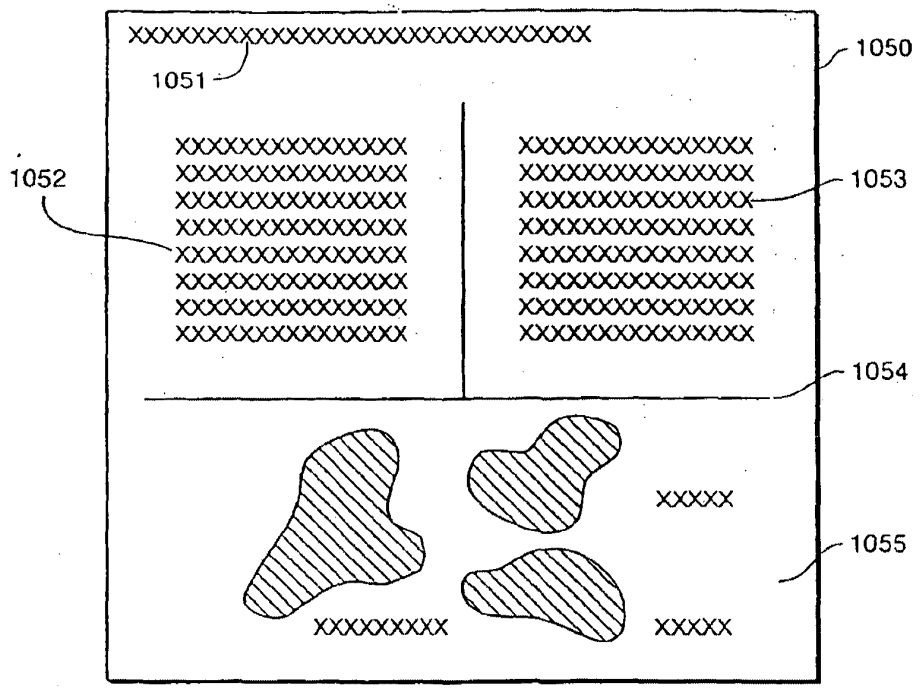

FIG. 12A

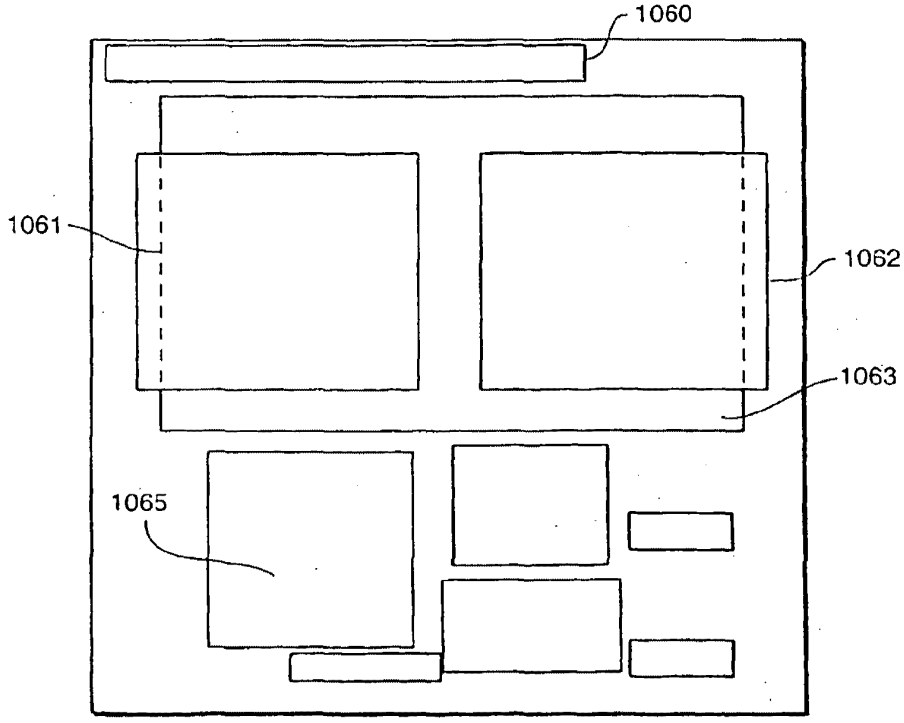

FIG. 12B

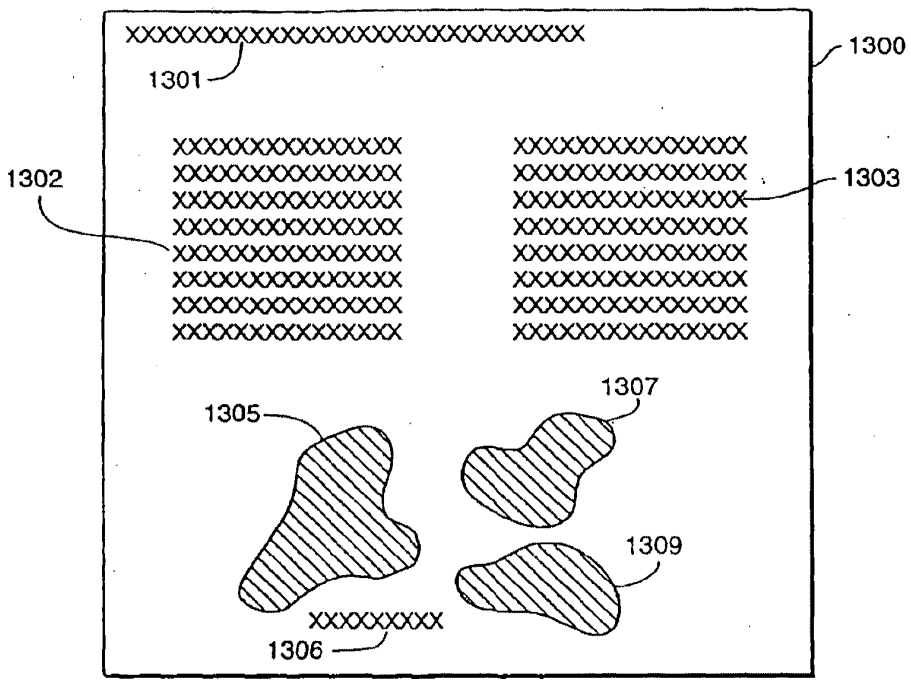

FIG. 14A

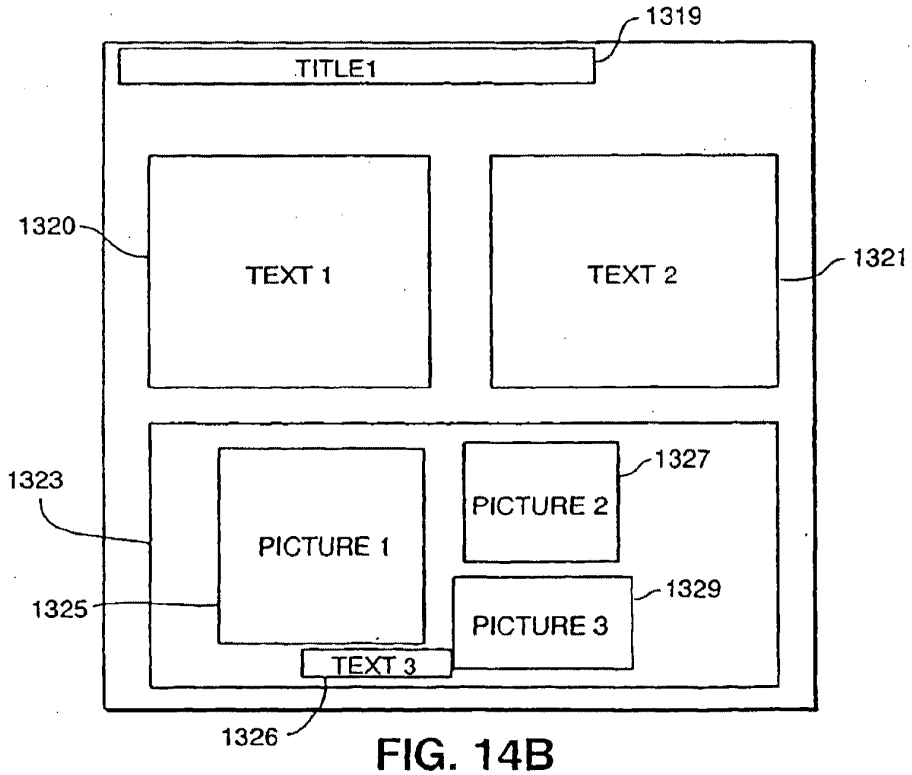

FIG. 14B

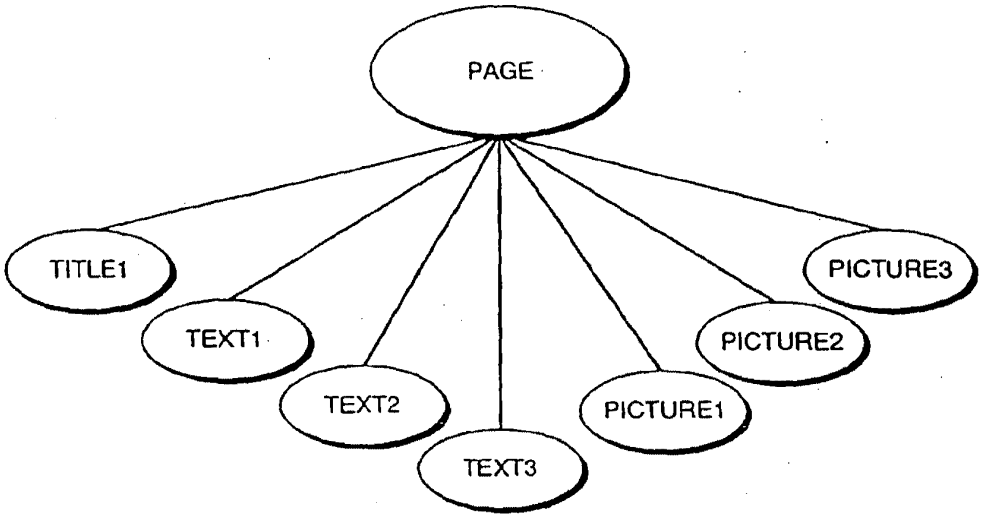

FIG. 15A

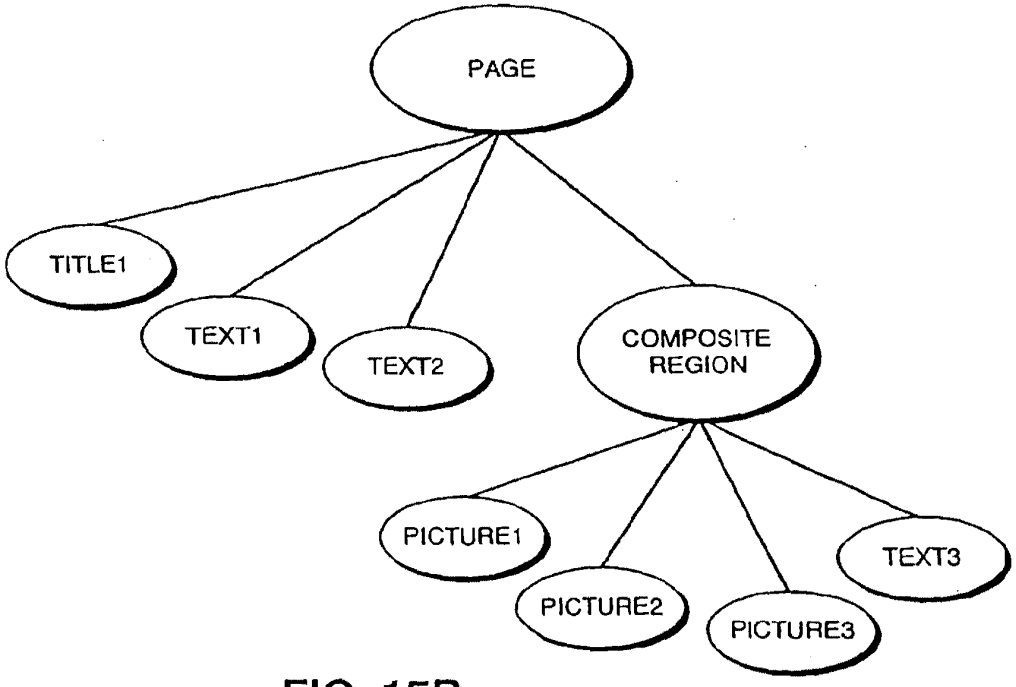

FIG. 15B

EN:DOCID: <EP 0712088A2 I >

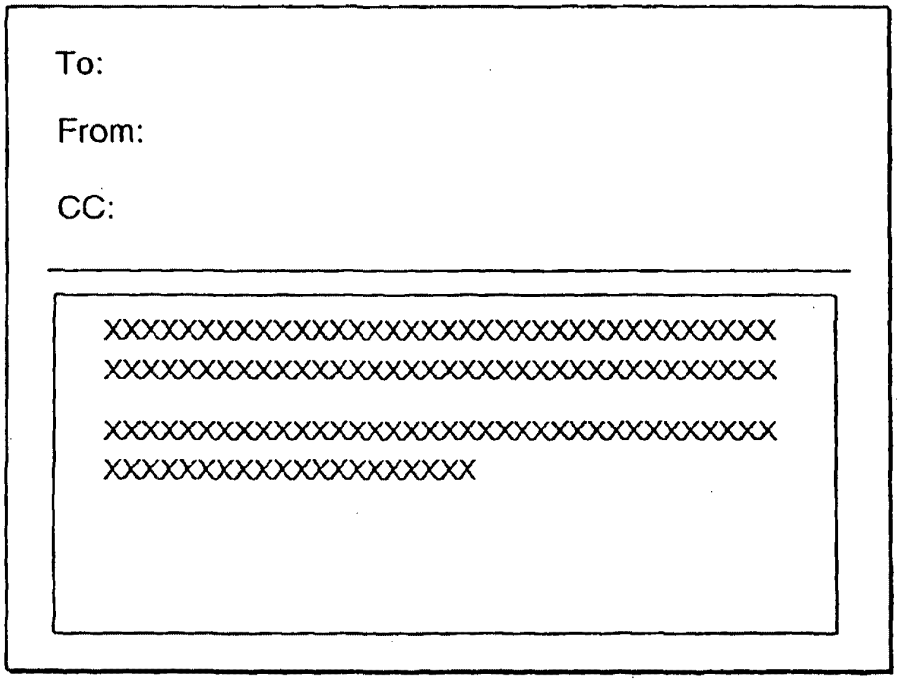
To:
From:
CC:
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXX

FIG. 16

(19) Europäisches Patentamt
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(84) Designated Contracting States:
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(30) Priority: **10.11.1994 US 338781**

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(74) Representative:
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2-5 Warwick Court
High Holborn
London WC1R 5DJ (GB)

(54) Page analysis system

(57) A page analysis system, which utilizes a block selection application to analyze image data of a page in a multi-page document, includes the features of 1) returning an error code in the case that data to be stored in either a common memory work area or a hierarchical tree storage memory area exceeds the allocated memory space, 2) calculating a skew angle of a page and returning an error code in the case the skew angle exceeds a predefined maximum skew angle, 3) designating a default processing direction in the case a user fails to input directional information of the image data in the page, 4) determining and indicating whether identified picture image information represents a halftone image, a line drawing, a joint line, or unknown picture type, 5) analyzing image data of a portion of a page which has been designated by input coordinates, and 6) identifying a block which contains at least two image types as a composite block and identifying the type of image data within the composite block.

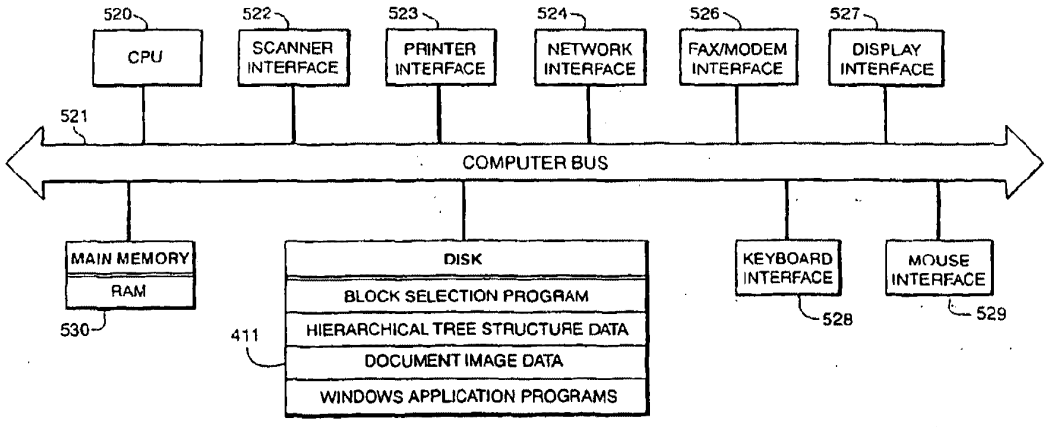

FIG. 5

EP 0 712 088 A3

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European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 7880

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	V. A. CORDI: "Virtual memory hierarchy" IBM TECH. DISCLOSURE BULLETIN, vol. 21, no. 10, March 1979, pages 4001-4004, XP002016425 * page 4004, paragraph 3; figure 1 *	1,2,8,9	G06K9/20
A	K. INAGAKI ET AL: "Macsym: a hierarchical parallel image processing system for event-driven pattern understanding of documents" PATTERN RECOGNITION, vol. 17, no. 1, 1984, pages 85-108, XP002016426 p. 91 Section "3.3 Variable structure shared memory"	1,2,8,9	
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 362 (E-663), 28 September 1988 & JP 63 116569 A (CANON INC), 20 May 1988, * abstract *	1,2,8,9	
A	US 4 941 195 A (TANAKA HIDEAKI ET AL) 10 July 1990 * claim 1; figures 3-5 *	3,10	TECHNICAL FIELDS SEARCHED (Int.Cl.6) G06K G06T
A	G. NAGY ET AL: "A prototype Document Image Analysis System for Technical Journals" COMPUTER, vol. 25, no. 2, July 1992, pages 10-22, XP000307116 * figure 8 *	3,10	
A	* figure 1 *	6,7,13, 14	

-/--

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	6 November 1997	Granger, B

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

BNSDOCID: <EP_____0712088A3_I_>

European Patent Office

Application Number
EP 95 30 7880

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

SEE SHEET B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

BNSDOCID: <EP_____0712088A3_I_>

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 7880

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 4 761 818 A (Y. BANNAI) 2 August 1988 * claims 4,5,9 *	3,10	
A	O. IWAKI ET AL.: "A Segmentation Method based on Offic eDocument Hierarchical Structure" PROC. 1987 IEEE INT. CONF. ON SYSTEMS, MAN AND CYBERNETICS, vol. 2/3, 20 October 1987, ALEXANDRIA, VA, USA, pages 759-763, XP000042068 Section "3.1 Frame Segmentation"	4,5,11, 12	
A	EP 0 017 090 A (IBM) 15 October 1980 * abstract *	6,7,13, 14	
A	X. HAO ET AL.: "A Tool for Classifying Office Documents" PROC OF THE 1993 IEEE INT'L XONF. ON TOOLS AND AI, 8 November 1993, BOSTON, MA, USA, pages 427-434, XP000436466 Section "2.1 Nested Segmentation" * figures 5-7 *	15,16	TECHNICAL FIELDS SEARCHED (Int.Cl.6)
X	S. N. SRIHARI: "Document Image Understanding" 1986 PROC. FALL JOINT COMPUTER CONF., 2 November 1986, DALLAS, TX, USA, pages 87-96, XP002045958 * page 87, left-hand column, line 30 - line 34; figures 1-3,6 *	17-19	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	6 November 1997	Granger, B

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
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L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ENSDOCID: <EP 0712088A3 I >

European Patent Office

- B -

EP 95307880.5

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

Claims 1-2,8-9

Page analysis system characterized by allocating memory space for the input image in a first area and by allocating memory space in a second area for the process results and by outputting error codes in case of memory overflow.

Claims 3,10

Page analysis system characterized by block slection with a coordinate designation device.

Claims 4-5,11-12

Page analysis system characterized by a method for determining the orientation of the image data.

Claims 6-7,13-19

Page analysis system characterized by creating a hierarchical tree structure, by analysing the skew angle, by combining blocks of image data into composite blocks and by identifying the blocks of image data.

(19) Europäisches Patentamt
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07.12.1998 US 206488
21.12.1998 US 217138
22.12.1998 US 218643

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(54) Processing digital image data

(57) An improved technique for compressing a color or gray scale pixel map representing a document using for example an MRC format including a method of segmenting an original pixel map into two planes (12,14), and then compressing the data or each plane in an efficient manner. The image is segmented such that pixels that compress well under a lossy compression technique are placed on one plane (12) and pixels that must be compressed losslessly are placed on another plane (14). Lossy compression is then applied to the lossy pixel plane while lossless compression is applied to the lossless pixel plane.

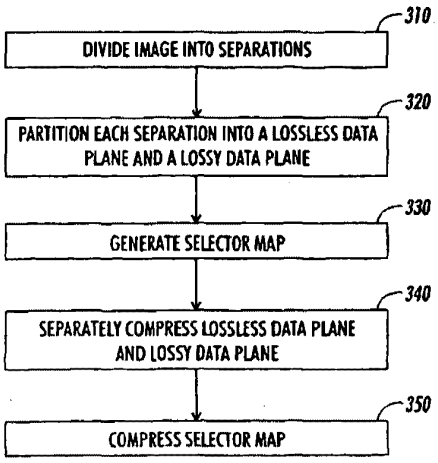

FIG. 4

EP 1 006 715 A2

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Description

[0001] This invention relates generally to image processing and, more particularly, to techniques for compressing the digital representation of a color document.

[0002] Documents scanned at high resolutions require very large amounts of storage space. Instead of being stored as is, the data is typically subjected to some form of data compression in order to reduce its volume, and thereby avoid the high costs associated with storing it. "Lossless" compression methods such as Lempel-Ziv (LZ) do not perform particularly well on scanned pixel maps. While "lossy" methods such as JPEG work fairly well on continuous-tone pixel maps, they do not work particularly well on the parts of the page containing text. To optimize image data compression, techniques, which can recognize the type of data being compressed, are needed.

[0003] In accordance with one aspect of the present invention, a method of processing digital image data that is composed of multiple superimposed separations comprises:

a) dividing the image data into separations, wherein each separation is composed of light intensity signals in discrete locations, each of said light intensity signals having a value which indicates a magnitude of a light intensity of the image data in said separation at said discrete location;
b) partitioning each separation by creating a lossless signal plane and a lossy signal plane;
c) generating a selector map which indicates, for each discrete location in each of said separations, whether light intensity signals previously located thereon have been placed on said lossless signal plane or on said lossy signal plane; and
d) separately compressing said lossless signal planes and said lossy signal planes in a manner best suited for compressing a type of data contained thereon.

[0004] In accordance with another aspect of the present invention, an apparatus for processing digital image data that is composed of multiple superimposed separations comprises:

a) means for dividing the image data into separations, wherein each separation is composed of light intensity signals in discrete locations, each of said light intensity signals having a value which indicates a magnitude of a light intensity of the image data in said separation at said discrete location;
b) means for partitioning each separation by creating a lossless signal plane and a lossy signal plane;
c) means for generating a selector map which indicates, for each discrete location in each of said separations, whether light intensity signals previously located thereon have been placed on said lossless signal plane or on said lossy signal plane; and
d) means for separately compressing said lossless signal planes and said lossy signal planes in a manner best suited for compressing a type of data contained thereon.

[0005] The present invention is directed to segmenting and then compressing color image data, for example using the MRC format. The segmenting embodiments of the invention are directed to separating the original image data into two planes based upon the manner in which the data should subsequently be compressed. Compression embodiments are directed to compressing the data on the segmented planes using an appropriate technique. The compressed planes are then combined to produce the final output image. The compression technique will either have one selector plane for the entire image (image-wise segmentation), or one per separation (separation-wise segmentation).

[0006] In one embodiment of the invention, a method of compressing a pixel map representation of a document is disclosed, the method including the steps of: creating a first image plane from the pixel map representation of a document, the first image plane containing color signals for a first subset of image data in the document; creating a second image plane from the pixel map representation of the document, the second image plane containing image signals for a second subset of image data in the document; creating a selector plane from the pixel map representation of the document, wherein the selector plane selects between the first subset signals and the second subset signals when decompressing the compressed pixel map representation of the document; and pre-processing the first image plane and the second image plane based upon data contained in the selector map.

[0007] In another embodiment of the invention an apparatus for processing pixel map representations of documents is disclosed, including: means for creating a first image plane from the pixel map representation of a document, the first image plane containing color signals for a first subset of image data in the document; means for creating a second image plane from the pixel map representation of the document, the second image plane containing image signals for a second subset of image data in the document; means for creating a selector plane from the pixel map representation of the document, wherein the selector plane selects between the first subset signals and the second subset signals when decompressing the compressed pixel map representation of the document; and means for pre-processing the first image plane and the second image plane based upon data contained in the selector map.

BNSDOCID: <EP_____1006715A2_I_>

[0008] In yet another embodiment of the invention, a program storage device tangibly embodying a program of instructions executable by a machine to perform method steps for compressing a document image is disclosed, wherein the method steps include: creating a first image plane from the pixel map representation of a document, the first image plane containing color signals for a first subset of image data in the document; creating a second image plane from the pixel map representation of the document, the second image plane containing image signals for a second subset of image data in the document; creating a selector plane from the pixel map representation of the document, wherein the selector plane selects between the first subset signals and the second subset signals when decompressing the compressed pixel map representation of the document; and pre-processing the first image plane and the second image plane based upon data contained in the selector map.

[0009] An example of a method and apparatus according to the invention will now be described with reference to the accompanying drawings, in which:

Figure 1 illustrates an example of the manner in which a composite image may be decomposed into three MRC image planes;

Figure 2 contains a schematic illustration of a document with multiple superimposed separations and the manner in which the separations may be individually represented;

Figure 3 depicts a single separation after image data thereon has been separated into two planes;

Figure 4 contains a flow chart with a general description of image processing according to an example of the present invention;

Figure 5 illustrates a pixel map and the way in which data may be separated based upon constraints of subsequent compression; and,

Figure 6 contains a detailed illustration of one embodiment of segmentation according to the present invention.

[0010] The present invention is directed to a method and apparatus for separately processing the various types of data contained in a composite image. While the invention will described in a Mixed Raster Content (MRC) technique, those skilled in the art will recognize that it may be adapted for use with other methods and apparatus' and the invention is therefore, not limited to this description. The technique described herein is suitable for use in various devices required for storing or transmitting color documents such as facsimile devices, image storage devices and the like. While processing of color documents is preferred, it should be noted that similar image processing concepts apply to grayscale black and white documents and as a result, those portions of the invention that are described with reference to color documents may be similarly applied to gray scale documents.

[0011] Color images are typically described as being divided into "separations." Color output devices such as printers and computer monitors typically output data using only a few independent color sources. Colorants or color signals obtained from these sources are then blended together in appropriate ways in order to produce the full gamut of colors that may be represented using the device. In a device dependent printer color space, Cyan, Magenta, Yellow and black are the individual colorants that are most often used in color printers. These colorant separations are typically labeled C, M, Y and K. Many device-independent color spaces also exist, such as CIE L*a*b*, in which the separations are Lightness, labeled L*, relative amount of red vs. green, labeled a*, and relative amount of yellow vs. blue, labeled b*.

[0012] A pixel map is one in which each discrete location on the page contains a picture element or "pixel" that emits a light signal with a value that indicates the color or, in the case of gray scale documents, how light or dark the image is at that location. As those skilled in the art will appreciate, most pixel maps have values that are taken from a set of discrete integers. For example, in a pixel map for a color document, individual separations are often represented as digital values, often in the range 0 to 255, where 0 represents no colorant (i.e. when CMYK separations are used) , or the lowest value in the range when luminance-chrominance separations are used.

[0013] In an L*a*b* luminance-chrominance color space a 0 L* value means that no light is present (i.e. the location is completely black) , while a* =0 means no red or green is present and b* =0 means that the spot is neither blue nor yellow. Both a*=0 and b*=0 means that the spot is gray, (somewhere between black and white). When represented in an integer space, L*, a*, and b* are typically scaled and translated to fit the range of representable values. In this case a*=b* = 0 is actually represented with these values at the midpoint of their ranges, while a*=0 is used to represent green, and b*=0 is used to represent blue.

[0014] Consequently 255 represents the maximum amount of colorant (for CMYK) or the highest value in the range (maximum light/white, red and yellow respectively for L*a*b*). In a gray-scale pixel map this typically translates to pixel values which range from 0, for black, to 255, for the whitest tone possible. The pixel maps of concern in the currently preferred embodiment of the present invention are representations of rasterized or "RIPped" images. That is, images which are created using a Raster Image Processor (RIP) to convert an electronic document, typically represented by a page description language such as PostScript, into a raster image. The present invention may also apply to representations of "scanned" images - images that are created by digitizing light reflected off of physical media using a digital scanner. The term bitmap is used to mean a binary pixel map in which pixels can take one of two values, 1 or 0.

0132

[0015] Turning now to the drawings for a more detailed description of the MRC format, pixel map 10 representing a color or gray-scale document is preferably decomposed into a three plane page format as indicated in Figure 1. The document format is typically comprised of an upper plane 12, a lower plane 14, and a selector plane 16. Upper plane 12 and lower plane 14 contain pixels that describe the original image data. Pixels in the original image are separated based upon pre-defined criteria such that some of them are placed on upper plane 12 and the rest on lower plane 14. Selector plane 16 keeps track of every pixel in original pixel map 10 and maps all pixels to an exact spot on either upper plane 12 or lower plane 14.

[0016] The upper and lower planes are typically stored at the same bit depth and number of colors as the original pixel map 10, but possibly at reduced resolution. Selector plane 16 is created and stored as a bitmap. It is important to recognize that while the terms "upper" and "lower" are used to describe the planes on which data resides, it is not intended to limit the invention to any particular arrangement or configuration. Further, it is also possible to practice the invention with a configuration that results in both planes being placed such that neither is actually on the top or bottom (i.e. side by side).

[0017] After processing, all three planes are compressed using a method suitable for the type of data residing therein. For example, upper plane 12 and lower plane 14 may be compressed and stored using a lossy compression technique such as JPEG or a lossless compression technique such as Lempel-Ziv (i.e. gzip) or CCITT-G4. Selector plane 16 may be compressed and stored using a lossless compression format. It would be apparent to one of skill in the art to compress and store the planes using other formats that are suitable for the intended use of the color document. For example, in the Color Facsimile arena, group 4 (MMR) would preferably be used for selector plane 16, since the particular compression format used must be one of the approved formats (MMR, MR, MH, JPEG, JBIG, etc.) for facsimile data transmission.

[0018] Turning now to Figure 2, in the present invention digital image data is processed during a MRC technique such as described above. A color pixel map 10 is composed of multiple superimposed separations, where each individual separation distributes spectral power for a different wavelength range of light in the digital image. In one embodiment of the invention, these individual separations supply cyan 102, magenta 104, yellow 106 and black 108 colorants in a hardcopy output printing device. While the invention will hereinafter be described with reference to a scheme in which a printer provides these four colorants, those skilled in the art will recognize that other embodiments are possible. For example in another embodiment, individual separations emit red, green and blue colored light signals from phosphors in a video monitor. In still another embodiment, colorants are supplied in a hardcopy output printing device in a manner that is dependent upon signals that represent luminance and relative amounts of red vs. green and yellow vs. blue. Further, while the invention is described here using four colorant separations, those skilled in the art will recognize that the number of separations in which pixel map 10 will be divided may be varied, depending upon the constraints of the device. It is intended to embrace all such alternatives and others that would be recognized as equivalent or easily adaptable by those of ordinary skill in the art.

[0019] The present invention first requires dividing the superimposed separations into individual colorant separations 102, 104, 106 and 108. For purposes of illustration, horizontal, vertical, and diagonal lines represent the wavelength ranges (colors) for each separation. Since pixel map 10 preferably represents a scanned image, the image, and therefore each separation 102-108 contained therein, is composed of light intensity signals dispersed throughout the separation at discrete locations. Again, a light signal is emitted from each of these discrete locations, referred to as "picture elements," "pixels" or "pels," at an intensity level which indicates the magnitude of the light that being reflected from the original image at the corresponding location in that separation.

[0020] Referring now to Figure 3, the invention will hereinafter be described with reference to processing cyan colorant separation 102. The process is identical for separations 104-108, and the description applies to those separations as well. In typical MRC fashion, separation 102 is partitioned into two planes. In the present invention, the criteria for deciding on which plane a pixel will be placed is the manner in which the pixel will best be compressed. Thus, separation 102 is divided into two planes-one lossless 222 and one lossy 224. More specifically, pixels in each separation are classified as either "lossy" or "lossless," based upon the type of compression that should be applied. Those signals that for a given level of quality will compress at a higher compression ratio losslessly are referred to as "lossless", while the remaining pixels are referred to as "lossy".

[0021] Generally speaking, lossy compression is a process that substantially reduces the volume of remaining data. Because of its ability to reduce data, it is desirable to apply a lossy compression technique whenever possible. Unfortunately producing such large amounts of data reduction also means that large amounts of imaging information will be lost. This often means that imaging accuracy will be significantly reduced. Pictorial data is one type of data that typically survives lossy compression well.

[0022] Text and large areas of a page covered with signals at a single light intensity are types of data that typically compress better losslessly. Areas containing strong edges - sharp discontinuities between regions of two constant colors-require very low compression ratios to provide acceptable image quality when compressed lossily. Areas containing only constant colors - no edges whatsoever - or only smooth gradations, compress very well using either tech-

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nique, providing maximal compression ratios with no artifacts. The highest achievable compression ratios with lossless compression are generally higher than with lossy techniques, so in order to exploit the high compression available in these regions, lossless compression is preferred.

[0023] Lossy signal plane 222 is the location designated for pixels that have been classified as lossy. The remaining pixels are designated for lossless signal plane 224. Looking at separation 102, in other words lossy plane 222 will contain pixels for which it has been determined that lossy compression would be acceptable and desirable. The remaining pixels will be placed on lossless plane 224. Pixels that are placed on lossy plane 222 are placed in a location on plane 222 that directly corresponds to that in which they resided in separation 102. The remaining pixels are then placed on plane 224 in sequential order moving from right to left and from top to bottom.

[0024] Figure 4 contains a flow chart indicating the sequential order of the steps that are followed in one embodiment of the invention. The process begins by dividing original pixel map 10 into it individual separations 102 - 108, as indicated in step 310. Each separation is then partitioned into two planes as shown in step 320. As described above, these two planes are a plane 222 that will contain the pixels that are best compressed losslessly and a plane 224 that contains pixels that should be compressed lossily. A selector plane 16 is also generated as indicated in step 330, to keep track of the location of each pixel as original plane map 10 is partitioned. The planes are then compressed independently as indicated in steps 340 and 350.

[0025] The steps of Figure 4 will usually be performed by a suitably programmed computer although corresponding hardware embodiments will be readily envisaged by a person of ordinary skill in the art.

[0026] Turning now to Figure 5, assume that the contents of original pixel map 10 are as shown in block 402, and that image data indicated by characters a, c, f, i, j, k, m and p will adequately survive lossy compression. Under these circumstances, that data will be placed in lossy plane map 222 as shown in the illustration. The remaining characters b, d, e, g, h, l, n and o are then placed on plane 224.

[0027] Still referring to Figure 5, partitioning of separation 102 is performed by generating a selector plane 16 which maps, for each location in the separation, whether the pixel residing there has been placed on lossy plane 222 or on lossless plane 224. Binary values are placed on selector plane 16 to provide this indication. As shown, 0's are placed in selector plane 16 in locations where pixels have been designated for lossless plane 224, while 1's are in the locations where signals have been placed on lossy plane 222. Once the planes have been created, they are compressed using an appropriate lossy or lossless compression technique. In the preferred embodiment of the invention, JPEG's ADCT compression will be applied to lossy plane 222, while freeware "gzip" will be applied to lossless plane 224. See G. Wallace "The JPEG still picture compression standard", Communications *of the ACM* **34** (4), pp.30-44, April 1991, the contents of which are hereby incorporated by reference, for a discussion of Adaptive Discrete Cosine Transform compression, also known as JPEG.

[0028] It should be noted that an indication of the type of data in a section of the image could be obtained by determining the number of consecutive pixels that have the same light intensity value. Short pixel runs - few consecutive pixels with the same light intensity - typically indicate that pictorial data is being processed. As stated earlier, pictorial data survives well when subjected to lossy compression. Thus, when only a few consecutive pixels have the same value or if the light intensity value is constantly changing, the pixels being processed are designated for lossy plane 222. This obviously means that long pixel runs - several consecutive pixels with the same light intensity value - remain and will be placed on lossless plane 224. Again, this is generally acceptable because long pixel runs generally compress well when compressed losslessly.

[0029] Referring now to Figure 6, a detailed description of the preferred embodiment of the segmentation portion of the present invention will now be provided. First, the number of consecutive pixels within the separation for which the light intensity values are equal must be determined. Here it is sufficient that the light intensity values be nearly equal, that is equal to within some predetermined precision. It is known that high contrast data - data that has a light intensity value above a certain high threshold or below a certain low threshold - tends to exhibit artifacts when it is subjected to lossy compression (except in large regions of constant high or low value, where as previously indicated already indicated, lossless compression provides a higher compression ratio). When a short run has been identified the pixels in the run are designated in selector plane 16 as lossy pixels to be placed on lossy plane 222 as long as they are not high or low contrast pixels. The remaining pixels - high or low contrast or part of a long run - are classified as lossless pixels to be placed on lossless plane 224.

[0030] In one embodiment of the invention, data that is nearly constant for a run is modified so that the entire run is changed to the average value, and then compressed losslessly. In this way, scanned data of a constant value has scanning noise removed before the decision is made whether to compress lossily or losslessly. In long runs of data in which the light intensity values are slowly increasing or decreasing, similar smoothing may be performed, but only in such a way as to preserve the gradual increase or decrease in values.

[0031] As indicated in the illustration, pixels in the lossless plane are not arranged in the same manner as those in lossy plane 222. Pixels in lossless plane 224 are deposited onto the plane in serial fashion such that they are processed in the same order that they would be if they remained on separation plane 102.

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[0032] A long pixel run is typically one that has at least somewhere between four and eight pixels in a row with the same light intensity value. In one embodiment of the invention, the Cyan separation of an image produced using color xerographic toner particles was compressed using a run length of 6 pixels, a high contrast value of 255 and a low contrast value of 0. These parameters resulted in a compression ratio of 10 to 1. Run length and contrast parameters can be varied in order to influence the amount of data that will be sent to lossy plane 222 instead of lossless plane 224.

[0033] Once segmentation has been completed, selector plane 16 is used to compress the data on both lossy plane 222 and lossless plane 224. Looking first at lossy plane 222, lossy data is typically block oriented. Generally speaking, lossy compression is performed by processing data in blocks-entire groups of pixels are processed simultaneously. Empty spaces on plane 222, which correspond to locations where pixels have not been retained, may be replaced by any value before compression occurs. The present invention takes advantage of the fact that non-retained values are not needed after compression by filling these spaces with pixel values that will result in high lossy compression efficiency.

[0034] Turning back to Figure 5, in one embodiment of the invention, spaces on lossy plane 222 are filled in with pixel values that are equal to the previous neighbor in raster-scan order sequence. In another embodiment of the invention, these spaces are filled in by interpolating the pixels that were originally located in pixel map 10 in spots that correspond to the blank spaces using the DCT interpolation kernel. That is, each blank space is replaced with a pixel that has a value predicted by a DCT based interpolant. The lossy pixels in the block are fit with a number of terms in the expansion of the discrete cosine transform, the number being up to but not greater than the number of lossy pixels remaining. Given these terms, the interpolant is evaluated at the locations corresponding to the missing pixels. In this way, no new information is introduced into the block, which must be subsequently encoded using the DCT transform.

[0035] When the final image is reconstructed (as part of decompression), the image will be formed using the inverse discrete cosine transform (assuming JPEG compression). That is, the pixel at location (x, y) in the block will be computed as

$$\frac{1}{4}\left[\sum_{u=0}^{7}\sum_{v=0}^{7} C(u)C(v)F(u,v) \times \cos\left(\frac{(2x+1)u\pi}{16}\right)\cos\left(\frac{(2y+1)v\pi}{16}\right)\right] ,$$

where

$C(0) = 1/\sqrt{2}$, $C(\xi > 0) = 1$, and $F(u,v)$ represents the transformed value at location (u , v). Each product $B_{u,v}(x,y) = C(u)C(v)\cos(\frac{(2x+1)u\pi}{16})\cos(\frac{(2y+1)v\pi}{16})$ is a single basis function, and the pixel is constructed as a sum of scaled basis functions, where the scales are given by the transformed values. In a block with no "missing" pixels, the transformed values are uniquely specified as the only values which when inverse transformed, will give the original values. These are readily computed using the forward discrete cosine transform, which is similar in form to the inverse discrete cosine transform. In a block with missing pixels, the 64 transformed values to be multiplied by the basis functions represent more degrees of freedom than there are constraints. Specifically, if even one value is missing, there are infinitely many possible combinations of transformed values that will, when inverse transformed, give the correct values at the remaining pixels, while each combination will give a different value at the missing pixel.

[0036] In large part JPEG compression derives its high compression ratio from the presence of small, insignificant values in the transformed block. In particular, high frequency values (i.e. values at locations for which u+v is large) are quantized in such a way that if they are small to begin with, they become 0 (this is the main origin of the loss in this form of lossy compression). One may think of the missing pixels as extra degrees of freedom, or one may think in terms of the extra degrees of freedom as being coefficients in the transformed domain. To improve compression, the objective is to use those extra degrees of freedom to maximize the compression ratio. This is achieved by arranging to have any extra transformed values 0.

[0037] Given that JPEG provides the best compression if the high frequency terms are zero, and that if there are n pixels remaining in a block, there are only n frequency terms fully specified, the question is which n frequency terms should be used. One convenient choice is to use every basis function in order of increasing u+v, and where multiple values of u,v give the same u+v, use increasing v for odd u+v, and increasing u for even u+v (this is the well-known zig-zag order in the JPEG standard).

[0038] Given a set of basis functions, $B = \{B_{u,v}(x,y), (u,v) \square S\}$, for some set S of pairs (u,v), the problem is to find a set of weights, which when used to form a weighted sum of the basis functions, will give values for the pixels that remain on the plane. Then the missing pixels will be computed by substituting their locations into the same weighted sums. In this way when the transform is computed during the actual compression step, high order terms will be zero, and low order terms will, upon being inverse transformed, yield the original, values for the pixels that remain on the plane. The missing values will be wrong, but they will subsequently be replaced by values from the lossless channel.

[0039] To solve the problem of finding the set of weights, note that the locations of the remaining pixels forms a set

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P of ordered pairs (x,y). Now number the elements of P in any convenient order, so that an element of P is simply p_i. Similarly number the ordered pairs in S, so that an element of S is S_j. If the basis functions corresponding to elements of S are evaluated at locations corresponding to elements of P, and indexed accordingly, then the value at point p_i is given by:

$$\sum_j B_{u,v}(x,y)F(u,v) = \sum_j B_{s_j}(p_i)F(s_j) = \sum_j B_{ij}F_j$$

[0040] Numbering the original "non-missing" pixels according to the index of their location, we have the constraint

$$f_i = \sum_j B_{ij}F_j \text{ or } \mathbf{f} = \mathbf{BF},$$

with **f**, **F** vectors and **B** a matrix. This is a standard form, which may be solved exactly if the number of non-missing pixels is the same as the number of basis functions, or using standard least squares techniques otherwise.

[0041] One special case is worthy of note; if only the lowest order basis function is used in the least-squares solution, the solution will guarantee that the DC term is the same as the average of the non-missing pixels. A more efficient way of achieving the same end is to simply set all of the missing pixels to the average of the remaining pixels.

[0042] With continued reference to Figure 5, the values retained for lossy plane 222 are those which were marked with 1's on selector plane 16. As shown in the illustration, pixels must be placed in the lossy plane in locations that directly correspond to locations in which they were located on original pixel map 10. This leaves empty spaces distributed throughout lossy plane 222 in the places that are marked by 0's on selector plane 16. The 0 values in selector plane 16 are useless as far as compression of lossy plane 222 is concerned since the losslessly compressed pixels on plane 224 will actually be placed in the final output image. As a result, these empty spaces can be filled with values that will best facilitate the lossy compression that will subsequently be applied.

[0043] Still referring to Figure 5, processing of lossless plane 224 is similar in that values that have been marked with 0's are retained, since those are the ones designated as lossless pixels in selector plane 16. But unlike lossy data, lossless compression is generally performed on a pixel by pixel basis. Depending upon the constraints of the lossless compression method, the empty spaces on lossless plane 224 can also be filled with pixels that will enable maximum compression efficiency. In some cases, the empty spaces can simply be deleted. While lossless plane 224 is described as a "plane," it can actually be viewed as a continuous string of data.

[0044] In one embodiment of the invention, these empty spaces will be replaced with pixel values that are equal to the previous neighbor in the ordinary raster-scan order sequence. In another embodiment of the invention, each empty space will be filled with a pixel value equal to the most common pixel value that has been processed before it. If the empty spaces are deleted, their locations will be determined using selector plane 16. This means that pixels on lossless plane 224 do not have to be placed in locations that are in direct physical correspondence with those in original pixel map 10. The only criteria for locations in which pixels must be placed on lossless plane 224 is that they must be ordered such that they can be selected using selector plane 16 when necessary. Spaces filled on lossless plane 224 can be filled in with pixels that have values that have been manipulated or altered in the manner that will be most helpful during lossless compression.

[0045] As described above, segmentation and compression are performed separation by separation. In another embodiment of the invention, segmentation and compression may be performed on all separations of the entire image. Under these circumstances, the criteria for distinguishing long pixel runs from short pixel runs involve all separations together. All separations must be constant for some number of pixels in a row for a run to be long. In addition, whether a pixel is "high contrast" or "low contrast" requires that all separations satisfy the same rule. Other than these requirements, the steps in performing the method remain as described above. In the case of L*a*b* or a similar -luminance-chrominance based color space, it is also possible to perform the segmentation based on only the L* (lightness) separation, and allow the a* and b* separations to be segmented in whatever way the L* dictates. Any errors caused by this approximation will come in the form of a* and b* data that is erroneously compressed lossily, which is unlikely to be seen, due to the eye's poor response to chromatic edges. Chrominance data that is losslessly compressed because of this approximation will not exhibit any errors, it will only not compress with quite as high a compression ration.

[0046] Turning back to Figure 2, once each of the respective planes is generated, they are each compressed using a suitable compression technique, step 112. In the currently preferred embodiment, lower plane 14 and lower plane 14 are compressed using JPEG while the selector plane 16 is compressed using a two-dimensional technique such as CCITT Group IV or a method of classifying scanned symbols into equivalence classes such as that described in

US-A 5,778,095 to Davies issued July 7, 1998, the contents of which are hereby incorporated by reference.

[0047] In summary, the present invention uses the selector plane to replace, for each plane, pixels that have been designated to be provided by the other plane by carefully chosen values. The previously existing data is completely ignored, and the newly chosen values are calculated for such that the number of bits that will be generated during the subsequent compression is minimized.

Claims

1. A method of processing digital image data that is composed of multiple superimposed separations, comprising:

   e) dividing the image data into separations (102-108), wherein each separation is composed of light intensity signals in discrete locations, each of said light intensity signals having a value which indicates a magnitude of a light intensity of the image data in said separation at said discrete location;
   f) partitioning each separation by creating a lossless signal plane and a lossy signal plane (12,14);
   g) generating a selector map (16) which indicates, for each discrete location in each of said separations, whether light intensity signals previously located thereon have been placed on said lossless signal plane or on said lossy signal plane; and
   h) separately compressing said lossless signal planes and said lossy signal planes in a manner best suited for compressing a type of data contained thereon.

2. A method of processing digital image data as claimed in claim 1, wherein for at least one separation, said lossy signal plane is composed of a lossy subset of light intensity signals placed in discrete locations that correspond to discrete locations in which said lossy light intensity signals resided in said separation, and wherein signals that are present on said lossy signal plane in locations that correspond to discrete locations in which said lossless light intensity signals resided in said separation are ignored.

3. A method of processing an image as claimed in claim 2, wherein for at least one separation, said partitioning step further comprises:

   a) counting a number of consecutive discrete locations in said separation for which said signals have equal light intensity magnitudes;
   b) designating said signals for said lossy subset when said counted number of consecutive signals is less than a pre-determined value; and
   c) placing signals not designated for said lossy subset in said lossless subset.

4. A method of processing an image as claimed in claim 2, wherein for at least one separation, said partitioning step further comprises:

   a) placing signals not included in said lossy subset in said lossless subset; and
   b) for signals designated for said lossy subset, selecting signals that have magnitudes that are either greater than a high threshold value or less than a low threshold value, and moving said selected signals from said lossy subset to said lossless subset.

5. A method of processing an image as claimed in claim 2, wherein for at least one separation, said partitioning step further comprises in stated order, the steps of:

   a) counting a number of consecutive discrete locations in said separation for which said signals have light intensity magnitudes that lie within a pre-determined range;
   b) calculating an average value for said counted light intensity values; and
   c) replacing signals in each of said consecutive discrete locations with said calculated average light intensity value.

6. An apparatus for processing digital image data that is composed of multiple superimposed separations, comprising:

   a) means for dividing the image data into separations (102-108), wherein each separation is composed of light intensity signals in discrete locations, each of said light intensity signals having a value which indicates a magnitude of a light intensity of the image data in said separation at said discrete location;

b) means for partitioning each separation by creating a lossless signal plane and a lossy signal plane (12,14);
c) means for generating a selector map (16) which indicates, for each discrete location in each of said separations, whether light intensity signals previously located thereon have been placed on said lossless signal plane or on said lossy signal plane; and
d) means for separately compressing said lossless signal planes and said lossy signal planes in a manner best suited for compressing a type of data contained thereon.

7. A programmable storage device readable by a machine, and embodying a program of instructions defining method steps for processing digital image data that is composed of multiple superimposed separations, the method steps comprising:

a) dividing the image data into separations (102-108), wherein each separation is composed of light intensity signals in discrete locations, each of said light intensity signals having a value which indicates a magnitude of a light intensity of the image data in said separation at said discrete location;
b) partitioning each separation by creating a lossless signal plane and a lossy signal plane (12-14);
c) generating a selector map (16) which indicates, for each discrete location in each of said separations, whether light intensity signals previously located thereon have been placed on said lossless signal plane or on said lossy signal plane; and
d) separately compressing said lossless signal planes and said lossy signal planes in a manner best suited for compressing a type of data contained thereon.

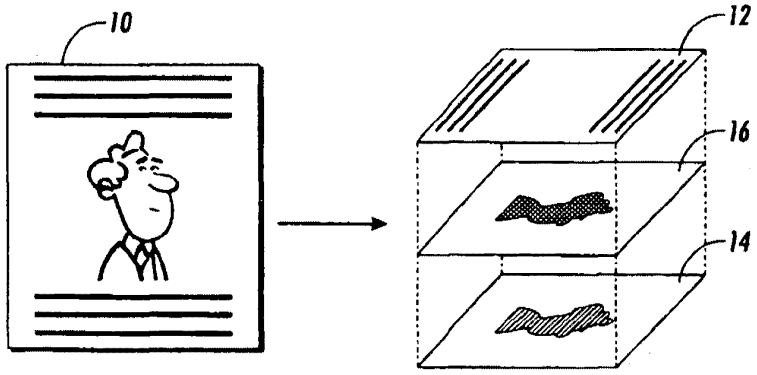

FIG. 1

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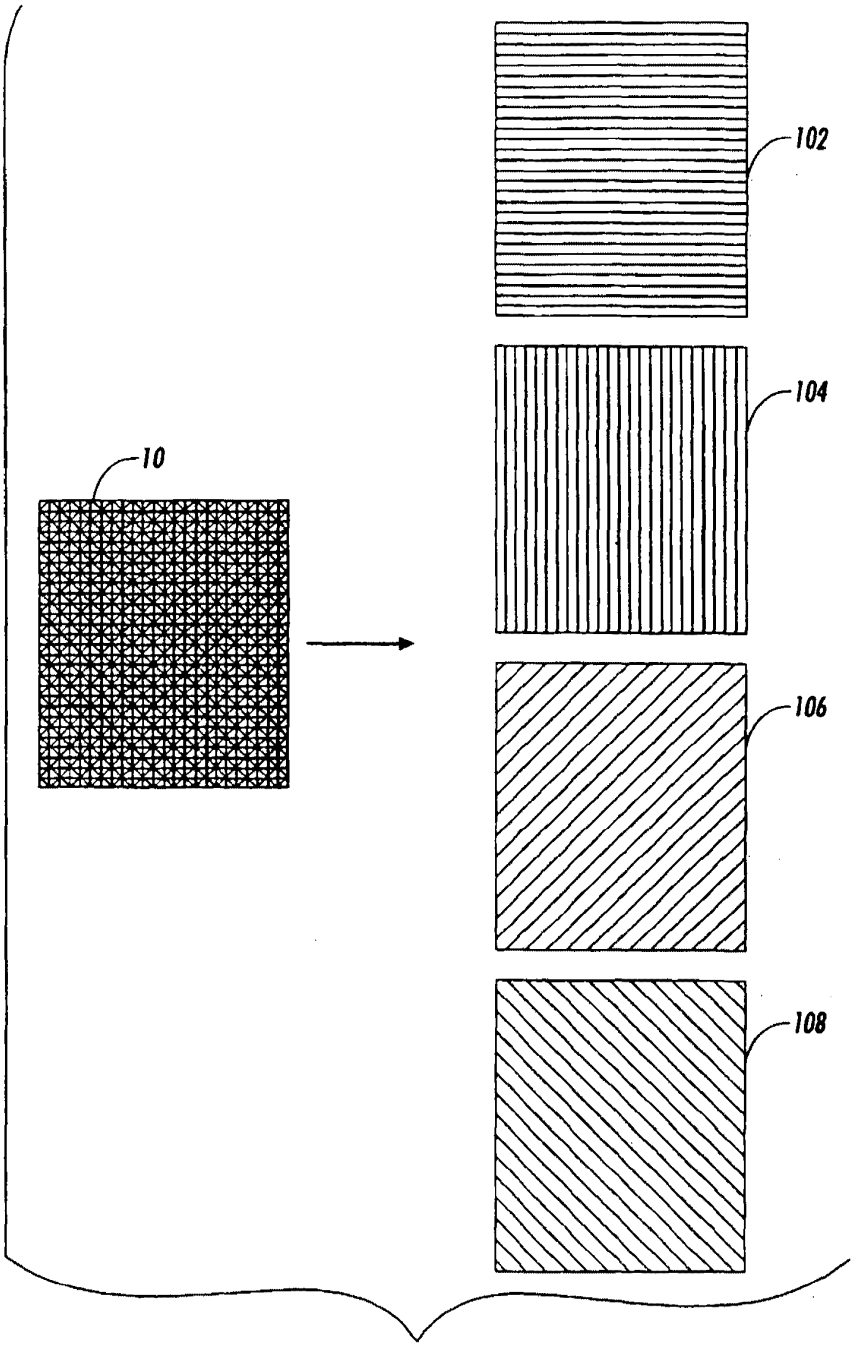

FIG. 2

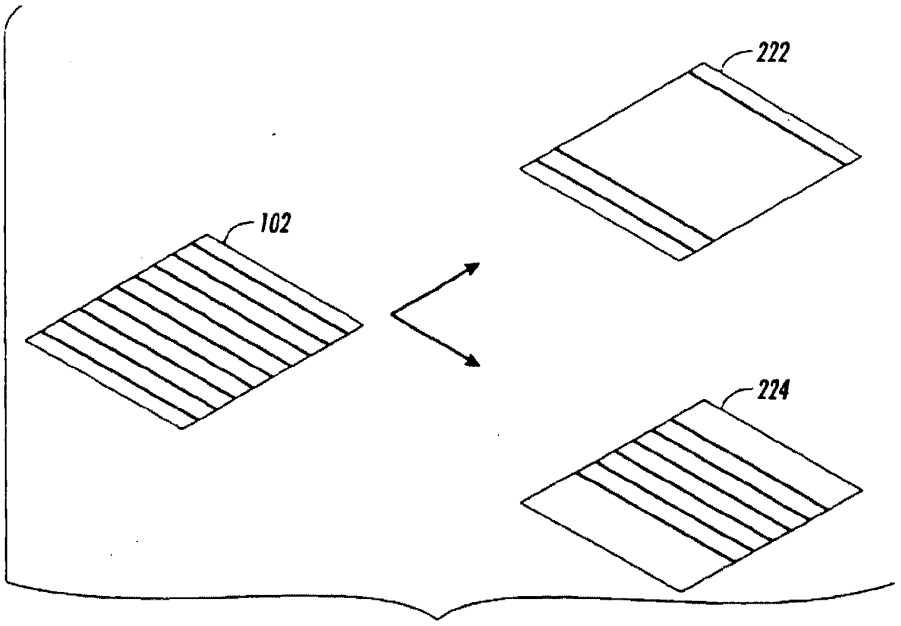

FIG. 3

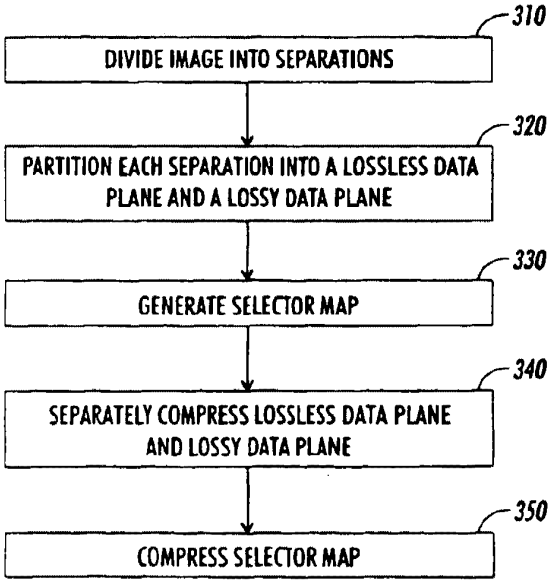

FIG. 4

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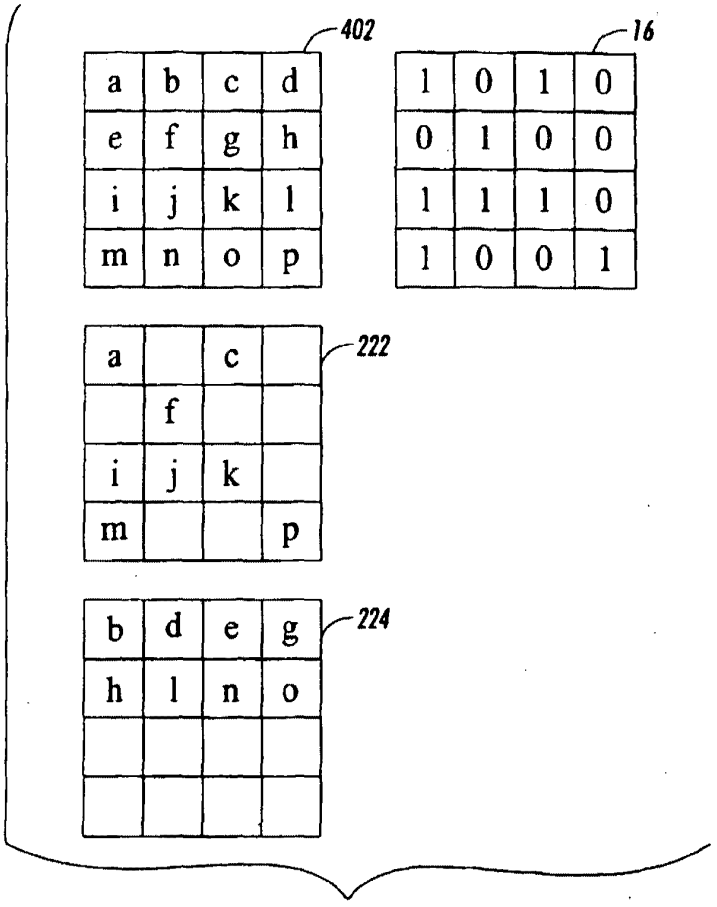
402
a b c d
e f g h
i j k l
m n o p
16
1 0 1 0
0 1 0 0
1 1 1 0
1 0 0 1
222
a c
f
i j k
m p
224
b d e g
h l n o

FIG. 5

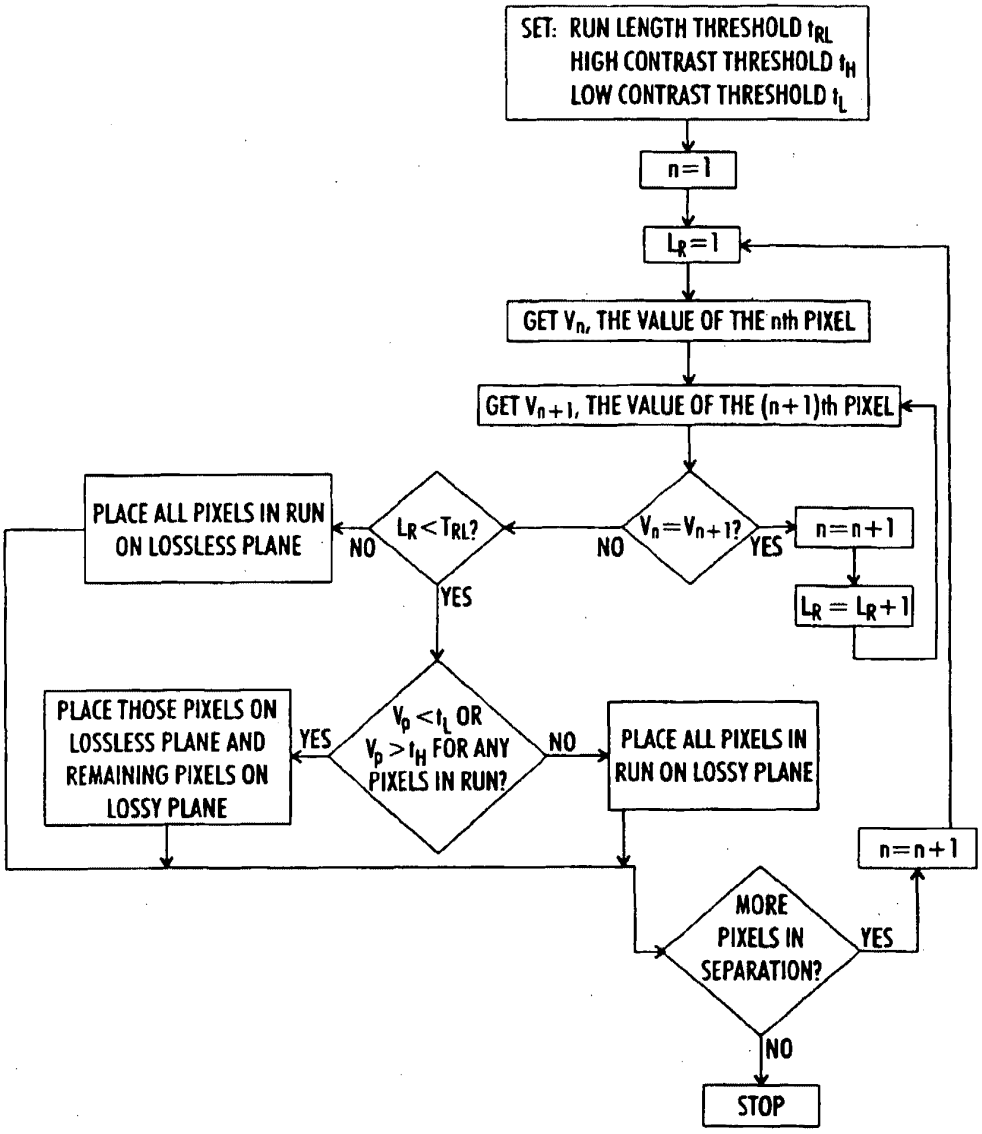

FIG. 6

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(54) Processing digital image data

(57) An improved technique for compressing a color or gray scale pixel map representing a document using for example an MRC format including a method of segmenting an original pixel map into two planes (12,14), and then compressing the data or each plane in an efficient manner. The image is segmented such that pixels that compress well under a lossy compression technique are placed on one plane (12) and pixels that must be compressed losslessly are placed on another plane (14). Lossy compression is then applied to the lossy pixel plane while lossless compression is applied to the lossless pixel plane.

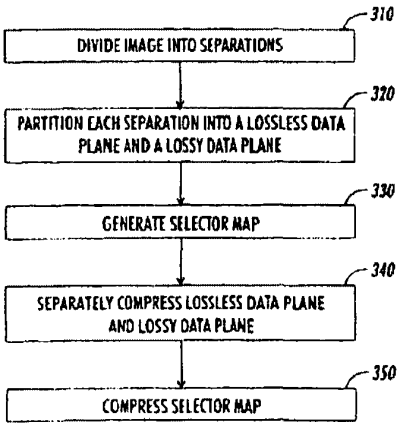

FIG. 4

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European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 30 9521

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 5 778 092 A (VINCENT LUC ET AL) 7 July 1998 (1998-07-07) * column 4, line 56 - column 5, line 29 * * column 14, line 16-63; figures 1,24,25 *	1,6,7	H04N1/64 H04N1/41
A	EP 0 708 552 A (CANON KK) 24 April 1996 (1996-04-24) * page 4, line 16-33; figure 1 *	1,6,7	
A	EP 0 691 784 A (AGFA GEVAERT NV) 10 January 1996 (1996-01-10) * column 6, line 35 - column 7, line 6 * * column 9, line 3 - column 10, line 24; figure 1 *	1,6,7	
A	EP 0 774 858 A (TEXAS INSTRUMENTS INC) 21 May 1997 (1997-05-21) * abstract; figure 3 *	1,6,7	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7) H04N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	22 February 2001	Waern, G

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 30 9521

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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22-02-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5778092 A	07-07-1998	NONE	
EP 0708552 A	24-04-1996	JP 8125868 A	17-05-1996
		US 5963342 A	05-10-1999
EP 0691784 A	10-01-1996	US 5552898 A	03-09-1996
		DE 69502548 D	25-06-1998
		DE 69502548 T	07-01-1999
		JP 8088774 A	02-04-1996
		US 5758042 A	26-05-1998
EP 0774858 A	21-05-1997	CA 2190306 A	21-05-1997
		CN 1159694 A	17-09-1997
		JP 9284564 A	31-10-1997
		SG 48491 A	17-04-1998

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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(54) Method and apparatus for segmenting data

(57) An improved technique for compressing a color or gray scale pixel map representing a document using an MRC format includes a method of segmenting an original pixel map into two planes (12,14), and then compressing the data or each plane in an efficient manner is disclosed. The image is segmented by separating the image into two portions at the edges. One plane contains image data for the dark sides of the edges, while image data for the bright sides of the edges and the smooth portions of the image are placed on the other plane. A thresholding technique and apparatus for generating a bitmap is also disclosed that may be used to accomplish these tasks.

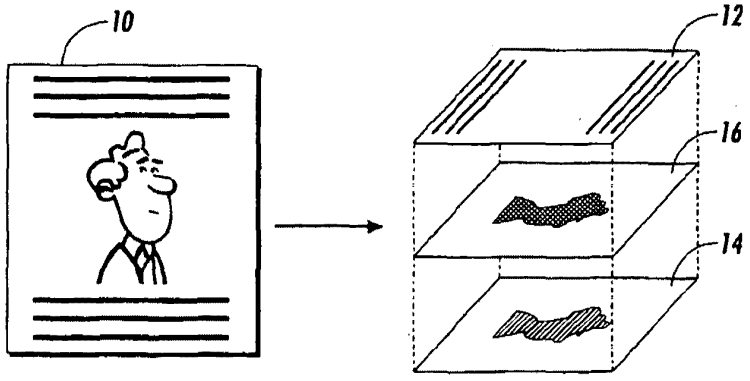

FIG. 1

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Description

[0001] This invention relates generally to image processing and, more particularly, to techniques for compressing the digital representation of a document.

[0002] Documents scanned at high resolutions require very large amounts of storage space. Instead of being stored as is, the data is typically subjected to some form of data compression in order to reduce its volume, and thereby avoid the high costs associated with storing it. "Lossless" compression methods such as Lempel-Ziv Welch (LZW) do not perform particularly well on scanned pixel maps. While "lossy" methods such as JPEG work fairly well on continuous-tone pixel maps, they do not work particularly well on the parts of the page that contain text. To optimize image data compression, techniques, which can recognize the type of data being compressed, are needed.

[0003] The present invention is directed to segmenting color image data using the MRC format. Edges are generally defined as sharp discontinuities between regions of two constant colors or large sections of light intensity values. Here, edges of the image are separated into two portions. The foreground layer generally contains information about the darker sides, while the background layer contains the information about the smooth regions of the image and the brighter sides of the edges. Segmentation is performed by sectioning the image into stripes and (where the height of each stripe is equal to the size of the block) and processing each stripe block by block from the top of the image to the bottom.

[0004] In accordance with the present invention, a method of segmenting digital image data includes: acquiring a block of the digital image data, wherein the digital image data is composed of light intensity signals in discrete locations; calculating a threshold value for the block; and generating a selector block which indicates which of the light intensity signals exceeds the threshold value and which of the light intensity signals is below the threshold value. The invention is particularly, although not exclusively, concerned with producing data for mixed raster content processing.

[0005] Some examples of methods according to the present invention will now be described with reference to the accompanying drawings, in which:-

Figure 1 illustrates a composite image and includes an example of how such an image may be decomposed into three MRC image planes - an upper plane, a lower plane, and a selector plane;

Figure 2 contains a detailed view of a pixel map and the manner in which pixels are grouped to form blocks;

Figure 3 contains a flow chart which illustrates generally, the steps performed to practice an example of the invention;

Figure 4 contains a detailed illustration of the manner in which blocks may be classified;

Figure 5 contains a detailed illustration of the manner in which blocks may be segmented based upon their classification;

Figure 6 contains the details of one embodiment of the manner in which block variation can be measured as required by the embodiment of the invention shown in Figure 4;

Figure 7 contains the details of an embodiment of the invention describing classification of blocks based upon the block variation measurement provided in Figure 6;

Figure 8 contains the details of an embodiment of the invention for which context may be updated based upon the block classification provided in Figure 7;

Figure 9 contains the details of another embodiment of the invention for updating context based upon block classification as provided in Figure 7; and,

Figure 10 contains a detailed illustration on one manner of generating a selector plane.

[0006] The present invention is directed to a method and apparatus for separately processing the various types of data contained in a composite image. More specifically, the present invention is directed to generating a selector plane, one of several planes used during Mixed Raster Content (MRC) image processing, While the invention will described in a Mixed Raster Content (MRC) technique, it may be adapted for use with other methods and apparatus' for generating a bitmap and is not therefore, limited to MRC processing. The technique described herein is suitable for use in various devices required for storing or transmitting documents such as facsimile devices, image storage devices and the like, and processing of both color and grayscale black and white images are possible.

[0007] A pixel map is one in which each discrete location on the page contains a picture element or "pixel" that emits a light signal with a value that indicates the color or, in the case of gray scale documents, how light or dark the image is at that location. As those skilled in the art will appreciate, most pixel maps have values that are taken from a set of discrete, non-negative integers.

[0008] For example, in a pixel map for a color document, individual separations are often represented as digital values, often in the range 0 to 255, where 0 represents no colorant (i.e. when CMYK separations are used), or the lowest value in the range when luminance-chrominance separations are used, and 255 represents the maximum amount of colorant or the highest value in the range. In a gray-scale pixel map this typically translates to pixel values which range from 0, for black, to 255, for the whitest tone possible. The pixel maps of concern in the currently preferred embodiment of the present invention are representations of "scanned" images. That is, images which are created by digitizing light reflected off of physical media using a digital scan-

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ner. The term bitmap is used to mean a binary pixel map in which pixels can take one of two values, 1 or 0.

[0009] Turning now to the drawings for a more detailed description of the MRC format, pixel map 10 representing a color or gray-scale document is preferably decomposed into a three plane page format as indicated in Figure 1. Pixels on pixel map 10 are preferably grouped in blocks 18 (best illustrated in Figure 2), to allow for better image processing efficiency. The document format is typically comprised of an upper plane 12, a lower plane 14, and a selector plane 16. Upper plane 12 and lower plane 14 contain pixels that describe the original image data, wherein pixels in each block 18 have been separated based upon pre-defined criteria. For example, pixels that have values above a certain threshold may be placed on one plane, while those with values that are equal to or below the threshold are placed on the other plane. Selector plane 16 keeps track of every pixel in original pixel map 10 and maps all pixels to an exact spot on either upper plane 12 or lower plane 14.

[0010] The upper and lower planes are stored at the same bit depth and number of colors as the original pixel map 10, but possibly at reduced resolution. Selector plane 16 is created and stored as a bitmap. It is important to recognize that while the terms "upper" and "lower" are used to describe the planes on which data resides, it is not intended to limit the invention to any particular arrangement or configuration.

[0011] After processing, all three planes are compressed using a method suitable for the type of data residing thereon. For example, upper plane 12 and lower plane 14 may be compressed and stored using a lossy compression technique such as JPEG, while selector plane 16 is compressed and stored using a lossless compression format such as gzip or CCITT-G4. It would be apparent to one of skill in the art to compress and store the planes using other formats that are suitable for the intended use of the output document. For example, in the Color Facsimile arena, group 4 (MMR) would preferably be used for selector plane 16, since the particular compression format used must be one of the approved formats (MMR, MR, MH, JPEG, JBIG, etc.) for facsimile data transmission.

[0012] In the present invention digital image data is preferably processed using a MRC technique such as described above. Pixel map 10 represents a scanned image composed of light intensity signals dispersed throughout the separation at discrete locations. Again, a light signal is emitted from each of these discrete locations, referred to as "picture elements," "pixels" or "pels," at an intensity level which indicates the magnitude of the light being reflected from the original image at the corresponding location in that separation.

[0013] In typical MRC fashion, pixel map 10 must be partitioned into two planes 12 and 14. Figure 3 contains a schematic diagram, which outlines one process which may be used to segment pixel map 10 into an upper plane 12 and a lower plane 14 according to the present invention. While the invention will hereinafter be described with reference to this embodiment, it should be noted that the invention may be implemented in other methods as well. The present invention may be used in any image processing technique that requires use of a bitmap, especially, a bitmap that is associated with the original image.

[0014] The embodiment of the invention that will be described here, is a method and apparatus for segmenting image data by classifying a block of data using several criteria and subsequently updating the classification considering the context of the data. As shown, block 18 is acquired as indicated in step 210, and is classified as indicated in step 220. In the preferred embodiment of the invention, block 18 will initially be classified as either UNIFORM, SMOOTH, WEAK_EDGE or EDGE, and is context - either TEXT or PICTURE - will be provided. The block will then be reclassified as either SMOOTH or EDGE, depending upon the initial classification and the context. Next, pixels in block 18 are segmented - placed on either upper plane 12 or lower plane 14 according to criteria that is most appropriate for the manner in which the block has been classified as indicated in step 230. This process is repeated for each block 18 in original pixel map 10 until the entire pixel map 10 has been processed. Upper plane 12, lower plane 14 and selector plane 16 are then separately compressed, using a technique that is most suitable for the type of data contained on each, as indicated in step 240.

[0015] Turing now to Figure 4, for a continued explanation of the preferred embodiment, classification of blocks 18 into one of the four categories in step 220 as described above is preferably completed in three steps. First, the variation of pixel values within the block is determined as indicated in step 310. Block variation is best determined by using statistical measures, which will be described in detail below with reference to Figure 6. Blocks with large variations throughout are most likely to actually lie along edges of the image, while those containing little variations probably lie in uniform or at least smooth areas. Measuring the variations within the block allows an initial classification to be assigned to it as indicated in step 320. Next, image data within each block 18 is reviewed in detail to allow context information (i.e. whether the region is in the text or picture region of the image) to be updated and any necessary block re-classifications to be performed as shown in step 330. The UNIFORM blocks are reclassified as SMOOTH, and the WEAK EDGE blocks are upgraded to EDGE in a TEXT context or reclassified as SMOOTH in a PICTURE context. A smoothed version 20 of the image is also provided by applying a low pass filter to the pixel map 10. Smoothed image 20 is used in conjunction with original image data to offer additional information during classification, and also provides unscreened data for halftone regions.

[0016] Figure 5 contains details of the manner in

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which block 18 is segmented into two planes, as provided in step 230 of Figure 3. The measurement begins by first determining at step 410 whether the block being processed has initially been classified as an EDGE in step 220. If so, the values v_p of each pixel in the block are first compared to a brightness threshold value t_s, wherein pixels that have values equal to or above t_s are viewed as "bright" pixels, while those with values below t_s are "dark" pixels. Segmenting EDGE blocks simply includes placing dark pixels on upper plane 12 as indicated in step 440, and placing bright pixels on lower plane 14 as indicated in step 450. If it is determined at step 410 that block 18 is not an EDGE, all pixels in the block are processed together, rather than on a pixel by pixel basis. Segmenting of SMOOTH (non-EDGE) pixels occurs as follows: if block 18 is in the midst of a short run of blocks that have been classified as SMOOTH, and further, all blocks in this short run are dark (v_p<t) - all data in the block is placed on upper plane 12. If the entire block 18 is substantially smooth (i.e. in a long run) or is bright (in a short run of bright pixels), all data in block 18 is placed on lower plane 14.

[0017] As indicated earlier, selector plane 16 is generated as the pixels are placed on the upper and lower plane based upon the designated classification, to keep track of where every pixel in the original digital image data set resides. Turning ahead to Figure 10, in the preferred embodiment of the invention, selector plane 16 may be generated without having to perform block classification. As shown, this embodiment of the invention includes a thresholder 902 and a pre-processor for each plane other than selector plane 16 that will be generated. As indicated earlier, the present invention will be described with reference to generating two planes in addition to selector plane 16. Thus, two pre-processors - preprocessor 904 for generating upper plane 12 and preprocessor 906 for generating lower plane 14 are shown.

[0018] A block which has the binary entries that are placed on selector plane 16 is found directly from block 18 by comparing the original pixels values to brightness threshold t_s. As shown in the illustration, block 18 is input to the thresholding block 902 which generates a selector block 916 for the portion of selector plane 16 that corresponds to block 18. Thresholding block 902 includes a threshold value. All pixel values in block 18 that are above this threshold value and designated to be placed on one plane, while values below the threshold are placed on the other plane. Zeros are placed in selector block 916 on the locations for which the pixel from block 18 has been placed on one plane. Ones are placed in selector block 18 where the pixel has been placed on the other plane.

[0019] Once thresholding has taken place, selector block 916 and block 18 are processed together in preprocessors 904 and 906. Pixels in block 18 that have not been selected by selector block 916 for placement on upper plane 12 are removed by pre-processor 904. Thus, for upper plane 12 preprocessor 904 will remove all the pixels in block 18 that match the position on selector block 916 that have been designated to be placed on lower plane 14. Similarly for lower plane 14, pre-processor 906 removes the pixels in block 18 which are associated, according to selector block 916, with upper plane 12. The removal of pixels is generally accomplished by substituting the values of those pixels by a predetermined value or by substituting the values of those pixels by values that are computed from existing pixels in block 18. Still referring to Figure 10, according to another embodiment of the present invention, the selection of brightness threshold t_s is accomplished by analyzing the contents of the blocks that have already been processed and placed on upper plane 12, selector plane 16 and lower plane 14. More specifically, the analysis includes gathering the overall bit rate R and overall distortion D incurred by compressing the block using the multiplane approach. The bit rate R is related to the number of bits spent to encode the blocks for all planes, while the distortion D is the distortion incurred by compressing and decompressing all planes and reconstructing an approximation of the original block. The overall rate and distortion for a given block can be either precisely measured or simply estimated from the contents of the corresponding blocks in the upper, lower, and selector planes. In one embodiment of the invention, t_s is selected such that the cost function $J = R + K D$ is minimized. The value of K can either be predetermined or computed from all values or R and D generated by t_s. As those skilled in the art will recognize, it may not be necessary to compute J for all values of t_s if proper use of optimization and mathematical search techniques, which aim to track the minimum of a function without computing the function at all points, takes place. Note that if t_s assumes the minimal or maximal values of the range of the image pixels, selector plane 16 will be uniform. In other words, no thresholding (i.e. all the pixels are associated with the upper or lower plane) is accomplished by setting t_s to its extreme (i.e. maximum or minimum) values.

[0020] According to one embodiment of the invention, the overall bit rate R is defined as the sum of the rates of the three planes, wherein the bit rate achieved by compressing selector plane 16 is estimated from the number of horizontal transitions N_t (from 1 to 0 and vice versa) found in the block.

[0021] According to another embodiment of the present invention, t_a, the average value of the pixel intensities of the block is computed. The variance V_o of the original block is compared to the following cost function:

$$CF = a\,V_u + b\,V_l + c\,N_t$$

where a, b, c are predefined constants used to fine tune the method, and V_u and V_l are the variances of the corresponding blocks (after thresholding and preproc-

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essing) in the upper and lower planes, respectively. If $V_o > CF$, then the threshold is set to $t_s = t_a$. Otherwise the threshold is set to one extreme value, e.g. $t_s=0$, $t_s=225$, so that the selector plane is uniform and all pixels in the input block are associated to the lower (upper) plane.

[0022] Turning now to Figure 6, the details of one embodiment of the invention wherein initial block classification via block variation measurement may be accomplished as required by step 310 (Figure 4) are now described. A threshold, t_s, which allows the block to be divided into two portions is first calculated as indicated in step 510. In the preferred embodiment of the invention, this threshold is obtained by performing a histogram analysis on the data in the block, but many standard methods can be used to perform this analysis. For example, the value that maximizes between distances of the criteria being used for separation or provides for maximum separation between the two portions of the block can be selected. Those skilled in the art will recognize that other methods of choosing the best threshold are available and the invention is not limited to this embodiment. Block 18 is then thresholded into these two parts by comparing the light intensity value of each pixel to the selected threshold t_s, as indicated in step 520. As before, if the pixel value v_p is less than the threshold, the pixel is referred to as dark. If v_p is greater than or equal to t_s, the pixel is bright.

[0023] As stated earlier, a smooth version 20 of the image is obtained by applying a low pass filter to the original image data. Average values for bright and dark pixels are then obtained for both the original and smoothed sets of image data. Looking first at the bright pixels, one value calculated will be v_{BPIXEL}, the average value for all of the bright pixels in original pixel map 10 ($v_p \geq t_s$) which are located in the area covered by block 18 as indicated in step 540. Another value, $v_{BSMOOTH}$, the average value for all of the bright pixels in smoothed version 20 of the image which are located in the area covered by block 18 will also be obtained as shown in step 560. Dark values are calculated similarly. That is, v_{DPIXEL}, the average value for all of the dark pixels in original pixel map 10 ($v_p < t_s$) which are located in the area covered by block 18 will be obtained as shown in step 550, and $v_{DSMOOTH}$, the average value for all of the dark pixels in the smoothed version 20 of the image which are located in the area covered by block 18 will be obtained as in step 570. Once these average values are obtained, the distances d and d_s between brighter and darker averages for pixel map 10 and smoothed image 20 respectively are calculated as indicated in step 580. That is $d = v_{BPIXEL} - v_{DPIXEL}$, and $d_s = v_{BSMOOTH} - v_{DSMOOTH}$. Since d/d_s is typically almost equal to 1 for contone images, the ratio of d/d_s may be used to detect halftones.

[0024] Figure 7 contains a detailed illustration of step 320 of Figure 4, the preferred embodiment of a process for initially classifying blocks 18. As shown, a relative comparison between d and d_s is obtained as indicated in step 610 in order to determine whether the block contains contone ($d \approx d_s$) or halftone data. Block 18 will initially be classified as one of four types: UNIFORM, SMOOTH, WEAK EDGE or EDGE according to the magnitude of the distance d or d_s. Distance d is used to classify contone blocks, while distance d_s is used for halftones. For contone data d, the value from pixel map 10, is compared to value x_0 as shown in step 620.

[0025] If d is very low (i.e. $d < x_0$), all pixel values in the block are substantially the same and the block is classified as UNIFORM at step 640. If there are somewhat small differences in pixel values in the block such that $x_0<d<x_1$ as shown in step 622, the block is classified as SMOOTH, at step 650. If there are fairly large differences in pixel values in the block and $x_1<d<x_2$ at step 624, the block will be classified as WEAK EDGE. If the differences in the block are very large and $d \geq x_2$ at step 624, the block will be classified as an EDGE at step 670.

[0026] If d/d_s is not approximately equal to 1, d_s is compared to threshold y_0 at step 630. It should be noted there that two different sets of thresholds are applied for halftones and contones. Thus, on most occasions, $x_0 \neq y_0$, $x_1 \neq y_1$, and $x_2 \neq y_2$. The process used to classify halftone blocks is similar to that used for contone data. Thus, if $d_s<y_0$ at step 630 the block is classified as UNIFORM at step 640. If $y_0<d_s<y_1$ in step 632, the block is classified as SMOOTH, at step 650. If $y_1<d_s<y_2$ as indicated in step 634, the block is classified as a WEAK EDGE at step 660. If $d \geq x_2$ at step 634, the block will be classified as an edge at step 670.

[0027] Referring now to Figures 8 and 9, the details for updating the context of the block will now be provided. The context of a block is useful when the average between the dark and bright areas of the block is relatively high. When this is the case, the block can classified as an EDGE as long as its context is TEXT. The context is initially set equal to PICTURE. It is changed to TEXT if one of two rules is satisfied: (1) the block being processed is in a long run of UNIFORM blocks and the average of the dark pixel values in the block is greater than a preset brightness threshold; or (2) the block has been classified as either UNIFORM, WEAK EDGE, or EDGE, one of the top, left or right neighboring blocks has a context which has been set equal to TEXT, and the difference between that neighboring block and the current block is smaller than a preset propagation threshold.

[0028] Turning first to Figure 8, determining whether block context should be changed according to the first rule requires finding a run of blocks that have been classified as UNIFORM as indicated in step 704. Finding a run of UNIFORM blocks typically involves comparing the number of consecutive UNIFORM blocks to a run length threshold t_{LU} as indicated in step 706. The run length threshold sets the number of consecutive blocks that must be classified as UNIFORM for a run to be established. As also indicated in step 706, V_{DPIXEL}, the av-

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erage value of the dark pixels for consecutive blocks is compared to the brightness threshold t_S. A large number of consecutive UNIFORM blocks with high brightness levels usually indicates that the blocks contain large background page areas (i.e. large white areas), thereby indicating that text is present. Thus, if the number of consecutive UNIFORM blocks exceeds t_{LU} and $V_{DPIXEL} > t_S$, the context for the block is changed to TEXT as indicated in step 708.

[0029] If either the number of identified consecutive blocks is too small to establish a run or the blocks are dark ($V_{DPIXEL} \leq t_S$), the context will remain set equal to PICTURE. Whether additional runs are present in the block will be determined as indicated in step 710, and if so the process will be repeated as indicated in the illustration.

[0030] Turning now to Figure 9, changing the context of a block to TEXT under the second rule first requires providing a propagation threshold t_P. The propagation threshold defines the level of brightness that will indicate that the block covers blank page areas. Under the second rule, the context will be changed from picture to text at step 808 if the block is not SMOOTH (i.e. is UNIFORM, and EDGE or a WEAK EDGE) as shown in step 802, either its top, left or right neighbor has a text context as indicated in step 804 and v_{BDIF}, the average difference between bright pixels in the block and bright pixels in the neighbor text context block is less than t_P as shown in step 806. Neighbor blocks are checked because presumably blocks that contain text will be located next to other blocks that contain text. However, the brightness value of the block is compared to that of its neighbor to assure that this is the case. In other words, even if the block has a neighboring block with a text context, a large difference between the average brightness of block and its neighbor means that the block contain does not contain the large blank page areas that indicate the presence of text.

[0031] Again, the present invention is directed to segmenting the data by first identifying blocks that contain the edges of the image and then separating the blocks such that those which contain the smooth data and bright sides of the edges are placed on the lower plane and the dark sides of the edges are placed on the upper plane. Once each of the respective planes is generated, ordinary MRC processing continues. That is, each plane is compressed using an appropriate compression technique. In the currently preferred embodiment, upper plane 12 and lower plane 14 are compressed using JPEG while the selector plane 16 is compressed using a symbol based pattern matching technique such as CCITT Group IV or a method of classifying scanned symbols into equivalence classes such as that described in US-A 5,778,095 to Davies issued July 7, 1998, the contents of which are hereby incorporated by reference. The planes are then joined together and transmitted to an output device, such as a facsimile machine or storage device.

[0032] In the preferred embodiment of the invention, any or all of these methods may be implemented in a computer any other device capable of storing a set of instructions which may be executed by a machine. The program storage device will tangibly embody this set of instructions (most often referred to as a software program) to perform the above previously recited steps for compressing a document image in the manner described in detail above with reference to the attached figures.

Claims

1. A method of segmenting digital image data, the method comprising:

   a) acquiring a block of the digital image data, wherein the digital image data is composed of light intensity signals in discrete locations;
   b) calculating a threshold value for said block; and
   c) generating a selector block which indicates which of said light intensity signals exceeds said threshold value and which of said light intensity signals is below said threshold value.

2. A method of segmenting digital image data as claimed in claim 1, further comprising segmenting said light intensity signals in said block for placement on an upper plane and a lower plane based upon whether said signal value exceeds said threshold value.

3. A method of segmenting digital image data as claimed in claim 2, wherein said threshold calculating step includes selecting a value that will minimize a rate required to encode all blocks in said upper plane and said lower plane, and minimize an amount of distortion that will result from compressing said blocks using mixed raster content processing.

4. A method of segmenting digital image data as claimed in claim 3, wherein said threshold value is that which minimizes the function R+KD, where R is a rate of encoding data, and D is a level of distortion generated by compressing said block using said threshold.

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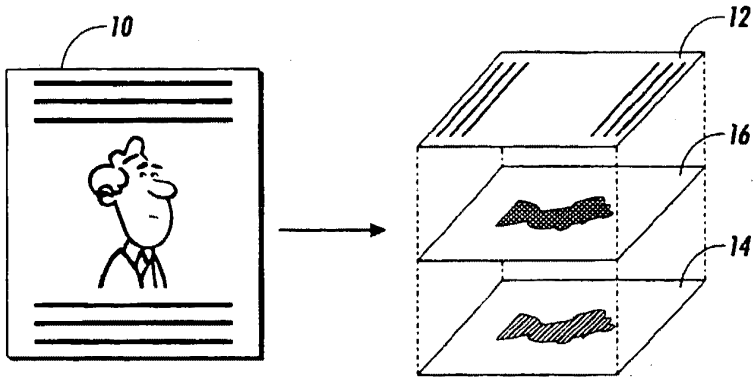

FIG. 1

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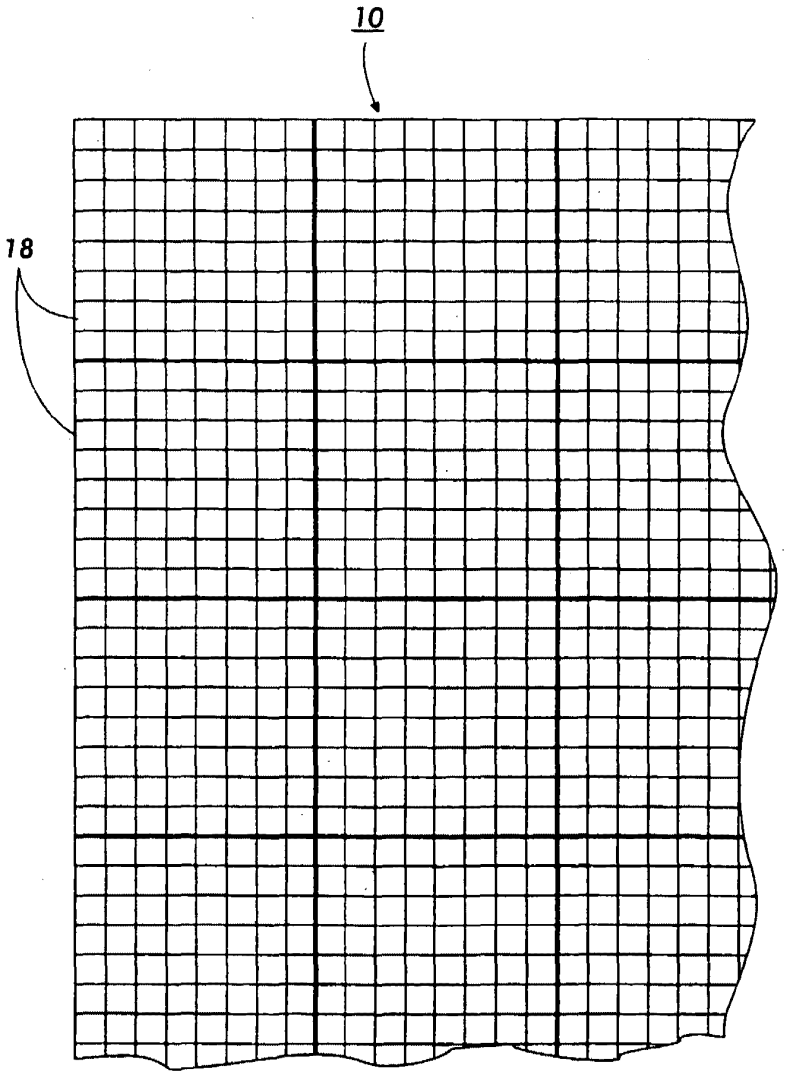

FIG. 2

BNSDOCID: <EP_____1006717A2_I_>

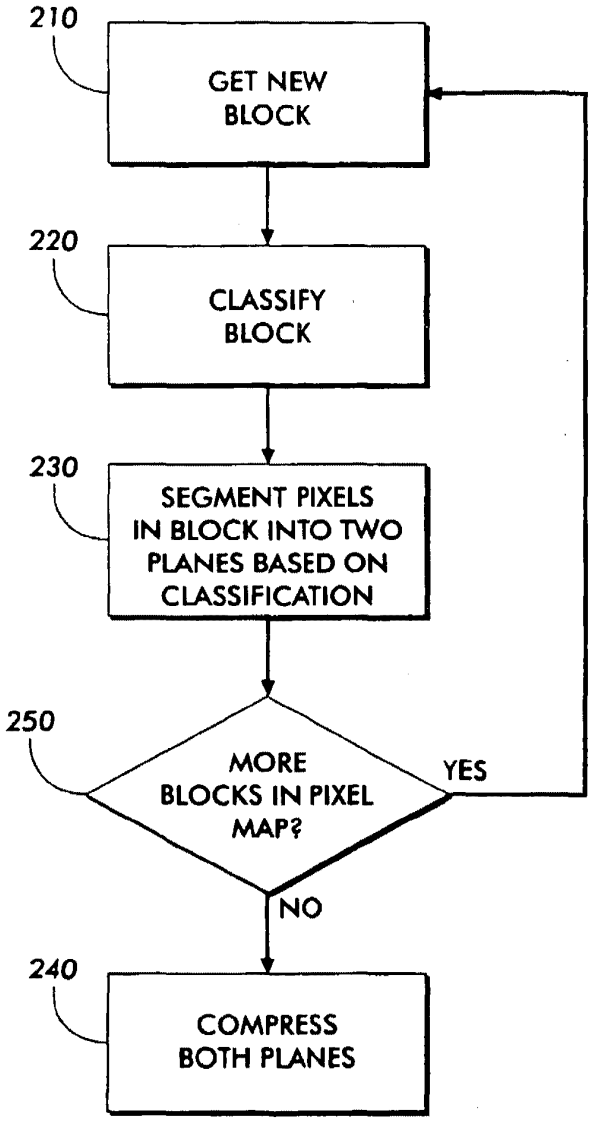
210
GET NEW BLOCK
220
CLASSIFY BLOCK
230
SEGMENT PIXELS IN BLOCK INTO TWO PLANES BASED ON CLASSIFICATION
250
MORE BLOCKS IN PIXEL MAP?
YES
NO
240
COMPRESS BOTH PLANES

FIG. 3

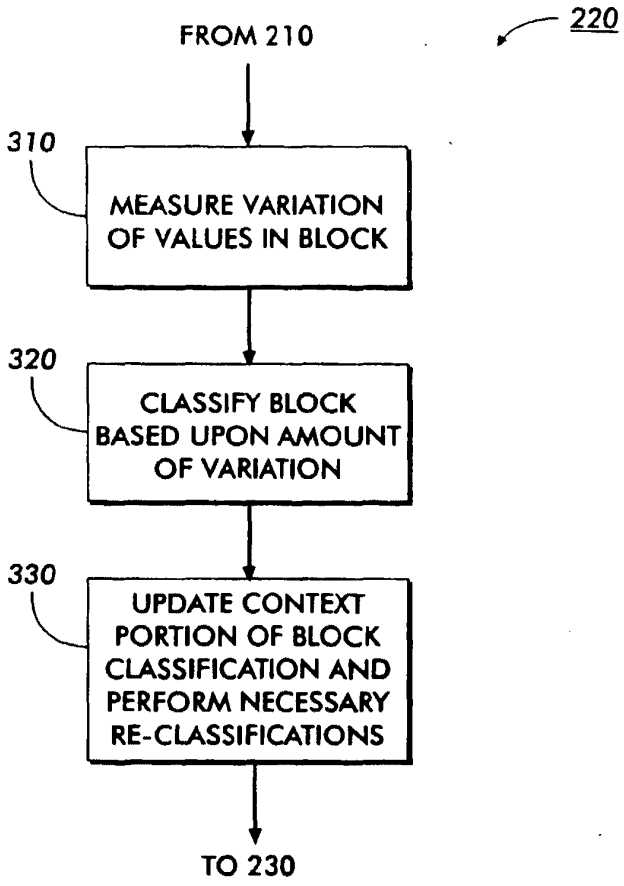

FIG. 4

BNSDOCID: <EP_____1006717A2_I_>

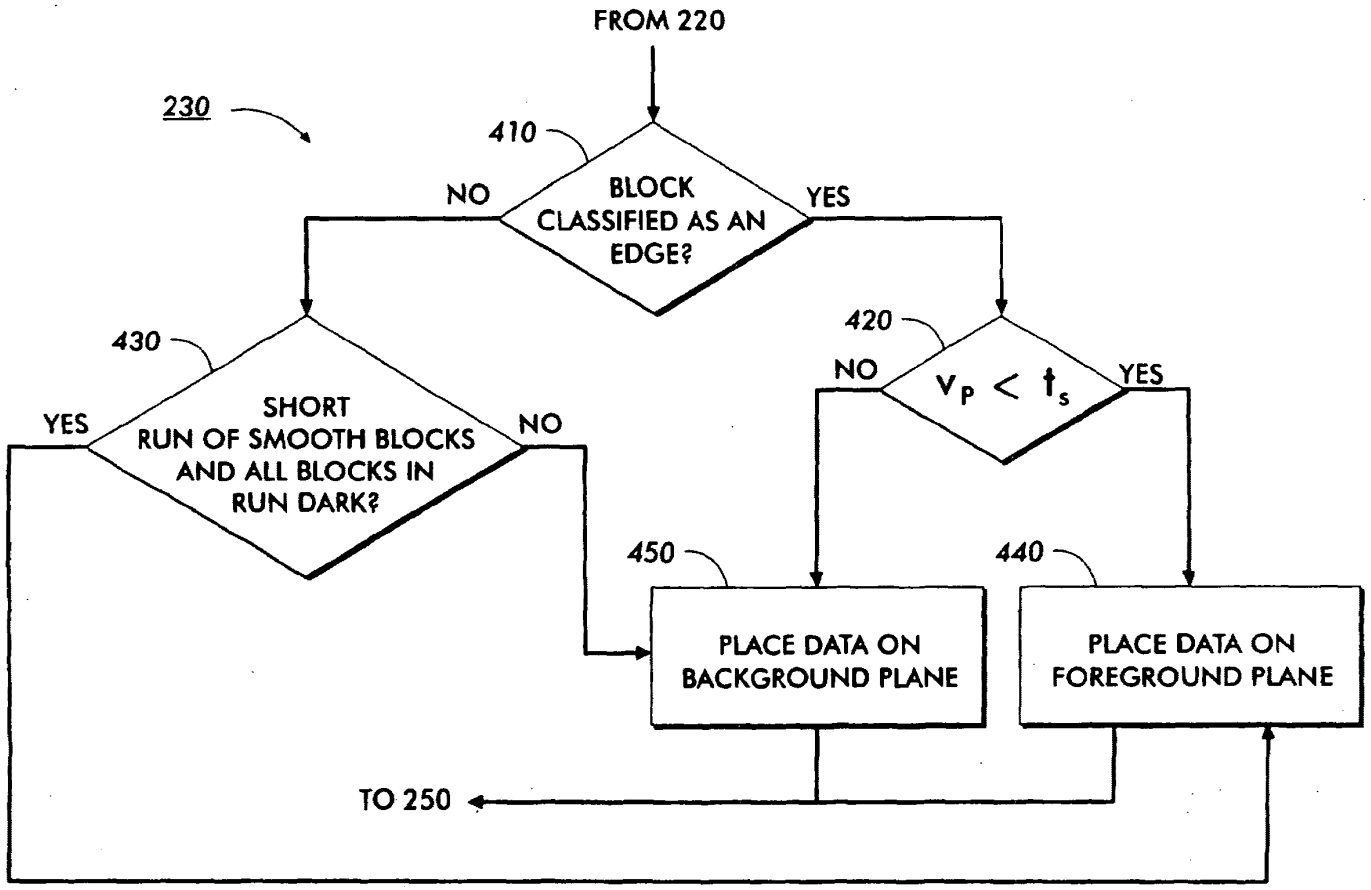
FROM 220
230
410
BLOCK CLASSIFIED AS AN EDGE?
NO
YES
420
$v_p < t_s$
NO
YES
430
SHORT RUN OF SMOOTH BLOCKS AND ALL BLOCKS IN RUN DARK?
YES
NO
450
PLACE DATA ON BACKGROUND PLANE
440
PLACE DATA ON FOREGROUND PLANE
TO 250

FIG. 5

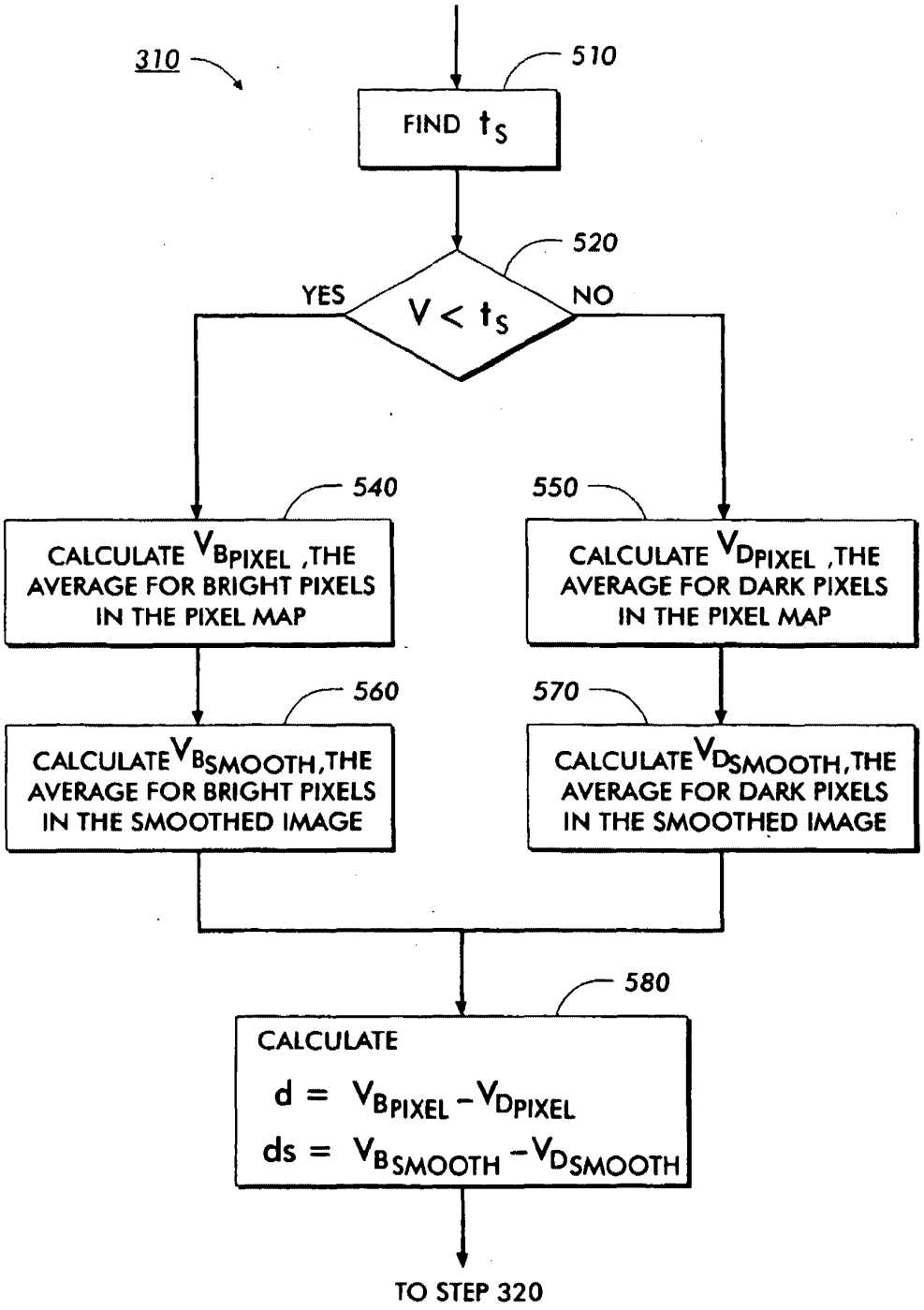

FIG. 6

BNSDOCID: <EP_____1006717A2_I_>

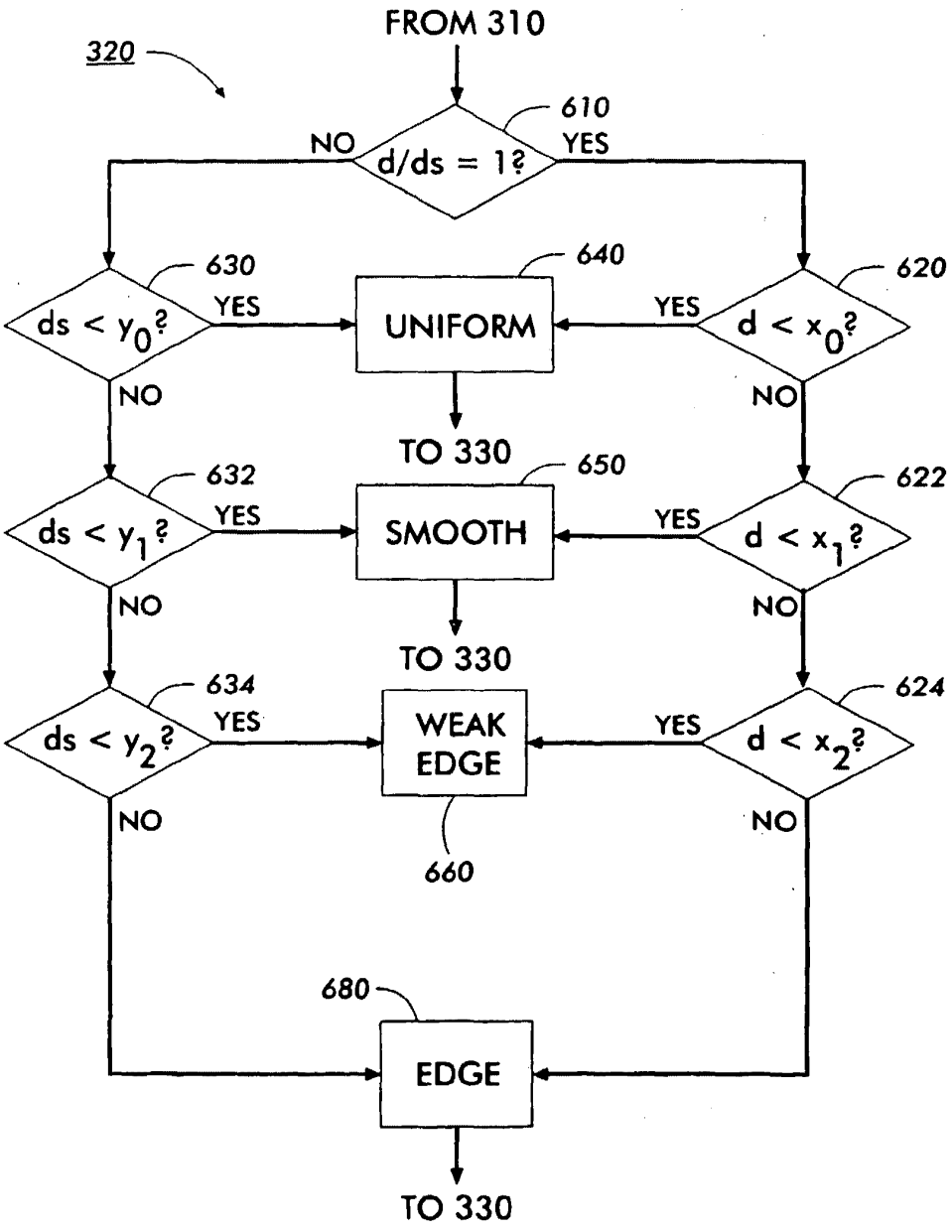
FROM 310
320
610
d/ds = 1?
NO
YES
630
ds < y0?
YES
640
UNIFORM
620
d < x0?
YES
NO
NO
TO 330
632
ds < y1?
YES
650
SMOOTH
622
d < x1?
YES
NO
NO
TO 330
634
ds < y2?
YES
WEAK EDGE
624
d < x2?
YES
NO
NO
660
680
EDGE
TO 330

FIG. 7

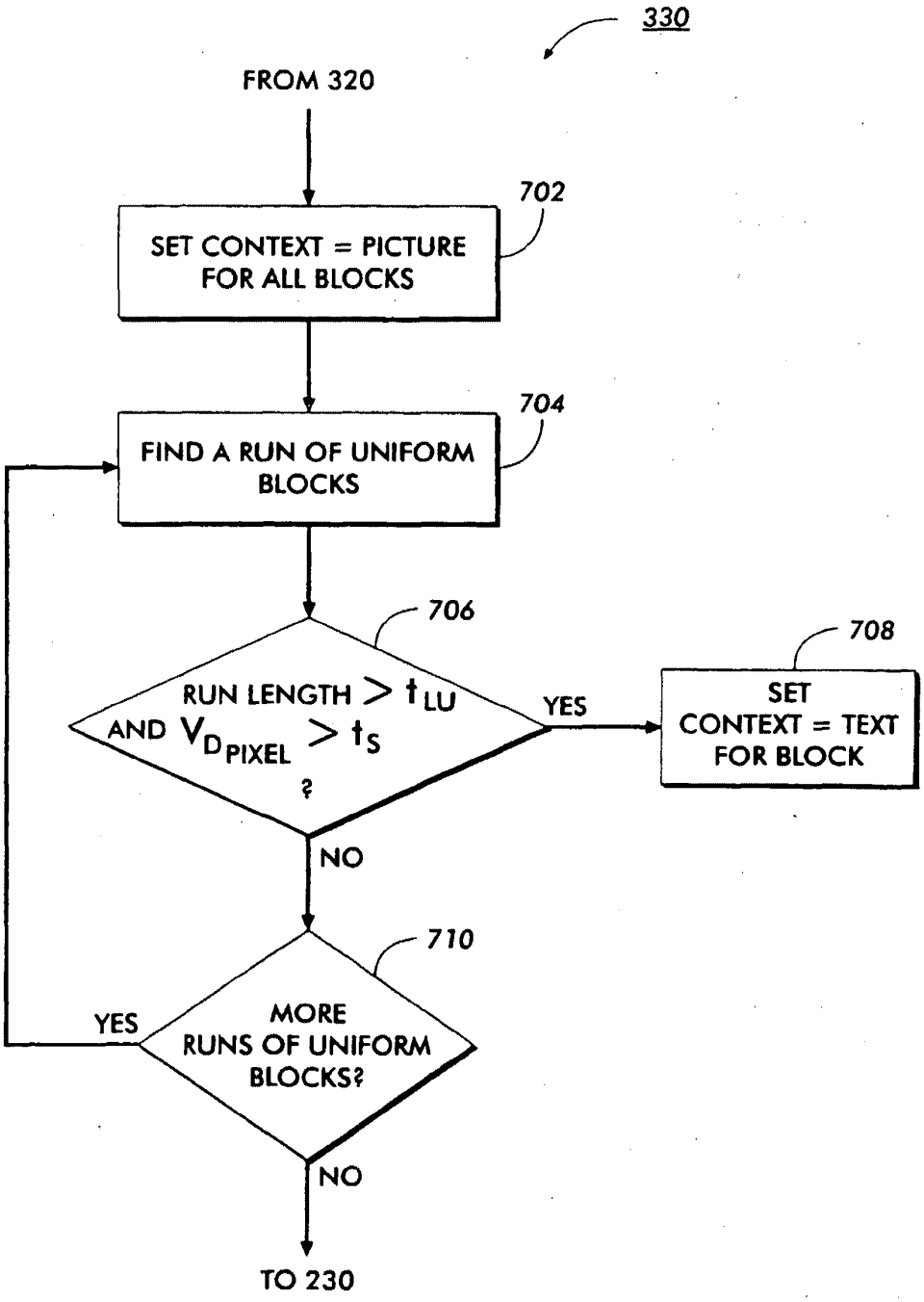

FIG. 8

ENSDOCID: <EP_____1006717A2_I_>

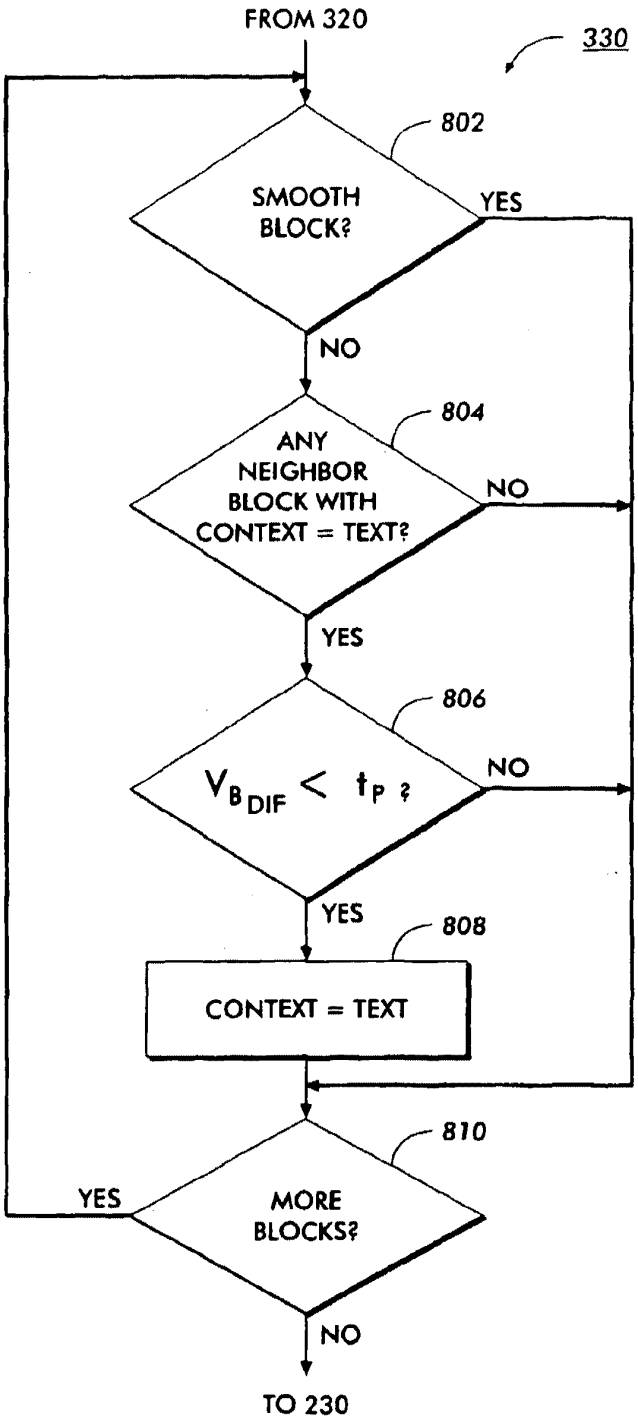

FIG. 9

EP 1 006 717 A2

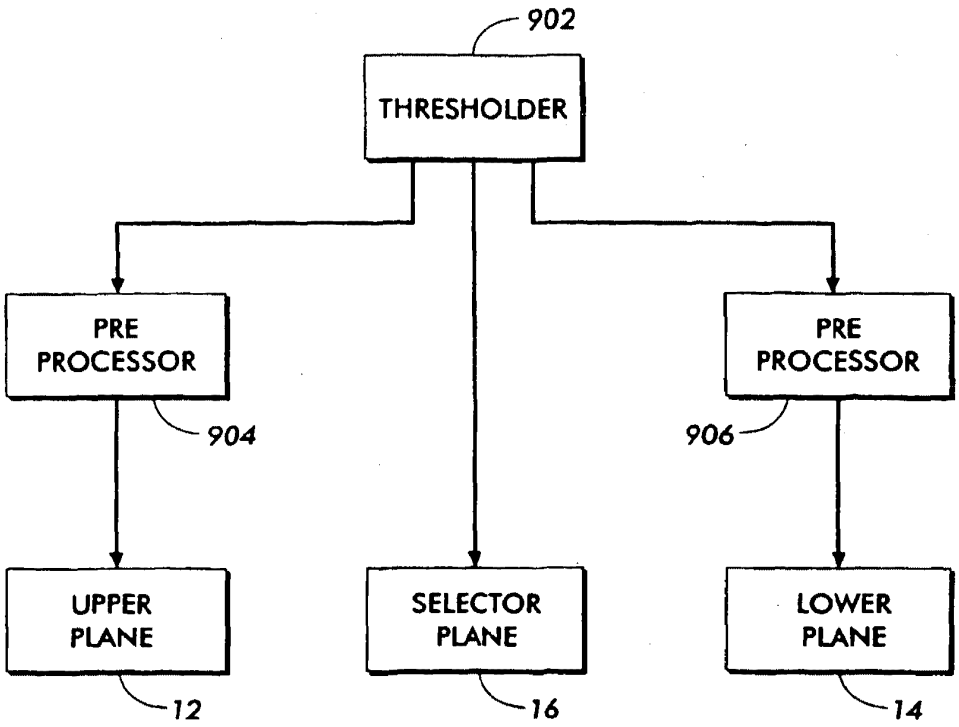

FIG. 10

BNSDOCID: <EP_____1006717A2_I_>

(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 006 717 A3

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
19.09.2001 Bulletin 2001/38

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07.06.2000 Bulletin 2000/23

(21) Application number: **99309527.2**

(22) Date of filing: **29.11.1999**

(51) Int Cl.[7]: **H04N 1/64**

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
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(30) Priority: **02.12.1998 US 203870**
07.12.1998 US 206487
07.12.1998 US 206488
21.12.1998 US 217138

(71) Applicant: **Xerox Corporation**
Rochester, New York 14644 (US)

(72) Inventors:
- **de Queiroz, Ricardo L.**
  Pittsford, NY 14534 (US)
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  Webster, NY 14580 (US)
- **Tran, Trac D.**
  Columbia, MD 21044 (US)

(74) Representative: **Skone James, Robert Edmund**
GILL JENNINGS & EVERY
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London EC2M 7LH (GB)

(54) **Method and apparatus for segmenting data**

(57) An improved technique for compressing a color or gray scale pixel map representing a document using an MRC format includes a method of segmenting an original pixel map into two planes (12,14), and then compressing the data or each plane in an efficient manner is disclosed. The image is segmented by separating the image into two portions at the edges. One plane contains image data for the dark sides of the edges, while image data for the bright sides of the edges and the smooth portions of the image are placed on the other plane. A thresholding technique and apparatus for generating a bitmap is also disclosed that may be used to accomplish these tasks.

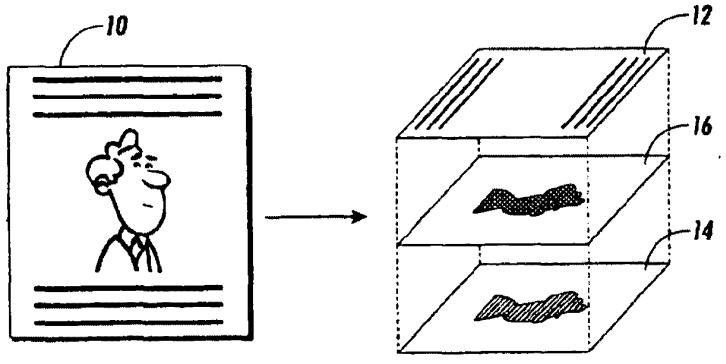

FIG. 1

EP 1 006 717 A3

Printed by Jouve, 75001 PARIS (FR)

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 30 9527

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A,D	US 5 778 092 A (VINCENT LUC ET AL) 7 July 1998 (1998-07-07) * the whole document *	1	H04N1/64
A	EP 0 239 936 A (WANG LABORATORIES) 7 October 1987 (1987-10-07) * abstract *	1	
P,A	US 5 861 960 A (UMEZAWA KEN ET AL) 19 January 1999 (1999-01-19) * abstract *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

H04N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	1 August 2001	Isa, S

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

BNSDOCID: <EP_____1006717A3_I_>

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 99 30 9527

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

01-08-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5778092 A	07-07-1998	NONE	
EP 0239936 A	07-10-1987	AU 595279 B	29-03-1990
		AU 6743387 A	08-10-1987
		CA 1268547 A	01-05-1990
		DE 3772234 A	26-09-1991
		US 4879753 A	07-11-1989
US 5861960 A	19-01-1999	JP 2720924 B	04-03-1998
		JP 7095416 A	07-04-1995
		US 6118552 A	12-09-2000

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

RNSDOCID: <EP 1006717A3 I >

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Attorneys
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GodwinPappas.com

FAX	Number of Pages (including Cover Sheet) 2	Date of Transmittal 3/16/2006

TO	COMPANY	PHONE	FAX
	U.S.P.T.O.		571-273-8300

FROM: Christopher J. Rourk 214-939-8657
CLIENT.MATTER NUMBER: 20354.0012

COMMENTS:

Appl. No.	:	10/892,690
Applicants	:	Krichevsky
Filed	:	July 16, 2005
Art Unit	:	N/A
Examiner	:	N/A
Docket No.	:	20354.0012
Customer No.	:	33649

Attached for filing please find a Request for Withdrawal as Attorney or Agent and Change of Correspondence Address.

If you do not receive all materials being transmitted, please call Lorraine Davidoff at 214.939.8628

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REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	10/892,690
Filing Date	July 16, 2005
First Named Inventor	Krichevsky
Art Unit	N/A
Examiner Name	N/A
Attorney Docket Number	20354.0012

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Please withdraw me as attorney or agent for the above identified patent application, and

☐ all the attorneys/agents of record.

☐ the attorneys/agents (with registration numbers) listed on the attached paper(s), or

☑ the attorneys/agents associated with Customer Number 33649

NOTE: This box can only be checked when the power of attorney of record in the application is to all the practitioners associated with a customer number.

The reasons for this request are: Per client request

CORRESPONDENCE ADDRESS

1. ☐ The correspondence address is NOT affected by this withdrawal.
2. ☑ Change the correspondence address and direct all future correspondence to:

☐ The address associated with Customer Number:

OR

☑ Firm or Individual Name	Connie Nash				
Address	2020 Glenneyre St.				
City	Laguna Beach	State	California	Zip	92651
Country					
Telephone	949 228.7070	Email	hg-1@cox.net		

Signature			
Name	Christopher J. Rourk	Registration No.	39348
Date	March 16, 2006	Telephone No.	214-939-8657

NOTE: Withdrawal is effective when approved rather than when received. Unless there are at least 30 days between approval of withdrawal and the expiration date of a time period for response or possible extension period, the request to withdraw is normally disapproved.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

04-24-06

IFW

Express Mail Number EV461507517US
Date of Deposit: April 20, 2006

Attorney Docket No. 34373-501-059

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Alexander Krichevsky

SERIAL NUMBER: 10/892,690 EXAMINER: Philippe, Gims S.

FILING DATE: July 16, 2004 ART UNIT: 2621

FOR: Optimized Data Transmission System and Method

April 20, 2006
Boston, Massachusetts

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

TRANSMITTAL LETTER

Sir:

Transmitted herewith for filing in the present application are the following documents:

☒ Revocation by Assignee and New Power of Attorney (1 pg);
☒ Return Postcard.

Note, the Assignee's Statement Under 37 CFR 3.73(b) is already of record having been filed on February 22, 2005.

If the enclosed papers are considered incomplete, the Mail Room is respectfully requested to contact the undersigned collect at (617) 542-6000, Boston, Massachusetts. The Commissioner is authorized to credit any overpayment or charge any deficiencies to Deposit Account No. 50-0311, Reference No. 34373-501-059. A duplicate copy of this Transmittal Letter is enclosed.

Respectfully submitted,

David F. Crosby, Reg. No. 36,400
Attorney for Applicant
c/o MINTZ LEVIN COHN FERRIS
GLOVSKY & POPEO, PC
One Financial Center
Boston, Massachusetts 02111
Tel.: (617) 542 6000
Fax: (617) 542-2241

Customer Number: 30623

TRA 2143938v.1

OIPE
APR 20 2006
PATENT & TRADEMARK OFFICE

Express Mail Label No.: EV461507517US
Date of Deposit: April 20, 2006 Attorney Docket No. 34373-501-059

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S): KRICHEVSKY, ALEXANDER
SERIAL NUMBER: 10/892,690 EXAMINER: PHILIPPE, GIMS S
FILING DATE: JULY 16, 2004 ART UNIT: 2621
FOR: UTILITY PATENT

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

REVOCATION BY ASSIGNEE AND NEW POWER OF ATTORNEY

CORNERSTONE GROUP LTD, a U.S. company/corporation ("Assignee") of the above-referenced patent application, hereby revokes any and all former powers of attorney and hereby appoints the attorneys and/or agents associated with Mintz Levin Cohn Ferris Glovsky & Popeo, Customer Number **30623**, as attorneys for Applicant(s) with full power of substitution and revocation to take any and all action necessary with regard to the patent application.

Please address all telephone calls to David Crosby at telephone number 617/ 348-1830. Please address all correspondence to Customer No. **30623**.

The undersigned is authorized to act on behalf of the Assignee in the above-referenced patent application.

Respectfully submitted,

Signature

Name: CONSTANCE NASH
Title: PRES
Company: CORNERSTONE GROUP, LTD

Date: April 7, 2006

TRA 2128778v.1

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	20354.0012

CONFIRMATION NO. 6612

OC000000019444793

30623
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY
AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON, MA 02111

Date Mailed: 06/30/2006

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/20/2006.

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

Wanda Lawson

WANDA LAWSON
2600 (571) 272-7266

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	20354.0012

CONFIRMATION NO. 6612

OC000000019444712

33649
Mr. Christopher John Rourk
Jackson Walker LLP
901 Main Street, Suite 6000
DALLAS, TX 75202

Date Mailed: 06/30/2006

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/20/2006.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Wanda Lawson

WANDA LAWSON
2600 (571) 272-7266

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DAC / JFW

Express Mail No.: EV461503529 US
Date of Deposit: July 21, 2006

Attorney Docket No. 34373-501-059

OIPE IAP16
JUL 2 1 2006
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Alexander Krichevsky
Serial No.:	10/892,690
Filed:	July 16, 2004
For:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD
Examiner:	Gims S. Philippe
Group Art:	2621

Mail Stop: PETITION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL LETTER

Enclosed herewith for filing in the above-identified patent application are the following documents:

1. Petition and Statement Under 37 CFR §1.102(D) and MPEP 708.02(XI) for Advancement of Examination (2 pages);
2. **Exhibit A**: Declaration of Constance Nash in Support of Petition (3 pages);
3. **Exhibit B**: Letter from UK Trade & Investment to Godwin Gruber dated December 5, 2005 (1 page); and
4. Return Postcard.

Although Applicants believe no additional fees are due with this submission, the Director is hereby authorized to charge any additional fees that may be due, or credit any overpayment of same, to Deposit Account Number 50-0311, Ref. No. 34373-501-059. A duplicate copy of this letter is provided for this purpose.

Respectfully submitted,

David F. Crosby, Reg. No. 36,400
Attorneys for Applicants
c/o MINTZ, LEVIN
One Financial Center
Boston, MA 02111
Tel.: (617) 542-6000
Fax: (617) 542-2241
Customer No. 30623

Date: July 21, 2006
TRA 2179160v.1

Express Mail Label No.: EV461503529 US
Date of Deposit: July 21, 2006 Attorney Docket No. 34373-501-059

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Alexander Krichevsky		
SERIAL NUMBER:	10/892,690	EXAMINER :	Gims S. Philippe
FILING DATE:	July 16, 2004	ART UNIT :	2621
FOR:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD		

Mail Stop: Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION AND STATEMENT UNDER 37 CFR §1.102(D) AND MPEP 708.02 (XI) FOR ADVANCEMENT OF EXAMINATION

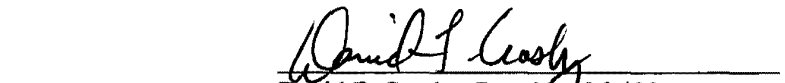
Pursuant to 37CFR § 1.102(d) and MPEP 708.02 (XI), applicant hereby requests that the examination of the above-identified application be advanced out-of-turn (i.e., that the application be made "special"), on the grounds that the present invention materially contributes to countering terrorism.

The invention materially contributes to countering terrorism because it relates to a method of optimizing the transmission of video data used in video surveillance systems such as those used in airports and other targets of terrorism. As described in the attached Exhibit A, the Affidavit of Constance Nash, the inventions described in the above identified patent application provide for the optimization of the transmission of video data that, unlike prior art compression techniques, do not require the data to be compressed at the sending end and decompressed at the receiving end, reducing the delay between the activity being monitored and displayed video. See, for example, paragraphs 5 - 7 of Patent Publication No. US 2004/0258150 A1 which corresponds to the above identified patent application. While the invention provides for reduced bandwidth requirements, it does not result in the degradation

of video image detail or latency in the presentation of the video associated with prior art techniques. As such, the above identified invention is capable of materially contributing to countering terrorism because it provides higher quality video surveillance images so terrorists can be more easily identified and provides near real time surveillance video enabling more rapid deployment of a counter-terrorism response.

Advancement of examination of this application is thus being requested pursuant to 37 C.F.R. 1.102(d) and MPEP 708.02 (XI) on the basis that the invention materially contributes to countering terrorism. Pursuant to 37 C.F.R. § 1.102(c), no fee is believed due in connection with the present petition. The Director, however, is hereby authorized to charge any required fees to Deposit Account No. 50-0311, Reference No. 34373-501-059.

Respectfully submitted,



David F. Crosby, Reg. No. 36,400
Attorney for Applicant
c/o Mintz, Levin
One Financial Center
Boston, MA 02111
Tel.: (617) 542-6000
Fax: (617 542-2241
Customer No. 30623

Dated: July 21, 2006

LIT 1574634v.1

EXHIBIT
A

Express Mail Label No.: EV461503529 US
Date of Deposit: July 21, 2006

Attorney Docket No. 34373-501-059

OIPE IAP16
JUL 21 2006
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS:	Alexander Krichevsky		
SERIAL NUMBER:	10/892,690	EXAMINER :	Gims S. Philippe
FILING DATE:	July 16, 2004	ART UNIT :	2621
FOR:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD		

Mail Stop: Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF CONSTANCE NASH IN SUPPORT OF PETITION AND STATEMENT UNDER 37 CFR §1.102(D) AND MPEP 708.02 (XI) FOR ADVANCEMENT OF EXAMINATION

FACTS AND DOCUMENTARY EVIDENCE

I, CONSTANCE NASH, hereby declare that:

1. I am the President of the Cornerstone Group, the current record owner of the entire right, title and interest of the above identified application for patent.

2. I have been involved with the development of the technology described in the above identified patent application since at least January 16, 2002, the date of priority claimed by the above identified patent application.

3. Pursuant to 37CFR § 1.102(d) and MPEP 708.02 (XI), The Cornerstone Group, as Applicant, requests that the examination of the above-identified application be advanced out-of-turn (i.e., that the application be made "special"), on the grounds that the present invention materially contributes to countering terrorism.

4. The technology in the above identified patent application is being developed and used to counter terrorism in the field of video surveillance. As described in the specification of the above identified patent application, the invention provides for the optimization of the transmission of video data that, unlike prior art compression techniques, does not require the data to be compressed at the sending end and decompressed at the receiving end. See, for example, paragraphs 5 - 7 of Patent Publication No. US 2004/0258150 A1 which corresponds to the above identified patent application. Further, while the invention provides for reduced bandwidth requirements and reduced processing delay, it does not result in the degradation of video image detail associated with prior art techniques. As such, the above identified invention is capable of materially contributing to countering terrorism because it provides near real time and higher quality video surveillance images so terrorists can be more easily identified.

5. One of the important benefits of the invention is that it enables near real time video surveillance. This provides a significant advantage over prior art systems because with prior art systems there is a delay associated with compressing, decompressing and reconstructing video frames. With present invention, this delay is significantly reduced.

6. As a result, technology based on the invention is being developed for use in time critical environments where the surveillance images need to be as close to real time as possible to enable rapid deployment of a counter-terrorism response. These time critical environments include airports, subway stations, military and forward operating bases, and other potential targets of terrorism.

7. Attached hereto as Exhibit B is a letter from Mr. Eric Van der Kleij of UK Trade & Investment, the principal inward investment arm of the UK Government, to the prior attorney of record of the above identified patent application. The Cornerstone Group is working with UK Trade & Investment to identify manufacturing partners for the technology described in the above identified patent application. In the fourth paragraph, the letter recognizes the "global" potential for the use of the technology in "security products." "HG-1" is the name of the business entity that will develop the technology in the UK.

DECLARATION

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by a fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE

Full name of person making declaration: Constance Nash

Signature: _____ Date: July 19, 2006

Country of Citizenship: U.S.A.

Residence: 2020 Glenneyre Street, Laguna Beach, CA 92651

Post Office Address: Same

LIT 1580137v.1

Express Mail No. EV461503529 US
Date of Deposit: July 21, 2006

EXHIBIT
B

OTRE IAP15
JUL 21 2006
PATENT & TRADEMARK OFFICE

UK TRADE & INVESTMENT

SENT BY FAX

5th December 2005

Christoper John Rourk
Reg No. 39,348
Godwin Gruber, Attorneys
Renaissance Tower
1201 Elm Street, Suite 1700
Dallas, Texas 75270-2084

Dear Mr Rourk,

Re: Petition to Expedite U.S. Patent Application 10/892,690.
Applicant: Cornerstone Group Ltd.

Further to the recent communications between the applicant for the above patent and our department, I am writing to confirm that we can only begin negotiations with manufacturing partners once we have more clarity on the patent position. If the application can be expedited as a matter of urgency it would certainly assist.

For your information, UK Trade & Investment (UKTI) is the principal inward investment arm of the UK Government. The Global Entrepreneur Program is a specialist team within UKTI whose role is to identify and attract ***"people and ideas of truly exceptional potential"*** to the UK. You can learn more about us, our work, case studies and press releases here www.entrepreneurs.gov.uk.

We evaluate approximately 200 opportunities each year and directly support and work with just a few. HG-1 has been "Greenlighted" as one of these projects, and as the Indian patent has now been granted we are actively involved in facilitating negotiations with a major manufacturing partner in that territory.

Whilst we are not allowed to make any specific recommendations or direct requests of individual patent offices, we do feel strongly that the specific advantages of HG-1 in security products (to name but one) would be of considerable value globally, and as such we would very much like to see this functionality available in manufactured products as soon as possible.

I hope you find the above helpful and please feel free to contact me for further clarification if required.

Yours sincerely,

Eric Van der Kleij
UK Trade & Investment
Global Entrepreneur Programme
Tel: UK: +44 (0)7973 177873, US: +1 203 550 6267
Eric.vanderkleij@entrepreneurs.gov.uk

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	20354.0012

CONFIRMATION NO. 6612

OC000000020145133

30623
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY
AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON, MA 02111

Date Mailed: 08/23/2006

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/16/2006.

- The withdrawal as attorney in this application has been accepted. Future correspondence will be mailed to the new address of record. 37 CFR 1.33.

CHARLES SMOOT
OP (571) 272-3299

FORMER ATTORNEY/AGENT COPY

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10/892,690	07/16/2004	Alexander Krichevsky	20354.0012

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- The withdrawal as attorney in this application has been accepted. Future correspondence will be mailed to the new address of record. 37 CFR 1.33.

Charles Smoot

CHARLES SMOOT
OP (571) 272-3299

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JACKSON WALKER L.L.P
901 MAIN STREET, SUITE 6000
DALLAS, TX 75202

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SEP 12 2006

OFFICE OF PETITIONS

In re Application of :
Alexander Krichevsky :
Application No. 10/892,690 : DECISION ON PETITION
Filed: July 16,2004 : TO WITHDRAW
Attorney Docket No. 121648-0001 (B74216) : FROM RECORD
:

This is a decision on the Request to Withdraw as attorney or agent of record under 37 C.F.R. § 1.36(b), filed March 16, 2006.

The request is **NOT APPROVED** as moot.

A review of the file record indicates that the power of attorney to Christopher Rourk and those practitioners associated whit customer number 33649 have been revoked by the assignee of the patent application on April 20, 2006. Accordingly, the request to withdraw under 37 C.F.R. § 1.36(b) is moot.

The Revocation by Assignee and New Power of Attorney was accepted on June 30, 2006. The Power of attorney, however, was incomplete, in that the signing party failed to comply with 37 CFR 3.73 (b). The previous submissions under 37 CFR 3.73 (b) identify a reel and frame number to provisional No. 60/351,470. The above-identified application has no continuity to Provisional Application No. 60/351,470, and assignee has not shown the complete chain the title from the inventor to the current assignee.

All future communications from the Office will continue to be directed to the first below-listed address until otherwise notified by applicant.

Telephone inquires concerning this decision should be directed to Charles Smoot at 571-272-3299.

David Bucci
Petitions Examiner
Office of Petitions

cc: MINTZ, LEVIN, COHN, FERRIS, GLOVSKY
AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON, MA 02111

cc: Ms. Connie Nash
Cornerstone Group, LTD.
P.O. Box 1892
Laguna Beach, California 92652

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Bib Data Sheet

CONFIRMATION NO. 6612

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/892,690	07/16/2004 RULE	375	2621	

APPLICANTS

Alexander Krichevsky, Laguna Beach, CA;

**** CONTINUING DATA ****************************

This application is a CON of PCT/US02/00503 01/16/2002

**** FOREIGN APPLICATIONS ********************

IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** SMALL ENTITY **
** 09/13/2004

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no	CA	4	20	3
35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance				
Verified and Acknowledged Examiner's Signature Initials				

ADDRESS

Connie Nash
2020 Glenneyre St.
Laguna Beach, CA92651

TITLE

Optimized data transmission system and method

FILING FEE RECEIVED	FEES: Authority has been given in Paper	☐ All Fees
385	No. _____ to charge/credit DEPOSIT ACCOUNT	☐ 1.16 Fees (Filing)
	No. _____ for following:	☐ 1.17 Fees (Processing Ext. of time)
		☐ 1.18 Fees (Issue)
		☐ Other _____
		☐ Credit

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AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON MA 02111

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OCT 05 2006

OFFICE OF PETITIONS

In re Application of :
KRICHEVSKY :
Application No. 10/892,690 : DECISION ON PETITION
Filed: July 16, 2004 : TO MAKE SPECIAL UNDER
Attorney Docket No. 34373-501-059 : 37 CFR 1.102(c)(2)
:

This is a decision on the petition under 37 CFR 1.102(c)(2)(iii), filed July 21, 2006, to make the above-identified application special based on the invention materially contributing to countering terrorism as set forth in M.P.E.P. § 708.02, Section XI.

The petition is **DISMISSED**.

A grantable petition to make an application special under 37 CFR 1.102(c)(2)(iii) and MPEP § 708.02, Section XI: Inventions for Countering Terrorism, should state that special status is sought because the invention materially contributes to countering terrorism. International terrorism as defined in 18 U.S.C. 2331 includes:

> activities that - (A) involve violent acts or acts dangerous to human life that are a violation of the criminal laws of the United States or of any State, or that would be a criminal violation if committed within the jurisdiction of the United States or of any State; [and] (B) appear to be intended - (i) to intimidate or coerce a civilian population; (ii) to influence the policy of a government by intimidation or coercion; or (iii) to affect the conduct of a government by assassination or kidnapping...

If the disclosure it not clear on its face that the claimed invention is materially directed to countering terrorism, the petition must be accompanied by a statement by the applicant, assignee or a registered attorney/agent explaining how the materiality standard is met. The types of technology for countering terrorism could include, but are not limited to, systems for detecting/identifying explosives, aircraft sensors/security systems, and vehicular barricades/disabling systems. No fee is required.

The USPTO's final rule amending 37 CFR 1.102(c)(2) states:

> The materially standard does not permit an applicant to speculate as to how a hypothetical end-user might specially apply the invention in a manner that could counter terrorism. Nor does such

> standard permit an applicant to enjoy the benefit of advance examination merely because some minor aspect of the claimed invention may be directed to countering terrorism...[Response to Comment 65] applicants should not expect to have their petitions granted without a clear demonstration that the claimed invention is materially related to countering terrorism. 69 Fed. Reg. 56511 (Sept. 21, 2004)

The instant petition does not include an explanation to the satisfaction of the Director of how the claimed invention materially contributes to countering terrorism. Petitioner argues that claimed invention, a video surveillance system, uses data transmission technique that reduces the delay between the activity being monitored and the displayed video. In turn, Petitioner states this system and method provide "higher quality video surveillance images so terrorists can be more easily identified and provides near real time surveillance video enabling more rapid deployment of a counter-terrorism response."

The claimed invention is a system and method for transmitting data. None of the claims are explicitly directed toward countering terrorism nor is there a suggestion of countering terrorism in disclosure. At most, the invention permits a user to identify individuals. Further steps than claimed would be required to actually offset or nullify terrorism. Additionally, the materiality does not permit the Petitioner to speculate as to how a hypothetical end-user might specially apply the invention in a manner that could counter terrorism. Thus, the suggestion that the images from the video surveillance system enable "more rapid deployment of counter-terrorism response" is speculation as to how the end-user might apply the invention. Finally any aspect of the claimed invention directed to countering terrorism is minor and does not rise to the level of a material contribution as intended by the rule. As a result, no advance in technology of countering terrorism has been persuasively shown.

Further correspondence with respect to this matter should be addressed as follows:

By Mail:
Mail Stop PETITION
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

By hand:
U. S. Patent and Trademark Office
Customer Service Window, Mail Stop Petitions
Randolph Building
401 Dulany Street
Alexandria, VA 22314

By FAX: (571) 273-8300

Telephone inquiries concerning this decision should be directed to the undersigned at 571-272-4787.

All other inquiries concerning either the examination or status of the application should be directed to the Technology Center.

The application is being forwarded to the Technology Center Art Unit 2621 for action in its regular turn.

Denise Pothier
Petitions Examiner
Office of Petitions

OIPE IAP19 OCT 19 2006 PATENT & TRADEMARK OFFICE

10 - 20 -06

Express Mail No.: EV 461503974 US
Date of Deposit: October 19, 2006

Attorney Docket No. 34373-501-059

CANCELED OCT 20 2006 PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Alex Krichevsky

APPLICATION NO.: 10/892,690 EXAMINER: Gims S. Philippe

FILING DATE: July 16, 2004 ART UNIT: 2621

FOR: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

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

PETITION FOR CORRECTION OF INVENTORSHIP

Pursuant to 37 C.F.R. § 1.48(a), Applicant hereby petitions for a correction of inventorship of the above-identified application (U.S.S.N. 10/892,690 filed July 16, 2004). The application was filed with Alex Krichevsky as an inventor. The correct inventors on this application are Alex Krichevsky and Constance Nash.

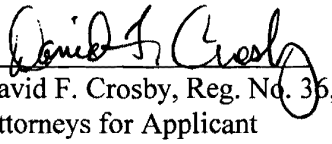
Applicant hereby petitions under 37 CFR § 1.48(a)(1) to add Constance Nash as an inventor. Enclosed are:

- A statement from the inventor being added stating that the inventorship error occurred without deceptive intention on the part of the omitted inventors as required by 37 CFR § 1.48(a)(2);
- An executed combined Declaration/Power of Attorney signed by the actual inventors as required by 37 CFR § 1.48(a)(3); and
- The written consent of the Assignee as required by 37 CFR § 1.48(a)(5)

10/23/2006 YPOLITE1 00000025 10892690
01 FC:1464 130.00 OP

Submitted herewith is a payment in the amount of $130.00 as required by 37 C.F.R. §1.48(a)(4). Please charge any additional fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311; Attorney Reference No. 34373-501-059.

Respectfully submitted,



David F. Crosby, Reg. No. 36,400
Attorneys for Applicant
MINTZ, LEVIN, COHN, FERRIS,
GLOVSKY AND POPEO, P.C.
One Financial Center
Boston, MA 02111
Tel: (617) 542-6000
Fax: (617) 542-2241
Customer No. 30623

Dated: October 19, 2006

TRA 2177612v.1

Express Mail No.: EV 461503974 US
Date of Deposit: October 19, 2006

Attorney Docket No.: 34373-501-059

OIPE IAP19 OCT 20 2006 PATENT & TRADEMARK OFFICE
CANCELLED

COMBINED DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

OIPE IAP19 OCT 19 2006 PATENT & TRADEMARK OFFICE

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a utility patent is sought on the invention entitled:

OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

the specification of which was filed on 07/16/2004, which was assigned U.S. Serial No. 10/892,690.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application designating at least one country other than the United States listed below and have also identified below any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Appln. Number	Country *(if PCT, so indicate)*	Filing Date *(dd/mm/yy)*	Priority Claimed	
			Yes	No
PCT/US02/00503	PCT	1/16/2002	☒	☐
			☐	☐

I hereby claim the benefit under Title 35, United States Code, § 119(e) or §120 of any United States application(s), or §365(c) of any PCT International application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

Application No. *(U.S.S.N.)*	Filing Date *(dd/mm/yy)*	Status *(Patented, Pending, Abandoned)*

I hereby appoint the attorneys and/or agents associated with Mintz Levin Cohn Ferris Glovsky & Popeo, **Customer Number 30623** to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

Please address all telephone calls to David Crosby. At telephone number 617-542-6000 and, Address all correspondence to:

David Crosby
Mintz Levin Cohn Ferris Glovsky & Popeo, PC
One Financial Center
Boston, MA 02111
Customer No. 30623

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or patent issued thereon.

Inventor's Signature: Alex Krichevsky Date
Full Name of Inventor: Alex Krichevsky
Citizenship: U.S.
Residence: Laguna Beach, California
Post Office Address: P.O. Box 1892, Laguna Beach, CA, 92652

Inventor's Signature: Constance Nash October 16, 2006 Date
Full Name of Inventor: Constance Nash
Citizenship: U.S.
Residence: Laguna Beach, California
Post Office Address: P.O. Box 1892, Laguna Beach, CA, 92652

TRA 2177931v.2

OIPE IAP19 OCT 19 2006 PATENT & TRADEMARK OFFICE

Express Mail No.: EV 461503974 US
Date of Deposit: October 19, 2006

Attorney Docket No. 34373-501-059

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORS: Alex Krichevsky, et al

APPLICATION NO.: 10/892,690 EXAMINER: Gims S. Philippe

FILING DATE: July 16, 2004 ART UNIT: 2621

FOR: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

OIPE IAP19 OCT 19 2006 PATENT & TRADEMARK OFFICE

VIA ELECTRONIC FILING

STATEMENT OF INVENTOR IN CONNECTION WITH PETITION FOR CORRECTION OF INVENTORSHIP

Pursuant to 37 C.F.R. §1.48(a)(2) the undersigned hereby states that the error in naming the inventors in the above-referenced application occurred without deceptive intention.

Respectfully submitted,

Inventor's Signature: Constance Nash Date 10/16/2006

Full Name of Inventor: Constance Nash

TRA 2177632v.2

BEST AVAILABLE COPY

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UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky	34373-501-059	6612

30623 7590 05/29/2007

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY
AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON, MA 02111

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2621	
MAIL DATE	**DELIVERY MODE**
05/29/2007	PAPER

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

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

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10/892,690	07/16/04	Krichevsky	34373-501-059

EXAMINER	
G. PHILIPPE	
ART UNIT	**PAPER**
2621	20070524

DATE MAILED:

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

Commissioner for Patents

The Petition for Correction of Inventorship filed on July 21, 2006 has been GRANTED.
Based upon the evidence submitted by the applicant, the Examiner will proceed with the prosecution of the case.

The petition is hereby GRANTED.

Gims S Philippe
Primary Examiner
Art Unit: 2621

PTO-90C (Rev.04-03)

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky	34373-501-059	6612

30623 7590 03/21/2008

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY
AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON, MA 02111

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2621	

MAIL DATE	DELIVERY MODE
03/21/2008	PAPER

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

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

Office Action Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

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

Status

1)☐ Responsive to communication(s) filed on _____.

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

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

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

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

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

Application Papers

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

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

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

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

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/14/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is a first office action in response to application no. 10/892,690 filed on July 17, 2004 in which claims 1-20 are presented for examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kafri et al. (US Patent no. 4776013).

Regarding claims 1, 12 and 14, Kafri discloses a system for transmitting data (See Abstract). The system comprising a frame analysis system receiving frame data and generating region data (See col. 2, lines 61-64); and a pixel selection system receiving the region data and generating one set of pixel data for each region (See col. 3, lines 60-68 and col. 4, lines 1-6).

Regarding claims 2 and 13, Kafri further discloses a system wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and

generating the region data based on pixel variation data from the two or more sets of pixel data (See col. 1, lines 22-35).

As per claims 3 and 15, Kafri further discloses a system wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data (See col. 1, lines 22-43).

As per claims 4, 17-18, Kafri further discloses a system wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data (See col. 3, lines 3-19).

As per claims 5 and 19, Kafri further discloses a system wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data (See col. 1, lines 36-52).

As per claims 6 and 20, Kafri further discloses a system wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data (See col. 7, lines 9-26).

As per claim 7, Kafri further discloses a system wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions (See col. 3, lines 3-22).

As per claim 8, Kafri further discloses a system comprising a data receiving system receiving the region data and the pixel data for each region and generating a display (See col. 3, lines 50-59, col. 4, lines 7-11).

As per claim 9, Kafri further discloses a system wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data (See col. 3, lines 3-22).

As per claim 10, Kafri further discloses a system wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data (See col. 4, lines 7-23).

As per claims 11 and 16, Kafri discloses a method for transmitting data comprising: receiving frame data; generating matrix data from the frame data; selecting one of two or more sets of pixel data based on the matrix data; and transmitting the pixel data and

the matrix data (See col. 1, lines 22-35 and col. 2, lines 61-64).

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Keith et al. (US Patent no. 4785349) teaches digital video decompression system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dastouri Mehrdad can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

Gims S Philippe
Primary Examiner
Art Unit 2621

/G. S. P./

/Gims S Philippe/

Notice of References Cited	Application/Control No. 10/892,690	Applicant(s)/Patent Under Reexamination KRICHEVSKY ET AL.	
	Examiner Gims S. Philippe	Art Unit 2621	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-4,785,349	11-1988	Keith et al.	375/240.23
*	B	US-4,776,013	10-1988	Kafri et al.	380/54
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

TFW

OIPE IAP19
OCT 14 2005
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/892,690	Confirmation No. 6612
Applicant	:	Alexander Krichevsky	
Filed	:	July 16, 2004	
Art Unit	:	2621	
Examiner	:	Not Yet Assigned	
Docket No.	:	20354.0012	
Customer No.	:	33649	

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Certificate of Mailing Under 37 C.F.R. 1.8(a)

I hereby certify that these documents are being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the address indicated on the date indicated below:
Dated: October 12, 2005

Lorraine Davidoff
Lorraine Davidoff

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

In accordance with the requirements of 37 C.F.R. §§ 1.97 and 1.98, attached please find Forms PTO/SB/08A and PTO/SB/08A listing information for consideration by the U.S. Patent and Trademark Office in connection with its examination of the above-referenced patent application. A copy of each document listed is enclosed herewith.

Applicants submit that no representation is made, and no representation is intended, that more relevant material does not exist, or that the order of presentation of these materials in any way reflects their relative pertinence. The listings on the attached Forms PTO/SB/08A PTO/SB/08B are not intended to constitute an admission of any kind. Specifically, this presentation is not an admission that any of the items listed are properly citable against the above-identified application as prior art. Applicants respectfully submit that their invention is patentable over the enclosed documents listed on Forms PTO/SB/08A and PTO/SB/08B.

Pursuant to §1.97(e)(1), each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this information disclosure statement and, therefore, no fee is believed to be due.

No fee is believed to be due with the filing of this Information Disclosure Statement; however, the Commissioner of Patents and Trademarks is hereby authorized to charge any fee deficiency or to credit any fee overpayment relating to this matter to Deposit Account No. 50-0530.

Dated: October 12, 2005

Respectfully submitted,

GODWIN GRUBER LLP

By _____
Christopher J. Rourk
Reg. No. 39,348

1201 Elm Street, Suite 1700
Dallas, Texas 75270-2084
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Email: crourk@godwingruber.com

OIPE IAP20 OCT 14 2005 PATENT & TRADEMARK OFFICE

PTO/SB/08A (07-05)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known	
Application Number	10/892,690
Filing Date	July 16, 2005
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Not Yet Assigned
Attorney Docket Number	20354.0012

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number Number-Kind Code[2] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/GP/		US- 5,778,092	07-07-1998	MacLeod et al.	
/GP/		US- 5,784,175	07-21-1998	Lee	
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]-Number[4]-Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T[6]
/GP/		EP 0 712 088 A2	05-15-1996	Shin-Ywan Wang		
/GP/		EP 1 006 715 A2	06-07-2000	Holladay et al.		
/GP/		EP 1 006 717 A2	06-07-2000	de Queiroz et al.		

Examiner Signature	/Gims Philippe/	Date Considered	03/16/2008

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

PTO/SB/08B (07-05)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 2 of 2

Complete if Known	
Application Number	10/892,690
Filing Date	July 16, 2005
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Not Yet Assigned
Attorney Docket Number	20354.0012

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
/GP/	1	Supplementary European Search Report, dated 09-23-2005.	

Examiner Signature	/Gims Philippe/	Date Considered	03/16/2008

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

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S197	0	shift$3 and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:27
S198	1	lenticular$1 and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:28
S199	1	(lenticular$1 near8 direction) and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:31
S200	1	(3d or dimension $) and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:36
S201	0	virtual$ and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:48
S202	2	images and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:49
S203	2	original and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:52
S204	1	(original near3 (image or picture)) and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:52
S205	1	((multiple or plurality) near4 (image or picture)) and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:54
S206	1	printer and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 02:59
S207	2	record$ and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 03:04
S208	2	(record$ near8 display$3) and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 03:05

S209	1	select$3 and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 03:06
S210	2	photograph$ and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 03:25
S211	0	digital$ and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 03:36
S212	1	(camera or ccd) and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 03:36
S213	1	background and "5695346".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2008/03/16 03:43

3/16/08 4:26:06 PM
C:\Documents and Settings\gphilippe\My Documents\EAST\Workspaces\10753690.pts.wsp

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UNITED STATES DEPARTMENT OF COMMERCE
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BIB DATA SHEET

CONFIRMATION NO. 6612

SERIAL NUMBER	FILING or 371(c) DATE / RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/892,690	07/16/2004	382	2621	34373-501-059

APPLICANTS

Alexander Krichevsky, Laguna Beach, CA;
Constance Nash, Laguna Beach, CA;

**** CONTINUING DATA ***************************

This application is a CON of PCT/US02/00503 01/16/2002

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **

09/13/2004

Foreign Priority claimed	35 USC 119(a-d) conditions met	Verified and Acknowledged	Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ Yes ☑ No	☐ Yes ☑ No	/GIMS S PHILIPPE/ Examiner's Signature	☐ g.p. Initials	CA	4	20	3

ADDRESS

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY
AND POPEO, P.C.
ONE FINANCIAL CENTER
BOSTON, MA 02111
UNITED STATES

TITLE

Optimized data transmission system and method

FILING FEE RECEIVED		
385	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

BIB (Rev. 05/07).

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	**Art Unit**
	Gims S Philippe	2621

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

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

CLAIM		DATE								
Final	Original	03/17/2008								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
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	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	Art Unit
	Gims S Philippe	2621

SEARCHED			
Class	Subclass	Date	Examiner
375	240.01, 240.15, 240.23	3/17/08	GP
380	54		GP

SEARCH NOTES		
Search Notes	Date	Examiner
Text searched; class/subclass	3/17/08	GP

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky	34373-501-059	6612

30623 7590 06/16/2008

MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C
ATTN: PATENT INTAKE CUSTOMER NO. 30623
ONE FINANCIAL CENTER
BOSTON, MA 02111

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2621	
MAIL DATE	**DELIVERY MODE**
06/16/2008	PAPER

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Gims S. Philippe*.

(2) *David Crosby*.

(3)*Constance Nash*.

(4)*William Stracher*.

Date of Interview: *11 June 2008*.

Type: a)☐ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☒ applicant 2)☒ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *Of record*.

Identification of prior art discussed: *Kafri (US Patent no. 4776013)*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *The Applicant argued that Kafri does not generate region data and does not perform pixel data selection.*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Gims S Philippe/
Primary Examiner, Art Unit 2621
Examiner's signature, if required

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

IN THE UNITED STATE PATENT AND TRADEMARK OFFICE

Applicant:	Krichevsky, et al.
Serial No.:	10/892,690
Filed:	16 July 2004
For:	Optimized Data Transmission System and Method
Examiner:	Gims Philippe
Art Unit:	2621

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION MAILED MARCH 21, 2008

Sir:

In response to the Office Action dated March 21, 2008, please amend the application as follows and consider the following remarks.

Amendments to the claims are reflected in the listing of claims, which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

In the claims:

1.(Original) A system for transmitting data comprising:

a frame analysis system receiving frame data and generating region data; and

a pixel selection system receiving the region data and generating one set of pixel data for each region.

2.(Original) The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3.(Original) The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4.(Original) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5.(Original) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Original) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Original) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Original) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Original) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Original) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Original) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Original) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel data from a matrix of sets of pixel data.

15. (Original) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Original) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set pixel of pixel data from each region; and transmitting region data and the pixel data for each region.

17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21.(Newly Presented) A system for transmitting data comprising:

a frame analysis system receiving frame data, setting a region size based on pixel variation data and generating region data; and

a pixel selection system receiving the region data and generating one set of pixel data for each region.

22.(Newly Presented) A system for transmitting data comprising:

a frame analysis system receiving frame data, selecting one or more regions based on the frame data and generating region data; and

a pixel selection system receiving the region data and generating one set of pixel data for each region.

REMARKS

As an initial matter, the undersigned attorney for Applicant thanks Examiner Philippe for the personal interview of June 11, 2008. During the interview, the present invention, the claims and prior art were discussed, however no agreement with respect to the claims was reached.

In response to the Office Action dated March 21, 2008, Applicant respectfully requests reconsideration. Claims 1 – 20 remain in this application and new claims 21 and 22 have been added. No new matter had been added. The application is believed to be in allowable condition.

In the Office Action dated March 21, 2008, claims 1 - 20 were rejected as being anticipated by Kafri et al (US 4,776,013). Applicant respectfully traverses this rejection as Kafri does not disclose or suggest the elements of the claims.

Kafri is directed to a method of encoding an optical image, which includes using a master grid to convert the optical image to an encoded image grid comprised of an image matrix of pixels each having at least two possible intensity values. Kafri does not disclose a frame analysis system receiving frame data and generating region data (per claims 1, 21 and 22), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame of data using the master grid. Further, Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16). Accordingly claims 1, 11, 16 and 21 - 22 are patentable over Kafri and dependent claims 2 -10, 12 - 15, and 17-20 are allowable for the same reasons.

As discussed in the interview of June 11, 2008, the present invention is directed to a system for transmitting data that includes a frame analysis system that receives frame data and generates region data and a pixel selection system that receives the region data and generates one set of pixel data for each region. As discussed in the interview, none of the prior art disclose a system that generates region data and generates one set of pixel data for each region. In this way, data transmission can be optimized. Accordingly, the present invention is believed to be patentable over the prior art.

During the interview of June 11, 20087, the Examiner suggested that adding elements from claim 13 to claim 1 might be patentable. Accordingly, newly presented claims 21 and 22 are presented for consideration. Claim 21 includes the elements of claims 1 and 13 as originally filed and the claim is supported by the application as originally filed. Claim 22 is similar to claim 21, and is further supported by the disclosure as originally filed at pages 7 - 10.

For the reasons provided herein, claims 1 - 22, are patentable over the prior art. Applicants believe this application to be in condition for allowance, and a notice to that effect is respectfully requested. If there are any further issues which would prevent this application from being passed to issue, the Examiner is encourage to contact the undersigned attorney at the number provided below in order to expedite prosecution and allowance of the present application.

Respectfully submitted,

/David F. Crosby/

David F. Crosby, Esq. (Reg. No. 36,400)
Mintz, Levin, Cohn, Ferris
Glovsky and Popeo, P.C.
One Financial Center
Boston, MA 02111
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Attorney for Applicant
Customer No. 30623

Date: August 21, 2008

4371859v.1

Filed Via EFS
Date of Deposit: August 21, 2008 **Attorney Docket No: 34373-501-059**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):	Krichevsky et al.		
APPLICATION NUMBER:	10/892,690	**EXAMINER:**	Gims Philippe
FILING DATE:	July 16, 2004	**ART UNIT:**	2621
FOR:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD		

MAIL STOP AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION FOR EXTENSION OF TIME

Pursuant to 37 C.F.R. §1.136(a), Applicants hereby petition for a two-month extension of time to respond to the Office Action mailed March 21, 2008 in the above-identified application. With the extension, a response is due on or before August 21, 2008. Payment in the amount of $230.00 to cover the fee pursuant to 37 C.F.R. § 1.17(a)(2) has been made electronically.

Please charge any additional fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 34373-501-059.

Respectfully submitted,

/David F. Crosby/

Dated: August 21, 2008

David F. Crosby, Reg. No. 36,400
Attorney for Applicants
MINTZ LEVIN COHN FERRIS
GLOVSKY & POPEO PC
Tel.: (617) 542-6000
Fax: (617) 542-2241
Customer No.: 30623

ACTIVE 4410321v.1

Electronic Patent Application Fee Transmittal

Application Number:	10892690
Filing Date:	16-Jul-2004
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Filer:	David F. Crosby
Attorney Docket Number:	34373-501-059

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 2 months with $0 paid	2252	1	230	230

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**230**

Electronic Acknowledgement Receipt	
EFS ID:	3816258
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	30623
Filer:	David F. Crosby
Filer Authorized By:	
Attorney Docket Number:	34373-501-059
Receipt Date:	21-AUG-2008
Filing Date:	16-JUL-2004
Time Stamp:	12:13:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$230
RAM confirmation Number	20871
Deposit Account	500311
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		34373-501-059OAResponse.pdf	77405 d31ddcd331088ddfedff170ea95067818c930651	yes	7
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment - After Non-Final Rejection		1	1	
	Claims		2	5	
	Applicant Arguments/Remarks Made in an Amendment		6	7	
Warnings:					
Information:					
2	Extension of Time	34373-501-059EOT.pdf	80693 3f45c6958582731fc4a61160e6ce7368087ce21d	no	1
Warnings:					
Information:					
3	Fee Worksheet (PTO-06)	fee-info.pdf	29978 8d02dad84798bd5a2f84164dba3063cd2a1d0e2d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	188076		

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

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

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

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

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 09/23/2008

GWOOTEN	SALE	#00000001	Mailroom Dt: 08/21/2008	500311	10892690	
		01	FC : 1201	210.00 DA		
		02	FC : 1202	50.00 DA		

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/892,690	07/16/2004	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 08/21/2008	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 22	Minus	** 20	= 2	X $25 =	50	OR	X $ =	
Independent (37 CFR 1.16(h))	* 5	Minus	***3	= 2	X $105 =	210	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	260	OR	TOTAL ADD'L FEE	

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

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

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

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

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

Legal Instrument Examiner:
/GAIL D. D. WOOTEN/

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

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

OIPE IAP84 OCT 17 2008 PATENT & TRADEMARK OFFICE

IN THE UNITED STATE PATENT AND TRADEMARK OFFICE

Applicant:	Krichevsky, et al.
Serial No.:	10/892,690
Filed:	16 July 2004
For:	Optimized Data Transmission System and Method
Examiner:	Gims Philippe
Art Unit:	2621

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION MAILED MARCH 21, 2008

Sir:

In response to the Office Action dated March 21, 2008, please amend the application as follows and consider the following remarks.

Amendments to the claims are reflected in the listing of claims, which begins on page 2 of this paper.

Remarks begin on page 6 of this paper.

10-20-08

Ip
1 BOX SGQ

Holdings Limited
Cornerstone Group Ltd

633 Lido Park Drive, Newport Beach, CA 92663/ 949.295.0080 hg-1@cox.net
P.O. Box 1892. Laguna Beach, California 92652

OIPE IAP84
OCT 17 2008
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Krichevsky, Nash
Serial No: 10/892,690
Filed: January 16 2002 PCT, July 16 2004
For: Optimized Data Transmission System and Method
Examiner: Gims Phillippe
Art Unit: 2621

Mail Stop Amendment ~~CD ROM addition~~
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the oral hearing of June 11, 2008, wherein you requested to have this copy of the enclosed demo of the codec that follows the patent and is an embodiment of the invention and all claims, it is herewith enclosed. It may be entered into the file as you requested. We regret we forgot to leave it with you.

RESPONSE TO OFFICE ACTION MAILED MARCH 21, 2008

Are on file as of August 21, 2008. This Demo should be added to that Response.

Constance Nash,
Inventor

ARTIFACT SHEET

Enter artifact number below. Artifact number is application number + artifact type code (see list below) + sequential letter (A, B, C …). The first artifact folder for an artifact type receives the letter A, the second B, etc.. Examples: 59123456PA, 59123456PB, 59123456ZA, 59123456ZB

10892690UA

Indicate quantity of a single type of artifact received but not scanned. Create individual artifact folder/box and artifact number for each Artifact Type.

[1] CD(s) containing:
- computer program listing — [ ] — Doc Code: Computer — Artifact Type Code: P
- pages of specification and/or sequence listing and/or table — [ ] — Doc Code: Artifact — Artifact Type Code: S
- content unspecified or combined — [1] — Doc Code: Artifact — Artifact Type Code: U

[ ] Stapled Set(s) Color Documents or B/W Photographs
Doc Code: Artifact Artifact Type Code: C

[ ] Microfilm(s)
Doc Code: Artifact Artifact Type Code: F

[ ] Video tape(s)
Doc Code: Artifact Artifact Type Code: V

[ ] Model(s)
Doc Code: Artifact Artifact Type Code: M

[ ] Bound Document(s)
Doc Code: Artifact Artifact Type Code: B

[ ] Confidential Information Disclosure Statement or Other Documents marked Proprietary, Trade Secrets, Subject to Protective Order, Material Submitted under MPEP 724.02, etc.
Doc Code: Artifact Artifact Type Code X

[ ] Other, description: _____
Doc Code: Artifact Artifact Type Code: Z

March 8, 2004

Doc Code: PET.POA.WDRW
Document Description: Petition to withdraw attorney or agent (SB83)

PTO/SB/83 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	10/892,690
Filing Date	July 16, 2004
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Gims S. Philippe
Attorney Docket Number	34373-501-059

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Please withdraw me as attorney or agent for the above identified patent application, and

☐ all the practitioners of record;

☐ the practitioners (with registration numbers) of record listed on the attached paper(s); or

☑ the practitioners of record associated with Customer Number: 30623

NOTE: The immediately preceding box should only be marked when the practitioners were appointed using the listed Customer Number.

The reason(s) for this request are those described in 37 CFR :

☐ 10.40(b)(1)	☐ 10.40(b)(2)	☐ 10.40(b)(3)	☐ 10.40(b)(4)
☐ 10.40(c)(1)(i)	☐ 10.40(c)(1)(ii)	☐ 10.40(c)(1)(iii)	☐ 10.40(c)(1)(iv)
☐ 10.40(c)(1)(v)	☐ 10.40(c)(1)(vi)	☐ 10.40(c)(2)	☐ 10.40(c)(3)
☐ 10.40(c)(4)	☑ 10.40(c)(5)	☐ 10.40(c)(6) Please explain below:	

In an E-mail dated November 26, 2008, Constance Nash, Inventor and President of the Assignee of Record has asked Mintz Levin to withdraw at attorneys and agents of record, so she may prosecute the application pro se.

Certifications

Check each box below that is factually correct. WARNING: If a box is left unchecked, the request will likely not be approved.

1. ☐ I/We have given reasonable notice to the client, prior to the expiration of the response period, that the practitioner(s) intend to withdraw from employment.

2. ☐ I/We have delivered to the client or a duly authorized representative of the client all papers and property (including funds) to which the client is entitled.

3. ☐ I/We have notified the client of any responses that may be due and the time frame within which the client must respond.

Please provide an explanation, if necessary:

The client has asked us to withdraw so she may prosecute the application pro se. As to 1 and 3, there is presently no response due in the above application. As to 3, the file will be sent to the client by 3 Dec. 2008.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/SB/83 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Complete the following section only when the correspondence address will change. *Changes of address will only be accepted to an inventor or an assignee that has properly made itself of record pursuant to 37 CFR 3.71.*

Change the correspondence address and direct all future correspondence to:

A. ☐ The address of the inventor or assignee associated with Customer Number: _____

OR

B. ☑ Inventor or Assignee name	Constance Nash, Inventor, Cornerstone Group Ltd.		
Address	P. O. Box 1892		
City Laguna Beach	State CA	Zip 92652	Country USA
Telephone 949-340-6467	Email stonelimited@gmail.com		

I am authorized to sign on behalf of myself and all withdrawing practitioners.

Signature	/David F. Crosby/		
Name	David F. Crosby	Registration No. 36,400	
Address	Mintz Levin, One Financial Center		
City Boston	State MA	Zip 02111	Country USA
Date	1 December 2008	Telephone No. 617-542-6000	

NOTE: ***Withdrawal is effective when approved rather than when received.***

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Privacy Act Statement

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

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

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

Electronic Acknowledgement Receipt

EFS ID:	4373842
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	30623
Filer:	David F. Crosby
Filer Authorized By:	
Attorney Docket Number:	34373-501-059
Receipt Date:	01-DEC-2008
Filing Date:	16-JUL-2004
Time Stamp:	16:41:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition to withdraw attorney or agent (SB83)	34373-501Withdrawal.pdf	345510 076cac3e6ae74c7e7111ca8336f62ac503ad2ff3	no	3
Warnings:					
Information:					

Total Files Size (in bytes):	345510

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

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

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

New International Application Filed with the USPTO as a Receiving Office
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):	Krichevsky et al.	ASSIGNEE:	Cornerstone Group Ltd.
SERIAL NO.:	10/892,690	FILING DATE:	July 16, 2004
TITLE:	Optimized Data Transmission System and Method		

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

POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST– REVOCATION OF PRIOR POWERS, NEW POWER OF ATTORNEY, AND STATEMENT UNDER 37 C.F.R. 3.73(b)

Sir:

As an authorized representative of the assignee of record of the entire right, title, and interest in the above-identified patent application, I hereby revoke all powers of attorney previously given and hereby appoint the registered patent practitioners associated with **Customer Number 022832** as our attorneys or agent(s) to prosecute and transact all business in the U.S. Patent and Trademark Office connected therewith.

Please direct all correspondence for the above-identified patent application to the address associated with the above Customer Number.

The assignee of record of the entire right, title, and interest in the above-identified patent application is Cornerstone Group Ltd., by virtue of the chain of title from the inventors of the above-identified patent application to the current assignee, as shown below.

From Alex Krichevsky and Constance Nash, respectively, to Cornerstone Group Ltd., which Assignments have been recorded in the U.S. Patent and Trademark Office at Reel/ Frame: **018561/0737** and Reel/Frame: **019345/0534**.

Respectfully submitted,

Dated: _____

_____
Constance Nash
CORNERSTONE GROUP LTD.
P.O. BOX 1892
LAGUNA BEACH, CALIFORNIA 92652

Electronic Acknowledgement Receipt

EFS ID:	4460805
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	30623
Filer:	James A. Culverwell
Filer Authorized By:	
Attorney Docket Number:	34373-501-059
Receipt Date:	16-DEC-2008
Filing Date:	16-JUL-2004
Time Stamp:	08:40:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	POA.PDF	39914 8e7ab8318a0d482f22d53828075d4cc55e1f5dfa	no	1

Warnings:	
Information:	

Total Files Size (in bytes):	39914

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

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

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

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

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	34373-501-059

CONFIRMATION NO. 6612

22832
K&L Gates LLP
STATE STREET FINANCIAL CENTER
One Lincoln Street
BOSTON, MA 02111-2950

POA ACCEPTANCE LETTER

OC000000033711890

Date Mailed: 12/23/2008

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 12/16/2008.

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

/gbien-aime/

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

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	34373-501-059

CONFIRMATION NO. 6612

30623
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C
ONE FINANCIAL CENTER
BOSTON, MA 02111

POWER OF ATTORNEY NOTICE

OC000000033711840

Date Mailed: 12/23/2008

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 12/16/2008.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/gbien-aime/

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C
ONE FINANCIAL CENTER
BOSTON, MA 02111

COPY MAILED

JAN 2 1 2009

In re Application of :
KRICHEVSKY, Alexander et al. :
Application No. 10/892,690 : DECISION ON PETITION
Filed: July 16, 2004 : TO WITHDRAW
Attorney Docket No. **34373-501-059** : FROM RECORD
:

This is a decision on the Request to Withdraw as attorney or agent of record under 37 C.F.R. § 1.36(b), filed December 01, 2008.

The request is **NOT APPROVED** because it is moot.

A review of the file record indicates that the power of attorney to Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C has been revoked by the assignee of the patent application on December 16, 2008. Accordingly, the request to withdraw under 37 C.F.R. § 1.36(b) is moot.

All future communications from the Office will continue to be directed to the below-listed address until otherwise notified by applicant.

Telephone inquires concerning this decision should be directed to Michelle R. Eason at 571-272-4231.

Michelle R. Eason
Paralegal Specialist
Office of Petitions

cc: **K&L GATES LLP**
STATE STREET FINANCIAL CENTER
ONE LINCOLN STREET
BOSTON MA 02111-2950

Doc Code: PET.POA.WDRW
Document Description: Petition to withdraw attorney or agent (SB83)

PTO/SB/83 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	10/892,690
Filing Date	July 16, 2004
First Named Inventor	Krichevsky
Art Unit	2621
Examiner Name	Philippe, Gims S.
Attorney Docket Number	34373-501-059

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Please withdraw me as attorney or agent for the above identified patent application, and

- ☐ all the practitioners of record;
- ☐ the practitioners (with registration numbers) of record listed on the attached paper(s); or
- ☑ the practitioners of record associated with Customer Number: 022832

NOTE: The immediately preceding box should only be marked when the practitioners were appointed using the listed Customer Number.

The reason(s) for this request are those described in 37 CFR :

☐ 10.40(b)(1)	☐ 10.40(b)(2)	☐ 10.40(b)(3)	☐ 10.40(b)(4)
☐ 10.40(c)(1)(i)	☐ 10.40(c)(1)(ii)	☐ 10.40(c)(1)(iii)	☑ 10.40(c)(1)(iv)
☐ 10.40(c)(1)(v)	☐ 10.40(c)(1)(vi)	☐ 10.40(c)(2)	☐ 10.40(c)(3)
☐ 10.40(c)(4)	☐ 10.40(c)(5)	☐ 10.40(c)(6) Please explain below:	

Certifications

Check each box below that is factually correct. WARNING: If a box is left unchecked, the request will likely not be approved.

1. ☑ I/We have given reasonable notice to the client, prior to the expiration of the response period, that the practitioner(s) intend to withdraw from employment.

2. ☑ I/We have delivered to the client or a duly authorized representative of the client all papers and property (including funds) to which the client is entitled.

3. ☑ I/We have notified the client of any responses that may be due and the time frame within which the client must respond.

Please provide an explanation, if necessary:

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/SB/83 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Complete the following section only when the correspondence address will change. *Changes of address will only be accepted to an inventor or an assignee that has properly made itself of record pursuant to 37 CFR 3.71.*

Change the correspondence address and direct all future correspondence to:

A. ☐ The address of the inventor or assignee associated with Customer Number: _____

OR

B. ☑ Inventor or Assignee name	Constance Nash, Cornerstone Group Ltd.		
Address P. O. Box 1892			
City Laguna Beach	State CA	Zip 92652	Country US
Telephone		Email	

I am authorized to sign on behalf of myself and all withdrawing practitioners.

Signature	/Thomas A. Turano/		
Name	Thomas A. Turano	Registration No. 35,722	
Address K&L Gates LLP, State Street Financial Center, One Lincoln Street			
City Boston	State MA	Zip 02111-2950	Country US
Date	January 23, 2009	Telephone No. 617-261-3148	

NOTE: ***Withdrawal is effective when approved rather than when received.***

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Electronic Acknowledgement Receipt	
EFS ID:	4665470
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	22832
Filer:	James A. Culverwell
Filer Authorized By:	
Attorney Docket Number:	34373-501-059
Receipt Date:	23-JAN-2009
Filing Date:	16-JUL-2004
Time Stamp:	15:01:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition to withdraw attorney or agent (SB83)	Withdrawal.pdf	257466 9aa4c4666e3fd2555dd0665adc2a1666c63f2dec	no	2

Warnings:
Information:

Total Files Size (in bytes):	257466

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky	34373-501-059	6612

22832 7590 02/03/2009

K&L Gates LLP
STATE STREET FINANCIAL CENTER
One Lincoln Street
BOSTON, MA 02111-2950

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2621	

MAIL DATE	DELIVERY MODE
02/03/2009	PAPER

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

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

Office Action Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

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

Status

1)☒ Responsive to communication(s) filed on *17 October 2008 and 23 December 2008*.

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

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

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

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

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

Application Papers

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

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

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

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

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. Applicant's amendment and response received on August 21, 2008 and October 17, 2008 have been considered and entered, but the arguments are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1-22 are rejected under 35 U.S.C. 101 as not falling within one of the four categories of inventions.

With respect to claims 1-22, Supreme Court precedent and recent Federal Circuit decision indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim recites a series of steps or acts to be performed, the claim neither transform underlying subject matter nor is positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

For example in claims 1, 21 and 22 the system for **transmitting data** including a frame analysis system and a pixel selection is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine.

The applicant has provided no explicit and deliberate definition of "generating region data" and "generating one set of pixel data" to limit the steps of encoding the new wavelet transform coefficients. In addition, the preamble of claims 1, 21 and 22 calls for transmitting data, however, there is no actual transmission steps in the claims.

As per claims 11 and 16, the method for **transmitting data** including steps of receiving, generating, selecting and transmitting is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally or without a machine.

The applicant has provided no explicit and deliberate definition of "receiving", "generating", selecting and "transmitting" to limit the steps of transmitting the pixel data.

Claims 2-10, 12-15 and 17-20 are rejected by dependency to claims 1, 11, and 16.

Note: Claims 1-20 were previously rejected in the Office action mailed on March 21, 2008.

Response to Arguments

4. The applicant argues that Kafri does not disclose a frame analysis system receiving frame data and generating region data as per claims 1, 21 and 22.
The examiner respectfully disagrees. Fig. 1 of Kafri clearly show receiving an image 10 and generating grid 16. The generated grid 16 is the region argued by the applicant. The claims call for generating set of pixel data for each region. To the examiner, the generated grids of a matrix of pixel with values representing the intensity value of the pixel is analogous to applicant's claims.
The claims are written very broad, the examiner reads the claims as broadly as possible. A clear reading of the claims will not distinguish over the prior art, namely Kafri (US 4776013).

The applicant argues that Kafri does not teach or suggest a pixel selection system. The examiner respectfully disagrees. Such disclosure is clearly shown in Fig. 8, where a matrices of 2X2 pixels are disclosed to provide grey level.

The Rejection will be repeated below in order to correlate with the amendment.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kafri et al. (US Patent no. 4776013).

Regarding claims 1, 12, 14, Kafri discloses a system for transmitting data (See Abstract). The system comprising a frame analysis system receiving frame data and generating region data (See col. 2, lines 61-64); and a pixel selection system receiving the region data and generating one set of pixel data for each region (See col. 3, lines 60-68 and col. 4, lines 1-6).

Regarding claims 2 and 13, Kafri further discloses a system wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data (See col. 1, lines 22-35).

As per claims 3 and 15, Kafri further discloses a system wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data (See col. 1, lines 22-43).

As per claims 4, 17-18, Kafri further discloses a system wherein the frame analysis system comprises a matrix identification system receiving matrix size data and

generating matrix identification data (See col. 3, lines 3-19).

As per claims 5 and 19, Kafri further discloses a system wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data (See col. 1, lines 36-52).

As per claims 6 and 20, Kafri further discloses a system wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data (See col. 7, lines 9-26).

As per claim 7, Kafri further discloses a system wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions (See col. 3, lines 3-22).

As per claim 8, Kafri further discloses a system comprising a data receiving system receiving the region data and the pixel data for each region and generating a display (See col. 3, lines 50-59, col. 4, lines 7-11).

As per claim 9, Kafri further discloses a system wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data (See col. 3, lines 3-22).

As per claim 10, Kafri further discloses a system wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data (See col. 4, lines 7-23).

As per claims 11 and 16, Kafri discloses a method for transmitting data comprising: receiving frame data; generating matrix data from the frame data; selecting one of two or more sets of pixel data based on the matrix data; and transmitting the pixel data and the matrix data (Seecol.1, lines 22-35 and col. 2, lines 61-64).

As per claims 21 and 22, see the rejection of claims 1-3 above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

Gims S Philippe
Primary Examiner
Art Unit 2621

/G. S. P./
/Gims S Philippe/
Primary Examiner, Art Unit 2621

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	**Art Unit**
	Gims S Philippe	2621

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

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

CLAIM		DATE								
Final	Original	03/17/2008	02/02/2009							
	1	✓	✓							
	2	✓	✓							
	3	✓	✓							
	4	✓	✓							
	5	✓	✓							
	6	✓	✓							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	✓							
	16	✓	✓							
	17	✓	✓							
	18	✓	✓							
	19	✓	✓							
	20	✓	✓							
	21		✓							
	22		✓							

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	Art Unit
	Gims S Philippe	2621

SEARCHED			
Class	Subclass	Date	Examiner
375	240.01, 240.15, 240.23	3/17/08	GP
380	54		GP

SEARCH NOTES		
Search Notes	Date	Examiner
Text searched; class/subclass	3/17/08	GP
Updated searched areas	2/2/09	GP

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	34373-501-059

CONFIRMATION NO. 6612

22832
K&L Gates LLP
STATE STREET FINANCIAL CENTER
One Lincoln Street
BOSTON, MA 02111-2950

POWER OF ATTORNEY NOTICE

OC000000034795914

Date Mailed: 03/02/2009

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/23/2009.

- The withdrawal as attorney in this application has been accepted. Future correspondence will be mailed to the new address of record. 37 CFR 1.33.

/mreason/

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

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K&L GATES LLP
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BOSTON MA 02111-2950

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OFFICE OF PETITIONS

In re Application of :
KRICHEVSKY, Alexander et al. :
Application No. 10/892,690 : DECISION ON PETITION
Filed: July 16, 2004 : TO WITHDRAW
Attorney Docket No. **34373-501-059** : FROM RECORD

This is a decision on the Request to Withdraw as attorney or agent of record under 37 C.F.R. § 1.36(b), filed January 23, 2009.

The request is **APPROVED**.

A grantable request to withdraw as attorney/agent of record must be signed by every attorney/agent seeking to withdraw or contain a clear indication that one attorney is signing on behalf of another/others. The Office requires the practitioner(s) requesting withdrawal to certify that he, she, or they have: (1) given reasonable notice to the client, prior to the expiration of the response period, that the practitioner(s) intends to withdraw from employment; (2) delivered to the client or a duly authorized representative of the client all papers and property (including funds) to which the client is entitled; and (3) notified the client of any responses that may be due and the time frame within which the client must respond, pursuant 37 CFR 10.40(c).

The request was signed by Thomas A. Turano on behalf of all attorneys of record who are associated with customer No. 22832. All attorneys/agents associated have been withdrawn. Applicant is reminded that there is no attorney of record at this time.

All future correspondence will be directed to the first named inventor Alexander Krichevsky at the address indicated below.

There is an outstanding Office action mailed February 03, 2009 that requires a reply from the applicant.

Telephone inquiries concerning this decision should be directed to Michelle R. Eason at 571-272-4231.

Michelle R. Eason
Paralegal Specialist
Office of Petitions

cc: **ALEXANDER KRICHEVSKY**
CONSTANCE NASH
CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

UNITED STATES PATENT AND TRADEMARK OFFICE

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

Bib Data Sheet

CONFIRMATION NO. 6612

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/892,690	07/16/2004 RULE	375	2621	

APPLICANTS

Alexander Krichevsky, Laguna Beach, CA;
Constance Nash, Laguna Beach, CA;

**** CONTINUING DATA ***************************

This application is a CON of PCT/US02/00503 01/16/2002

**** FOREIGN APPLICATIONS ********************

IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** SMALL ENTITY **
** 09/13/2004

Foreign Priority claimed	STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
☐ yes ☐ no 35 USC 119 (a-d) conditions met ☐ yes ☐ no ☐ Met after Allowance Verified and Acknowledged Examiner's Signature Initials	CA	4	20	3

ADDRESS

ALEXANDER KRICHEVSKY
CONSTANCE NASH
CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA92652

TITLE

Optimized data transmission system and method

FILING FEE RECEIVED	FEES: Authority has been given in Paper	
645	No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/892,690
Filing Date	July 16, 2004
First Named Inventor	Krichevsky
Art Unit	2621
Examiner Name	Philipe, Gims S.
Attorney Docket Number	

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☑ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) _____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☑ Other Enclosure(s) (please Identify below):
  Statement Under 37 CFR 3.73(b)

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	CORNERSTONE GROUP LTD.		
Signature	/Constance Nash, PhD/		
Printed name	Constance Nash		
Date	MARCH 21, 2009	Reg. No.	

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	/Constance Nash/		
Typed or printed name	Constance Nash	Date	MARCH 21, 2009

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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MAR 23 2009
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PTO/SB/122 (11-08)
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CHANGE OF CORRESPONDENCE ADDRESS
Application

Address to:
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	10/892,690
Filing Date	July 16, 2004
First Named Inventor	Krichevsky
Art Unit	2621
Examiner Name	Philippe, Gims S.
Attorney Docket Number	

Please change the Correspondence Address for the above-identified patent application to:

☐ The address associated with Customer Number: ____

OR

☑ Firm or Individual Name: Cornerstone Group, Ltd., c/o President Constance Nash

Address: P. O. Box 1892

City	State	Zip
Laguna Beach	CA	92652

Country: US

Telephone: 949 340-6467 Email: STONELIMITED@GMAIL.COM

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

I am the:

☐ Applicant/Inventor

☑ Assignee of record of the entire interest.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

☐ Attorney or agent of record. Registration Number _____.

☐ Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number_____.

Signature: /Constance Nash/

Typed or Printed Name: Constance Nash, President, Cornerstone Group, Ltd.

Date: MARCH 21, 2009 Telephone: 949 340-6467

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

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

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OIPE MAR 23 2009 PATENT & TRADEMARK OFFICE

PTO/SB/96 (02-09)
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Cornerstone Group, Ltd.

Application No./Patent No.: 10/892,690 Filed/Issue Date: July 16, 2004

Titled:

Cornerstone Group, Ltd. , a corporation

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

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;

2. ☐ an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is _____ %); or

3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

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

OR

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

1. From: Alex Krichevsky To: Cornerstone Group, Ltd.

The document was recorded in the United States Patent and Trademark Office at Reel 018561, Frame 0737, or for which a copy thereof is attached.

2. From: Constance Nash To: Cornerstone Group, Ltd.

The document was recorded in the United States Patent and Trademark Office at Reel 019345, Frame 0534, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

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

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

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

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

/Constance Nash/ MARCH 21, 2009

Signature Date

Constance Nash President

Printed or Typed Name Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Date: Friday, March 20, 2009 11:24 AM
From: Turano, Thomas A. <Thomas.Turano@klgates.com>
To: hg-1@cox.net
Cc: Perry, David <david.perry@klgates.com>, Turano, Thomas A. <Thomas.Turano@klgates.com>
Subject: Cornerstone

Hello Connie,
Give it some time to get through the system and if you need further information it's probably best to call the electronic business center helpdesk at 866-217-9197 or 571-272-4100. If they can't help you, they will transfer you to someone who can.
Tom

Thomas A. Turano, Esq.
K&L Gates LLP
State Street Financial Center
One Lincoln Street
Boston, Massachusetts
02111-2950
Direct: +01-617-261-3148
Main: +01-617-261-3100
Fax: +01-617-261-3175
Email: thomas.turano@klgates.com
Website: www.klgates.com

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 06/16/2009

Cornerstone Group, Ltd.
c/o President Constance Nash
P. O. Box 1892
Laguna Beach, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2621	

MAIL DATE	DELIVERY MODE
06/16/2009	PAPER

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Gims S. Philippe*. (3)_____.

(2) *Constance Nash*. (4)_____.

Date of Interview: *14 April 2009*.

Type: a)☐ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☒ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *Of record*.

Identification of prior art discussed: *Kafri et al. (US Patent no. 4776013)*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *The applicant will amend the claims in order to overcome the reference*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Gims S Philippe/ Primary Examiner, Art Unit 2621	

PTO/SB/80 (12-03)
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby appoint:

☒ Practitioners associated with the Customer Number: 000047533

OR

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

Name	Registration Number

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

Assignee Name and Address:

Cornerstone Group, Ltd.
P.O. Box 1892
Laguna Beach. CA 92651

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

SIGNATURE of Assignee of Record

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

Name	Constance Nash		
Signature		Date	July 14, 2009
Title	President	Telephone	

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

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PTO/SB/96 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Cornerstone Group, Ltd.

Application No./Patent No.: 10/892,690 Filed/Issue Date: 7/16/2004

Entitled: Optimized Data Transmission System and Method

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

states that it is:

1. [✓] the assignee of the entire right, title, and interest; or

2. [ ] an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is_____ %

in the patent application/patent identified above by virtue of either:

A. [✓] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 018561, Frame 0737, or for which a copy thereof is attached.
019345 0534

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[ ] Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

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

Signature	July 21, 2009 Date
Joel D. Voelzke (37,957) Printed or Typed Name	(310) 317-4466 Telephone Number
Attorney for Applicant Title	

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Electronic Acknowledgement Receipt	
EFS ID:	5742690
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Correspondence Address:	Cornerstone Group, Ltd. c/o President Constance Nash P. O. Box 1892 - Laguna Beach CA 92652 US 949.340.6467 STONELIMITED@GMAIL.COM
Filer:	Joel David Voelzke/Kelsey Kooi
Filer Authorized By:	Joel David Voelzke
Attorney Docket Number:	
Receipt Date:	21-JUL-2009
Filing Date:	16-JUL-2004
Time Stamp:	16:39:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	161_Cornerstone_Group_POA.pdf	66980 0a81196ba74adb6a1dfd3c747948385937bf1317	no	1
Warnings:					
Information:					
2	Assignee showing of ownership per 37 CFR 3.73(b).	161-002US_StatementUnder37CFR.pdf	72230 ef8a9dd7a4ceb9607e5b876b73a583fef08e7a04	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	139210		

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

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

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

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

PTO/SB/08B (08-03)
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/892,690
Filing Date	July 16, 2004
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Philippe, Gims S.
Attorney Docket Number	161-002.US

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	2	STROBACH, Tree Structured Scene Adaptive Coder, IEEE Transactions on Communications, Apr. 1990, vol. 38, No. 4, pp. 477-486.	

Examiner Signature		Date Considered	

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

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Electronic Patent Application Fee Transmittal	
Application Number:	10892690
Filing Date:	16-Jul-2004
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Filer:	Joel David Voelzke/Kelsey Kooi
Attorney Docket Number:	
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

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

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt	
EFS ID:	5766328
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	47533
Filer:	Joel David Voelzke/Kelsey Kooi
Filer Authorized By:	Joel David Voelzke
Attorney Docket Number:	
Receipt Date:	24-JUL-2009
Filing Date:	16-JUL-2004
Time Stamp:	15:46:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$180
RAM confirmation Number	2017
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1	Transmittal Letter	161-002US_IDS_Letter.pdf	133799 7f45bfcef1baa2ed363c7b207c230f6cd2343ea0	no	3
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Filed (SB/08)	161-002US_IDS.pdf	57604 e7b7d7c7e749aca3bffd79859aa56d210d5cea83	no	1
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	NPL Documents	161-002US_NPL.pdf	1238678 5d875889117df2071a77a7a14b126774135a0982	no	10
Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	29736 71a0cb05dfa3f4bf3dd6d4c599a26d7d67d4ffb3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1459817		

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

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

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

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

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/892,690	Confirmation No.: 6612
Applicant	:	Cornerstone Group, Ltd.	
Filed	:	July 16, 2004	
Art Unit	:	2621	
Examiner	:	Philippe, Gims S.	
Title	:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD	
Docket No.:	:	161-002.US	
Customer No.	:	47533	

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

INFORMATION DISCLOSURE STATEMENT

Pursuant to 37 C.F.R. §§ 1.56, 1.97 and 1.98, applicant brings the references listed on the attached Form PTO/SB/08 to the examiner's attention. 37 C.F.R. § 1.56. Do not construe the filing of this information disclosure statement as a representation that applicant has made a search (37 C.F.R. § 1.97(g)). or as an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists. We enclose copies of cited documents that are not U.S. patents or U.S. patent publications.

This Information Disclosure Statement is being submitted:

☐ 1. (37 CFR § 1.97(b)). Within three months of the filing date of a national application other than a continued prosecution application under 37 C.F.R. § 1.53(d), or within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application; or before the mailing date of a first Office action on the merits, and therefore. Applicant believes no fee is required;

☒ 2. (37 CFR § 1.97(c)). After the period specified in paragraph (1) above of this section, but before the mailing date of either a final action under 37 C.F.R. § 1.113, or a notice of allowance under 37 C.F.R. § 1.311, whichever occurs first, and is accompanied by either:

☐ (a) A statement that:

(i) Each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office

in a counterpart foreign application not more than three months before the filing of the information disclosure statement; or

(ii) No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months before the filing of the information disclosure statement; or

☒ (b) The fee of $180 for filing of an Information Disclosure Statement under 37 C.F.R. § 1.17(p).

☐3. (37 CFR § 1.97(d)). After the period specified in paragraph (2) of this section, but on or before payment of the issue fee and is accompanied by:

☐ (a) A statement that:

(i) Each item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months before the filing of the information disclosure statement; or

(ii) No item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months before the filing of the information disclosure statement;

☐ (b) A petition requesting consideration of the information disclosure statement; and

☐ (c) The petition fee set of $180 set forth in 37 C.F.R. § 1.17(p).

Applicant would appreciate the examiner initialing and signing a copy of attached Form PTO/SB/08 indicating that he or she considered the information and made the information of record.

If the transmittal letter is separated from this document and the PTO determines that an extension or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-3504.

INTELLECTUAL PROPERTY LAW OFFICES OF
JOEL VOELZKE, APC

DATED: July 24, 2009

By: _____
Joel D. Voelzke
Reg. No. 37,957

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/892,690	Confirmation No.: 6612
First Named Inventor	:	Alex Krichevsky	
Filed	:	July 16, 2004	
Art Unit	:	2621	
Examiner	:	Sims Philippe	
Title	:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD	
Docket No.:	:	161-002.US (was 34373-501-059)	July 28, 2009
Customer No.	:	47533	

AMENDMENT

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

Dear Sir:

This paper is submitted in response to the Office Action of February 3, 2009, a response to which was due May 3, 2009. By the payment of 3-month extension fee submitted herewith, the deadline is extended to August 3, 2009.

Please amend the above-identified application as follows:

Amendments to Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the Listing of Claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 6 of this paper.

Amendments to the Specification:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~as~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:

[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

Amendments to the Claims:

This Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (First amended) A ~~system for transmitting data~~ data encoder comprising:

a frame analysis system receiving frame data and generating region data in accordance with variations between pixels within the frame data; and

a pixel selection system receiving the region data and generating one set of pixel data for each region.

2. (First amended) The ~~system~~ encoder of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (First amended) The ~~system~~ encoder of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (First amended) The ~~system~~ encoder of claim 1 wherein the frame analysis system ~~comprises a matrix identification system receiving matrix size data and generating matrix identification data~~ generates matrix size data defining sizes of matrices to be transmitted in accordance with whether tolerances between pixel values within the frame data exceeds a variation tolerance.

5. (First amended) The ~~system~~ encoder of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (First amended) The ~~system~~ encoder of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (First amended) The ~~system~~ encoder of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (First amended) The ~~system~~ encoder of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (First amended) The ~~system~~ encoder of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (First amended) The ~~system~~ encoder of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (First amended) A method for encoding and transmitting data comprising:
receiving frame data;
generating matrix size data from the frame data;
selecting one of two or more sets of pixel data based on the matrix size data; and
transmitting the pixel data and the matrix size data.

12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (First Amended) The method of claim 11 wherein generating matrix size data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel data from a matrix of sets of pixel data.

15. (First Amended) The method of claim 11 wherein transmitting the pixel data and the matrix size data comprises transmitting an array of pixel data and uniform matrix size data.

16. (First amended) A method for encoding and transmitting data comprising:

dividing an array of pixel data into two or more regions in accordance with whether a difference between adjacent pixel values exceeds a variation tolerance;

selecting a set pixel of pixel data from each region; and

transmitting region data and the pixel data for each region.

17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

REMARKS/ARGUMENTS

I. INTRODUCTION

This application is directed to a data encoder such as a video data encoder and method therof, which selects only some of the input video data for transmission and thus reduces the amount of image data necessary to transmit and display at the receiver side with sufficient quality for human viewing.

The undersigned attorney was appointed attorney of record by the Power of Attorney and accompanying Statement Under 37 CFR §3.73(b) filed July 21, 2009. Please direct all future communication to the undersigned.

Claims 1-22 are pending before entry of this amendment.

All claims are rejected as being not drawn to statutory subject matter under §101. Additionally, all claims are rejected as anticipated by Kafri (US 4,776,013).

By this amendment:

- claims 21 and 22 have been withdrawn;
- claims 1, 4, 11, and 16 have been amended to distinguish the invention over the cited prior art; and
- the claims have been amended as necessary to overcome the §101 rejection.

Applicants thank the examiner for the Office Action which has been studied with interest and care. Reconsideration of the application in view of the amendments and remarks contained herein is respectfully requested.

II. CLAIM REJECTIONS UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

In response, apparatus claim 1 has been amended to recite, "A ~~system for transmitting data~~ data encoder comprising . . . " Additionally, independent method claims 11 and 16 have been amended to recite, "A method for encoding and transmitting data comprising . . . ".

As interpreted by the recent Federal Circuit case of In re Bilski, 545 F.3d 943, 88 U.S.P.Q.2d 1385 (Fed. Cir. 2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

> [Th]he **transformation of that raw data** [at issue in In re Abele, 684 F.2d 902, 214 U.S.P.Q. 682 (C.C.P.A. 1982) into a particular visual depiction of a physical object on a display **was sufficient to render that more narrowly-claimed process patent-eligible**.
>
> * * *
>
> We further note for clarity that the **electronic transformation of the data** itself into a visual depiction in Abele **was sufficient**; the claim was not required to involve any transformation of the underlying physical object that the data represented. **We believe this is faithful to the concern the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

In re Bilski, 88 U.S.P.Q.2d at 1397 (emphases added). Indeed, data compression patents issued recently by the PTO post-Bilski indicate that transformation of electronic data is sufficient, especially in the data encoding context. See, e.g.:

- U.S. Patent No. 7,558,994 (Vranken et al., issued July 7, 2009) (method claim 1 reciting "A method of compressing data . . . comprising the steps of: comparing . . . , filling . . . , and merging . . . .")
- U.S. Patent No. 7,561,745 (Jange et al, issued July 14, 2009) (method claim 1 reciting "A method of making an input file . . . comprising: preparing a . . . schema . . .; preparing a . . . style sheet . . . ; making a scene file . . . ; determining . . . ; and transmitting . . . ")

Applicants particularly point out that Claim 1 of the '994 patent referred to above is directed to "A method of compressing data." In this regard, that method claim is identical to claim 11 of the present application which has been amended to recite, "A method of encoding . . . data."

In view of the foregoing, Applicants respectfully submit that the amendments to the claims overcome the rejections for non-statutory subject matter.

III. CLAIM REJECTIONS UNDER 35 U.S.C. §102(b)

All claims 1-22 are rejected under 35 U.S.C. §102(b) as anticipated by Kafri (US 4,776,013). In response, claims 1, 4, 11, and 16 have been amended to further clarify the invention. Claims 21 and 22 have been canceled for unrelated reasons.

A. THE CITED KAFRI (4,776,013) VIDEO ENCRYPTER

Kafri (U.S. 4,776,013) relied upon by the Examiner in rejecting all claims as anticipated, is a very different type of data encoder. Kafri is not directed to a data compression system. Rather, Kafri discloses a data *encryption* system for security purposes, such that an unauthorized party who intercepts the transmitted video signal cannot recreate a recognizable video image from the intercepted signal. See, e.g., BACKGROUND OF THE INVENTION ("The present invention relates to a method and apparatus for encoding and encrypting optical images . . . in civilian security as well as military applications. . . An object of the present invention is to provide a method . . . for . . . encrypting optical images in a manner extremely difficult to decipher by an unauthorized person.").

The Kafri system begins with a "master grid" comprised of a master matrix of pixels (col. 1, line 27), the pixels having random values (e.g., FIG. 4A). That is, the master grid is a random grid. The master grid acts as both the encoding key and the decoding key. In one embodiment, if the input image to be encrypted and transmitted contains a "1" (white) in the first pixel location which we will call Location 1, then the output (encrypted) image will contain the master grid value in Location 1. On the other hand, if the input image contains a "0" (black) in Location 1, then the output image will contain the complement of the master grid value in Location 1. (Col. 1, lines 54-59). Variations are possible (see Col. 1, lines 59-66). Regardless of the exact embodiment, the output (encoded) image comprises random pixel data, and by itself contains no information about the actual input image. (See col. 2, lines 7-13). Kafri does not compress the data in any way. Rather, Kafri merely encrypts the data. For every input pixel, Kafri transmits one pixel.

B. OVERVIEW OF THE PRESENT INVENTION

In contrast to Kafri, the present invention is directed to reducing the amount of data that is transmitted, so that the original data (e.g., video data) can be reconstituted on the receiving end with satisfactory quality. The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with one pixel being transmitted for that region. If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order recreate the image on the receiving end with acceptable quality; accordingly, a larger matrix size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ..

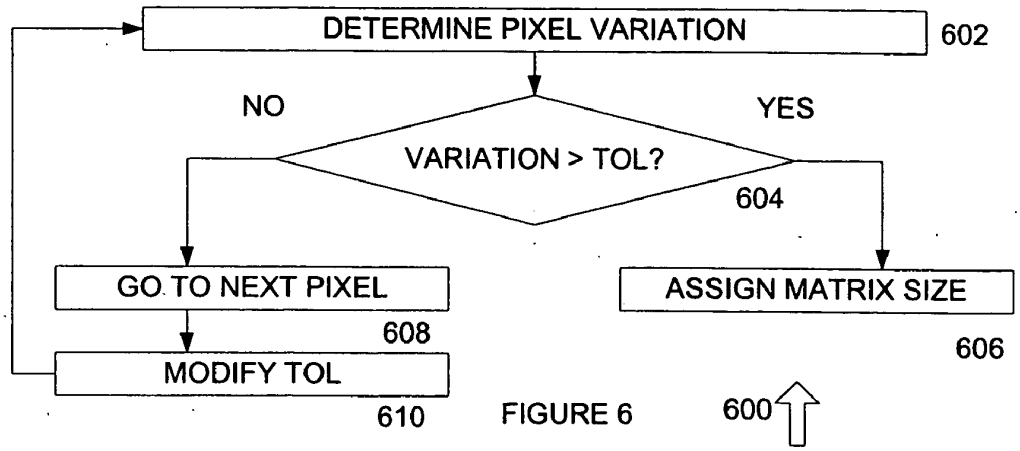

FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output

frame will have a variety of different matrices (regions) having a variety of different region sizes. Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference.

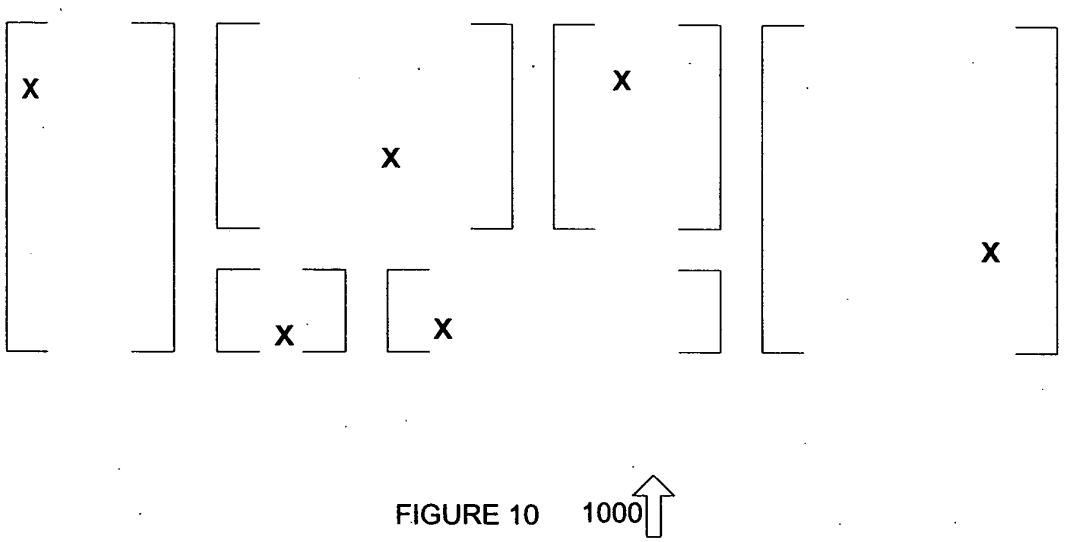

FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

With this understanding of some of the conceptual differences between the present invention and the cited Kafri prior art in mind, selected ones of the claims will now be specifically discussed below.

C. THE CLAIMS

1. Independent Claims 1, 11, and 16

Claim 1. Claim 1 as amended recites "a frame analysis system . . . generating region data in accordance with variations between pixels within the frame data, and . . . generating one set of pixel data for each region."

Kafri does not determine variations between pixels as recited. With even greater force, Kafri does generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of

any nearby pixel. Kafri therefore would provide no motivation for the recited limitations. Accordingly, claim 1 as amended now clearly distinguishes over Kafri.

Claim 11. Independent Claim 11 as amended recites the step of "generating matrix size data from the [received] frame data," "selecting one of two or more sets of pixel data based on the matrix size data," and "transmitting the pixel data and the matrix size data."

Kafri does not disclose generating matrix size data, selecting pixels based on that matrix size data, or transmitting the matrix size data. Kafri is not concerned with selecting and generating size data because Kafri is concerned only with encrypting the data for security purposes, rather than reducing the amount of the data to be transmitted. Accordingly, claim 11 as amended distinguishes over Kafri.

Claim 16. Independent claim 16 as amended recites the step of "dividing an array of pixel data into two or more regions in accordance with whether a difference between adjacent pixel values exceeds a variation tolerance."

Kafri does not disclose dividing data up into distinct regions based on whether a Δ between adjacent pixel values exceeds a tolerance value as recited. Kafri does not disclose comparing adjacent pixel values. With even greater force, Kafri does not disclose taking different actions based upon whether the calculated Δ between adjacent pixels exceeds a tolerance, as recited. Accordingly, claim 16 as amended distinguishes over Kafri.

2. Dependent Claims

Claim 3. Claim 3, which depends from claim 1, recites "generating matrix size data" based on "pixel variation data." Because Kafri neither discloses generating matrix size data as recited, and more particularly based on pixel variation data as recited, claim 3 distinguishes over Kafri.

Claim 4. Claim 4, which depends from claim 1, as amended recites that the encoder "generates matrix size data defining sizes of matrices to be transmitted in accordance with whether tolerances between pixel values within the frame data exceeds a variation tolerance.

Because Kafri does not disclose generating matrix size data defining sizes of matrices to be transmitted, and particularly does not disclose generating that data based on whether tolerances between pixels values exceeds a variation tolerance as recited, claim 4 patentably distinguishes over Kafri.

Claim 6. Claim 6 recites "selecting one of the two or more sets of [received] pixel data and selecting one of the . . . sets of pixel data based on sequence data." Kafri discloses receiving only a single set of pixel data. The master matrix comprises random data rather than pixel data. In any event, Kafri does not disclose choosing between the pixel data and the random master matrix data based on any sequence data, as recited. Claim 6 therefore patentably distinguishes over Kafri.

Claim 9. Claim 9 recites that the encoder includes a pixel data systems that "receiv[es] matrix definition data" and "generat[es] pixel location data." Kafri does not disclose the use of matrix definition data. Kafri would have no use for matrix definition data, because Kafri is not concerned with reducing the size of data to be transmitted. Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Additionally, Kafri does not disclose generating pixel location data as recited. The pixel location data defines where within the region the pixel of interest lies. The pixel location information is used to reconstruct the image from the transmitted image having fewer bits than the original image. In contrast, Kafri merely transmits a continuous pipeline of pixel data whose locations are predefined but whose values have been changed in order to obscure the image. Because Kafri is not concerned with reducing the number of bits transmitted, Kafri does not use pixel location information.

Accordingly, Claim 9 patentably distinguishes over Kafri.

Claim 10. Claim 10 adds that the data receiving system "generat[es] display data that includes the pixel data placed according to the location data." Because Kafri is a much different system that is not concerned with reducing data size, and merely generates a stream of

(encrypted) pixels that are to be placed (after decrypting) in their usual locations within the displayed image, Kafri does not need to reconstruct display (reproduced image) data based on pixel location data. Accordingly, claim 10 patentably distinguishes over Kafri.

Claim 13. Claim 13 depends from claim 11 and recites the step of "setting a matrix size based on pixel variation data." Kafri fails to disclose any step of setting a matrix size. Claim 13 therefore distinguishes over Kafri.

Claim 18. Claim 18 depends from claim 16, and recites the step of "dividing the array of pixel data into two or more matrices having two or more different sizes." The differently sized matrices are illustrated, for example, in **FIG. 10** reproduced above, and serve the purpose of allowing portions of the input image that must be transmitted with higher resolution to be transmitted using a greater number of bits, and those portions of the input image that can be transmitted with lower resolution while still achieving acceptable reconstructed image quality to be transmitted using the lower number of bits. Because Kafri is not concerned with reducing the amount of data necessary to transmit different portions of an image with different resolutions, Kafri provides neither disclosure nor a motivation to divide an array of pixel data into different matrices having different sizes as recited. Accordingly, claim 18 patentably distinguishes over Kafri.

Claim 19. Claim 19 recites that, for each region, the pixel data that is selected to represent that region is selected randomly. Kafri does not disclose dividing an image up into different regions, and randomly selecting from within each region one of the pixels within that region. Accordingly, claim 19 patentably distinguishes over Kafri.

Dependent claims not discussed above distinguish over the cited art for at least the reasons discussed with respect to the independent claims.

CONCLUSIONS

In view of the foregoing, it is respectively urged that all of the present claims of the application are patentable and in a condition for allowance. Notice of Allowance is earnestly solicited. The Examiner is authorized to charge any additional fees due, or credit any overpayment, to Deposit Account No. 50-3504.

The undersigned attorney can be reached at 310-317-4466 to facilitate prosecution of this application, if necessary.

Respectfully submitted,

INTELLECTUAL PROPERTY LAW OFFICES OF
JOEL VOELZKE, APC

DATED: July 28, 2009

By:

Joel D. Voelzke
Registration No. 37,957

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Electronic Patent Application Fee Transmittal

Application Number:	10892690
Filing Date:	16-Jul-2004
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Filer:	Joel David Voelzke/Kelsey Kooi
Attorney Docket Number:	

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 3 months with $0 paid	2253	1	555	555

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**555**

Electronic Acknowledgement Receipt	
EFS ID:	5781768
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	47533
Filer:	Joel David Voelzke/Kelsey Kooi
Filer Authorized By:	Joel David Voelzke
Attorney Docket Number:	
Receipt Date:	28-JUL-2009
Filing Date:	16-JUL-2004
Time Stamp:	13:14:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$555
RAM confirmation Number	8801
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)

1		161-002_US_Amendment_1.pdf	224185 7b6ff07b7b36e92b8329b395a445b43c9eb995b2	yes	14

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Specification	2	2
Claims	3	5
Applicant Arguments/Remarks Made in an Amendment	6	14

Warnings:

Information:

2	Fee Worksheet (PTO-875)	fee-info.pdf	29586 f7b534a1178a054691013b952bc88202ad71c90e	no	2

Warnings:

Information:

Total Files Size (in bytes):	253771

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	

CONFIRMATION NO. 6612

47533
INTELLECTUAL PROPERTY LAW OFFICE OF JOEL VOELZKE
24772 SADDLE PEAK ROAD
MALIBU, CA 90265

POA ACCEPTANCE LETTER

OC000000037057949

Date Mailed: 07/30/2009

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 07/21/2009.

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

/tnnguyen/

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

OIPE
OCT 01 2009
PATENT & TRADEMARK OFFICE

PTO/SB/22 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARMENT OF COMMERCE
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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) FY 2009 (Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)	Docket Number (Optional)
Application Number 10-892690	Filed 7/16/2009
For CORNERSTONE GROUP LTD	
Art Unit 26-21	Examiner GIMS FILIPPE

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$130	$65	$
☒ Two months (37 CFR 1.17(a)(2))	$490	$245	$ 245
☐ Three months (37 CFR 1.17(a)(3))	$1110	$555	$
☐ Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐ Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☒ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number _____.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the ☒ applicant/inventor. KRICHEVSKI, ET AL.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☐ attorney or agent of record. Registration Number _____

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

W.Steele — Signature
10/1/09 — Date
WILLIAM STEELE — Typed or printed name
802-375-5195 — Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

10/02/2009 SZEWDIE1 00000022 10892690
01 FC:2252 245.00 OP

Doc Code: PET.POA.WDRW
Document Description: Petition to withdraw attorney or agent (SB83)

PTO/SB/83 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
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REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	10/892,690
Filing Date	07/16/2004
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Gims S. Philippe
Attorney Docket Number	161-002.US

To: **Commissioner for Patents**
P.O. Box 1450
Alexandria, VA 22313-1450

Please withdraw me as attorney or agent for the above identified patent application, and

- ☐ all the practitioners of record;
- ☐ the practitioners (with registration numbers) of record listed on the attached paper(s); or
- ☑ the practitioners of record associated with Customer Number: 47533

NOTE: The immediately preceding box should only be marked when the practitioners were appointed using the listed Customer Number.

The reason(s) for this request are those described in 37 CFR :

☐ 10.40(b)(1)	☐ 10.40(b)(2)	☐ 10.40(b)(3)	☐ 10.40(b)(4)
☐ 10.40(c)(1)(i)	☐ 10.40(c)(1)(ii)	☐ 10.40(c)(1)(iii)	☑ 10.40(c)(1)(iv)
☑ 10.40(c)(1)(v)	☑ 10.40(c)(1)(vi)	☐ 10.40(c)(2)	☐ 10.40(c)(3)
☐ 10.40(c)(4)	☐ 10.40(c)(5)	☐ 10.40(c)(6) Please explain below:	

Certifications

Check each box below that is factually correct. WARNING: If a box is left unchecked, the request will likely not be approved.

1. ☑ I/We have given reasonable notice to the client, prior to the expiration of the response period, that the practitioner(s) intend to withdraw from employment.

2. ☑ I/We have delivered to the client or a duly authorized representative of the client all papers and property (including funds) to which the client is entitled.

3. ☑ I/We have notified the client of any responses that may be due and the time frame within which the client must respond.

Please provide an explanation, if necessary:

No response from Applicant is currently due to any Office Action.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

PTO/SB/83 (11-08)
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REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT AND CHANGE OF CORRESPONDENCE ADDRESS

Complete the following section only when the correspondence address will change. *Changes of address will only be accepted to an inventor or an assignee that has properly made itself of record pursuant to 37 CFR 3.71.*

Change the correspondence address and direct all future correspondence to:

A. ☐ The address of the inventor or assignee associated with Customer Number: _____

OR

B. ☑ Inventor or Assignee name	Constance Nash, Cornerstone Group, Ltd.		
Address P.O. Box 1892			
City Laguna Beach	State CA	Zip 92652	Country US
Telephone (949) 340-6467		Email stonelimited@gmail.com	

I am authorized to sign on behalf of myself and all withdrawing practitioners.

Signature			
Name	Joel D. Voelzke	Registration No. 37,957	
Address 24772 W. Saddle Peak Road			
City Malibu	State CA	Zip 90265	Country USA
Date October 9, 2009		Telephone No. (310) 317-4466	

NOTE: ***Withdrawal is effective when approved rather than when received.***

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Acknowledgement Receipt

EFS ID:	6238750
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	47533
Filer:	Joel David Voelzke/Kelsey Barnholt
Filer Authorized By:	Joel David Voelzke
Attorney Docket Number:	
Receipt Date:	09-OCT-2009
Filing Date:	16-JUL-2004
Time Stamp:	17:00:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition to withdraw attorney or agent (SB83)	161-002US_Request_to_Withdrawal.pdf	126382 3b5ea4fa81749dad7957a46e574c35aa6494f558	no	2
Warnings:					
Information:					

Total Files Size (in bytes):	126382

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

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

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

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

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	

CONFIRMATION NO. 6612

47533
INTELLECTUAL PROPERTY LAW OFFICE OF JOEL VOELZKE
24772 SADDLE PEAK ROAD
MALIBU, CA 90265

POWER OF ATTORNEY NOTICE

OC000000038636500

Date Mailed: 11/05/2009

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/09/2009.

- The withdrawal as attorney in this application has been accepted. Future correspondence will be mailed to the new address of record. 37 CFR 1.33.

/mreason/

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

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INTELLECTUAL PROPERTY
LAW OFFICE OF JOEL VOELZKE
24772 SADDLE PEAK ROAD
MALIBU CA 90265

MAILED

NOV 05 2009

OFFICE OF PETITIONS

In re Application of	:	
KRICHEVSKY, Alexander et al.	:	
Application No. 10/892,690	:	DECISION ON PETITION
Filed: July 16, 2004	:	TO WITHDRAW
Attorney Docket No.	:	FROM RECORD
	:	

This is a decision on the Request to Withdraw as attorney or agent of record under 37 C.F.R. § 1.36(b), filed October 09, 2009.

The request is **APPROVED**.

A grantable request to withdraw as attorney/agent of record must be signed by every attorney/agent seeking to withdraw or contain a clear indication that one attorney is signing on behalf of another/others. The Office requires the practitioner(s) requesting withdrawal to certify that he, she, or they have: (1) given reasonable notice to the client, prior to the expiration of the response period, that the practitioner(s) intends to withdraw from employment; (2) delivered to the client or a duly authorized representative of the client all papers and property (including funds) to which the client is entitled; and (3) notified the client of any responses that may be due and the time frame within which the client must respond, pursuant 37 CFR 10.40(c).

The request was signed by Joel D. Voelzke on behalf of all attorneys of record who are associated with customer No. 47533. All attorneys/agents associated have been withdrawn. Applicant is reminded that there is no attorney of record at this time.

The correspondence address of record has been changed and the new correspondence address is the address indicated below.

There are no outstanding office actions at this time.

Telephone inquiries concerning this decision should be directed to the undersigned at 571-272-4231.

Michelle R. Eason
Paralegal Specialist
Office of Petitions

cc: **CONSTANCE NASH, CORNERSTONE GROUP, LTD.**
P.O. BOX 1892
LAGUNA BEACH, CA 92652

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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CONFIRMATION NO. 6612

Bib Data Sheet

SERIAL NUMBER	FILING OR 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/892,690	07/16/2004 RULE	375	2621	

APPLICANTS

Alexander Krichevsky, Laguna Beach, CA;
Constance Nash, Laguna Beach, CA;

**** CONTINUING DATA ***************************

This application is a CON of PCT/US02/00503 01/16/2002

**** FOREIGN APPLICATIONS ********************

IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 09/13/2004 **** SMALL ENTITY ****

		STATE OR COUNTRY	SHEETS DRAWING	TOTAL CLAIMS	INDEPENDENT CLAIMS
Foreign Priority claimed	☐ yes ☐ no	CA	4	20	3
35 USC 119 (a-d) conditions met	☐ yes ☐ no ☐ Met after Allowance				
Verified and Acknowledged	Examiner's Signature Initials				

ADDRESS

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA92652

TITLE

Optimized data transmission system and method

FILING FEE RECEIVED	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:
645	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

OIPE IAP3 NOV 17 2009 PATENT & TRADEMARK OFFICE

TFW

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PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) FY 2009 *(Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).)*	Docket Number (Optional)
Application Number 10-892-690	Filed ~~[illegible]~~ 11/7/2009
For FLT CORNERSTONE GROUP LTD	
Art Unit 26-21	Examiner GIBBS FILIPPA

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$130	$65	$
☒ Two months (37 CFR 1.17(a)(2))	$490	$245	$ 245
☐ Three months (37 CFR 1.17(a)(3))	$1110	$555	$
☐ Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐ Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☐ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☒ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number _____.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☑ applicant/inventor.

☐ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☐ attorney or agent of record. Registration Number _____

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

E W STRATMEYER CHAIRMAN	11/17/09
Signature	Date
CORNERSTONE GROUP LTD	949 295 0080
Typed or printed name	Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☑ Total of 1 forms are submitted.

11/18/2009 AWONDAF1 00000070 10892690
01 FC:8252 245.00 OP

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

OIPE MAP91 DEC 31 2009 PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE

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

Dear Sir:

This Supplemental Amendment as discussed with the Examiner August 3, 2009 and later, during the filed extensions of the Examination deadlines, is needed to override the July 28, 2009 Amendment, written and filed by the previous representative. That Amendment was filed against explicit instructions to not file it, as written, with the PTO. The essence of the applicant's rejection of the representative's draft on July 26, 2009, was the representative's elimination of the invention itself, the unnecessary narrowing and change of the ten systems claims, and the resulting elimination of the January 16, 2002 original art. The invention is its own prior art in many countries. And yet, the Applicant's four engineers and inventor instructed the previous representative to follow the instruction of the Applicant, which mirrored the Examiner suggestion during the June 11, 2008 interview. Minor amendments were instructed, but completely ignored.

Applicants believe that no petition or fees are required for consideration of the Supplemental Amendment and Response. However, if a petition or fee is required, please consider this a conditional petition and an authorization to telephone the Applicant at 949.295.0080 for payment of any required fees.

Applicants respectfully submit the following Supplemental Amendment and Response.

Please amend this application as follows and consider the following remarks.

Amendment to the Specification begin on page 2 of this paper.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments begin on page 6 of this paper.

Amendment to the Specification as written by the previous representative:

Please replace paragraph [0060] with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be |selected, which (as) are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information |content (is) are being transmitted or in other suitable applications.

Please replace paragraph [0063] with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary
embodiment, an entire frame of data can be constituted prior to generation of the frame.
Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. |Other suitable (processed) processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

In the claims:

1. (First Amended) A system for transmitting data comprising:

   a frame analysis system receiving frame data and generating region data;

   a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

   a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Original) The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Original) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Original) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Original) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Original) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Original) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Original) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Original) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Original) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Original) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Original) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Original) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Original) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

REMARKS/ARGUMENT

The Applicant respectfully requests Examiner Philippe to note that the usage of the mathematical word "set" in the original 1-20 claims and within the language of the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (original).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; and

a pixel selection system receiving the region data and

generating one set of pixel for each region.

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The formal withdrawal was not requested by the representative when the Examiner stated he'd made a mistake in citing Kafri et al as prior art, during the innovation and novelty demonstration of the invention June 11, 2008 during the personal interview. The Applicant takes full responsibility for failing to follow through formally on the request to withdraw Kafri et al, after the Examiner stated to the

Applicants and the representative, "I apologize, I made a mistake in citing Kafri as prior art".

The representative and/or the applicant should have sought the withdrawal of the not-so-uncommon-mistake of citing inappropriate art as prior art. Had the Kafri art been withdrawn, the two representatives of 2009 wouldn't have struggled to maintain the integrity of the present invention's art, while trying to adhere to the Kafri as the prior art challenge. In fairness to the Examiner, the root cause of the Kafri prior art citation was the possible language interpretation of claim 1, being 'too broad'.

Additionally, should the privilege of an **Examiner's Amendment** of claim 1 or claim 11, after reading the Remarks and the argument regarding Bilsky v Kappos within this Supplemental Amendment, be an additional option to make the application in condition for the allowance and notice of allowance, should the Supplemental Amendment Response and arguments fail to secure allowance of the claims herein,the Applicants respectfully request the Examiner's Amendment for an allowance to Issue.

Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Kafri does not disclose the use of matrix definition data. Kafri would have no use for matrix definiation data, **because Kafri is not concerned with reducing the size of the data to be transmitted.** Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Additionally, Kafri does not disclose generating pixel location data as recited.

In contrast, Kafri merely transmits a continuous pipeline of pixel data whose locations are predefined but whose values have been changed in order to ***obscure*** the image.

Because Kafri is not concerned with reducing the number of bits transmitted, Kafri does not use pixel location information.

Because Kafri, *as noted by the Examiner June 11, 2008*, **is a much different system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size.**

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels,

being transmitted for that region. If the difference between the pixels does not exceed the

threshold, that means that the picture is changing (spatially or temporally) slowly, and

only a small amount of data will be needed to be transmitted in order retain the lossless -

lossy image on the receiving end with excellent quality; accordingly, a larger matrix

size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to

determine whether the between those pixels exceeds a predetermined tolerance, and

assigning the matrix size (or region size) based upon that .

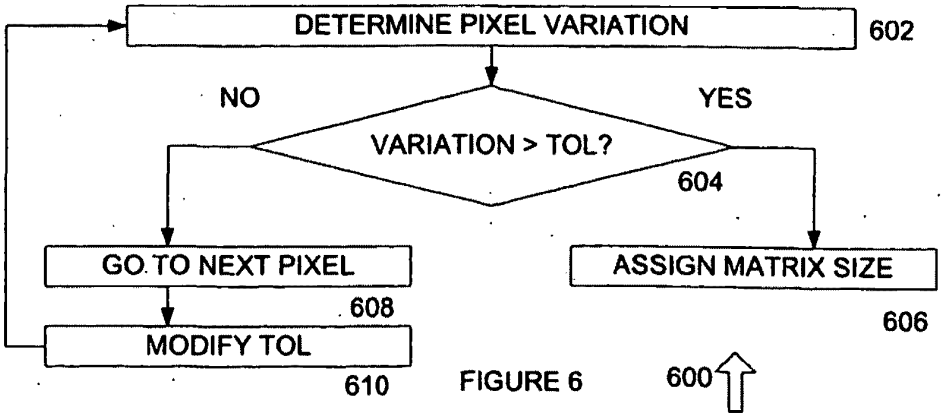

FIGURE 6

FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the between pixels changes. Accordingly, a typical output frame will have a variety of different matrices (regions) having a variety of

different region sizes.
Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference to argue against the Kafri et al art, and to support the Examiner's statement that Kafri is not prior art to the present invention.

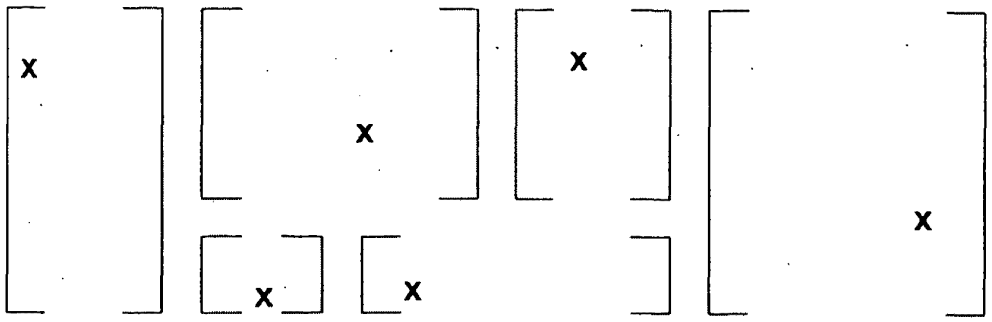

FIGURE 10 1000

FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

In contrast to the Kafri et al art (U.S. 4, 776, 013) to the present invention, as presented herein, it is fundamentally a travesty that the Applicant or the representatives failed to correct our collective laxness of not pursuing the available Examiner withdrawal of Kafri art as cited erroneously as prior art against the present invention.

Quoting from July 21, 2008, page 7 of 7, from the Representative from the interview of June 11, 2008, Response to Office Action Mailed March 21, 2008:

'Kafri is directed to a method of encoding an optical image, which includes using a master grid to convert the optical image to an encoded image grid comprised of an image matrix of pixels each having at least two possible intensity values. Kafri does not disclose a frame analyses system receiving frame data and generating region data (per claim1), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame data using the master grid. Further, Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16).'

'As discussed in the interview of June 11, 2008, none of the Kafri art disclose a system that generates region data and generates one set of pixel data for each region.

In this way, data transmission can be optimized.

Accordingly, the present invention is believed to be patentable over the prior art.'

CLAIM REJECTION UNDER UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

As interpreted by the recent Federal Circuit case in Bilsky v Kappos, renamed November 9 2009 in the US Supreme Court oral hearing appeal In re Bilski, 545 F.3d 943,88 U.S.P.Q.2d 1385 (Fed.Cir.2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

* * * *

As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Thus claim 11, has remained as Original in the Office Action of March 21, 2009 and, should, with the current status of the Bilsky v Kappos appeal , as well as the litmus test of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing", therefore, claim 11's method claim should not be amended.

If on the other hand, the Examiner wants to create an Examiner's Amendment on Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment.

For reasons provided herein, December 28, 2009, claims 1-20 are patentable over the prior art, as well *as if Kafri art is also withdrawn.* Withdrawal of Kafri is humbly requested now, and for the future. The future assertion of the claims in the arena of commercialization, merger and acquisition, licensing royalties as a Licensor in H.264's global standards of July 15, 2004, as well as the probable infringement litigations that Christopher Rourk outlined to the Applicant, July 2009, Kafri et al, as well as the claims presented in the present application, will be impacted for years to come.

Respectfully submitted,

Constance Nash,
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Laguna Beach, CA 92652
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Facsimile :(949) 340-6467

Date: December 28, 2009

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/892,690	07/16/2004	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
	12/31/2009									
	Total (37 CFR 1.16(i))	* 20	Minus	** 22	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 3	Minus	***5	= 0	X $110 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

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

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

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

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

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

Legal Instrument Examiner:
/KIMBERLY PANNELL/

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

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 01/13/2010

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	PAPER NUMBER
2621	
MAIL DATE	DELIVERY MODE
01/13/2010	PAPER

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

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

Notice of Non-Compliant Amendment (37 CFR 1.121)	**Application No.** 10/892,690	**Applicant(s)** KRICHEVSKY ET AL.	
	Examiner Gims S. Philippe	**Art Unit** 2621	

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

The amendment document filed on *31 December 2009* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☒ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☒ E. Other: *Claims 2-20 are presented as original claims. These claims were previously amended. Claim 1 is presented as First Amended. The status identifiers are noted in section 4 above. Appropriate correction is required*.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):

  _____

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a *Quayle* action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

   Failure to timely respond to this notice will result in:
   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

/Gims S Philippe/ Primary Examiner, Art Unit 2621	

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE
TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

Dear Sir:

This Supplemental Amendment necessity, as the Applicant discussed with the Examiner August 3, 2009 and later, during the extensions of the First Office Action response deadlines, will amend the July 28, 2009 Supplemental Amendment, written and filed by the previous representative, against Applicant and staff meeting instruction to not file his draft of July 24, as written. In essence the Applicant had instructed amendment to narrow claim 1 language, amend claim 11 as discussed in two interviews with the Examiner, or argue against amendment of the methods claim 11 due to the arguable relevance of In reBilski upon the method claim. But the previous representative's Amendment claims eliminated all system language in claims 1-10, but worse, inserted an incorrect action to replace system. Furthermore, the representative's claims' language did *not* exist in either the specifications or the invention.

Applicants respectfully submit the following Supplemental Amendment.

Please amend this application as follows and consider the following remarks.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments to /"Set"/Kafri withdrawal consideration/ Bilski v Kappos/Kafri Arguments/Examiner Amendment/ begin on pages 8, 9, 10, 11, 12, 13, 14, 15, and 16

PAGE 3/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

Amendment to the Specification as written by the previous representative:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~is~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

PAGE 4/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

In the claims:

1. (Currently Amended) A system for transmitting data comprising:

   a frame analysis system receiving frame data and generating region data;

   a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

   a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Currently Amended) The system of claim 1 wherein the frame analysis system

   comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Currently Amended) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

PAGE 5/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

4. (Currently Amended) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

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8. (Currently Amended) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Currently Amended) A method for transmitting data comprising:
receiving frame data;
generating matrix data from the frame data;
selecting one of two or more sets of pixel data based on the matrix data; and
transmitting the pixel data and the matrix data.

PAGE 7/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Currently Amended) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Currently Amended) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Currently Amended) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

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17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

PAGE 9/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

REMARKS/ARGUMENT

The Applicant respectfully mentions to the Examiner that the usage of the mathematical word "set" within the claims and within the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (Currently Amended).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; a matrix generating system for generating matrix

size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data

generating one set of pixel data for each region.

CONSIDERATION TO WITHDRAW KAFRI ET AL

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The applicant apologizes for failure to seek withdrawal of Kafri et al, due to the circumstance mentioned herein. During the extensive interview of June 11, 2008, the Examiner stated with integrity of purpose, that he'd made a mistake in citing Kafri et al as prior art. The Applicant takes full responsibility for failing to memorialize a withdrawal of the cited art Kafri et al, after the Examiner said,

PAGE 10/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

"I apologize, I made a mistake in citing Kafri as prior art".

The representative or the Applicant should have sought consideration to withdraw the art due to a not-so-uncommon-mistake of citing inappropriate art as prior art. Current M&A legal assertions of the claims will undoubtedly focus upon the Applicant's failure to memorialize Kafri et al withdrawal during the June 11, 2008 interview, and later during subsequent interviews and responses. The Examiner is correct, Kafri et al is not prior art.

The Applicant apologizes to the Examiner, since clearly the ball was and is, in the Applicant's court to seek viable redress.

CONSIDERATION OF EXAMINER AMENDMENT

Additionally, should the privilege of an **Examiner's Amendment** of claim 1 and/or claim 11, after reading the Claims herein, and in light of the Interviews and Applicant agreement to the Examiner suggestions and the Remarks and Argument on Kafri, Remarks and Argument on Bilski, within this Supplemental Amendment, not be in condition for the allowance and notice of allowance of the claims herein, Applicants respectfully request the Examiner's Amendment for an allowance to Issue.

PAGE 11/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Kafri does not disclose the use of matrix definition data.

Kafri would have no use for matrix definition data.

because Kafri is not concerned with reducing the size of the data to be transmitted.

Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Additionally, Kafri does not disclose generating pixel location data as recited.

PAGE 12/18 * RCVD AT 2/12/2010 4:37:21 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/6 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):09-28

In contrast, Kafri merely transmits a continuous pipeline of pixel data whose locations are predefined but whose values have been changed in order to ***obscure*** the image.

Because Kafri is not concerned with reducing the number of bits transmitted, Kafri does not use pixel location information.

Because Kafri, *as noted by the Examiner June 11, 2008*, **is a much different** ***system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size.***

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels,

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being transmitted for that region. If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.

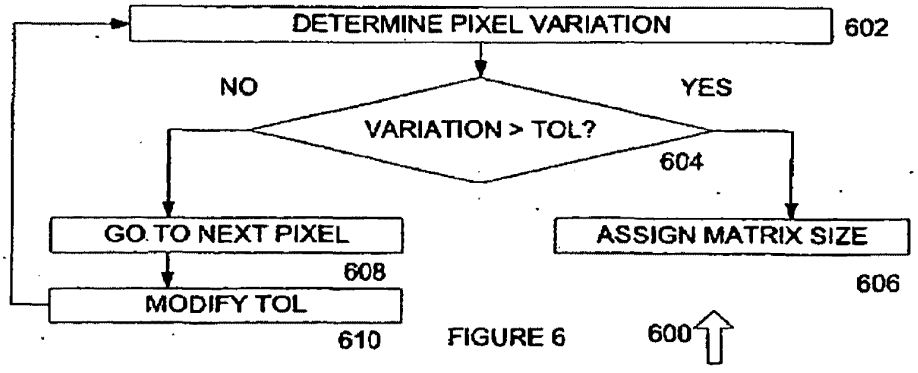

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FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output frame will have a variety of different matrices (regions) having a variety of different region sizes.

Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference to argue against the Kafri et al art, and to support the Examiner's statement that Kafri is not prior art to the present invention.

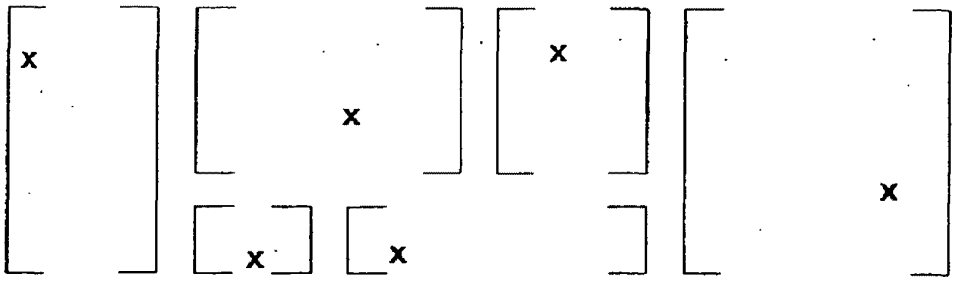

FIGURE 10 1000

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FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

In contrast to the Kafri et al art (U.S. 4, 776, 013) to the present invention, as presented herein, it is fundamentally a travesty that the Applicant or the representatives failed to correct our collective laxness of not pursuing the available Examiner withdrawal of Kafri art as cited erroneously as prior art against the present invention.

Quoting from July 21, 2008, page 7 of 7, from the Representative from the interview of June 11, 2008, Response to Office Action Mailed March 21, 2008:

'Kafri is directed to a method of encoding an optical image, which includes using a master grid to convert the optical imge to an encoded image grid comprised of an image matrix of pixels each having at least two possible intensity values. Kafri does not disclose a frame analyses system receiving frame data and generating region data (per claim1), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame data using the master grid. Further, Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16).'

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Thus claim 11, is (Currently Amended) back to the same language as the Original claim 11 in the Office Action of March 21, 2008. Claim 11, should not be amended from the Original of July 16, 2004 and January 16, 2002 language written and filed by Christopher Rourk, esq., because the claim and its underlying method it is in accordance with *the* ***litmus test of the of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing***".

If , on the other hand, the Examiner agrees to write an Examiner's Amendment Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment, knowing the Examiner is skilled in this field of art.

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Cornerstone Group Ltd.
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Cover Sheet

To: USPTO Central Fax #: 1 571 273 8300
Date: 2-12-2010

Total number of pages: 20 pages

Including 1 page cover sheet, 2 page PTO Non-Compliant Notice 1-13-10
And 17 page Supplemental Amendment 2-8-10

Ref: Application No **10/892,690**
Art Unit 2621
Constance Nash, Cornerstone Group,Ltd

Extended Closure of USPTO during inclement weather while Fedex attempted delivery of this Feb 8,Amendment, is why PTO gave Fax recording privilege. Hard copy via fedex follows 2-15-10

Date:2-12-2010

Constance Nash,
Cornerstone Group, Ltd

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 01/13/2010

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P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	PAPER NUMBER
2621	

MAIL DATE	DELIVERY MODE
01/13/2010	PAPER

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

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

PTOL-90A (Rev. 04/07)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE
TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

Dear Sir:

This Supplemental Amendment necessity, as the Applicant discussed with the Examiner August 3, 2009 and later, during the extensions of the First Office Action response deadlines, will amend the July 28, 2009 Supplemental Amendment, written and filed by the previous representative, against Applicant and staff meeting instruction to not file his draft of July 24, as written. In essence the Applicant had instructed amendment to narrow claim 1 language, amend claim 11 as discussed in two interviews with the Examiner, or argue against amendment of the methods claim 11 due to the arguable relevance of In reBilski upon the method claim. But the previous representative's Amendment claims eliminated all system language in claims 1-10, but worse, inserted an incorrect action to replace system. Furthermore, the representative's claims' language did *not* exist in either the specifications or the invention.

Applicants respectfully submit the following Supplemental Amendment.

Please amend this application as follows and consider the following remarks.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments to /"Set"/Kafri withdrawal consideration/ Bilski v Kappos/Kafri Arguments/Examiner Amendment/ begin on pages 8, 9, 10, 11, 12, 13, 14, 15, and 16

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Amendment to the Specification as written by the previous representative:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~as~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

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In the claims:

1. (Currently Amended) A system for transmitting data comprising:

   a frame analysis system receiving frame data and generating region data;

   a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

   a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Currently Amended) The system of claim 1 wherein the frame analysis system

   comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Currently Amended) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

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4. (Currently Amended) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

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8. (Currently Amended) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Currently Amended) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

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12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Currently Amended) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Currently Amended) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Currently Amended) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

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17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

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REMARKS/ARGUMENT

The Applicant respectfully mentions to the Examiner that the usage of the mathematical word "set" within the claims and within the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (Currently Amended).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; a matrix generating system for generating matrix

size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data

generating one set of pixel data for each region.

CONSIDERATION TO WITHDRAW KAFRI ET AL

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The applicant apologizes for failure to seek withdrawal of Kafri et al, due to the circumstance mentioned herein. During the extensive interview of June 11, 2008, the Examiner stated with integrity of purpose, that he'd made a mistake in citing Kafri et al as prior art. The Applicant takes full responsibility for failing to memorialize a withdrawal of the cited art Kafri et al, after the Examiner said,

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"I apologize, I made a mistake in citing Kafri as prior art".

The representative or the Applicant should have sought consideration to withdraw the art due to a not-so-uncommon-mistake of citing inappropriate art as prior art. Current M&A legal assertions of the claims will undoubtedly focus upon the Applicant's failure to memorialize Kafri et al withdrawal during the June 11, 2008 interview, and later during subsequent interviews and responses. The Examiner is correct, Kafri et al is not prior art.

The Applicant apologizes to the Examiner, since clearly the ball was and is, in the Applicant's court to seek viable redress.

CONSIDERATION OF EXAMINER AMENDMENT

Additionally, should the privilege of an **Examiner's Amendment** of claim 1 and/or claim 11, after reading the Claims herein, and in light of the Interviews and Applicant agreement to the Examiner suggestions and the Remarks and Argument on Kafri, Remarks and Argument on Bilski, within this Supplemental Amendment, not be in condition for the allowance and notice of allowance of the claims herein, Applicants respectfully request the Examiner's Amendment for an allowance to Issue.

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Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Kafri does not disclose the use of matrix definition data.

Kafri would have no use for matrix definition data,

because Kafri is not concerned with reducing the size of the data to be transmitted.

Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

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Because Kafri is not concerned with reducing the number of bits transmitted, Kafri does not use pixel location information.

Because Kafri, *as noted by the Examiner June 11, 2008*, **is a much different *system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size.***

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels,

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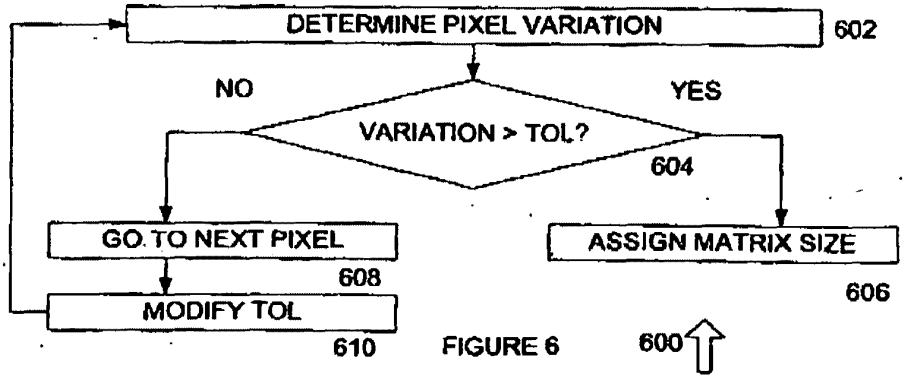

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FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output frame will have a variety of different matrices (regions) having a variety of different region sizes.

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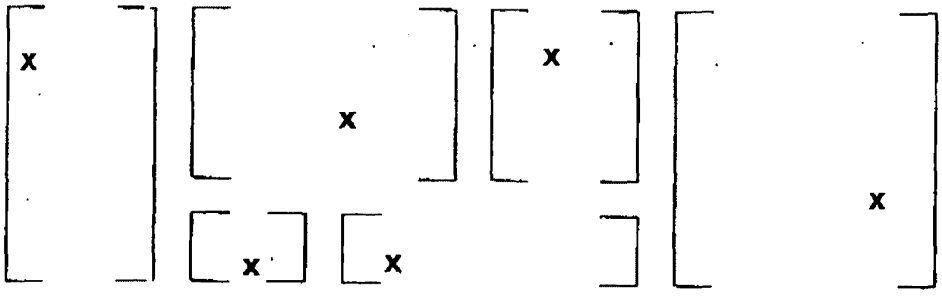

FIGURE 10 1000

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FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

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'As discussed in the interview of June 11, 2008, none of the Kafri art disclose a system that generates region data and generates one set of pixel data for each region.

In this way, data transmission can be optimized.

Accordingly, the present invention is believed to be patentable over the prior art.'

CLAIM REJECTION UNDER UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

As interpreted by the recent Federal Circuit case in Bilski v Kappos, renamed November 9 2009 in theUS Supreme Court oral hearing appeal In re Bilski, 545 F.3d 943,88 U.S.P.Q.2d 1385 (Fed.Cir.2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

* * * *

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As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

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If , on the other hand, the Examiner agrees to write an Examiner's Amendment Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment, knowing the Examiner is skilled in this field of art.

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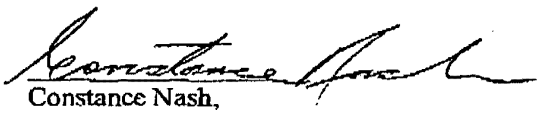
CONCLUSIONS

In view of the foregoing, it is respectfully urged that all the present claims of the application are patentable and in a condition for allowance. Notice of Allowance is earnestly solicited. The Examiner is authorized to charge any additional fees due with the request to to consider this a conditional petition and an authorization to telephone the Applicant at 1.949.295.0080 for payment of any required fees.

Respectfully submitted,



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Date: February 8, 2010

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Dear Macey, Ref: 10/892,690 12 Feb 2010

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Please,
File and Record: Supplemental Amendment Only,
17 pages in total.

Thank you so very very much for your fax.

Constance Nash

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE
TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

Dear Sir:

This Supplemental Amendment necessity, as the Applicant discussed with the Examiner August 3, 2009 and later, during the extensions of the First Office Action response deadlines, will amend the July 28, 2009 Supplemental Amendment, written and filed by the previous representative, against Applicant and staff meeting instruction to not file his draft of July 24, as written. In essence the Applicant had instructed amendment to narrow claim 1 language, amend claim 11 as discussed in two interviews with the Examiner, or argue against amendment of the methods claim 11 due to the arguable relevance of In reBilski upon the method claim. But the previous representative's Amendment claims eliminated all system language in claims 1-10, but worse, inserted an incorrect action to replace system. Furthermore, the representative's claims' language did *not* exist in either the specifications or the invention.

Applicants respectfully submit the following Supplemental Amendment.

Please amend this application as follows and consider the following remarks.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments to /"Set"/Kafri withdrawal consideration/ Bilski v Kappos/Kafri Arguments/Examiner Amendment/ begin on pages 8, 9, 10, 11, 12, 13, 14, 15, and 16

PAGE 4/18 * RCVD AT 2/12/2010 4:18:59 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/40 * DNIS:2738300 * CSID:9497230700 * DURATION (mm-ss):11-04

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Amendment to the Specification as written by the previous representative:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~as~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

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In the claims:

1. (Currently Amended) A system for transmitting data comprising:

   a frame analysis system receiving frame data and generating region data;

   a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

   a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Currently Amended) The system of claim 1 wherein the frame analysis system

   comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Currently Amended) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

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4. (Currently Amended) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

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8. (Currently Amended) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Currently Amended) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

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12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Currently Amended) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Currently Amended) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Currently Amended) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

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17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

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REMARKS/ARGUMENT

The Applicant respectfully mentions to the Examiner that the usage of the mathematical word "set" within the claims and within the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (Currently Amended).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; a matrix generating system for generating matrix

size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data

generating one set of pixel data for each region.

CONSIDERATION TO WITHDRAW KAFRI ET AL

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The applicant apologizes for failure to seek withdrawal of Kafri et al, due to the circumstance mentioned herein. During the extensive interview of June 11, 2008, the Examiner stated with integrity of purpose, that he'd made a mistake in citing Kafri et al as prior art. The Applicant takes full responsibility for failing to memorialize a withdrawal of the cited art Kafri et al, after the Examiner said,

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"I apologize, I made a mistake in citing Kafri as prior art".

The representative or the Applicant should have sought consideration to withdraw the art due to a not-so-uncommon-mistake of citing inappropriate art as prior art. Current M&A legal assertions of the claims will undoubtedly focus upon the Applicant's failure to memorialize Kafri et al withdrawal during the June 11, 2008 interview, and later during subsequent interviews and responses. The Examiner is correct, Kafri et al is not prior art.

The Applicant apologizes to the Examiner, since clearly the ball was and is, in the Applicant's court to seek viable redress.

CONSIDERATION OF EXAMINER AMENDMENT

Additionally, should the privilege of an **Examiner's Amendment** of claim 1 and/or claim 11, after reading the Claims herein, and in light of the Interviews and Applicant agreement to the Examiner suggestions and the Remarks and Argument on Kafri, Remarks and Argument on Bilski, within this Supplemental Amendment, not be in condition for the allowance and notice of allowance of the claims herein, Applicants respectfully request the Examiner's Amendment for an allowance to Issue.

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Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Kafri does not disclose the use of matrix definition data.

Kafri would have no use for matrix definition data,

because Kafri is not concerned with reducing the size of the data to be transmitted.

Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Additionally, Kafri does not disclose generating pixel location data as recited.

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In contrast, Kafri merely transmits a continuous pipeline of pixel data whose locations are predefined but whose values have been changed in order to ***obscure*** the image.

Because Kafri is not concerned with reducing the number of bits transmitted, Kafri does not use pixel location information.

Because Kafri, *as noted by the Examiner June 11, 2008,* **is a much different** ***system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size.***

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels.

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being transmitted for that region. If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.

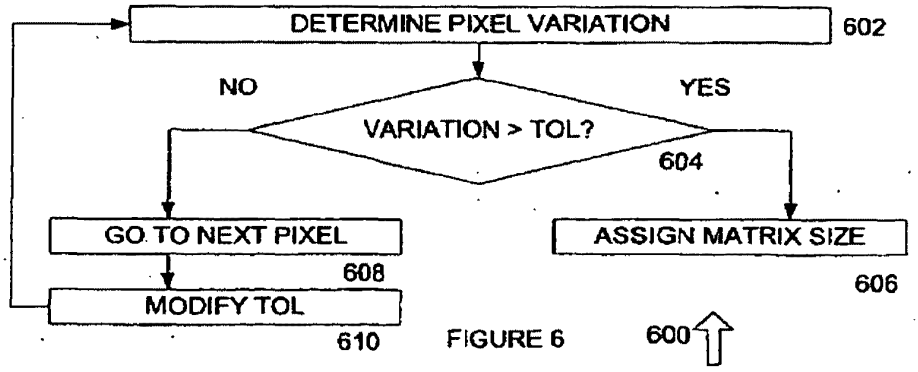

FIGURE 6

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FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

In contrast to the Kafri et al art (U.S. 4, 776, 013) to the present invention, as presented herein, it is fundamentally a travesty that the Applicant or the representatives failed to correct our collective laxness of not pursuing the available Examiner withdrawal of Kafri art as cited erroneously as prior art against the present invention.

Quoting from July 21, 2008, page 7 of 7, from the Representative from the interview of June 11, 2008, Response to Office Action Mailed March 21, 2008:

'Kafri is directed to a method of encoding an optical image, which includes using a master grid to convert the optical imge to an encoded image grid comprised of an image matrix of pixels each having at least two possible intensity values. Kafri does not disclose a frame analyses system receiving frame data and generating region data (per claim1), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame data using the master grid. Further, Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16).'

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As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Thus claim 11, is (Currently Amended) back to the same language as the Original claim 11 in the Office Action of March 21, 2008. Claim 11, should not be amended from the Original of July 16, 2004 and January 16, 2002 language written and filed by Christopher Rourk, esq., because the claim and its underlying method it is in accordance with *the* ***litmus test of the of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing***".

If , on the other hand, the Examiner agrees to write an Examiner's Amendment Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment, knowing the Examiner is skilled in this field of art.

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Cornerstone Group Ltd.
Fax # 1.949.723.0700
Tel # 1.949.295.0080

FAX
Cover Sheet

To: USPTO Central Fax #: 1 571 273 8300
Date: 2-12-2010

Total number of pages: 20 pages

Including 1 page cover sheet, 2 page PTO Non-Compliant Notice 1-13-10
And 17 page Supplemental Amendment 2-8-10

Ref: Application No **10/892,690**
Art Unit 2621
Constance Nash, Cornerstone Group,Ltd

Extended Closure of USPTO during inclement weather while Fedex attempted delivery of this Feb 8,Amendment, is why PTO gave Fax recording privilege. Hard copy via fedex follows 2-15-10

Date:2-12-2010

Constance Nash,
Cornerstone Group, Ltd

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/392,690	07/16/2004	Alexander Krichevsky		6612

7590 01/13/2010

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	PAPER NUMBER
2621	

MAIL DATE	DELIVERY MODE
01/13/2010	PAPER

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

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

PTOL-90A (Rev. 04/07)

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(37)

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 10/892,690	Applicant(s) KRICHEVSKY ET AL.	
	Examiner Gims S. Philippe	Art Unit 2621	

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

The amendment document filed on *31 December 2009* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

☐ 1. Amendments to the specification:
- ☐ A. Amended paragraph(s) do not include markings.
- ☐ B. New paragraph(s) should not be underlined.
- ☐ C. Other _____.

☐ 2. Abstract:
- ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
- ☐ B. Other _____.

☐ 3. Amendments to the drawings:
- ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
- ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
- ☐ C. Other _____.

☒ 4. Amendments to the claims:
- ☐ A. A complete listing of all of the claims is not present.
- ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
- ☒ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled). (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
- ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
- ☒ E. Other: *Claims 2-20 are presented as original claims. These claims were previously amended. Claim 1 is presented as First Amended. The status identifiers are noted in section 4 above. Appropriate correction is required.*

☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):

_____

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a *Quayle* action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

   Failure to timely respond to this notice will result in:
   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

/Gims S Philippe/ Primary Examiner, Art Unit 2621	

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

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TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

Dear Sir:

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Applicants respectfully submit the following Supplemental Amendment.

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PAGE 2/18 * RCVD AT 2/15/2010 11:40:19 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/15 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-50

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Amendment to the Specification as written by the previous representative:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~as~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

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PAGE 3/18 * RCVD AT 2/15/2010 11:40:19 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/15 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-50

In the claims:

1. (Currently Amended) A system for transmitting data comprising:

a frame analysis system receiving frame data and generating region data;

a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Currently Amended) The system of claim 1 wherein the frame analysis system

comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Currently Amended) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

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PAGE 4/18 * RCVD AT 2/15/2010 11:40:19 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/15 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-50

4. (Currently Amended) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

PAGE 5/18 * RCVD AT 2/12/2010 5:47:50 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/35 * DNIS:2730177 * CSID:9496755092 * DURATION (mm-ss):03-58

PAGE 5/18 * RCVD AT 2/15/2010 11:40:19 AM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/15 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-50

8. (Currently Amended) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Currently Amended) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

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12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Currently Amended) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Currently Amended) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Currently Amended) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

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17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

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REMARKS/ARGUMENT

The Applicant respectfully mentions to the Examiner that the usage of the mathematical word "set" within the claims and within the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (Currently Amended).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; a matrix generating system for generating matrix

size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data

generating one set of pixel data for each region.

CONSIDERATION TO WITHDRAW KAFRI ET AL

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The applicant apologizes for failure to seek withdrawal of Kafri et al, due to the circumstance mentioned herein. During the extensive interview of June 11, 2008, the Examiner stated with integrity of purpose, that he'd made a mistake in citing Kafri et al as prior art. The Applicant takes full responsibility for failing to memorialize a withdrawal of the cited art Kafri et al, after the Examiner said,

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"I apologize, I made a mistake in citing Kafri as prior art".

The representative or the Applicant should have sought consideration to withdraw the art due to a not-so-uncommon-mistake of citing inappropriate art as prior art. Current M&A legal assertions of the claims will undoubtedly focus upon the Applicant's failure to memorialize Kafri et al withdrawal during the June 11, 2008 interview, and later during subsequent interviews and responses. The Examiner is correct, Kafri et al is not prior art.

The Applicant apologizes to the Examiner, since clearly the ball was and is, in the Applicant's court to seek viable redress.

CONSIDERATION OF EXAMINER AMENDMENT

Additionally, should the privilege of an **Examiner's Amendment** of claim 1 and/or claim 11, after reading the Claims herein, and in light of the Interviews and Applicant agreement to the Examiner suggestions and the Remarks and Argument on Kafri, Remarks and Argument on Bilski, within this Supplemental Amendment, not be in condition for the allowance and notice of allowance of the claims herein, Applicants respectfully request the Examiner's Amendment for an allowance to Issue.

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Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Kafri does not disclose the use of matrix definition data.

Kafri would have no use for matrix definition data,

because Kafri is not concerned with reducing the size of the data to be transmitted. *Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.*

Additionally, Kafri does not disclose generating pixel location data as recited.

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In contrast, Kafri merely transmits a continuous pipeline of pixel data whose locations are predefined but whose values have been changed in order to ***obscure*** the image.

Because Kafri is not concerned with reducing the number of bits transmitted, Kafri does not use pixel location information.

Because Kafri, *as noted by the Examiner June 11, 2008*, **is a much different** ***system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size.***

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with —one pixel or one set meaning zero, one or more pixels.

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being transmitted for that region. If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.

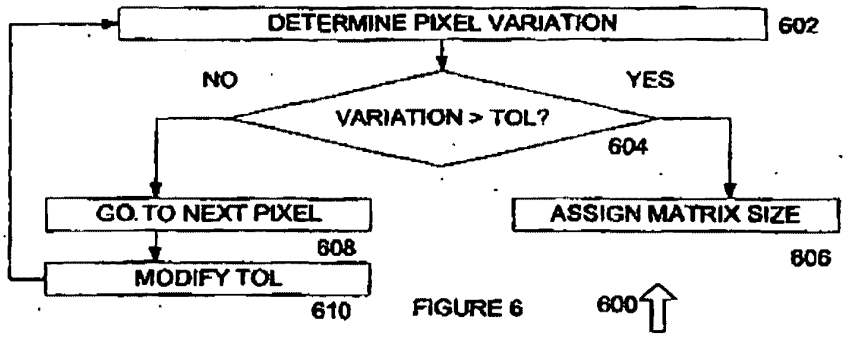

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FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output frame will have a variety of different matrices (regions) having a variety of different region sizes.

Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference to argue against the Kafri et al art, and to support the Examiner's statement that Kafri is not prior art to the present invention.

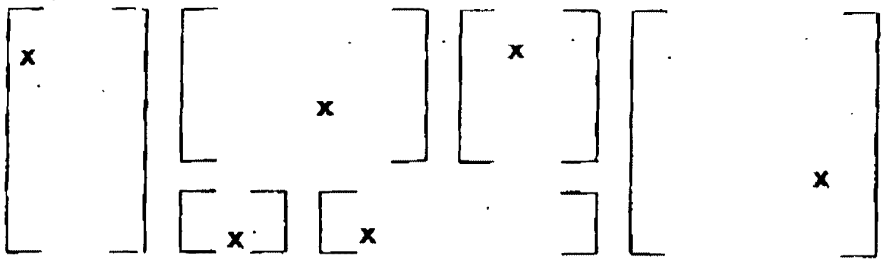

FIGURE 10 1000

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FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

In contrast to the Kafri et al art (U.S. 4, 776, 013) to the present invention, as presented herein, it is fundamentally a travesty that the Applicant or the representatives failed to correct our collective laxness of not pursuing the available Examiner withdrawal of Kafri art as cited erroneously as prior art against the present invention.

Quoting from July 21, 2008, page 7 of 7, from the Representative from the interview of June 11, 2008, Response to Office Action Mailed March 21, 2008:

'Kafri is directed to a method of encoding an optical image, which includes using a master grid to convert the optical imge to an encoded image grid comprised of an image matrix of pixels each having at least two possible intensity values. Kafri does not disclose a frame analyses system receiving frame data and generating region data (per claim1), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame data using the master grid. Further, Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16).'

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'As discussed in the interview of June 11, 2008, none of the Kafri art disclose a system that generates region data and generates one set of pixel data for each region.

In this way, data transmission can be optimized.

Accordingly, the present invention is believed to be patentable over the prior art.'

CLAIM REJECTION UNDER UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

As interpreted by the recent Federal Circuit case in Bilski v Kappos, renamed November 9 2009 in theUS Supreme Court oral hearing appeal In re Bilski, 545 F.3d 943,88 U.S.P.Q.2d 1385 (Fed.Cir.2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

* * * *

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As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Thus claim 11, is (Currently Amended) back to the same language as the Original claim 11 in the Office Action of March 21, 2008. Claim 11, should not be amended from the Original of July 16, 2004 and January 16, 2002 language written and filed by Christopher Rourk, esq., because the claim and its underlying method it is in accordance with ***the litmus test of the of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing***".

If, on the other hand, the Examiner agrees to write an Examiner's Amendment Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment, knowing the Examiner is skilled in this field of art.

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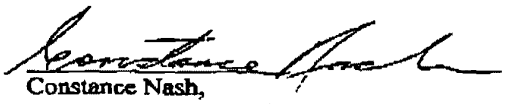
CONCLUSIONS

In view of the foregoing, it is respectfully urged that all the present claims of the application are patentable and in a condition for allowance. Notice of Allowance is earnestly solicited. The Examiner is authorized to charge any additional fees due with the request to to consider this a conditional petition and an authorization to telephone the Applicant at 1.949.295.0080 for payment of any required fees.

Respectfully submitted,



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Date: February 8, 2010

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Dear Macey, Ref: 10/892,690 12 Feb 2010

Don't file previous Fax Cover page, or pages 2, 3 out of the 20 pages fax, because the whole 17 pages Amendment was not Received by the PTO fax machine. You received 18 pgs.

Please,
File and Record: Supplemental Amendment Only,
17 pages in total.

Thank you so very very much for your fax.

Constance Nash

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE
TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

Dear Sir:

This Supplemental Amendment necessity, as the Applicant discussed with the Examiner August 3, 2009 and later, during the extensions of the First Office Action response deadlines, will amend the July 28, 2009 Supplemental Amendment, written and filed by the previous representative, against Applicant and staff meeting instruction to not file his draft of July 24, as written. In essence the Applicant had instructed amendment to narrow claim 1 language, amend claim 11 as discussed in two interviews with the Examiner, or argue against amendment of the methods claim 11 due to the arguable relevance of In reBilski upon the method claim. But the previous representative's Amendment claims eliminated all system language in claims 1-10, but worse, inserted an incorrect action to replace system. Furthermore, the representative's claims' language did *not* exist in either the specifications or the invention.

Applicants respectfully submit the following Supplemental Amendment.

Please amend this application as follows and consider the following remarks.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments to /"Set"/Kafri withdrawal consideration/ Bilski v Kappos/Kafri Arguments/Examiner Amendment/ begin on pages 8, 9, 10, 11, 12, 13, 14, 15, and 16

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Amendment to the Specification as written by the previous representative:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~as~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

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In the claims:

1. (Currently Amended) A system for transmitting data comprising:

   a frame analysis system receiving frame data and generating region data;

   a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

   a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Currently Amended) The system of claim 1 wherein the frame analysis system

   comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Currently Amended) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

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4. (Currently Amended) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

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8. (Currently Amended) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Currently Amended) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

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12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Currently Amended) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Currently Amended) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Currently Amended) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

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17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

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20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

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REMARKS/ARGUMENT

The Applicant respectfully mentions to the Examiner that the usage of the mathematical word "set" within the claims and within the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (Currently Amended).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; a matrix generating system for generating matrix

size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data

generating one set of pixel data for each region.

CONSIDERATION TO WITHDRAW KAFRI ET AL

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The applicant apologizes for failure to seek withdrawal of Kafri et al, due to the circumstance mentioned herein. During the extensive interview of June 11, 2008, the Examiner stated with integrity of purpose, that he'd made a mistake in citing Kafri et al as prior art. The Applicant takes full responsibility for failing to memorialize a withdrawal of the cited art Kafri et al, after the Examiner said,

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"I apologize, I made a mistake in citing Kafri as prior art".

The representative or the Applicant should have sought consideration to withdraw the art due to a not-so-uncommon-mistake of citing inappropriate art as prior art. Current M&A legal assertions of the claims will undoubtedly focus upon the Applicant's failure to memorialize Kafri et al withdrawal during the June 11, 2008 interview, and later during subsequent interviews and responses. The Examiner is correct, Kafri et al is not prior art.

The Applicant apologizes to the Examiner, since clearly the ball was and is, in the Applicant's court to seek viable redress.

CONSIDERATION OF EXAMINER AMENDMENT

Additionally, should the privilege of an **Examiner's Amendment** of claim 1 and/or claim 11, after reading the Claims herein, and in light of the Interviews and Applicant agreement to the Examiner suggestions and the Remarks and Argument on Kafri, Remarks and Argument on Bilski, within this Supplemental Amendment, not be in condition for the allowance and notice of allowance of the claims herein, Applicants respectfully request the Examiner's Amendment for an allowance to Issue.

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Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Kafri does not disclose the use of matrix definition data.

Kafri would have no use for matrix definition data,

because Kafri is not concerned with reducing the size of the data to be transmitted. *Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.*

Additionally, Kafri does not disclose generating pixel location data as recited.

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Because Kafri, *as noted by the Examiner June 11, 2008*, **is a much different** ***system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size.***

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with one pixel or one set meaning zero, one or more pixels.

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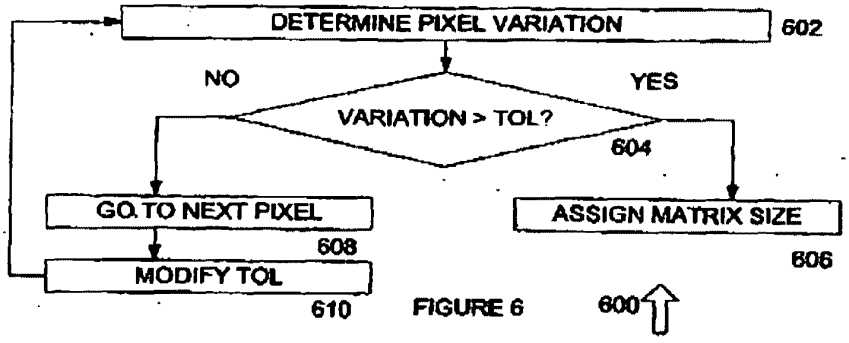
being transmitted for that region. If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.



PAGE 13/18 * RCVD AT 2/12/2010 5:47:50 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/35 * DNIS:2730177 * CSID:9496755092 * DURATION (mm-ss):03-58

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FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output frame will have a variety of different matrices (regions) having a variety of different region sizes.

Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference to argue against the Kafri et al art, and to support the Examiner's statement that Kafri is not prior art to the present invention.

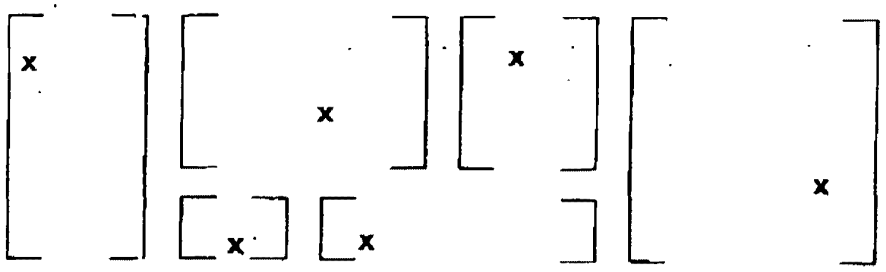

FIGURE 10 1000

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FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

In contrast to the Kafri et al art (U.S. 4, 776, 013) to the present invention, as presented herein, it is fundamentally a travesty that the Applicant or the representatives failed to correct our collective laxness of not pursuing the available Examiner withdrawal of Kafri art as cited erroneously as prior art against the present invention.

Quoting from July 21, 2008, page 7 of 7, from the Representative from the interview of June 11, 2008, Response to Office Action Mailed March 21, 2008:

'Kafri is directed to a method of encoding an optical image, which includes using a master grid to convert the optical imge to an encoded image grid comprised of an image matrix of pixels each having at least two possible intensity values. Kafri does not disclose a frame analyses system receiving frame data and generating region data (per claim1), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame data using the master grid. Further, Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16).'

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'As discussed in the interview of June 11, 2008, none of the Kafri art disclose a system that generates region data and generates one set of pixel data for each region.

In this way, data transmission can be optimized.

Accordingly, the present invention is believed to be patentable over the prior art.'

CLAIM REJECTION UNDER UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

As interpreted by the recent Federal Circuit case in Bilski v Kappos, renamed November 9 2009 in theUS Supreme Court oral hearing appeal In re Bilski, 545 F.3d 943,88 U.S.P.Q.2d 1385 (Fed.Cir.2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

* * * *

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As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Thus claim 11, is (Currently Amended) back to the same language as the Original claim 11 in the Office Action of March 21, 2008. Claim 11, should not be amended from the Original of July 16, 2004 and January 16, 2002 language written and filed by Christopher Rourk, esq., because the claim and its underlying method it is in accordance with ***the litmus test of the of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing***".

If, on the other hand, the Examiner agrees to write an Examiner's Amendment Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment, knowing the Examiner is skilled in this field of art.

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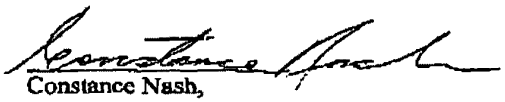
CONCLUSIONS

In view of the foregoing, it is respectfully urged that all the present claims of the application are patentable and in a condition for allowance. Notice of Allowance is earnestly solicited. The Examiner is authorized to charge any additional fees due with the request to to consider this a conditional petition and an authorization to telephone the Applicant at 1.949.295.0080 for payment of any required fees.

Respectfully submitted,



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Laguna Beach, CA 92652
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Facsimile :(949) 723-0700

Date: February 8, 2010

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RECEIVED
CENTRAL FAX CENTER
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Dear Macey, Ref: 10/892,690 12 Feb 2010

Don't file previous Fax Cover page, or pages 2, 3 out of the 20 pages fax, because the whole 17 pages Amendment was not Received by the PTO fax machine. You received 18 pgs.

Please,
File and Record: Supplemental Amendment Only,
17 pages in total.

Thank you so very very much for your fax.

Constance Nash

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OPAP
FEB 16 2010
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PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE
TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

Dear Sir:

This Supplemental Amendment necessity, as the Applicant discussed with the Examiner August 3, 2009 and later, during the extensions of the First Office Action response deadlines, will amend the July 28, 2009 Supplemental Amendment, written and filed by the previous representative, against Applicant and staff meeting instruction to not file his draft of July 24, as written. In essence the Applicant had instructed amendment to narrow claim 1 language, amend claim 11 as discussed in two interviews with the Examiner, or argue against amendment of the methods claim 11 due to the arguable relevance of In reBilski upon the method claim. But the previous representative's Amendment claims eliminated all system language in claims 1-10, but worse, inserted an incorrect action to replace system. Furthermore, the representative's claims' language did *not* exist in either the specifications or the invention.

Applicants respectfully submit the following Supplemental Amendment.

Please amend this application as follows and consider the following remarks.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments to /"Set"/Kafri withdrawal consideration/ Bilski v Kappos/Kafri Arguments/Examiner Amendment/ begin on pages 8, 9, 10, 11, 12, 13, 14, 15, and 16

Amendment to the Specification as written by the previous representative:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~as~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

In the claims:

1. (Currently Amended) A system for transmitting data comprising:

   a frame analysis system receiving frame data and generating region data;

   a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

   a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Currently Amended) The system of claim 1 wherein the frame analysis system

   comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Currently Amended) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Currently Amended) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Currently Amended) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Currently Amended) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Currently Amended) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Currently Amended) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Currently Amended) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

REMARKS/ARGUMENT

The Applicant respectfully mentions to the Examiner that the usage of the mathematical word "set" within the claims and within the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (Currently Amended).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; a matrix generating system for generating matrix

size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data

generating one set of pixel data for each region.

CONSIDERATION TO WITHDRAW KAFRI ET AL

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The applicant apologizes for failure to seek withdrawal of Kafri et al, due to the circumstance mentioned herein. During the extensive interview of June 11, 2008, the Examiner stated with integrity of purpose, that he'd made a mistake in citing Kafri et al as prior art. The Applicant takes full responsibility for failing to memorialize a withdrawal of the cited art Kafri et al, after the Examiner said,

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In contrast to Kafri,

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The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels,

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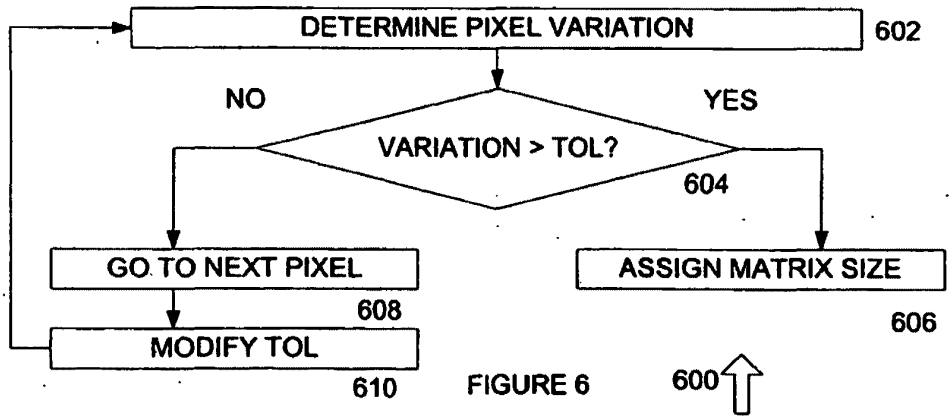

FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

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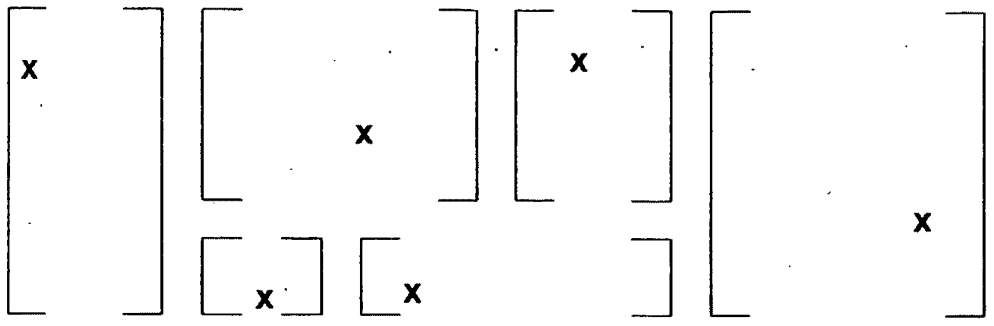

FIGURE 10 1000

FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

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* * * *

As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

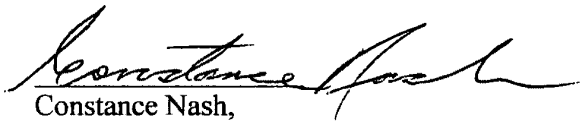
Thus claim 11, is (Currently Amended) back to the same language as the Original claim 11 in the Office Action of March 21, 2008. Claim 11, should not be amended from the Original of July 16, 2004 and January 16, 2002 language written and filed by Christopher Rourk, esq., because the claim and its underlying method it is in accordance with *the* ***litmus test of the of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing***".

If , on the other hand, the Examiner agrees to write an Examiner's Amendment Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment, knowing the Examiner is skilled in this field of art.

CONCLUSIONS

In view of the foregoing, it is respectfully urged that all the present claims of the application are patentable and in a condition for allowance. Notice of Allowance is earnestly solicited. The Examiner is authorized to charge any additional fees due with the request to to consider this a conditional petition and an authorization to telephone the Applicant at 1.949.295.0080 for payment of any required fees.

Respectfully submitted,



Constance Nash,
Cornerstone Group Ltd
P.O.Box 1892
Laguna Beach, CA 92652
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Facsimile :(949) 723-0700

Date: February 8, 2010

TO:Auto-reply fax to 9496755092 COMPANY:

Auto-Reply Facsimile Transmission

TO: Fax Sender at 9496755092

Fax Information
Date Received: 2/12/2010 5:53:48 PM [Eastern Standard Time]
Total Pages: 18 (including cover page)

ADVISORY: This is an automatically generated return receipt confirmation of the facsimile transmission received by the Office. Please check to make sure that the number of pages listed as received in Total Pages above matches what was intended to be sent. Applicants are advised to retain this receipt in the unlikely event that proof of this facsimile transmission is necessary. Applicants are also advised to use the certificate of facsimile transmission procedures set forth in 37 CFR 1.8(a) and (b), 37 CFR 1.6(f). Trademark Applicants, also see the Trademark Manual of Examining Procedure (TMEP) section 306 et seq.

Received Cover Page =======>

02/12/2010 15:56 9496755092 MAIL BOXES LTDO PAGE 01

Dear Macey, Ref: 10/892,690 12 Feb 2010

Don't file previous Fax Cover page, or pages 2, 3 out of the 20 pages fax, because the whole 17 pages Amendment was not Received by the PTO fax machine. You received 18 pgs.

Please,
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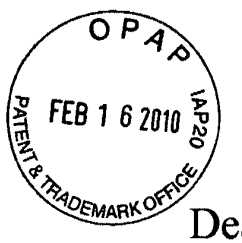
Constance Nash

PAGE 1/18 * RCVD AT 2/12/2010 5:53:48 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/24 * DNIS:2738300 * CSID:9496755092 * DURATION (mm-ss):04-12



Dear Macey, Ref: 10/892,690 12 Feb 2010

Don't file previous Fax Cover page, or pages 2, 3 out of the 20 pages fax, because the whole 17 pages Amendment was not Received by the PTO fax machine. You received 18 pgs.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 04/15/2010

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2621	
MAIL DATE	**DELIVERY MODE**
04/15/2010	PAPER

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

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

Office Action Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

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

Status

1)☒ Responsive to communication(s) filed on *16 February 2010*.

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

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

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

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

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

Application Papers

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

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

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

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

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

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

a)☐ All b)☐ Some * c)☐ None of:

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

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

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

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

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/24/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Examiner's Amendment*.

Response to Amendment

1. Applicant's amendment received on February 16, 2010 has been fully considered and entered, but the arguments are moot in view of the new ground(s) of rejection.

EXAMINER'S AMENDMENT

The application has been amended as follows:

Claim 16, line 1, before "dividing" insert --using a processor for--;

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, and 6-18, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Barnes et al. (US Patent no. 7,050,639).

Regarding claim 1, Barnes discloses a system for transmitting data comprising a frame analysis system receiving frame data and generating region data (See Barnes col. 2, lines 24-29, col. 6, lines 57-61, col. 7, lines 3-9); a matrix generation system for

generating matrix data from frame data (See col. 5, lines 67 and col. 6, lines 1-7), the matrix data comprising pixel data and matrix size being determined by variation in pixel data (See col. 6, lines 2-21, and col. 9, lines 46-56); and a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region (See col. 6, lines 57-67, col. 7, lines 1-15).

The applicant should note that the pixel prediction errors, as disclosed in Barnes col. 7, lines 9-12, are the claimed set of pixel data (See col. 7, lines 16-26 where the predictors are based upon comparison of target pixel, or pixel of interest).

As per claims 11 and 20, Barnes discloses a method for transmitting data comprising receiving frame data (See Barnes fig. 6, item 276, col. 6, lines 57-61, col. 7, lines 3-9); generating matrix data from the frame data, selecting one or two more sets of pixel data based on the matrix data (See col. 9, lines 46-56), and transmitting the pixel data and the matrix data (See Barnes col. 12, lines 50-54).

As per claim 16, Barnes discloses a method for transmitting data comprising: using a processor for dividing an array of pixel data into two or more regions (See col. 6, lines 40-46), selecting a set of pixel data from each region (See col. 7, lines 3-12), and transmitting region data and the pixel data for each region (See col. 11, lines 20-42).

As per claims 2-4 and 12-15, most of the limitations of these claims have been noted in the above rejection of claim 1. In addition, Barnes further discloses pixel variation

system and matrix size system and matrix identification data (See Barnes col. 6, lines 57-64 and col. 10, lines 35-47).

As per claim 6, Barnes further provides a pixel sequencer as seen in col. 5, lines 3-15.

As per claims 7, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Barnes further discloses pixel identification system generating pixel location data (See col. 7, lines 16-37).

As per claim 8-10, most of the limitations of these claims have been noted in the above rejection of claim 1. In addition, Barnes further generates a display (See col. 3, lines 27-48).

As per claim 17, most of the limitations of these claims have been noted in the above rejection of claim 1. In addition, Barnes further discloses uniform matrices as seen in col. 5, line 67 and col. 6, lines 1-7.

As per claim 18, most of the limitations of this claim have been noted in the above rejection of claim 1. In addition, Barnes further discloses matrices of different sizes (See Barnes col. 10, lines 35-48).

Claim Rejections - 35 USC § 103

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

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes et al. (US Patent no. 7050639) in view of Keith et al. (US Patent no. 4,785,349).

Regarding claims 5 and 19, most of the limitations of these claims have been noted in the above rejection of claims 1 and 16.

It is noted that Barnes is silent about selecting a random set of pixels as specified in claims 5 and 19.

However, Keith teaches a frame analysis system including selecting a sets of pixels randomly (See Keith col. 27, lines 51-64).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Barnes' frame analysis system by incorporating Keith's step of selecting sets of pixels randomly since such step is rather necessary to assure that the representative pixels are uniformly distributed throughout the region as taught by Keith.

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

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

Gims S Philippe
Primary Examiner
Art Unit 2621

/G. S. P./
/Gims S Philippe/
Primary Examiner, Art Unit 2621

Notice of References Cited	Application/Control No. 10/892,690	Applicant(s)/Patent Under Reexamination KRICHEVSKY ET AL.	
	Examiner Gims S. Philippe	Art Unit 2621	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,050,639	05-2006	Barnes et al.	382/239
*	B	US-6,014,181	01-2000	Sun, Kai	348/699
*	C	US-5,878,169	03-1999	Miyamoto, Yoshihiro	382/236
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	3900	(divid$3 near3 pixel near3 region)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/04/09 18:21
L2	2289	(select$3 near2 set near3 pixel)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/04/09 18:21
L3	71	l1 and l2	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/04/09 18:21
L4	62	transmi$5 and l3	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/04/09 18:22
L5	62	transmi$5 and l3	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:22
L6	8666	(transmi$ with region with pixel)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:40
L7	4749	(divi$3 same (frame or image or picture) same array same pixel)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:42
L8	106	l6 and l7	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:42
L9	106	l8 and l6	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:44
L10	106	(transmi$ with region) and l9	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:45
L11	63	(matrix or matrices) and l10	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:53
L12	5	((matrix or matrices) with size) and l10	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 18:53

L13	4898	((frame or picture or image) with (analysis or analyz $3) same (region with data))	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:01
L14	176718	((matrix or matrices) same (frame or picture or image))	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:02
L15	1062	l13 and l14	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:03
L16	4613	((matrix or matrices) with pixel with size)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:03
L17	49	l15 and l16	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:03
L18	31	(pixel with select$) and l17	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:05
S1	692	(streaming same downloading same multimedia)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2010/03/31 15:32

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	Art Unit
	Gims S Philippe	2621

SEARCHED			
Class	Subclass	Date	Examiner
375	240.01, 240.15, 240.23	3/17/08	GP
380	54	4/10/10	GP
382	239, 236	4/10/10	GP
348	699	4/10/10	GP

SEARCH NOTES		
Search Notes	Date	Examiner
Text searched; class/subclass	3/17/08	GP
Updated searched areas	2/2/09	GP
Updated previously searched areas	4/10/10	GP

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	**Art Unit**
	Gims S Philippe	2621

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

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

CLAIM		DATE								
Final	Original	03/17/2008	02/02/2009	04/10/2010						
	1	✓	✓	✓						
	2	✓	✓	✓						
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	19	✓	✓	✓						
	20	✓	✓	✓						
	21		✓	-						
	22		✓	-						

PTO/SB/08B (08-03)
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Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
Application Number	10/892,690
Filing Date	July 16, 2004
First Named Inventor	Alexander Krichevsky
Art Unit	2621
Examiner Name	Philippe, Gims S.
Attorney Docket Number	161-002.US

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
/GP/	2	STROBACH, Tree Structured Scene Adaptive Coder, IEEE Transactions on Communications, Apr. 1990, vol. 38, No. 4, pp. 477-486.	

Examiner Signature	/Gims Philippe/	Date Considered	04/10/2010

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

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	vari$5 and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 15:02
L2	1	(pixel with select$) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 15:14
L3	1	(pixel with set) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 15:15
L4	1	(select$ same set) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 15:19
L5	1	(select$3 or choos $3) and "7050639". pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 15:21
L6	1	((select$3 or choos $3) same (element or pixel)) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 15:25
L7	0	(divi$3 with pixel) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 16:03
L8	1	(divi$3 same pixel) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 16:03
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L13	0	random$ and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 16:40

L14	0	random$ and "6014181".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 16:42
L15	2	sequenc$3 and "6014181".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 17:09
L16	1	sequenc$3 and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 17:10
L17	1	display$ and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 17:23
L18	1	(display$3 or monitor$) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 17:24
L19	1	(size with matri$3) and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 17:47
L20	1	matri$3 and "7050639".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:05
L21	11	(pixel with randomizer)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:16
L22	22541	(pixel same region same matri$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:19
L23	4142	(select$3 near3 pixel) and l22	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:20
L24	1817	(random$2 with select$3 with pixel)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:20
L25	99	l23 and l24	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:20
L26	52	(set near2 pixel) and l25	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:21
L27	52	matri$3 and l26	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:22
L28	52	region and l27	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:22

L29	12	compress$ and l28	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:23
L30	3	(pixel with selection) and l29	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:25
L31	59	(pixel with selection with random$ same set)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:26
L32	3	region and l30	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:26
L33	340	(pixel with selection with random$)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:35
L34	97	(pixel with matri$3) and l33	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:36
L35	1	(select$ same (pixel near randomizer))	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:40
L36	1	(pixel near randomizer)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:41
L37	1817	(select$3 with pixel with random$2)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:41
L38	704	(region with pixel) and l37	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:41
L39	69	(image same matri $3 same size) and l38	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:42
L40	243	(random$3 with set with pixel with select$)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:47
L41	57	(image same compress$) and l40	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:48
L42	1178	(random$3 same pixel same set same select$)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:55
L43	306	(matrix with pixel) and l42	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:56

L44	88	(image with transmi $5) and l43	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 18:57
L45	46	(pixel with random $2 with select$3) and l44	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 19:00
L46	520	(pixel near2 random $2 near3 select$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 19:05
L47	152	(image with analy$) and l46	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/10 19:06
S1	5565	((pixel or pel) near3 (select$3 or choos $3) with region)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:59
S2	42427	(matri$3 near3 (frame or image or picture))	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:59
S3	571	S1 and S2	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 19:59
S4	196015	((frame or image or picture) with analy $3)	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 20:00
S5	218	S3 and S4	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 20:00
S6	34	(matri$3 near3 size) and S5	US-PGPUB; USPAT; EPO; JPO; DERWENT	AND	ON	2010/04/09 20:02

4/10/10 7:58:03 PM

OPAP IAP25 JUL 12 2010 PATENT & TRADEMARK OFFICE

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

AMENDMENT APPLICATION AND RESPONSE TO APRIL 14, 2010

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

Dear Sir:

Applicants respectfully submit the following Amendment and Response as per the oral Interview July 6, 2010.

Claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

In the claims:

1. (Currently Amended) A system for transmitting data comprising: a frame analysis system receiving frame data and generating region data by identifying pixel variation; a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and a pixel selection system receiving the region data and matrix data generating one set of pixel data for each region; the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on the pixel variation data from the two or more sets of pixel data; and transmitting the matrix data and the pixel data.

2. (Canceled)

3. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Previously Presented) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Previously Presented) A method for transmitting data comprising:
receiving frame data; generating matrix data from the frame data;
selecting one of two or more sets of pixel data based on the matrix data; and
transmitting the pixel data and the matrix data.

12. (Previously Presented) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Previously Presented) The method of claim 11 wherein generating matrix data from the frame data comprises *setting* a matrix size based on pixel variation data.

14. (Previously Presented) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Previously Presented) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Previously Presented) A method for transmitting data comprising: using a processor for dividing an array of pixel data into two or more regions;

17. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Previously Presented) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Previously Presented) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

REMARKS/ARGUMENT

Claim Rejections – 35 USC § 102

The Examiner contends that Claims 1-4, and 6-18, and 20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Barnes et al (US Patent No 7, 050639.

As demonstrated in the interview of July 10, 2010, Barnes et al in the below argument, in contract to the present invention,

relates to an image data compression and decompression technique which *applies different compression code tables to different subregions of an image to realize optimal compression of each subregion.*

The difference between Barnes et al and the present Amendment application is as follows:

Based on the Amendment invention, when "generating one set of pixel data for each region," the generated set of pixel data is *selected directly* from the *pixels within the region and will be transmitted without any further processing.*

***In Contrast**, according to Barnes et al, an image data stream is reduced* to subregions (see col. 6, lines41-42 of D1); each subregion of the image

intensities (entropy) within each subregion (see col. 6, lines 57-61); the selected *compression code table* is applied to the *subregion* to *generate compressed data* which will then be transmitted (claim 1 step b). Thus, the method of Barnes selects a compression code for a subregion and compresses the region accordingly, which is different from the Amendment Application.

2. On US patent 6014181:

relates *to motion estimation* in video imaging systems. The method of US 6014181, *involves at least two consecutive frames*, with the aim of efficiently *estimating the change between the two frames,* which is totally different from the Amendment application. Thus US 6014181 should not be considered as prior art of the Amendment Application.

3. On US patent 5878139:

relates to a system and method for coding and/or decoding a *selectable one of image-adaptive split* regions of a motion picture to *permit a* reproduction of the *split with a significant configuration*. Similarly, the method of 5878139, *involves differences between previous frames and current frames*, which is *different from the Amendment application.*

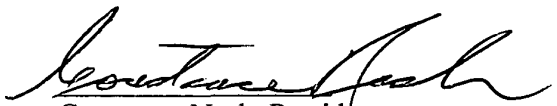
Thus, US5878139 should not be considered as prior art of the Amendment Application.

Accordingly, the present invention is believed to be patentable over the prior art.

In view of the foregoing, it is respectfully urged that all the present claims of the Amended Application are patentable and in a condition for allowance.

Notice of Allowance is earnestly solicited.

Respectfully submitted,



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Date:July 10, 2010

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/892,690	07/16/2004	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
	07/12/2010									
	Total (37 CFR 1.16(i))	* 19	Minus	** 22	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 3	Minus	***5	= 0	X $110 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

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

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

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

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

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

Legal Instrument Examiner:
/DAVINA G. BUTLER/

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

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

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NC	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE
TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

Dear Sir:

This Supplemental Amendment necessity, as the Applicant discussed with the Examiner August 3, 2009 and later, during the extensions of the First Office Action response deadlines, will amend the July 28, 2009 Supplemental Amendment, written and filed by the previous representative, against Applicant and staff meeting instruction to not file his draft of July 24, as written. In essence the Applicant had instructed amendment to narrow claim 1 language, amend claim 11 as discussed in two interviews with the Examiner, or argue against amendment of the methods claim 11 due to the arguable relevance of In reBilski upon the method claim. But the previous representative's Amendment claims eliminated all system language in claims 1-10, but worse, inserted an incorrect action to replace system. Furthermore, the representative's claims' language did *not* exist in either the specifications or the invention.

Applicants respectfully submit the following Supplemental Amendment.

Please amend this application as follows and consider the following remarks.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments to /"Set"/Kafri withdrawal consideration/ Bilski v Kappos/Kafri Arguments/Examiner Amendment/ begin on pages 8, 9, 10, 11, 12, 13, 14, 15, and 16

PAGE 2/16 * RCVD AT 2/12/2010 5:19:56 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-48

PAGE 1/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

Amendment to the Specification as written by the previous representative:

Please replace paragraph **[0060]** with the following rewritten paragraph:

[0060] In operation, method 700 allows pixel data within a matrix or other region to be selected, which ~~as~~ are based on sequencing, random selection, or in other suitable manners. Method 700 allows pixel data for optimized data applications to be used, such as where video data having low information content and regions of high information content ~~is~~ are being transmitted or in other suitable applications.

Please replace paragraph **[0063]** with the following rewritten paragraph:
[0063] At 804 it is determined whether the frame has been completed. In one exemplary embodiment, an entire frame of data can be constituted prior to generation of the frame. Likewise, in another exemplary embodiment, the data can be generated on a line-by-line basis, so that the data does not need to be buffered until a complete frame is generated. Other suitable ~~processed~~ processes can also be used. If it is determined at 804 that the frame is not complete, the method returns to 800. Otherwise, the method proceeds to 804 and advances to the next frame.

PAGE 3/16 * RCVD AT 2/12/2010 5:19:56 PM[Eastern Standard Time] * SVR:USPTO-EFXRF-6/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-48

PAGE 2/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

In the claims:

1. (Currently Amended) A system for transmitting data comprising:

   a frame analysis system receiving frame data and generating region data;

   a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

   a pixel selection system receiving the region data and matrix data and generating one set of pixel data for each region.

2. (Currently Amended) The system of claim 1 wherein the frame analysis system

   comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

3. (Currently Amended) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

PAGE 4/16 * RCVD AT 2/12/2010 5:19:56 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-48

PAGE 3/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

4. (Currently Amended) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Currently Amended) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

PAGE 5/16 * RCVD AT 2/12/2010 5:10:56 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-48

PAGE 4/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

8. (Currently Amended) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Currently Amended) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Currently Amended) A method for transmitting data comprising:
receiving frame data;
generating matrix data from the frame data;
selecting one of two or more sets of pixel data based on the matrix data; and
transmitting the pixel data and the matrix data.

PAGE 6/15 * RCVD AT 2/12/2010 5:19:56 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-48

PAGE 5/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

12. (Original) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Currently Amended) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Original) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Currently Amended) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Currently Amended) A method for transmitting data comprising: dividing an array of pixel data into two or more regions; selecting a set of pixel data from each region; and transmitting region data and the pixel data for each region.

PAGE 7/15 * RCVD AT 2/12/2010 5:19:58 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-48

PAGE 6/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

17. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Original) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Original) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Original) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

PAGE 8/16 * RCVD AT 2/12/2010 5:19:56 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-42

PAGE 7/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

REMARKS/ARGUMENT

The Applicant respectfully mentions to the Examiner that the usage of the mathematical word "set" within the claims and within the Specifications, means as per the Wikipedia Mathematical Dictionary, that a set means zero, one or more.

An example of usage of the word set. Highlighted herein is Claim 1 (Currently Amended).

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; a matrix generating system for generating matrix

size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data

generating one set of pixel data for each region.

CONSIDERATION TO WITHDRAW KAFRI ET AL

The Applicant respectfully requests the Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The applicant apologizes for failure to seek withdrawal of Kafri et al, due to the circumstance mentioned herein. During the extensive interview of June 11, 2008, the Examiner stated with integrity of purpose, that he'd made a mistake in citing Kafri et al as prior art. The Applicant takes full responsibility for failing to memorialize a withdrawal of the cited art Kafri et al, after the Examiner said,

PAGE 9/16 * RCVD AT 2/12/2010 5:19:56 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/17 * DNIS:2730177 * CSID:9497230700 * DURATION (mm-ss):09-48

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"I apologize. I made a mistake in citing Kafri as prior art".

The representative or the Applicant should have sought consideration to withdraw the art due to a not-so-uncommon-mistake of citing inappropriate art as prior art. Current M&A legal assertions of the claims will undoubtedly focus upon the Applicant's failure to memorialize Kafri et al withdrawal during the June 11, 2008 interview, and later during subsequent interviews and responses. The Examiner is correct, Kafri et al is not prior art.

The Applicant apologizes to the Examiner, since clearly the ball was and is, in the Applicant's court to seek viable redress.

CONSIDERATION OF EXAMINER AMENDMENT

Additionally, should the privilege of an **Examiner's Amendment** of claim 1 and/or claim 11, after reading the Claims herein, and in light of the Interviews and Applicant agreement to the Examiner suggestions and the Remarks and Argument on Kafri, Remarks and Argument on Bilski, within this Supplemental Amendment, not be in condition for the allowance and notice of allowance of the claims herein, Applicants respectfully request the Examiner's Amendment for an allowance to Issue.

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Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Kafri does not disclose the use of matrix definition data.

Kafri would have no use for matrix definition data,

because Kafri is not concerned with reducing the size of the data to be transmitted. *Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.*

Additionally, Kafri does not disclose generating pixel location data as recited.

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In contrast, Kafri merely transmits a continuous pipeline of pixel data whose locations are predefined but whose values have been changed in order to ***obscure*** the image.

Because Kafri is not concerned with reducing the number of bits transmitted, Kafri does not use pixel location information.

Because Kafri, *as noted by the Examiner June 11, 2008*, **is a much different** ***system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size.***

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels,

being transmitted for that region. If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.

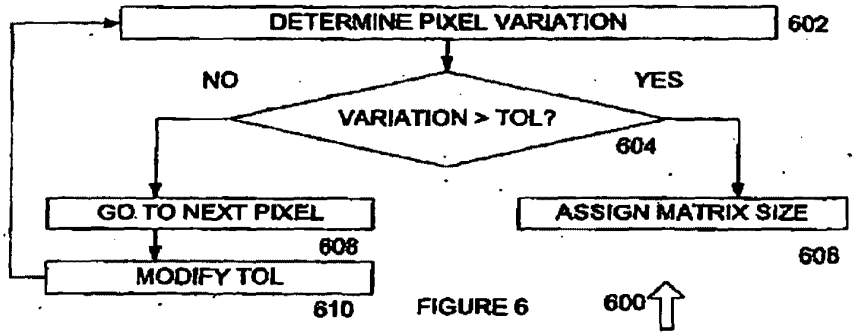

FIGURE 6

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FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

In contrast to the Kafri et al art (U.S. 4, 776, 013) to the present invention, as presented herein, it is fundamentally a travesty that the Applicant or the representatives failed to correct our collective laxness of not pursuing the available Examiner withdrawal of Kafri art as cited erroneously as prior art against the present invention.

Quoting from July 21, 2008, page 7 of 7, from the Representative from the interview of June 11, 2008, Response to Office Action Mailed March 21, 2008:

'Kafri is directed to a method of encoding an optical image, which includes using a master grid to convert the optical imge to an encoded image grid comprised of an image matrix of pixels each having at least two possible intensity values. Kafri does not disclose a frame analyses system receiving frame data and generating region data (per claim1), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame data using the master grid. Further, Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16).'

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As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test,** namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Thus claim 11, is (Currently Amended) back to the same language as the Original claim 11 in the Office Action of March 21, 2008. Claim 11, should not be amended from the Original of July 16, 2004 and January 16, 2002 language written and filed by Christopher Rourk, esq., because the claim and its underlying method it is in accordance with ***the litmus test of the of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing***".

If, on the other hand, the Examiner agrees to write an Examiner's Amendment Claim 11, the Applicant thanks the Examiner and accepts the Examiner's amendment, knowing the Examiner is skilled in this field of art.

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PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/892,690	07/16/2004	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 07/21/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 22	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 3	Minus	***5	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

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

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

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

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

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

Legal Instrument Examiner:
/BONNIE PHOENIX/

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

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 08/31/2010

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2621	
MAIL DATE	**DELIVERY MODE**
08/31/2010	PAPER

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

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

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 10/892,690	**Applicant(s)** KRICHEVSKY ET AL.	
	Examiner Gims S. Philippe	**Art Unit** 2621	

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

THE REPLY FILED 21 July 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

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

NOTICE OF APPEAL

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

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☒ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *The Application contains two responses dated July 21, 2010 and July 12, 2010. The response of July 21 is a response to an action dated February 3, 2010. If the response of July 21, 2010 was a supplemental amendment following the response of July 12, the Examiner would have considered the response. However, the two responses are contradictory. The examiner cannot act on the action until the matter is clarified. The response received on July 12 presents amended claims that were not amended in the response of July 21. Considering the situation, the examiner is not convinced that the applicant has decided on a specific amendment to be considered*. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-20*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

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

REQUEST FOR RECONSIDERATION/OTHER

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

/Gims S Philippe/
Primary Examiner, Art Unit 2621

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

SUPPLEMENTAL AMENDMENT AND RESPONSE
TO NOTICE OF NON-COMPLIANT AMENDMENT JANUARY 13, 2010

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

DO NOT ENTER: /GP/

Dear Sir:

This Supplemental Amendment necessity, as the Applicant discussed with the Examiner August 3, 2009 and later, during the extensions of the First Office Action response deadlines, will amend the July 28, 2009 Supplemental Amendment, written and filed by the previous representative, against Applicant and staff meeting instruction to not file his draft of July 24, as written. In essence the Applicant had instructed amendment to narrow claim 1 language, amend claim 11 as discussed in two interviews with the Examiner, or argue against amendment of the methods claim 11 due to the arguable relevance of In reBilski upon the method claim. But the previous representative's Amendment claims eliminated all system language in claims 1-10, but worse, inserted an incorrect action to replace system. Furthermore, the representative's claims' language did *not* exist in either the specifications or the invention.

Applicants respectfully submit the following Supplemental Amendment.

Please amend this application as follows and consider the following remarks.

Amendment to the Claims begin on page 3 of this paper.

Remarks/Arguments to /"Set"/Kafri withdrawal consideration/ Bilski v Kappos/Kafri Arguments/Examiner Amendment/ begin on pages 8, 9, 10, 11, 12, 13, 14, 15, and 16

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PAGE 1/15 * RCVD AT 7/21/2010 12:44:48 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-5/17 * DNIS:2738300 * CSID:7036841409 * DURATION (mm-ss):02-42

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

AMENDMENT APPLICATION AND RESPONSE TO APRIL 14, 2010, JULY 12, 2010 FORMAT CORRECTION, AND AUGUST 31, 2010 OFFICE ACTIONS

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

Dear Sir:

Applicants respectfully submit the following Amendment and Response as per the oral Interview July 6, 2010.

Claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

In the claims:

1. (Currently Amended) A system for transmitting data comprising:

a frame analysis system receiving frame data and generating region data by identifying pixel variation;

a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and

a pixel selection system receiving the region data and matrix data generating one set of pixel data for each region;

the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on the pixel variation data from the two or more sets of pixel data; and

transmitting the matrix data and the pixel data.

2. (Canceled)

3. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Previously Presented) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Previously Presented) A method for transmitting data comprising:
receiving frame data; generating matrix data from the frame data;
selecting one of two or more sets of pixel data based on the matrix data; and
transmitting the pixel data and the matrix data.

12. (Previously Presented) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Previously Presented) The method of claim 11 wherein generating matrix data from the frame data comprises *setting* a matrix size based on pixel variation data.

14. (Previously Presented) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Previously Presented) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Previously Presented) A method for transmitting data comprising:
using a processor for dividing an array of pixel data into two or more regions;

17. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Previously Presented) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Previously Presented) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

REMARKS/ARGUMENT

Reconsideration of the this application is requested. Applicant would like to thank Examiner Phillippe for the interview of July 6, 2010, during which time the claims as presently amended were amended by Examiner Phillippe because the April prior art cited was overcome in the interview, as all cited art since 2008 has been overcome. Examiner Phillippe has objected to the language of claim 1 that Christopher Rourk, esq., Akin Gump Strauss Hauer & Feld LLP, wrote and filed January 16, 2002, and has stated that none of his examiner colleagues on his floor would allow this claim. Thus, Examiner Phillippe at the request of the applicant, wrote an Examiner's Amendment that narrows the claim, but is within the specification's and drawings invention. This paper merely resubmits the amendment and response filed July 12, 2010 and provides the amended claims in the appropriate format by underlining the added matter. The amendment adds the elements of claim 2 into claim 1 and cancels claim 2. No new matter has been added. The arguments made in the prior amendment are repeated here for the convenience of the US Patent Office.

Applicant notes that the record indicates that on July 21, 2010, a paper was filed in the present application. **Applicant hereby states that the July 21, 2010 paper was NOT filed by Applicant, nor was it authorized by Applicant and hereby requests that it be removed and expunged from the record.** Further, Applicant notes that this appears to be a copy of the Supplemental Amendment and Response already filed on February 12, 2010. The July 21, 2010 submission clearly states that it is a Supplemental Amendment and Response To Notice of Non-Compliant Amendment January 13, 2010. Applicant also points out that it is not signed by Applicant or any attorney of record and therefore should not be entered. Further, Applicant notes that the source fax number is 703-684-1409 indicating a northern Virginia location of original, while Applicant is located in Southern California. Applicant suspects that this may have been lost in a USPTO fax machine in February from within another office in the USPTO, during the snowstorm.

Applicants spoke with Examiner Phillippe September 1, seeking to know when the July 12, 2010 Amendment would be read and claims allowed, but learned from Examiner Phillippe that he was rightfully offended when he had assisted in a lengthy July 6, oral interview and his hand-written claims amendment, only to receive the correct July 12, 2010 Amendment, followed by an annoying July 21, 2010 –about-face filing that undid the July 6 oral interview instruction and negated the work of the Applicant's July 12, 2010 Amendment. On September 2 and September 3 Applicants had several telephone conversations with Supervisor Dastouri who agreed he would find out who in the USPTO building had the 703 Northern Virginia fax number on the July 21 2010 filing and to seek redress of an errant filing. And that a secondary issue was a simple format error of the amended claims 1 and 2 of July 12, 2010. Herein formatted correctly.

Supervisor Dastouri September 3, 2010 telephoned Applicant to advise that Applicant's team, Examiner Phillippe, Examiner Dastouri and a third Examiner would conduct an oral or telephone hearing, with oral sought by the Applicants for the post Labor Day week.

Accordingly Applicant respectfully requests that the Advisory action be withdrawn or vacated and the application be allowed based on the claims beginning on page 2 of this paper.

The arguments submitted in the July 12, 2010 amendment begin below:

Claim Rejections – 35 USC § 102

The Examiner contends that Claims 1-4, and 6-18, and 20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Barnes et al (US Patent No 7, 050639.

As demonstrated in the interview of July 10, 2010, Barnes et al in the below argument, in contrast to the present invention,

relates to an image data compression and decompression technique which

applies different compression code tables to different subregions of an

image to realize optimal compression of each subregion.

The difference between Barnes et al and the present Amendment application is as follows:

Based on the Amendment invention, when "generating one set of pixel data for each region," the generated set of pixel data is *selected directly* from the *pixels within the region and will be transmitted without any further processing.*

***In Contrast**, according to Barnes et al, an image data stream is reduced* to subregions (see col. 6, lines41-42 of D1); each subregion of the image intensities (entropy) within each subregion (see col. 6, lines 57-61); the selected *compression code table* is applied to the *subregion* to *generate compressed data* which will then be transmitted (claim 1 step b). Thus, the method of Barnes selects a compression code for a subregion and compresses the region accordingly, which is different from the Amendment Application.

2. On US patent 6014181:

relates *to motion estimation* in video imaging systems. The method of US 6014181, *involves at least two consecutive frames*, with the aim of efficiently *estimating the change between the two frames,* which is totally different from the Amendment application. Thus US 6014181 should not be considered as prior art of the Amendment Application.

3. On US patent 5878139:

relates to a system and method for coding and/or decoding a *selectable one of image-adaptive split* regions of a motion picture to *permit a* reproduction of the *split with a significant configuration*. Similarly, the method of 5878139, *involves differences between previous frames and current frames*, which is *different from the Amendment application.*

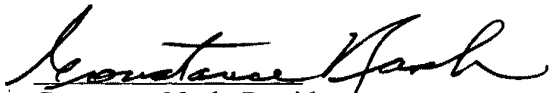
Thus, US5878139 should not be considered as prior art of the Amendment Application.

Accordingly, the present invention is believed to be patentable over the prior art.

In view of the foregoing, it is respectfully urged that all the present claims of the Amended Application are patentable and in a condition for allowance.

Notice of Allowance is earnestly solicited.

Respectfully submitted,



Constance Nash, President
Cornerstone Group Ltd

P.O. Box 1892
Laguna Beach, CA 92652
Telephone:(949) 295-0080
Facsimile :(949) 723-0700

Date: September 3, 2010

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/892,690	07/16/2004	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 09/07/2010

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 19	Minus	** 22	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 3	Minus	***5	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT

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

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

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

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

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

Legal Instrument Examiner:
/DORIAN P. EVANS/

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 09/08/2010

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	PAPER NUMBER
2621	
MAIL DATE	DELIVERY MODE
09/08/2010	PAPER

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Mehrdad Dastouri	2621	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Mehrdad Dastouri*. (3)_____.

(2) *Ms. Constance Nash (President, Cornerstone Group)*. (4)_____.

Date of Interview: *04 September 2010*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *None*.

Identification of prior art discussed: *None*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Ms. Constance Nash called and indicated that the amendment entered on July 21, 2010 was not submitted by the Applicant/Assignee, and this amendment is a duplicate copy of the amendment previously filed on February 12, 2010, which was mistakenly re-entered by USPTO. Ms. Nash further mentioned that the only recent amendment submitted by the Applicant/Assignee is the amendment filed on July 12, 2010. I assured necessary actions will be taken to clarify the situation and resolve the problem*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Mehrdad Dastouri/
Supervisory Patent Examiner, Art Unit 2621

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 09/17/2010

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	PAPER NUMBER
2621	

MAIL DATE	DELIVERY MODE
09/17/2010	PAPER

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	2621	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Gims S. Philippe*.

(2) *Mehrdad Dastouri*.

(3)*Constance Nash*.

(4)*David Crosby*.

Date of Interview: *14 September 2010*.

Type: a)☐ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *Of record*.

Identification of prior art discussed: *Kafri et al. 4776013; Barnes 7050639*.

Agreement with respect to the claims f)☐ was reached. g)☒ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *The applicant and her representative discussed the limitations of claim 1. They also worked in a possible amendment to the claim. A proposed unofficial amendment to the claims of record will be faxed to the examiner for review*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

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/Gims S Philippe/ Primary Examiner, Art Unit 2621	

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Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
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- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

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Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Gims S. Philippe	~~2621~~ 2482	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Gims S. Philippe*. (3)*Marsha Banks Harold*.

(2) *Mehrdad Dastouri*. (4)*Constance Nash*.

Date of Interview: *06 October 2010*.

Type: a)☐ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☒ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *Claim 1*.

Identification of prior art discussed: *None*.

Agreement with respect to the claims f)☐ was reached. g)☒ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *During the interview, the examiner suggested that the applicant go over the detailed disclosure of the invention, specifically pages 34-39, in order to convey the invention in the claim language. An examination of the presently pending claims will be performed*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Marsha D. Banks Harold
SPE 2482

/Gims S Philippe/ Primary Examiner, Art Unit 2621	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky and Nash
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

MISCELLANEOUS SUBMISSION

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

Dear Sir:

As the request of the Primary Examiner, Applicant hereby submits a copy of the Patent Declaration signed by all inventors.

Respectfully submitted,

/David F. Crosby/
David F. Crosby, Reg. No. 36,400
on behalf of
Cornerstone Group Ltd
P.O. Box 1892
Laguna Beach, CA 92652
Telephone:(949) 295-0080
Facsimile :(949) 723-0700

Date: October 14, 2010

Attorney Docket No.:

DECLARATION
FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am an original, first and joint inventor of the subject matter which is claimed and for which a utility patent is sought on the invention entitled:

OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

the specification of which was filed on 07/16/2004, which was assigned U.S. Serial No. 10/892,690.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate, or §365(a) of any PCT International application designating at least one country other than the United States listed below and have also identified below any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Appln. Number	Country *(if PCT, so indicate)*	Filing Date *(dd/mm/yy)*	Priority Claimed	
			Yes	No
PCT/US02/00503	PCT	1/16/2002	☒	☐
			☐	☐

I hereby claim the benefit under Title 35, United States Code, § 119(e) or §120 of any United States application(s), or §365(c) of any PCT International application(s) designating the United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

Application No. *(U.S.S.N.)*	Filing Date *(dd/mm/yy)*	Status *(Patented, Pending, Abandoned)*

Please continue to address all telephone calls to Constance Nash. At telephone number 949-723-0700 and, continue to address all correspondence to:

Constance Nash
Cornerstone Group Ltd
PO Box 1892
Laguna Beach, CA 92652

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or patent issued thereon.

Inventor's Signature: Alex Krichevsky Date 10/16/2006
Full Name of Inventor: Alex Krichevsky
Citizenship: U.S.
Residence: Laguna Beach, CA
Post Office Address: PO Box 1892, Laguna Beach, CA 92652

Inventor's Signature: Constance Nash Date 10/16/2006
Full Name of Inventor: Constance Nash
Citizenship: U.S.
Residence: Laguna Beach, California
Post Office Address: PO Box 1892, Laguna Beach, CA 92652

IRA 2177931v.1

Electronic Acknowledgement Receipt	
EFS ID:	8631509
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Correspondence Address:	CONSTANCE NASH, CORNERSTONE GROUP, LTD. - P.O. BOX 1892 - LAGUNA BEACH CA 92652 US 949-340-6467 stonelimited@gmail.com
Filer:	David F. Crosby
Filer Authorized By:	
Attorney Docket Number:	
Receipt Date:	14-OCT-2010
Filing Date:	16-JUL-2004
Time Stamp:	22:20:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	10-892690MiscLetter.pdf	77043 1fb17addcc5e6d84ad610ffb2915d1ca3397bad0	no	1
Warnings:					
Information:					
2	Oath or Declaration filed	10-892690DPOA.pdf	4952631 590aaca834d45433d71f71db250efd4fc137d9d4	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	5029674		

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

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

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

<u>New International Application Filed with the USPTO as a Receiving Office</u>
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Filed by EFS: October 17, 2010

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

AMENDMENT AND RESPONSE

Filed By EFS
Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Applicants respectfully submit the following Amendment and Response to supersede the response filed July 12, 2010.

Claims begin on page 2 of this paper.

Remarks begin on page 6 of this paper.

In the claims:

1. (Currently Amended) A system for ~~transmitting~~ optimizing data for transmission comprising:

a data transmission system receiving frame data, the data transmission system including a frame analysis system and pixel selection system;

a frame analysis system receiving frame data and generating region data ~~by identifying pixel variation~~ as a function of pixel variation data of the frame; the region data defining one or more regions within the frame, each region comprising a matrix of pixels from the frame;

~~a matrix generating system for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data; and~~

a pixel selection system receiving the region data and ~~matrix data~~ generating one set of pixel data for each region;

~~the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on the pixel variation data from the two or more sets of pixel data;~~ and

the data transmission system transmitting ~~the matrix data and~~ the pixel data for each region.

2. (Canceled)

3. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Previously Presented) The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Previously Presented) A method for transmitting data comprising:

receiving frame data; generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. (Previously Presented) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Previously Presented) The method of claim 11 wherein generating matrix data from the frame data comprises *setting* a matrix size based on pixel variation data.

14. (Previously Presented) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Previously Presented) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

16. (Previously Presented) A method for transmitting data comprising:

~~using a processor for~~ dividing an array of pixel data into two or more regions, each region being selected as function of the pixel variation data in the array;

selecting a set of pixel data from each region; and

transmitting region data and the pixel data for each region.

17. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Previously Presented) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Previously Presented) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

23. (New) The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more set of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

REMARKS/ARGUMENT

The amendment and response supersedes and is intended to replace the amendment and response filed July 12, 2010. This comes at the request of the Primary Examiner.

The claims have been amended to more accurately describe the claimed invention. No new matter has been added.

Reconsideration of this application is requested. Applicant would like to thank Examiners Dastouri, Harold and Phillippe for the interview of October 10, 2010, during which time the claim 1 was discussed. The Examiner's suggested that the claims should be amended as described in paragraphs [0034] – [0039] of the application. Accordingly, the claims have been amended to more closely correspond to those paragraphs of the specification as well as Fig. 1 and paragraphs [0020] – [0030].

Claim 16 has been amended to restore elements that were inadvertently omitted in a prior amendment. Claim 23 has been added to include the elements of previously canceled claim 2 consistent with the amendments to claim 1. No new matter has been added.

The claims are believed patentable over the prior art. None of the prior art of record disclose a system comprising a frame analysis system receiving frame data and including a pixel variation system that generates region data as function of pixel variation data of the frame. Further, the prior art does not disclose a system that comprises a pixel selection system that generates one set of pixel data for the region by selecting pixels from the region according to predefined selection criteria.

Accordingly, the present invention is believed to be patentable over the prior art. In view of the foregoing, it is respectfully urged that all the present claims of the Amended Application are patentable and in a condition for allowance.

Notice of Allowance is earnestly solicited.

Respectfully submitted,

_/David F. Crosby/_____
David F. Crosby, Reg. No. 36,400
Of Counsel and on behalf of

Constance Nash and
Cornerstone Group Ltd
P.O. Box 1892
Laguna Beach, CA 92652
Telephone:(949) 295-0080
Facsimile :(949) 723-0700

Date: October 17, 2010

Electronic Acknowledgement Receipt	
EFS ID:	8640769
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Correspondence Address:	CONSTANCE NASH, CORNERSTONE GROUP, LTD. - P.O. BOX 1892 - LAGUNA BEACH CA 92652 US 949-340-6467 stonelimited@gmail.com
Filer:	David F. Crosby
Filer Authorized By:	
Attorney Docket Number:	
Receipt Date:	17-OCT-2010
Filing Date:	16-JUL-2004
Time Stamp:	20:40:19
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		10-892690Response.pdf	97319 5420c23cfa91851c54728bcf6784d48e56371092	yes	7

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment After Final	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	7

Warnings:	
Information:	
Total Files Size (in bytes):	97319

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Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 10/20/2010

CSMITH1 SALE #00000002 Mailroom Dt: 10/17/2010 010657 10892690
01 FC : 1252 245.00 DA

NOTICE OF APPEAL FROM THE EXAMINER TO THE BOARD OF PATENT APPEALS AND INTERFERENCES	Docket Number (Optional)
In re Application of Krichevsky and Nash	Confirmation Number 6612
Application Number 10/892,690	Filing or 371 (c) Date: 16 July 2004
Group Art Unit 2482	Examiner G. Philippe
For Optimized Data Transmission System and Method	

Applicant hereby **appeals** to the Board of Patent Appeals and Interferences from the decision of the examiner.

The fee for this Notice of Appeal is (37 CFR 1.17(b)) $ __540__

☑ Applicant claims small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by half, and the resulting fee is: $ __270__

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Commissioner has already been authorized to charge fees in this application to a Deposit Account. I have enclosed a duplicate copy of this sheet.

☐ The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 50-0850.

☑ A petition for an extension of time under 37 CFR 1.136(a) (PTO/SB/22) is enclosed.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☑ applicant/inventor. /Constance Nash/
CEO

☑ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☐ attorney or agent of record

Typed or printed name

☐ attorney or agent acting under 37 CFR 1.34(a).
Registration number if acting under 37 CFR 1.34(a) _____.

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

10619062.1

PTO/SB/22 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARMENT OF COMMERCE
Under the paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) **FY 2009** (*Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).*)	Docket Number (Optional)
Application Number 10/892690	Filed 16 July 2004
For Optimized Data Transmission System and Method	
Art Unit 2482	Examiner G. Philippe

This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	
☐ One month (37 CFR 1.17(a)(1))	$130	$65	$
☐ Two months (37 CFR 1.17(a)(2))	$490	$245	$
☑ Three months (37 CFR 1.17(a)(3))	$1110	$555	$ 555
☐ Four months (37 CFR 1.17(a)(4))	$1730	$865	$
☐ Five months (37 CFR 1.17(a)(5))	$2350	$1175	$

☑ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number _____.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☑ applicant/inventor.

☑ assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed (Form PTO/SB/96).

☐ attorney or agent of record. Registration Number _____

☐ attorney or agent under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34 _____

/Constance Nash/ — Signature

28 October 2010 — Date

Constance Nash, CEO — Typed or printed name

_____ — Telephone Number

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

Privacy Act Statement

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

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

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

Electronic Patent Application Fee Transmittal

Application Number:	10892690
Filing Date:	16-Jul-2004
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Filer:	David F. Crosby
Attorney Docket Number:	

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Notice of appeal	2401	1	270	270
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 3 months with $0 paid	2253	1	555	555
Miscellaneous:				
		Total in USD ($)		**825**

Electronic Acknowledgement Receipt	
EFS ID:	8723276
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	Optimized data transmission system and method
First Named Inventor/Applicant Name:	Alexander Krichevsky
Correspondence Address:	CONSTANCE NASH, CORNERSTONE GROUP, LTD. - P.O. BOX 1892 - LAGUNA BEACH CA 92652 US 949-340-6467 stonelimited@gmail.com
Filer:	David F. Crosby
Filer Authorized By:	
Attorney Docket Number:	
Receipt Date:	28-OCT-2010
Filing Date:	16-JUL-2004
Time Stamp:	15:16:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$825

RAM confirmation Number	1600
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Notice of Appeal Filed	10-892690NOA.pdf	85802 dff2b2d49f69d302710b2837d1a31d82e5bb7679	no	1
Warnings:					
Information:					
2	Extension of Time	EOT.pdf	320688 f76c1146f405693b4aa6f9883091e7a6bebe5fc8	no	2
Warnings:					
Information:					
3	Fee Worksheet (PTO-875)	fee-info.pdf	31757 aa402985583db21dace6a5aad19b5d60c910661b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	438247		

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UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 10/29/2010

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	**PAPER NUMBER**
2482	
MAIL DATE	**DELIVERY MODE**
10/29/2010	PAPER

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

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

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 10/892,690	**Applicant(s)** KRICHEVSKY ET AL.	
	Examiner Gims S. Philippe	**Art Unit** 2482	

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

THE REPLY FILED 17 October 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
   a) ☐ The period for reply expires _____months from the mailing date of the final rejection.
   b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
   Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

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

NOTICE OF APPEAL

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

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   (a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   (b) ☐ They raise the issue of new matter (see NOTE below);
   (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
   NOTE: *See Continuation Sheet*. (See 37 CFR 1.116 and 41.33(a)).
4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
   The status of the claim(s) is (or will be) as follows:
   Claim(s) allowed: _____.
   Claim(s) objected to: _____.
   Claim(s) rejected: *1-20*.
   Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

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

REQUEST FOR RECONSIDERATION/OTHER

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

/Gims S Philippe/
Primary Examiner, Art Unit 2482

Continuation of 3. NOTE: New issue were raised in claim 1, lines 1-4, lines 6-8 and lines 17-18; claim 16, line 3.
The applicant is reminded to provide the proper Power of Attorney to Mr. David Crosby who signed the after-final submitted on October 17, 2010. Mr Crosby was previously withdrawn on July 16, 2004. Joel D. Voelzke was the last known attorney to be withdrawn on October 9th 2009.

Filed by EFS: October 17, 2010

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S):		Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	July 16 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINER	:	Gims S. Philippe
ART UNIT	:	2621

AMENDMENT AND RESPONSE

Filed By EFS
Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DO NOT ENTER: /GP/

Dear Sir:

Applicants respectfully submit the following Amendment and Response to supersede the response filed July 12, 2010.

Claims begin on page 2 of this paper.

Remarks begin on page 6 of this paper.

OPAP WP6
DEC 28 2010
PATENT & TRADEMARK OFFICE

12-30-10 IFW RCE

PTO/SB/30 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Request for Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	10/892,690
Filing Date	July 16, 2004
First Named Inventor	Krichevsky and Nash
Art Unit	2400
Examiner Name	Mehrdad Dastouri, Interim
Attorney Docket Number	

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

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

      i. [ ] Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. [✔] Other Jan 16,2002; July 16 2004; Aug ,2008; July 12,2010; Sep 7,2010; Oct 17,2010

   b. [ ] Enclosed

      i. [ ] Amendment/Reply
      iii. [ ] Information Disclosure Statement (IDS)
      ii. [ ] Affidavit(s)/ Declaration(s)
      iv. [ ] Other _____

2. Miscellaneous

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

   b. [ ] Other _____

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

   a. [ ] The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. _____.

      i. [ ] RCE fee required under 37 CFR 1.17(e) 01/03/2011 CCHAU1 00000006 10892690 01 FC:2801 405.00 OP

      ii. [ ] Extension of time fee (37 CFR 1.136 and 1.17)

      iii. [✔] Other US Postal Money Order (Ser. No. 18332688003) in the amount of $405.00

   b. [ ] Check in the amount of $ _____ enclosed

   c. [ ] Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature		Date	Dec. 27, 2010
Name (Print/Type)	Constance Nash	Registration No.	

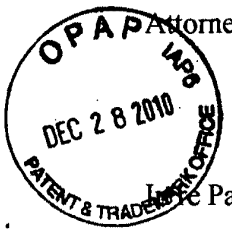
CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature			
Name (Print/Type)	Constance Nash	Date	Dec. 28, 2010

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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



Attorney Docket No.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	
Krichevsky, Nash et al	Group Art Unit: 2400
Serial No.: 10/892,690	Examiner: Mehrdad Dastouri, interim
Filed: July 16,2004/PCT January 16, 2002	Confirmation No.: N/A
For: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD	Date: **December 28, 2010**

AMENDMENT

United States Patent and Trademark Office
Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This amendment is filed along with a Request for Continued Examination in the above-identified application as follows. The Remarks address the rejections raised in the final rejection.

Amendments to Claims begin on Page 2 of this paper.

Remarks begin on Page 11 of this paper.

Applicant(s): Krichevsky,Nash et al
Serial No : 10/892,690
Filing Date : July 16, 2004
For : Optimized Data Transmission System and Method
Art Unit : 2400

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1. (Currently Amended) The system of claim 1 wherein the frame analysis System comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

2. (Previously Presented) The system of claim1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

3. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. The system of claim 1 wherein the pixel selection system comprises a pixel Randomizer system receiving two or more sets of pixel data for each region and Randomly selecting one of the two or more sets of pixel data.

6. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Previously Presented)The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Previously Presented) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. (Previously Presented) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Previously Presented) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Previously Presented) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Previously Presented) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

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Serial No : 10/892,690
Filing Date : July 16, 2004
For : Optimized Data Transmission System and Method
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~~16.~~ (Currently Amended) A method for transmitting data comprising: ~~using~~ ~~A processor for~~ dividing an array of pixel data into two or more regions; ~~each region being selected as function of the pixel variation data in the array;~~ selecting a set of pixel data from each region: and transmitting region data and the pixel data for each region.

17. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

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Filing Date : July 16, 2004
For : Optimized Data Transmission System and Method
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19. (Previously Presented) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Previously Amended) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

23.(Canceled)

REMARKS/ARGUMENT

The Applicant respectfully requests Supervisor Dastouri as of December 27, 2010 as the reappointed supervisor under Director Nancy Lee, and the agreed upon with applicant, the replacement Examiner yet to be named under Supervisor Dastouri and Director Nancy Lee, to note an important language distinction in the claims and the Specifications: usage of the mathematical term "set" in the original 1-20 claims and within the language of the Specifications, means as stated in the Wikipedia Mathematical Dictionary: 'set' means Zero, 1 or more (pixels in the invention), and is not to be confused as "set(s), such as two or more "sets" (of pixels) selected.

An example of usage of the language "set": highlighted herein in the narrow, simple language of claim 1 (Original), that is within the scope of the invention and within the Specifications of a simple invention:

Claim 1

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; and

a pixel selection system receiving the region data and

generating one set of pixel for each region.

Attorney Docket No.
Applcation Serial No.:

Applicant(s): Krichevsky,Nash et al
Serial No : 10/892,690
Filing Date : July 16, 2004
For : Optimized Data Transmission System and Method
Art Unit : 2400

The Applicant respectfully requests the Supervisor and Examiner to formally withdraw the Kafri et al (US 4,776,013) recently cited once again September 14, and October 6, 2010, as prior art. It is not related to the invention, as per the Manual of Patent Examining Procedure of the US Patent and Trademark Office.

The claims are believed patentable over the prior art. None of the prior art of rec record disclose a system comprising a frame analysis system receiving frame data and including a pixel selection system that generates region data. Further, the prior art does not disclose a system that comprises a pixel selection system that generates ONE SET OF PIXEL DATA for the REGION BY SELECTING PIXELS FROM REGION ACCORDING TO PREDEFINED SELECTION CRITERIA.

Kafri does not disclose the use of matrix definition data. Kafri would have no use for matrix definiation data, **because Kafri is not concerned with reducing the size of the data to be transmitted.** Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Kafri does not disclose the use of matrix definition data. Kafri would have no use for matrix definiation data, **because Kafri is not concerned with reducing the size of the data to be transmitted.** Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited. As the previous representative stated, "with even greater force, Kafri does not generate region data in accordance **Kafri does not disclose the use of matrix definition data.** Kafri would have no use for matrix definiation data, **because Kafri is not concerned with reducing the size of the data to be transmitted.** Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data. with calculated variations between pixels. Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data. Because Kafri, *as noted by the Examiner June 11, 2008*, **is a much different system that is not concerned with reducing data size, and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations.**

Kafri fails to disclose any step of setting a matrix size.

In contrast to Kafri,

the present invention is directed to reducing the amount of data that is transmitted.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels, being transmitted for that region. If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and

only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.

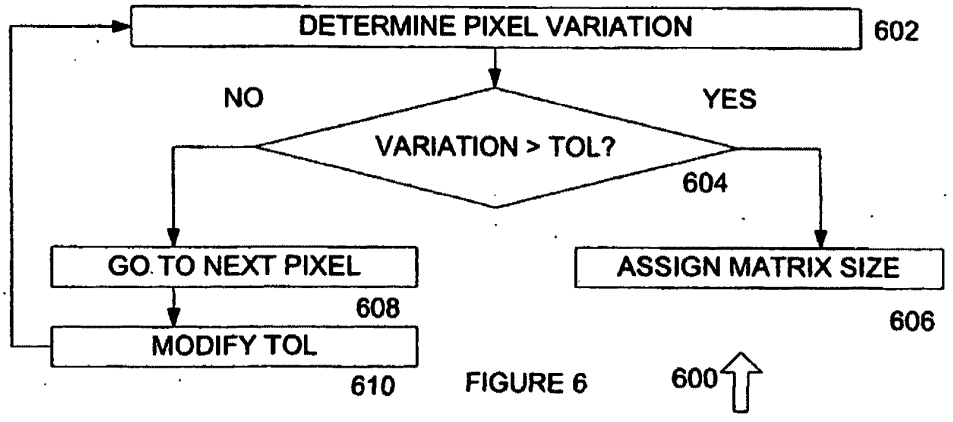

FIGURE 6

FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output frame will have a variety of different matrices (regions) having a variety of different region sizes.
Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference to argue against the Kafri et al art, and to support the Examiner's statement that Kafri is not prior art to the present invention.

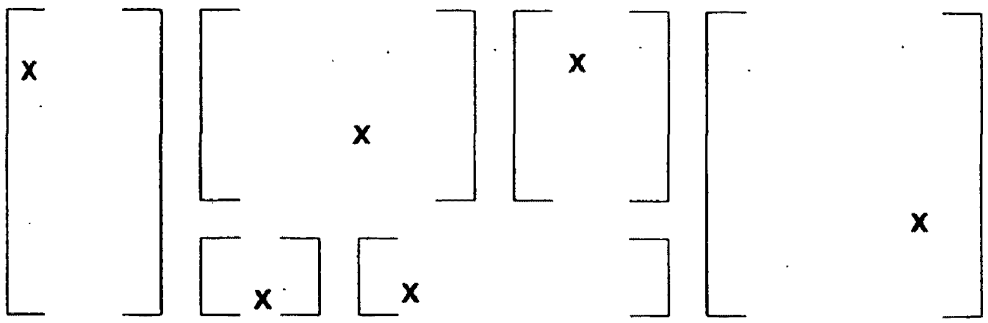

FIGURE 10 1000

Applicant(s): Krichevsky,Nash et al
Serial No : 10/892,690
Filing Date : July 16, 2004
For : Optimized Data Transmission System and Method
Art Unit : 2400

FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

In contrast to the Kafri et al art (U.S. 4, 776, 013) to the present invention, as presented herein, it is fundamentally a travesty that the Applicant or the representatives failed to correct our collective laxness of not pursuing the available Examiner withdrawal of Kafri art as cited erroneously as prior art against the present invention.

Quoting from July 21, 2008, page 7 of 7, from Mr.Crosby,the Representative from the interview of June 11, 2008, Response to Office Action Mailed March 21, 2008:

" Kafri does not disclose a frame analyses system receiving frame data and generating region data (per claim1), receiving frame data and generating matrix data from the frame data (per claim 11) or dividing an array of pixel data into two or more regions (claim 16). Kafri does not disclose analyzing a frame of data, Kafri merely encodes the frame data using the master

grid. Further, **Kafri does not teach or suggest a pixel selection system (claim 1), selecting one of two or more sets of pixel data (claim 11) or selecting a set of pixel data (claim 16).**'

'As discussed in the interview of June 11, 2008, **none of the Kafri art disclose a system that generates region data and generates one set of pixel data for each region**.

In this way, data transmission can be optimized. "

Accordingly, the present invention is believed to be patentable over the prior art.'

2009 Examiner CLAIM REJECTION UNDER UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

As interpreted by the recent Federal Circuit case in Bilsky v Kappos, renamed November 9 2009 in the US Supreme Court oral hearing appeal In re Bilski, 545 F.3d 943,88 U.S.P.Q.2d 1385 (Fed.Cir.2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

* * * *

As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Thus claim 11, has remained as Original in the Office Action of March 21, 2009 and, should, with the current status of the Bilsky v Kappos appeal , as well as the litmus test of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing", therefore, claim 11's method claim should not be amended

Attorney Docket No.
Applcation Serial No.:

Applicant(s): Krichevsky,Nash et al
Serial No : 10/892,690
Filing Date : July 16, 2004
For : Optimized Data Transmission System and Method
Art Unit : 2400

Applicant hereby states that the July 21, 2010 paper was NOT filed by Applicant, nor was it authorized by Applicant and hereby requests that it be removed and expunged from the record. Further, Applicant notes that this appears to be a copy of the Supplemental Amendment and Response already filed on February 12, 2010. The July 21, 2010 submission clearly states that it is a Supplemental Amendment and Response To Notice of Non-Compliant Amendment January 13, 2010. Applicant also points out that it is not signed by Applicant or any attorney of record and therefore should not be entered. Further, Applicant notes that the source fax number is 703-684-1409 indicating a northern Virginia location of origina and Applicant is located in southern California. Applicant suspects that this may have come from another office within the USPTO.

Applicant spoke with Examiners Dastouri and Phillippe on September 2, 2010 and was advised to

Accordingly Applicant respectfully requests that the Advisory action be withdrawn or vacated and the application be allowed based on the claims beginning on page 2 of this paper.

The arguments submitted in the July 12, 2010 amendment begin below:

Claim Rejections – 35 USC § 102

17 of 20

Attorney Docket No.
Applcation Serial No.:

Applicant(s): Krichevsky,Nash et al
Serial No : 10/892,690
Filing Date : July 16, 2004
For : Optimized Data Transmission System and Me[illegible]
Art Unit : 2400

The Examiner contends that Claims 1-4, and 6-18, and 20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Barnes et al (US Patent No 7, 050639.

As demonstrated in the interview of July 10, 2010, Barnes et al in the below argument, in contract to the present invention,

relates to an image data compression and decompression technique which *applies different compression code tables to different subregions of an image to realize optimal compression of each subregion.*

The difference between Barnes et al and the present Amendment application is as follows:

Based on the Amendment invention, when "generating one set of pixel data for each region," the generated set of pixel data is *selected directly* from the *pixels within the region and will be transmitted without any further processing.*

***In Contrast**, according to Barnes et al, an image data stream is reduced* to subregions (see col. 6, lines41-42 of D1); each subregion of the image intensities (entropy) within each subregion (see col. 6, lines 57-61); the selected *compression code table* is applied to the *subregion* to *generate compressed data* which will then be transmitted (claim 1 step b). Thus, the method of Barnes selects a compression code for a subregion and compresses the region accordingly, which is different from the Amendment Application.

2. On US patent 6014181: 18 of 20

relates *to motion estimation* in video imaging systems. The method of US 6014181, *involves at least two consecutive frames*, with the aim of efficiently *estimating the change between the two frames,* which is totally different from the Amendment application. Thus US 6014181 should not be considered as prior art of the Amendment Application.

3. On US patent 5878139:

relates to a system and method for coding and/or decoding a *selectable one of image-adaptive split* regions of a motion picture to *permit a* reproduction of the *split with a significant configuration*. Similarly, the method of 5878139, *involves differences between previous frames and current frames*, which is *different from the Amendment application.*

Thus, US5878139 should not be considered as prior art of the Amendment Application.

Accordingly, the present invention is believed to be patentable over the prior art.

In view of the foregoing, it is respectfully urged that all the present claims of the Amended Application are patentable and in a condition for allowance.

Notice of Allowance is earnestly solicited.

19 of 20

The claims are believed patentable over the prior art. And in light of the gross negligence and errors, date losses, and the unfortunate losses caused by the previous Examiner and the PTO receiving office, the July 6 oral interview, the lack of Interview Summaries from the Examiner for years 2008, 2009 and July 6, 2010, the applicant respectfully requests continued examination.

Notice of Allowance is also earnestly solicited, should no prior art surface before January 16, 2002 when this invention in its same entirety was filed by Akin Gump Strauss Hauer & Feld LLP, who also wrote and prosecuted the invention to issuance of these same claims.

Respectfully submitted,

Constance Nash, President
Cornerstone Group Ltd
P.O. Box 1892
Laguna Beach, CA 92652
(949) 295.0080

December 27, 2010

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/892,690	07/16/2004	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT 12/28/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT 12/28/2010	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	X $26 =	0	OR	X $ =	
Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	X $110 =	0	OR	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))									
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

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

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

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

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

Legal Instrument Examiner:
/JACQULYN L. WILLIAMS/

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 01/03/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
PHILIPPE, GIMS S	
ART UNIT	PAPER NUMBER
2482	
MAIL DATE	DELIVERY MODE
01/03/2011	PAPER

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Mehrdad Dastouri	2621	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Mehrdad Dastouri*. (3)_____.

(2) *Ms. Constance Nash*. (4)_____.

Date of Interview: *28 December 2010*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: _____.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *I returned Ms. Nash telephone call regarding her concerns about the elongated prosecution of Application 10/892690. I assured Ms. Nash that the prosecution history will be thoroughly reviewed. In particular, I ascertained that the timeliness of Applicants' response to Final rejection made on April 15, 2010 will be further evaluated with consideration of the fact that the Office vacated the Advisory action mailed on 7/21/2010; and the Interview Summaries mailed on 9/8/2010, 9/17/201, and 10/6/2010 requested Applicants to further amend the claims in order to convey the real invention. It has been decided that a new examiner under my supervision will continue the prosection of Application 10/892,690*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Mehrdad Dastouri/
Quality Assurance Specialist, TC 2400

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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e 01/06/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

Paper No.

Application No.:	**10/892,690**	**Date Mailed:**	**01/06/2011**
First Named Inventor:	Krichevsky, Alexander,	Examiner:	DASTOURI, MEHRDAD
Attorney Docket No.:		Art Unit:	2400
Confirmation No.:	6612	Filing Date:	07/16/2004

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

Commissioner for Patents

PTO-90c (Rev.08-06)

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 10/892,690	Applicant(s) KRICHEVSKY ET AL.	
		Art Unit 2400	

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

The amendment document filed on *28 December, 2010* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
  - ☐ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☒ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☒ E. Other: *See Continuation Sheet*.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1 to 4 are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.
   Failure to timely respond to this notice will result in:
   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /JACQULYN L. WILLIAMS/ Telephone No: (571)272-1640

Continuation of 4. Other: claim 2was cancel in amdt dated 10/17/10 plus claim 1 can't depened on claim one.

TFW

Attorney Docket No.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	
Krichevsky, Nash et al	Group Art Unit: 2400
Serial No.: 10/892,690	Examiner: Mehrdad Dastouri, interim
Filed: July 16,2004/PCT January 16, 2002	Confirmation No.: N/A
For: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD	Date: **January 24, 2011**

AMENDMENT

United States Patent and Trademark Office
Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This amendment is filed along with a Request for Continued Examination in the above-identified application as follows. The Remarks address the rejections raised in the final rejection.

Amendments to Claims begin on Page 2 of this paper.

Remarks begin on Page 11 of this paper.

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1. (Currently Amended) ~~The~~ A system for transmitting ~~optimized~~ data ~~for transmission~~ comprising:

a ~~data transmission~~ frame analysis system receiving frame data, ~~the data transmission system including a frame analysis system and pixel selection system:~~

~~a frame analysis receiving frame data~~ and generating region data ~~by identifying pixel variation as a function of pixel variation data of the frame; the region data defining one or more regions within the frame, each region comprising a matrix of pixels from the frame;~~

~~a matrix generating system for generating for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data;~~ and

a pixel selection system receiving the region data and ~~matrix data~~ generating one set of pixel data for each region.

~~the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on the pixel variation data from the two or more sets of pixel data; and~~

~~the data transmission system transmitting the matrix data and the pixel data for each region.~~

2. (Canceled)

3. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel Randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Previously Presented)The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Previously Presented) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. (Previously Presented) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Previously Presented) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Previously Presented) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Previously Presented) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

~~16.~~ (Currently Amended) A method for transmitting data comprising: ~~using A processor for~~ dividing an array of pixel data into two or more regions; ~~each region being selected as function of the pixel variation data in the array:~~ selecting a set of pixel data from each region: and transmitting region data and the pixel data for each region.

17. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Previously Presented) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Previously Amended) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

23. (New) The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

REMARKS/ARGUMENT

Claim 2 previously canceled July 12, 2010, is important and reinstated as Claim 23 as (New).

The Applicant respectfully requests Supervisor Dastouri as of December 27, 2010 as the reappointed supervisor under Director Nancy Lee, and the agreed upon with applicant, the replacement Examiner yet to be named under Supervisor Dastouri and Director Nancy Lee, to note an important language distinction in the economical language of Christopher Rourk, Esq.' Akin Gump Strauss Hauer & Feld LLP, claims, who wrote, filed and successfully prosecuted this invention and claims to global grants: note the usage of the mathematical term "set" in the original 1-20 claims and within the language of the Specifications.

"Set" means, as stated in the Wikipedia Mathematical Dictionary: "Zero, 1 or more "(a *set* of pixels in the invention); not to be confused with "sets", such as two or more "sets" (of pixels) selected, within this invention.

An example of usage of the language "set": highlighted herein in the narrow, simple language of claim 1 (Original) that is within the scope of the invention and within the Specifications of a simple invention:

Claim 1

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; and

a pixel selection system receiving the region data and

generating *one set* of pixel for each region.

REMARKS KAFRI et al,

The Applicant respectfully requests the Supervisor and Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The history of this spy camera encryption invention is known to Supervisor Dastouri, who advised applicant that Kafri et al would not be cited as prior art because the applicant and lawyers have often overcome this patent, as unrelated art.

The claims are believed patentable over the prior art: Barnes et al because the claims presented did not generate Barnes et al, and because even if these present claims had generated Barnes et al, the argument for overcoming Barnes et al, is presented later within the text of this RCE.

None of the prior art of record disclose a system comprising a frame analysis system receiving frame data and including a pixel selection system that generates region data. Further, the prior art does not disclose a system that comprises a pixel selection system that generates ONE SET OF PIXEL DATA for the REGION BY SELECTING PIXELS FROM REGION ACCORDING TO PREDEFINED SELECTION CRITERIA.

Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Because Kafri, *as recognised by the Examiner June 11, 2008*, **is a much different system** *that is not concerned with reducing data size*, **and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size**

Kafri does not disclose the use of matrix definition data. Kafri would have no use for matrix definition data, **because Kafri is not concerned with reducing the size of the data to be transmitted.**

Rather, Kafri is merely concerned with rendering the image to be transmitted ***unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.***

Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited.

Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels, being transmitted for that region.

If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.

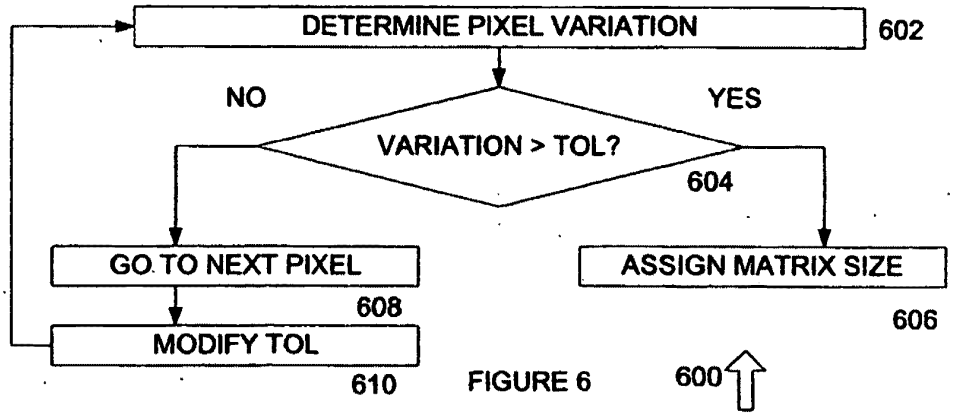


FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output ***frame will have a variety of different matrices (regions) having a variety of different region sizes.***

Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference to argue against the Kafri et al art, and to support the Examiner's statement that Kafri is not prior art to the present invention.

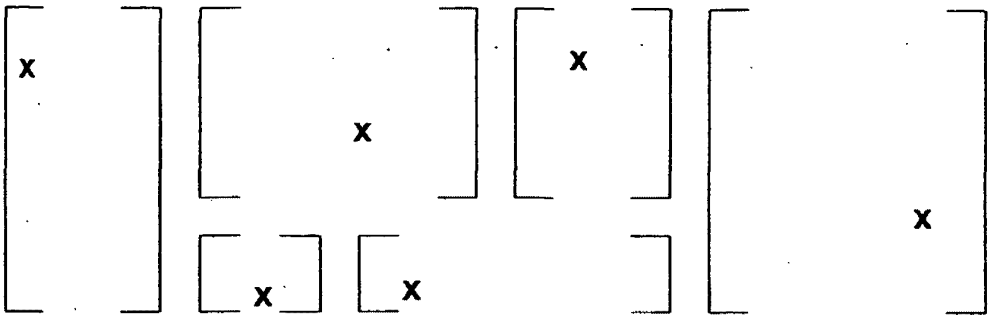


FIGURE 10 1000

FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

'As discussed in the interview of June 11, 2008, **none of the Kafri art disclose a system that generates region data and generates one set of pixel data for each region.**

In this way, data transmission can be optimized. "

Accordingly, the present invention is believed to be patentable over the prior art.'

REMARKS/BILSKY

BILSKY WAS INAPPROPRIATELY CITED ALL OF 2009, when clearly had the specifications in context of the claims been read at least one time, Bilsky could not have been cited and requiring extensive amendment to an invention already proven to transform the underlying subject matter.

2009 Examiner CLAIM REJECTION UNDER UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

As interpreted by the recent Federal Circuit case in Bilsky v Kappos, renamed November 9 2009 in the US Supreme Court oral hearing appeal In re Bilski, 545 F.3d 943,88 U.S.P.Q.2d 1385 (Fed.Cir.2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

* * * *

As the Supreme Court's legal test is based upon the "A claimed process is surely patentable under §101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing", **then this invention and the claims herein are faithful to the concern of the Supreme Court articulated as the basis for the machine-or-transformation test**, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Thus claim 11, has remained as Original in the Office Action of March 21, 2009 and, should, with the current status of the Bilsky v Kappos appeal , as well as the litmus test of the Supreme Court since the 1800s, (2) it transforms a particular article into a different state or thing", therefore, claim 11's method claim should not be amended

REMARKS/ARGUMENT

To Claim Rejections – 35 USC § 102

The Examiner contends that Claims 1-4, and 6-18, and 20 are rejected under 35 U.S.C. 102 (e) as being anticipated by Barnes et al (US Patent No 7, 050639.

However, as Applicant demonstrated in the oral interview of July 6, 2010, **Barnes is in distinct contrast to the present invention. Barnes relates to an image data compression and decompression technique which** ***applies different compression code tables*** *to different sub regions of an image to realize optimal compression of each sub region.*

The difference between Barnes and the present Amendment application is as follows: Based on the **herein Amendment, when "generating one set of pixel data for each region," the generated set of pixel data is** ***selected directly*** **from the** ***pixels within the region and will be transmitted without any further processing, due to the fact that the applicants invention does not compress nor decompress data.***

In Contrast*, according to Barnes, an image data stream is reduced*

to sub regions (see col. 6, lines41-42 of D1); each sub region of the image intensities (entropy) within each sub region (see col. 6, lines 57-61); the selected ***compression code table*** is applied to the *sub region* to *generate compressed data* which will then be transmitted (claim 1 step b). **Thus, the method of Barnes selects a compression code for a sub region and compresses the region accordingly, which is different from the Amendment Application.**

2. On US patent 6014181:

relates *to motion estimation* in video imaging systems. The method of US 6014181, involves *at least two consecutive frames*, with the aim of efficiently *estimating the change between the two frames,* which is totally different from the Amendment application. Thus US 6014181 should not be considered as prior art of this Amendment Application

3. On US patent 5878139:

relates to a system and method for coding and/or decoding a *selectable one of image-adaptive split* regions of a motion picture to *permit a* reproduction of the *split with a significant configuration*. Similarly, the method of 5878139, *involves differences between previous frames and current frames,* which is *different from the Amendment application.*

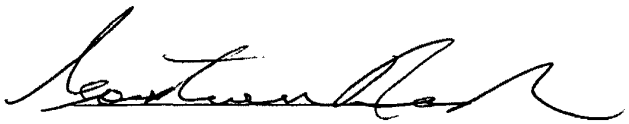
Thus, US5878139 BARNES et al, Sun,Kai et al, and Miyamoto, Yoshhiro et al, should not be considered as prior art to October 12, 2010 Amendment Application herein.

Applicant(s): Krichevsky,Nash et al
Serial No : 10/892,690
Filing Date : July 16, 2004/January 16,2002
For : Optimized Data Transmission System and Method
Art Unit : 2400

The claims are believed patentable over the prior art, and in the light of the negligence and errors to date, the time lost to competitive technologies, and the subsequent commercial losses caused by the previous Examiner and the PTO receiving office, the July 6 oral interview, the lack of Interview Summaries from the Examiner for years 2008, 2009 and July 6, 2010, the applicant respectfully requests continued examination.

Notice of Allowance is also earnestly solicited, should no prior art surface before January 16, 2002 when this invention in its same entirety was filed by Akin Gump Strauss Hauer & Feld LLP, who also wrote and prosecuted the invention to issuance of these same claims.

Respectfully submitted,



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(949) 295.0080

January 24, 2011

Attorney Docket No.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	
Krichevsky, Nash et al	Group Art Unit: 2400
Serial No.: 10/892,690	Examiner: Mehrdad Dastouri, interim
Filed: July 16,2004/PCT January 16, 2002	Confirmation No.: N/A
For: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD	Date: **January 24, 2011**

SUPPLEMENTAL AMENDMENT

United States Patent and Trademark Office
Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This supplemental amendment is filed along with a Request for Continued Examination in the above-identified application as follows. The Remarks address the rejections raised in the final rejection.

Amendments to Claims begin on Page 2 of this paper.

Remarks begin on Page 11 of this paper.

12942660.1

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1. (Currently Amended) ~~The~~ A system for transmitting ~~optimized~~ data ~~for transmission~~ comprising:

a ~~data transmission~~ frame analysis system receiving frame data, ~~the data transmission system including a frame analysis system and pixel selection system:~~

~~a frame analysis receiving frame data~~ and generating region data comprised of high detail and or low detail ~~by identifying pixel variation as a function of pixel variation data of the frame; the region data defining one or more regions within the frame, each region comprising a matrix of pixels from the frame;~~

~~a matrix generating system for generating for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data;~~ and

a pixel selection system receiving the region data and ~~matrix data~~ generating one set of pixel data for each region forming a new set of data for transmission.

~~the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on the pixel variation data from the two or more sets of pixel data; and~~

~~the data transmission system transmitting the matrix data and the pixel data for each region.~~

2. (Canceled)

3. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix size system receiving pixel variation data and generating matrix size data.

4. (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a matrix identification system receiving matrix size data and generating matrix identification data.

5. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel Randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

6. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

7. (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel identification system generating pixel location data based on a location of the set of pixel data associated with each of the regions.

8. (Previously Presented)The system of claim 1 further comprising a data receiving system receiving the region data and the pixel data for each region and generating a display.

9. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data.

10. (Previously Presented) The system of claim 8 wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

11. (Previously Presented) A method for transmitting data comprising:

receiving frame data;

generating matrix data from the frame data;

selecting one of two or more sets of pixel data based on the matrix data; and

transmitting the pixel data and the matrix data.

12. (Previously Presented) The method of claim 11 wherein receiving frame data comprises receiving an array of pixel data.

13. (Previously Presented) The method of claim 11 wherein generating matrix data from the frame data comprises setting a matrix size based on pixel variation data.

14. (Previously Presented) The method of claim 11 wherein selecting one of two or more sets of pixel data comprises selecting the pixel from a matrix of sets of pixel data.

15. (Previously Presented) The method of claim 11 wherein transmitting the pixel data and the matrix data comprises transmitting an array of pixel data and uniform matrix size data.

~~16.~~ (Currently Amended) A method for transmitting data comprising: ~~using A processor for~~ dividing an array of pixel data into two or more regions; ~~each region being selected as function of the pixel variation data in the array:~~

selecting a set of pixel data from each region: and

transmitting region data and the pixel data for each region.

17. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size.

18. (Previously Presented) The method of claim 16 wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes.

19. (Previously Presented) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

20. (Previously Amended) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

21. (Canceled)

22. (Canceled)

23. (New) The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

REMARKS/ARGUMENT

Claim 2 previously canceled July 12, 2010, is important and reinstated as Claim 23 as (New).

The Applicant respectfully requests Supervisor Dastouri as of December 27, 2010 as the reappointed supervisor under Director Nancy Lee, and the agreed upon with applicant, the replacement Examiner yet to be named under Supervisor Dastouri and Director Nancy Lee, to note an important language distinction in the economical language of Christopher Rourk, Esq.' Akin Gump Strauss Hauer & Feld LLP, claims, who wrote, filed and successfully prosecuted this invention and claims to global grants: note the usage of the mathematical term "set" in the original 1-20 claims and within the language of the Specifications.

"Set" means, as stated in the Wikipedia Mathematical Dictionary: "Zero, 1 or more "(a *set* of pixels in the invention); not to be confused with "sets", such as two or more "sets" (of pixels) selected, within this invention.

An example of usage of the language "set": highlighted herein in the narrow, simple language of claim 1 (Original) that is within the scope of the invention and within the Specifications of a simple invention:

Claim 1

1. A system for transmitting data comprising:

a frame analysis system receiving frame data and

generating region data; and

a pixel selection system receiving the region data and

generating *one set* of pixel for each region.

REMARKS KAFRI et al,

The Applicant respectfully requests the Supervisor and Examiner to formally withdraw the Kafri et al (US 4,776,013) as prior art. The history of this spy camera encryption invention is known to Supervisor Dastouri, who advised applicant that Kafri et al would not be cited as prior art because the applicant and lawyers have often overcome this patent, as unrelated art.

The claims are believed patentable over the prior art: Barnes et al because the claims presented did not generate Barnes et al, and because even if these present claims had generated Barnes et al, the argument for overcoming Barnes et al, is presented later within the text of this RCE.

None of the prior art of record disclose a system comprising a frame analysis system receiving frame data and including a pixel selection system that generates region data. Further, the prior art does not disclose a system that comprises a pixel selection system that generates ONE SET OF PIXEL DATA for the REGION BY SELECTING PIXELS FROM REGION ACCORDING TO PREDEFINED SELECTION CRITERIA.

Rather, Kafri is merely concerned with rendering the image to be transmitted unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.

Because Kafri, *as recognised by the Examiner June 11, 2008*, **is a much different system** *that is not concerned with reducing data size*, **and merely generates a stream of encrypted pixels that are to be placed (after decrypting) in their usual locations. Kafri fails to disclose any step of setting a matrix size**

Kafri does not disclose the use of matrix definition data. Kafri would have no use for matrix definition data, **because Kafri is not concerned with reducing the size of the data to be transmitted.**

Rather, Kafri is merely concerned with rendering the image to be transmitted ***unintelligible (encrypted) to an unauthorized party that might intercept the transmitted data.***

Kafri discloses:

A method of encoding an optical image comprises: converting the optical image to an image grid.

Kafri does not determine variations between pixels as recited.

Rather, Kafri generates pixels one-by-one, based merely upon the value of the input pixel and the value of the corresponding pixel within the master grid (encryption key), without regard to the value of any nearby pixel.

The present invention employs an algorithm in which nearby pixel values are compared. If the difference between the pixels exceeds a threshold, that means that the picture is changing (e.g., changing spatially or temporally) rapidly; accordingly, a smaller region size is selected, with --one pixel or one set meaning zero, one or more pixels, being transmitted for that region.

If the difference between the pixels does not exceed the threshold, that means that the picture is changing (spatially or temporally) slowly, and only a small amount of data will be needed to be transmitted in order retain the lossless - lossy image on the receiving end with excellent quality; accordingly, a larger matrix size is selected.

FIG. 6 reproduced below illustrates the comparing of variations between pixels to determine whether the Δ between those pixels exceeds a predetermined tolerance, and assigning the matrix size (or region size) based upon that Δ.

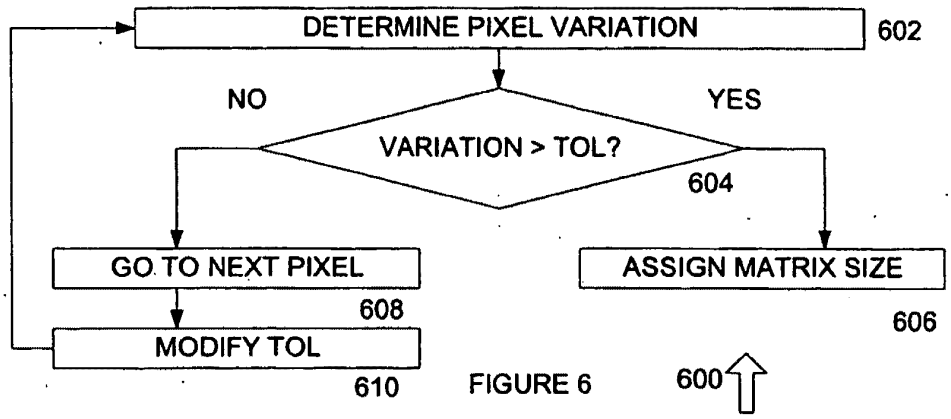

FIG. 6 of the Application

(Illustrates the Assigning of the Matrix Size Based Upon Variations Between Pixels)

One result of assigning the matrix size based upon variations from one pixel to another is that the matrix size changes as the Δ between pixels changes. Accordingly, a typical output ***frame will have a variety of different matrices (regions) having a variety of different region sizes.***

Such a result is exemplified in **FIG. 10** which is reproduced below for the Examiner's reference to argue against the Kafri et al art, and to support the Examiner's statement that Kafri is not prior art to the present invention.

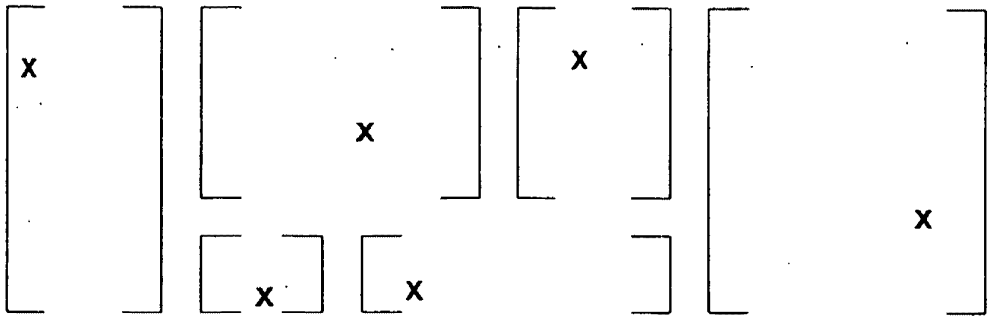

FIGURE 10 1000

FIG. 10 of the Application
(Illustrates a Typical Output Frame Having a Variety of Differently Sized Regions)

'As discussed in the interview of June 11, 2008, **none of the Kafri art disclose a system that generates region data and generates one set of pixel data for each region.**

In this way, data transmission can be optimized. "

Accordingly, the present invention is believed to be patentable over the prior art.'

REMARKS/BILSKY

BILSKY WAS INAPPROPRIATELY CITED ALL OF 2009, when clearly had the specifications in context of the claims been read at least one time, Bilsky could not have been cited and requiring extensive amendment to an invention already proven to transform the underlying subject matter.

2009 Examiner CLAIM REJECTION UNDER UNDER §101

All claims are rejected as being not drawn to statutory subject matter under 35 U.S.C. §101. Specifically, the Examiner contends that the claims neither transform underlying subject matter nor are positively tied to another statutory category that accomplishes the claimed method steps, and therefore does not qualify as a statutory process.

As interpreted by the recent Federal Circuit case in Bilsky v Kappos, renamed November 9 2009 in the US Supreme Court oral hearing appeal In re Bilski, 545 F.3d 943,88 U.S.P.Q.2d 1385 (Fed.Cir.2008) (en banc), Section 101 statutory subject matter includes articles or processes that transform data:

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To Claim Rejections – 35 USC § 102

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However, as Applicant demonstrated in the oral interview of July 6, 2010, **Barnes is in distinct contrast to the present invention. Barnes relates to an image data compression and decompression technique which** ***applies different compression code tables*** *to different sub regions of an image to realize optimal compression of each sub region.*

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In Contrast*, according to Barnes, an image data stream is reduced*

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relates *to motion estimation* in video imaging systems. The method of US 6014181, involves *at least two consecutive frames*, with the aim of efficiently *estimating the change between the two frames,* which is totally different from the Amendment application. Thus US 6014181 should not be considered as prior art of this Amendment Application

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relates to a system and method for coding and/or decoding a *selectable one of image-adaptive split* regions of a motion picture to *permit a* reproduction of the *split with a significant configuration*. Similarly, the method of 5878139, *involves differences between previous frames and current frames*, which is *different from the Amendment application.*

Thus, US5878139 BARNES et al, Sun,Kai et al, and Miyamoto, Yoshhiro et al, should not be considered as prior art as they were overcome July 6, 2010 at the oral interview.

Applicant(s): Krichevsky,Nash et al
Serial No : 10/892,690
Filing Date : July 16, 2004/January 16,2002
For : Optimized Data Transmission System and Method
Art Unit : 2400

The supplemental amendment claims are believed patentable over the prior art.

Notice of Allowance is also earnestly solicited, should no prior art surface before January 16, 2002 when this invention in its same entirety was filed by Akin Gump Strauss Hauer & Feld LLP, who also wrote and prosecuted the invention to foreign issuance of these same claims.

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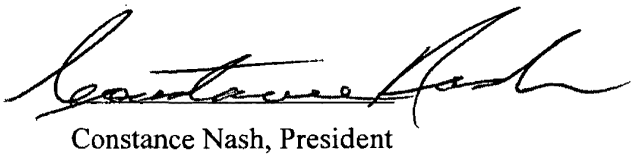

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January 24, 2011

PTO/SB/06 (07-06)
Approved for use through 1/31/2007. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 10/892,690	Filing Date 07/16/2004	☐ To be Mailed

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)	SMALL ENTITY ☒		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =		OR	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =			X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $250 ($125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	01/24/2011	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $26 =	0	OR	X $ =	
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $110 =	0	OR	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

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

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

Legal Instrument Examiner:
/MARQUETTA MCGEE/

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

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

PTO/SB/06 (07-06)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number	Filing Date	☐ To be Mailed
10/892,690	07/16/2004	

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY ☒ RATE ($)	SMALL ENTITY ☒ FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	
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* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **01/24/2011**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE ($)	SMALL ENTITY ADDITIONAL FEE ($)	OR	OTHER THAN SMALL ENTITY RATE ($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE ($)
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					TOTAL ADD'L FEE	0	OR	TOTAL ADD'L FEE	

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)	OR	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =		OR	X $ =	
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					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

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

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

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

Legal Instrument Examiner:
/MARQUETTA MCGEE/

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 02/07/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
VO, TUNG T	
ART UNIT	PAPER NUMBER
2486	

MAIL DATE	DELIVERY MODE
02/07/2011	PAPER

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Mehrdad Dastouri	2621	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Mehrdad Dastouri*.

(2) *Tung Vo*.

(3) *Ms. Constance Nash*.

(4) _____.

Date of Interview: *12 January 2011*.

Type: a)☐ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: *Claim 1*.

Identification of prior art discussed: *N/A*.

Agreement with respect to the claims f)☐ was reached. g)☐ was not reached. h)☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *The amendment to Claim 1 has been discussed. Applicant will file a supplemental amendment to incorporate the proposed amendment.*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Mehrdad Dastouri/
Supervisory Patent Examiner, TC 2400

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

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The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

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1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 02/24/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER
VO, TUNG T

ART UNIT	PAPER NUMBER
2486	

DATE MAILED: 02/24/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

TITLE OF INVENTION: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$755	$300	$0	$1055	05/24/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

7590 02/24/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

TITLE OF INVENTION: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$755	$300	$0	$1055	05/24/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
VO, TUNG T	2486	375-240010

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

❑ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

❑ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 02/24/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
VO, TUNG T	

ART UNIT	PAPER NUMBER
2486	

DATE MAILED: 02/24/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 496 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 496 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

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

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Tung Vo	2486	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Tung Vo*. (3)*Joe*.

(2) *Krichevsky, Nash*. (4)_____.

Date of Interview: *22 February 2011*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *1, 11, and 16*.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *The applicant agreed to amend claims 8-10 to claim 1; claims 17-18 and some steps 508 and 510 of figure 5 to claim 16; and claims 12-13 and some steps 508 and 510 of figure 5 to claim 11 to put the application in condition for allowance. The examiner is authorized to perform the examiner's amendment based upon the discussion above. See the proposed change in the attachment*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

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/Tung Vo/ Primary Examiner, Art Unit 2486	

Summary of Record of Interview Requirements

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- Name of examiner
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- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
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   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
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Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Notice of Allowability	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Tung Vo	2486	

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the supplemental amendment filed on 01/24/2011 and the interview on 02/22/2011*.

2. ☒ The allowed claim(s) is/are *1,3-7,11,14-16,19,20 and 23*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *02/22/2011* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Tung Vo/
Primary Examiner, Art Unit 2486

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Constance Nash on 02/22/2011.

The application has been amended as follows:

IN CLAIM

Claim 1. (Currently Amended) A system for transmitting data transmission comprising:

a analysis system receiving frame data and generating region data comprised of high detail and or low detail;

a pixel selection system receiving the region data and generating one set of pixel data for each region forming a new set of data for transmission;

a data receiving system receiving the region data and the pixel data for each region and generating a display;

wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data;

wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

Claims 2, 8-10 have been canceled.

Claim 11. (Current Amended) A method for transmitting data comprising:

receiving frame data;

generating optimized matrix data from the frame data;

selecting one of two or more sets of pixel data based on the optimized matrix data;

wherein receiving frame data comprises receiving an array of pixel data;

wherein generating the optimized matrix data from the frame data comprises setting a matrix size based on pixel selection data;

and transmitting the selection pixel data and the optimized matrix data by assembling the optimized matrix data and the selection pixel data into a generated display frame.

Claim 12-13 have been canceled.

Claim 16. (Currently Amended) A method for transmitting data comprising:

dividing an array of pixel data into two or more regions;

selecting a set of pixel data from each region;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes;

and transmitting the region data and the selection pixel data for each region by assembling the region data and the selection pixel data into a generated display frame.

Claims 17-18, 21-22 have been canceled.

2. The following is an examiner's statement of reasons for allowance: the cited prior art does not disclose a system for transmitting data transmission comprising:

a analysis system receiving frame data and generating region data comprised of high detail and or low detail;

a pixel selection system receiving the region data and generating one set of pixel data for each region forming a new set of data for transmission;

a data receiving system receiving the region data and the pixel data for each region and generating a display;

wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data;

wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data as specified in claim 1;

a method for transmitting data comprising:

receiving frame data;

generating optimized matrix data from the frame data;

selecting one of two or more sets of pixel data based on the optimized matrix data;

wherein receiving frame data comprises receiving an array of pixel data;

wherein generating the optimized matrix data from the frame data comprises setting a matrix size based on pixel selection data;

and transmitting the selection pixel data and the optimized matrix data by assembling the optimized matrix data and the selection pixel data into a generated display frame as specified in claim 11; and

a method for transmitting data comprising:

dividing an array of pixel data into two or more regions;

selecting a set of pixel data from each region;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes;

and transmitting the region data and the selection pixel data for each region by assembling the region data and the selection pixel data into a generated display frame as specified in claim 16 as discussed during the interview on 02/22/2011 and the applicant's remarks on 01/24/2011.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung Vo whose telephone number is 571-272-7340. The examiner can normally be reached on Monday-Wednesday, Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/Tung Vo/
Primary Examiner, Art Unit 2486

Notice of References Cited	Application/Control No. 10/892,690	Applicant(s)/Patent Under Reexamination KRICHEVSKY ET AL.	
	Examiner Tung Vo	Art Unit 2486	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-5,838,333 A	11-1998	Matsuo, Yasuhiro	345/604
*	B	US-6,078,307 A	06-2000	Daly, Scott J.	345/600
*	C	US-6,198,467 B1	03-2001	Chiang, Tsung-Pei	345/698
*	D	US-6,326,981 B1	12-2001	Mori et al.	345/695
*	E	US-6,473,062 B1	10-2002	Debiez et al.	345/63
*	F	US-6,608,632 B2	08-2003	Daly et al.	345/698
*	G	US-7,551,189 B2	06-2009	Hunter, Andrew Arthur	345/698
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

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

NON-PATENT DOCUMENTS

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

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

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	**Art Unit**
	Tung Vo	2486

ORIGINAL		INTERNATIONAL CLASSIFICATION																	
CLASS	SUBCLASS	CLAIMED										NON-CLAIMED							
375	240.01	H	0	4	N	7 / 12 (2006.01.01)													
CROSS REFERENCE(S)																			
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																		

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

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		17												
	2		18												
2	3	12	19												
3	4	13	20												
4	5		21												
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8	11														
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	13														
9	14														
10	15														
11	16														

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 14	
/Tung Vo/ Primary Examiner.Art Unit 2486 02/22/2011 (Primary Examiner) (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	Art Unit
	Tung Vo	2486

SEARCHED			
Class	Subclass	Date	Examiner
375	240.01, 240.15, 240.23	3/17/08	GP
380	54	4/10/10	GP
382	239, 236	4/10/10	GP
348	699	4/10/10	GP

SEARCH NOTES		
Search Notes	Date	Examiner
Text searched; class/subclass	3/17/08	GP
Updated searched areas	2/2/09	GP
Updated previously searched areas	4/10/10	GP
Consulted with SPE/WQAS, Mehrdad Dastouri, combine claim 1 and 8-10, combine claim 11 and 12-13 incorporated with steps 508 and 510 of fig.5, and combine claims 16 and 17-18 incorporated with steps 508 and 510 of fig. 5.	2/22/2011	TV
Interview with applicant to propose claims for allowance	2/22/2011	TV
Updated search above	2/22/2011	TV

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
375	240.01	2/22/2011	TV

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BIB DATA SHEET

CONFIRMATION NO. 6612

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/892,690	07/16/2004	375	2486	

APPLICANTS

Alexander Krichevsky, Laguna Beach, CA;
Constance Nash, Laguna Beach, CA;

**** CONTINUING DATA ***************************

This application is a CON of PCT/US02/00503 01/16/2002

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
09/13/2004

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /TUNG VO/ Examiner's Signature	☐ Met after Allowance /TV/ Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		CA	4	20	3

ADDRESS

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652
UNITED STATES

TITLE

Optimized data transmission system and method

FILING FEE RECEIVED		
645	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1151502	(image or frame or picture) with data	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:05
L2	6368	(image or frame or picture) with data with pixel$4 same selection	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:06
L3	4872	set near pixel same region	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:06
L4	164	1 and 2 and 3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:06
L5	265424	(image or frame or picture) with data same (cod$4 or compress$4 or encod $4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:08
L6	164	2 and 3 and 4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:08
L7	82	2 and 3 and 5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:08
L8	1	"10892690"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:13

L9	1503	predetermined same set same pixel same matrix	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:35
L10	0	set near pixel near data same each same region	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:35
L11	4872	set near pixel same region	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:36
L12	80	9 and 11	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:36
L13	32	5 and 12	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:36
L14	9933	set near pixel same (area or region or boundary or border)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:41
L15	1484	(set near pixel$4) same (area or region) same (frame or picture or image) same (form$4 or creat$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:42
L16	27590	(image or frame or picture) with data with pixel$4 same select$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:42
L17	64153	(image or frame or picture) with pixel same (cod$4 or compress$4 or encod $4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:43
L18	11483	predetermined same pixel same matrix	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:43

L19	19	15 and 16 and 17 and 18	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:43
L20	103	15 and 16 and 17	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:45
L21	121582	pixel same matrix	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:45
L22	51	20 and 21	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:45
L23	15729	(image or frame or picture) with select $4 with (area or region) same pixel	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:48
L24	53568	set with pixel$4 same (form$4 or creat$4 or generat $4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:48
L25	1690	17 and 23 and 24	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:49
L26	12940	set near pixel$4 same (form$4 or creat$4 or generat $4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:49
L27	526	17 and 25 and 26	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:50
L28	242	11 and 27	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:50

L29	106	(image or frame or picture) with select $4 with (area or region) same (generat$4 or creat $4 or form$4) with (pixel near set)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:52
L30	27	29 and 17	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:53
L31	25167	analysis$4 same (frame or picture or image) same pixel$2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:58
L32	16	analysis$4 same (frame or picture or image) same pixel$2 same variation same matrix same identif $4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:58
L33	5356	random$4 same select$4 same pixel $4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:59
L34	3	32 and 33	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:59
L35	91	(frame or picture or image) same pixel$2 same variation same matrix same identif $4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 18:59
L36	1587	(frame or picture or image) same pixel$2 same variation same matrix	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:00
L37	52009	select$4 same pixel $4 same (area or region)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:00

L38	486	36 and 37	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:00
L39	114	38 and 17	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:00
L40	49405	MPEG same (encod $4 or cod$4 or compress$4) same video	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:03
L41	12	38 and 40	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:04
L42	6909	select$4 same set with pixel$4 same (area or region)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:07
L43	3	36 and 40 and 42	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	AND	ON	2011/02/18 19:08

EAST Search History (Interference)

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2/18/2011 7:10:31 PM
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228-7070
(949)

2/22/11

Tung Draft for Approval for Typing Filing Allowance Today

claim 1

1. (Currently Amended) ~~The~~ A system for transmitting ~~optimized~~ data ~~for transmission~~ comprising:

a ~~data transmission~~ frame analysis system receiving frame data, ~~the data transmission system including a frame analysis system and pixel selection system;~~

~~a frame analysis receiving frame data~~ and generating region data comprised of high detail and or low detail ~~by identifying~~

~~pixel variation as a function of pixel variation data of the frame; the region data defining one or more regions within the frame, each region comprising a matrix of pixels from the frame;~~

~~a matrix generating system for generating for generating matrix data from frame data, the matrix data comprising pixel data and the matrix size being determined by variations in pixel data;~~ and

a pixel selection system receiving the region data and ~~matrix data~~ generating one set of pixel data for each region forming a new set of data for transmission.

~~the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on the pixel variation data from the two or more sets of pixel data; and~~

~~the data transmission system transmitting the matrix data and the pixel data for each region.~~

1

PAGE 1/4 * RCVD AT 2/22/2011 5:14:10 PM [Eastern Standard Time] * SVR:W-PTOFAX-001/21 * DNIS:2737340 * CSID:9497230700 * DURATION (mm-ss):01-12

Continued....claim 1 amendment 2/22/11

;wherein transmitting the data to a data receiving system receiving the region data and the pixel data for each region and generating a display; wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data;

wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

Claim 2 (canceled)

Claim 3 (Previously Presented)

Claim 4 (Previously Presented)

Claim 5 (Previously Presented)

Claim 6 (Previously Presented)

Claim 7 (Previously Presented)

Claim 8 (Canceled)

Claim 9 (Canceled)

Claim 10 (Canceled)

Claim 12 (Canceled)

Claim 13 (Canceled) Claim 14 (Previously Presented) Claim 15 (Previously Presented)

2

TUNG DRAFT CLAIM 11

(CURRENTLY AMENDED)

A method for transmitting data comprising:

Receiving frame data:

Generating optimized matrix data from the frame data;

Selecting one of two or more sets of pixel data based on the optimized matrix data~~; and transmitting the pixel data and the matrix data.~~ Wherein receiving frame data comprises receiving an array of pixel data; wherein generating matrix data from the frame the frame data comprises setting the matrix size based on pixel selection system;

and transmitting the optimized pixel data and the optimized matrix data by assembling the matrix and pixel data into a generated display.

~~Claim 12 (omit)~~

~~Claim 13 (omit)~~

Claim 14 (previously presented)

Claim 15 (previously presented)

3

TUNG DRAFT CLAIM 16

A method for transmitting data comprising: ~~using a processor for~~ dividing an array of pixel data into two or more regions; ~~each region being selected as function the pixel variation data in the array~~;

selecting a set of pixel data from each region; ~~and transmitting region data and the pixel data for each region.~~

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes;

and transmitting the optimized pixel data and the optimized region data by assembling the region and pixel data into a generated display.

Claim 17 (canceled)

Claim 18 (canceled)

Claim 19 (previously presented)

Claim 20 (previously presented)

Claim 21 (canceled)

Claim 22 (canceled)

Claim 23 (Previously Presented)

4

(CURRENTLY AMENDED)

CLAIM 1 (Add 8, 9, 10)

TUNA NOTE: USE SAME CLAIM 1 LANGUAGE CLAIM AS Amended JAN 24 ENDS WITH — " DATA FOR TRANSMISSION ";

Add NEW

WHEREIN TRANSMITTING THE DATA TO A DATA RECEIVING SYSTEM RECEIVING THE REGION DATA AND THE PIXEL DATA FOR EACH REGION AND GENERATING A DISPLAY;

WHEREIN THE DATA RECEIVING SYSTEM COMPRISES A PIXEL DATA SYSTEM RECEIVING MATRIX DEFINITION DATA AND PIXEL DATA AND GENERATING PIXEL LOCATION DATA;

WHEREIN THE DATA RECEIVING SYSTEM COMPRISES A DISPLAY GENERATION SYSTEM RECEIVING PIXEL LOCATION DATA AND GENERATING DISPLAY DATA THAT INCLUDES THE PIXEL DATA PLACED ACCORDING TO THE LOCATION DATA.

CLAIM 2 (OMIT)

CLAIM 3, 4, 5, 6, 7, (PREVIOUSLY PRESENTED)

EXAMINER Amendment

CLAIM 1

Add CLAIMS 8, 9, 10

CLAIM 3, 4, 5, 6, 7, Dependent

ALL IN CLAIM 11

CLAIM 11, 12, 13

A method for TRANSMITTING data comprising;

Receiving FRAME data comprising AN ARRAY of PIXEL DATA;

generating OPTIMIZED MATRIX DATA FROM THE FRAME DATA by setting ~~The~~ a MATRIX SIZE based on the PIXEL Selection SYSTEM;

Selecting ONE of TWO OR MORE sets of PIXEL DATA based on the optimized MATRIX DATA;

and TRANSMITTING the OPTIMIZED PIXEL DATA and the OPTIMIZED MATRIX DATA by ASSEMBLING the MATRIX and PIXEL DATA INTO A GENERATED DISPLAY.

NOTE

CLAIMS 8, 9, 10 (OMIT),

CLAIMS 12, 13 (OMIT) (PREVIOUSLY Presented)

CLAIMS 14, 15

CONTINUED →

TUNG DRAFT CLAIM 11

(CURRENTLY AMENDED)

A method for transmitting data comprising:

Receiving frame data:

Generating optimized matrix data from the frame data;

Selecting one of two or more sets of pixel data based on the optimized matrix data~~; and transmitting the pixel data and the matrix data.~~ Wherein receiving frame data comprises receiving an array of pixel data; wherein generating matrix data from the frame the frame data comprises setting the matrix size based on pixel selection system;

and transmitting the optimized pixel data and the optimized matrix data by assembling the matrix and pixel data into a generated display.

Claim 12 (omit)

Claim 13 (omit)

Claim 14 (previously presented)

Claim 15 (previously presented)

TUNG DRAFT CLAIM 16

A method for transmitting data comprising: ~~using a processor for~~ dividing an array of pixel data into two or more regions; ~~each region being selected as function the pixel variation data in the array~~;

selecting a set of pixel data from each region; ~~and transmitting region data and the pixel data for each region.~~

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having a uniform size;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes;

and transmitting the optimized pixel data and the optimized region data by assembling the region and pixel data into a generated display.

Claim 17 (canceled)

Claim 18 (canceled)

Claim 19 (previously presented)

Claim 20 (previously presented)

Claim 21 (canceled)

Claim 22 (canceled)

Claim 23 (Previously Presented)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

1560 02/24/2011
CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

TITLE OF INVENTION: OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	$755	$300	$0	$1055	05/24/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
VO, TUNG T	2486	375-240010

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
☐ A check is enclosed.
☒ Payment by credit card. Form PTO-2038 is attached
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature /Constance Nash/ Date March 28, 2011
Typed or printed name Constance Nash Registration No. Customer No. 12624

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Electronic Patent Application Fee Transmittal

Application Number:	10892690
Filing Date:	16-Jul-2004
Title of Invention:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD
First Named Inventor/Applicant Name:	Alexander Krichevsky
Filer:	Constance Nash/Bob Newell
Attorney Docket Number:	

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	2501	1	755	755
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1055**

Electronic Acknowledgement Receipt	
EFS ID:	9767646
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD
First Named Inventor/Applicant Name:	Alexander Krichevsky
Correspondence Address:	CONSTANCE NASH, CORNERSTONE GROUP, LTD. - P.O. BOX 1892 - LAGUNA BEACH CA 92652 US 949-340-6467 stonelimited@gmail.com
Filer:	Constance Nash/Bob Newell
Filer Authorized By:	Constance Nash
Attorney Docket Number:	
Receipt Date:	29-MAR-2011
Filing Date:	16-JUL-2004
Time Stamp:	19:28:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1055

RAM confirmation Number	6331
Deposit Account	
Authorized User	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Fees3-28-2011PTOL-85fees.pdf	2126920 deedf5bd9a089172574240aad8d9acea1416d15b	no	1
Warnings:					
Information:					
2	Fee Worksheet (PTO-875)	fee-info.pdf	31977 4af08ad60a15f64bddc001fc872d15696357f73a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2158897		

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

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT	:	Krichevsky, Nash et al.
SERIAL NO	:	10/892,690
FILING DATE	:	January 16,2002 PCT/July 16, 2004
FOR	:	Optimized Data Transmission System and Method
EXAMINERS	:	Mehrdad Dastouri/Tung Vo
CONFIRMATION NO	:	6612
ART UNIT	:	2486

1.312 AMMENDMENT AFTER ALLOWANCE

Mail Stop Amendment

Commisioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Dear Sir,

Applicants respectfully submit the following amendment on February 24, 2011 Allowance.

Remarks begin on page 2 of this paper.

Claims begin on page 2 of this paper.

Remarks:

Based on the interview April 1 2011 agreement has been reached on the Allowed claims, no new matter has been added.

IN CLAIM

Claim 1. (Currently Amended) A system for transmitting data optimization instead of compression transmission comprising:

a frame analysis system receiving frame data and generating region data comprised of high detail and or low detail;

a pixel selection system receiving the region data and generating one set of pixel data for each region forming a new set of data for transmission;

wherein transmitting the data to a data receiving system receiving the region data and the pixel data for each region and generating a display;

wherein the data receiving system comprises a pixel data system receiving matrix definition data and pixel data and generating pixel location data;

wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

Claim 2 (Canceled)

Claim 3 (Previously Presented) The system of claim 1 wherein the frame analysis Comprises a matrix size system receiving pixel variation data and generating matrix size data.

Claim 4 (Previously Presented) The system of claim 1 wherein the frame analysis comprises a matrix identification system receiving matrix size data and generating matrix identification data.

Claim 5 (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel randomizer system receiving two or more sets of pixel data for each region and randomly selecting one of the two or more sets of pixel data.

Claim 6 (Previously Presented) The system of claim 1 wherein the pixel selection system comprises a pixel sequencer system receiving two or more sets of pixel data for each region and selecting one of the two or more sets of pixel data based on sequence data.

Claim 7 (Previously Presented) The system of claim 1 wherein the pixel selection system Comprises a pixel identification system generating pixel location data based on location of the Set of pixel data associated with each of the regions.

Claim 8-10 have been canceled.

Claim 11. (Currently Amended) A method for transmitting data optimization instead of compression comprising:

receiving frame data:

generating optimized matrix data from the frame data;

selecting one of two or more sets of pixel data based on the optimized matrix data;

wherein receiving frame data comprises receiving an array of pixel data;

wherein generating the optimized matrix data from the frame data comprises setting a matrix size based on pixel data;

and transmitting the selection pixel data and the optimized matrix data by assembling the optimized matrix data and the selection pixel data into a generated display frame.

Claim 12 -13 have been canceled

Claim 16. (Currently Amended) A method for transmitting data optimization instead of compression comprising:

Dividing an array of pixel data into two or regions:

Selecting a set of pixel data from reach region;

wherein dividing the array of pixel data comprises dividing the array of pixel data two or more matrices having a uniform size;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes;

and transmitting the selection pixel data and the region data by assembling the region and pixel data into a generated display frame.

Claims 17-18 have been canceled.

Claim 19 (Previously Presented) The method of claim 16 wherein selecting the set of pixel data from each region comprises selecting a random set of pixel data.

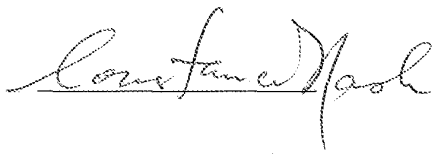
Claim 20 (Previously Presented) The method of claim 16 wherein transmitting the region data and the pixel data for each region comprises transmitting matrix data and the pixel data for each matrix.

Claims 21-22 have been canceled.

Claim 23 (Previously Presented) The system of claim 1 wherein the frame analysis system comprises a pixel variation system receiving two or more sets of pixel data and generating the region data based on pixel variation data from the two or more sets of pixel data.

The 1.312 Amendment after Allowance are believed patentable.

Respectfully submitted



Constance Nash, President

Cornerstone Group Ltd

P.O Box 1892

Laguna Beach, CA 92652

April 1, 2011

Electronic Acknowledgement Receipt	
EFS ID:	9793553
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD
First Named Inventor/Applicant Name:	Alexander Krichevsky
Correspondence Address:	CONSTANCE NASH, CORNERSTONE GROUP, LTD. - P.O. BOX 1892 - LAGUNA BEACH CA 92652 US 949-340-6467 stonelimited@gmail.com
Filer:	Constance Nash/Bob Newell
Filer Authorized By:	Constance Nash
Attorney Docket Number:	
Receipt Date:	01-APR-2011
Filing Date:	16-JUL-2004
Time Stamp:	16:10:49
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Amendment after Notice of Allowance (Rule 312)	PTO_1-312_APR-1-2011amend.pdf	2750096 f12299a99efca038a262d9aed0bff49024937d73	no	6
Warnings:					
Information:					
		Total Files Size (in bytes):	2750096		

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New Applications Under 35 U.S.C. 111
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National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 04/11/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
VO, TUNG T	
ART UNIT	**PAPER NUMBER**
2486	
MAIL DATE	**DELIVERY MODE**
04/11/2011	PAPER

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

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

Interview Summary	Application No.	Applicant(s)	
	10/892,690	KRICHEVSKY ET AL.	
	Examiner	Art Unit	
	Tung Vo	2486	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Tung Vo*.

(2) *Nash Krichevsky*.

(3) *Mehrdad Dastouri*.

(4) _____.

Date of Interview: *04/01/11*.

Type: a)☐ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☐ No.
If Yes, brief description: _____.

Claim(s) discussed: *1, 11, and 16*.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Agreed to file the 1.312 amendment to amend "data optimization instead of compression" in the preamble of claims 1, 11, and 16*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

/Tung Vo/ Primary Examiner, Art Unit 2486	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 04/18/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
VO, TUNG T	
ART UNIT	**PAPER NUMBER**
2486	
MAIL DATE	**DELIVERY MODE**
04/18/2011	PAPER

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

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

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10892690	7/16/2004	KRICHEVSKY ET AL.	

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER
Tung Vo

ART UNIT	PAPER
2486	20110404

DATE MAILED:

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

Commissioner for Patents

Claim 10 has been canceled.

/Tung Vo/
Primary Examiner, Art Unit 2486

PTO-90C (Rev.04-03)

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	10892690	KRICHEVSKY ET AL.
	Examiner	**Art Unit**
	Tung Vo	2486

ORIGINAL		INTERNATIONAL CLASSIFICATION																	
CLASS	SUBCLASS	CLAIMED										NON-CLAIMED							
375	240.01	H	0	4	N	7 / 12 (2006.01.01)													
CROSS REFERENCE(S)																			
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																		

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

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1		17												
	2		18												
2	3	11	19												
3	4	12	20												
4	5		21												
5	6		22												
6	7	13	23												
	8														
	9														
	10														
7	11														
	12														
	13														
8	14														
9	15														
10	16														

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	13	
/Tung Vo/ Primary Examiner.Art Unit 2486	02/22/2011	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

UNITED STATES PATENT AND TRADEMARK OFFICE

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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 06/01/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
VO, TUNG T	
ART UNIT	**PAPER NUMBER**
2486	
MAIL DATE	**DELIVERY MODE**
06/01/2011	PAPER

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

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

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

IN CLAIM

Claim 1. (Currently Amended) A system for transmitting data optimization instead of data compression [transmission] comprising:

a frame analysis system receiving frame data and generating region data comprised of high detail and or low detail;

a pixel selection system receiving the region data and generating one set of pixel data for each region forming a new set of data for transmission;

wherein transmitting the data to a data receiving system receiving the region data and the pixel data for each region and generating a frame display;

wherein the data receiving system comprises a pixel data system receiving matrix definition data and the pixel data and generating pixel location data;

wherein the data receiving system comprises a display generation system receiving pixel location data and generating display data that includes the pixel data placed according to the location data.

Claim 11. (Currently Amended) A method for transmitting data optimization instead data compression comprising:

receiving frame data;

generating optimized matrix data from the frame data;

selecting one of two or more sets of pixel data based on the optimized matrix data;

wherein receiving frame data comprises receiving an array of pixel data;

wherein generating the optimized matrix data from the frame data comprises setting a matrix size based on pixel data; and

transmitting the selection pixel data and the optimized matrix data by assembling the optimized matrix data and the selection pixel data into a generated display frame.

Claim 16. (Currently Amended) A method for transmitting data optimization instead of data compression comprising:

dividing an array of pixel data into two or regions:

selecting a set of pixel data from reach region;

wherein dividing the array of pixel data comprises dividing the array of pixel data two or more matrices having a uniform size;

wherein dividing the array of pixel data comprises dividing the array of pixel data into two or more matrices having two or more different sizes;

and transmitting the selection pixel data and the region data by assembling the region and pixel data into a generated display frame.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUNG VO whose telephone number is (571)272-7340. The examiner can normally be reached on Monday-Wednesday, Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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

/Tung Vo/
Primary Examiner, Art Unit 2486

/Mehrdad Dastouri/
Supervisory Patent Examiner, Art Unit 2486

/N. Le/
N. Le, Director, Technology Center 2400

Response to Rule 312 Communication	Application No.	Applicant(s)
	10/892,690	KRICHEVSKY ET AL.
	Examiner	Art Unit
	TUNG VO	2486

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

1. ☒ The amendment filed on *04/01/2011* under 37 CFR 1.312 has been considered, and has been:

a) ☐ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.
Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☒ entered in part. See explanation below.

See the examiner's amendment

/Mehrdad Dastouri/
Supervisory Patent Examiner, Art Unit 2486

/Tung Vo/
Primary Examiner, Art Unit 2486

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/05/2011	7974339		6612

7590 06/15/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 1401 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Alexander Krichevsky, Laguna Beach, CA;
Constance Nash, Laguna Beach, CA;

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/892,690	07/16/2004	Alexander Krichevsky		6612

7590 06/21/2011

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER	
VO, TUNG T	
ART UNIT	**PAPER NUMBER**
2486	
MAIL DATE	**DELIVERY MODE**
06/21/2011	PAPER

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

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

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
Address : COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
10/892,690	16 July 2004	KRICHEVSKY ET AL.	

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

EXAMINER
TUNG VO

ART UNIT	PAPER
2486	20110527

DATE MAILED:

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

Commissioner for Patents

It is noted that claims 14 and 15 are allowed in Examiner's Amendment dated 2/24/2011.

/Tung Vo/
Primary Examiner, Art Unit 2486

PTO-90C (Rev.04-03)

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
U.S. Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

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

I hereby appoint:

■ Practitioners associated with Customer Number: 02101

OR

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

Name	Registration Number	Name	Registration Number

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

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

■ The address associated with Customer Number: 02101

OR

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

Assignee Name and Address: CONSTANCE NASH, P.O. BOX 1892, LAGUNA BEACH, CA 92652
OF VEDANTI SYSTEMS LIMITED
6 NEW STREET SQUARE
LONDON, UNITED KINGDOM EC4A 3LX

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

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

Signature	Constance Nash	Date	11/27/2013
Name	Constance Nash	Telephone	949 228 7070
Title	President		

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

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

PTO/AIA/96 (08-12)
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Krichevsky et al.

Application No./Patent No.: 7,974,339 Filed/Issue Date: July 5, 2011

Titled: Optimized Data Transmission System and Method

Vedanti Systems Limited, a corporation

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

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

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

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

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

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

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

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

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

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

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

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

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

1. From: Alex Krichevsky To: Cornerstone Group LTD.

   The document was recorded in the United States Patent and Trademark Office at Reel 018561, Frame 0737, or for which a copy thereof is attached.

2. From: Constance Nash To: Cornerstone Group LTD.

   The document was recorded in the United States Patent and Trademark Office at Reel 019345, Frame 0534, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

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

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: Cornerstone Group LTD. To: Vedanti Systems Limited

The document was recorded in the United States Patent and Trademark Office at
Reel 028219, Frame 0873, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

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

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

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

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

/Robert M. Asher, #30,445/	December 3, 2013
Signature	Date
Robert M. Asher	30,445
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

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

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

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

Electronic Acknowledgement Receipt	
EFS ID:	17553816
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD
First Named Inventor/Applicant Name:	Alexander Krichevsky
Correspondence Address:	CONSTANCE NASH, CORNERSTONE GROUP, LTD. - P.O. BOX 1892 - LAGUNA BEACH CA 92652 US 949-340-6467 stonelimited@gmail.com
Filer:	Robert Asher
Filer Authorized By:	
Attorney Docket Number:	
Receipt Date:	03-DEC-2013
Filing Date:	16-JUL-2004
Time Stamp:	16:33:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	DD40281001POA.pdf	266305 acf02ffee6466626b2ffcbbd6afd531c89fc52df	no	4
Warnings:					
Information:					
		Total Files Size (in bytes):	266305		

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

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

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

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

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	

CONFIRMATION NO. 6612

2101
Sunstein Kann Murphy & Timbers LLP
125 SUMMER STREET
BOSTON, MA 02110-1618

POA ACCEPTANCE LETTER

OC000000065593645

Date Mailed: 12/18/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 12/03/2013.

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

/sharris/

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
10/892,690	07/16/2004	Alexander Krichevsky	

CONFIRMATION NO. 6612

CONSTANCE NASH, CORNERSTONE GROUP, LTD.
P.O. BOX 1892
LAGUNA BEACH, CA 92652

POWER OF ATTORNEY NOTICE

OC000000065593594

Date Mailed: 12/18/2013

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 12/03/2013.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/sharris/

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Alexander Krichevsky
Patent No:	7,974,339
Issue Date:	July 5, 2011
Title:	Optimized Data Transmission System and Method

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

POWER OF ATTORNEY BY ASSIGNEE AND REVOCATION OF PRIOR POWERS AND CHANGE OF CORRESPONDENCE ADDRESS

As an authorized representative of Assignee for the patent identified above, I hereby revoke all powers of attorney previously given and I hereby appoint Constance Nash, President of Vedanti Systems Limited to prosecute and transact all business in the Patent and Trademark Office connected therewith.

Please address all further communications to:

Constance Nash, President
Vedanti Systems Limited
Email: cnash@vedantisystems.com
Tel: +1.949.295.0080
P.O. Box 1872
Newport Beach, CA 92659

ASSIGNEE:

Vedanti Systems Limited

By: _____ Date: March 22, 2014
Name: Constance Nash
Title: President

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Krichevsky et al.

Application No./Patent No.: 7,974,339 Filed/Issue Date: July 5, 2011

Titled: Optimized Data Transmission System and Method

Vedanti Systems Limited, a corporation

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

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

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

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

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

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

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

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

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

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

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

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

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

1. From: Alex Krichevsky To: Cornerstone Group LTD.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 018561, Frame 0737, or for which a copy thereof is attached.

2. From: Constance Nash To: Cornerstone Group LTD.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 019345, Frame 0534, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**.

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

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: Cornerstone Group LTD. To: Vedanti Systems Limited

The document was recorded in the United States Patent and Trademark Office at
Reel 028219, Frame 0873, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
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5. From: _____ To: _____

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

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

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

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

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

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

/Robert M. Asher, #30,445/	March 26, 2014
Signature	Date
Robert M. Asher	30,445
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

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

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

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

PTO/SB/47 (03-09)
Approved for use through 03/31/2012. OMB 0651-0016
U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE
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"FEE ADDRESS" INDICATION FORM

Address to:
Mail Stop M Correspondence
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

- OR -

Fax to:
571-273-6500

INSTRUCTIONS: The issue fee must have been paid for application(s) listed on this form. In addition, only an address represented by a Customer Number can be established as the fee address for maintenance fee purposes (hereafter, fee address). A fee address should be established when correspondence related to maintenance fees should be mailed to a different address than the correspondence address for the application. **When to check the first box below**: If you have a Customer Number to represent the fee address. **When to check the second box below**: If you have no Customer Number representing the desired fee address, in which case a completed Request for Customer Number (PTO/SB/125) must be attached to this form. For more information on Customer Numbers, see the Manual of Patent Examining Procedure (MPEP) § 403.

For the following listed application(s), please recognize as the "Fee Address" under the provisions of 37 CFR 1.363 the address associated with:

☑ Customer Number: 12624

OR

☐ The attached Request for Customer Number (PTO/SB/125) form.

PATENT NUMBER (if known)	APPLICATION NUMBER
7,974,339	10/892,690

Completed by (check one):

☐ Applicant/Inventor — /Robert M. Asher, #30,445/ (Signature)

☑ Attorney or Agent of record 30,445 (Reg. No.) — Robert M. Asher (Typed or printed name)

☐ Assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96) — _____ (Requester's telephone number)

☐ Assignee recorded at Reel _____ Frame_____ — March 26, 2014 (Date)

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more that one signature is required, see below*.

☑ *** Total of 1 forms are submitted.**

This collection of information is required by 37 CFR 1.363. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1. 11 and 1.14. This collection is estimated to take 5 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313- 1450. DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.
SEND TO: Mail Stop M Correspondence, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	18591510
Application Number:	10892690
International Application Number:	
Confirmation Number:	6612
Title of Invention:	OPTIMIZED DATA TRANSMISSION SYSTEM AND METHOD
First Named Inventor/Applicant Name:	Alexander Krichevsky
Customer Number:	2101
Filer:	Robert Asher
Filer Authorized By:	
Attorney Docket Number:	4028/1001
Receipt Date:	26-MAR-2014
Filing Date:	16-JUL-2004
Time Stamp:	18:01:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	DD40281001POA.pdf	190377 63d3f840082cbf3a905ce528c538d64bd403592e	no	4

Warnings:	
Information:	

2	Maintenance Fee Address Change	DD40281001FeeIndicationForm.pdf	312724 4257a94a375505a29cb1aa237af7633639d3501e	no	2

Warnings:	
Information:	
Total Files Size (in bytes):	503101

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

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

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

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

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Delaware on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	8/9/2014	Delaware

PLAINTIFF	DEFENDANT
VEDANTI SYSTEMS LIMITED and MAX SOUND CORPORATION	GOOGLE, INC., YOUTUBE, LLC, and ON2 TECHNOLOGIES, INC.7,974,339

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	7,974,339	7/5/2011	Vedanti Systems Limited
2			
3			
4			
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

TO:	Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Delaware on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	8/9/2014	Delaware

PLAINTIFF	DEFENDANT
VEDANTI SYSTEMS LIMITED and MAX SOUND CORPORATION	GOOGLE, INC., YOUTUBE, LLC, and ON2 TECHNOLOGIES, INC.7,974,339

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	7,974,339	7/5/2011	Vedanti Systems Limited
2			
3			
4			
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
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5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 08/10)

TO:	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
Mail Stop 8 **Director of the U.S. Patent and Trademark Office** **P.O. Box 1450** **Alexandria, VA 22313-1450**	

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Delaware on the following

☐ Trademarks or ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	8/9/2014	Delaware

PLAINTIFF	DEFENDANT
VEDANTI SYSTEMS LIMITED and MAX SOUND CORPORATION	GOOGLE, INC., YOUTUBE, LLC, and ON2 TECHNOLOGIES, INC.7,974,339

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	7,974,339	7/5/2011	Vedanti Systems Limited
2			
3			
4			
5			

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
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5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

See D.I. 13, Notice of Voluntary Dismissal

CLERK	(BY) DEPUTY CLERK	DATE
John A Cerino, Clerk United States District Court 844 N. King Street, Unit 18 Wilmington, DE 19801	Gail S. Walker	10/2/14

Copy 1—Upon initiation of action, mail this copy to Director **Copy 3—Upon termination of action, mail this copy to Director**
Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

AO 120 (Rev. 2/99)

TO: **Mail Stop 8** **Director of the U.S. Patent & Trademark Office** **P.O. Box 1450** **Alexandria, VA 22313-1450**	**REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK**

In Compliance with 35 § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Northern District California on the ✔ Patents or ☐ Trademarks:

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
CV 14-04412 JCS	October 1, 2014	450 Golden Gate Avenue, 16th Floor, San Francisco CA 94102
PLAINTIFF MAX SOUND CORPORATION, ET AL		DEFENDANT GOOGLE, INC., ET AL

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 7,974,339		***see Attach Complaint***
2		
3		
4		
5		

In the above—entitled case, the following patent(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Richard W. Wieking	Gina Agustine	October 1, 2014

Copy 1—Upon initiation of action, mail this copy to Commissioner Copy 3—Upon termination of action, mail this copy to Commissioner
Copy 2—Upon filing document adding patent(s), mail this copy to Commissioner Copy 4—Case file copy