

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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GOOGLE LLC,  
Petitioner,

v.

138 EAST LCD ADVANCEMENTS LIMITED,  
Patent Owner.

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Case No. IPR2024-00957  
U.S. Patent No. 7,454,056

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**PATENT OWNER'S PRELIMINARY RESPONSE**

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U.S. Patent No. 7,454,056

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| Number | Description                                                             |
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| 2001   | Declaration Nikolaos Papanikolopoulos, Ph.D.                            |
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## **I. PRELIMINARY STATEMENT**

Pursuant to 37 C.F.R. § 42.107, Patent Owner 138 East LCD Advancements Limited (“138 East” or “Patent Owner”) submits its Preliminary Response to the Petition for *Inter Partes* Review of U.S. Patent No. 7,454,056 (“the ’056 patent”). Paper 1 (“Petition” or “Pet.”). Petitioner Google LLC challenges the validity of claims 1-18 of the ’056 patent.

The Petition does not establish a reasonable likelihood that the asserted references render any of claims 1-8, 10-16, and 18 unpatentable, and Patent Owner has disclaimed claims 9 and 17. The asserted references do not disclose all limitations of any remaining challenged claim. In particular, the Petition’s primary reference, Yano, does not teach or suggest *how* the claims recite (1) calculating a specific subject characteristic value, or (2) determining a specific subject area. Instead, the Petition splices in several secondary references to try to close Yano’s gaps. But in the process, the Petition overlooks the complete claim terms and Yano’s deficiencies. The Board therefore should deny institution for failure to present a likelihood that the Petitioner will prevail on any Ground.

## **II. THE ’056 PATENT**

The ’056 patent describes and claims an improved digital image data processing technique: how to render more accurately a subject in an image, including using particular information to determine the subject, to analyze the

image data corresponding to the subject, and to perform color balance correction based on that image data corresponding to the subject. *See, e.g.*, Ex. 1001 at 14:45-15:3, 16:32-56 (claims 1, 10); *see also id.* at 1:38-2:3, 2:29-65, 3:24-34, 5:33-6:9, 8:4-18, 8:53-9:42, 11:42-63, 12:59-13:7.

More specifically, the '056 patent describes and claims an improved color balance correction process. Claim 10, for example, recites analyzing a “target area” to determine “a specific subject area.” *Id.* at 16:32-56. The specification describes how that technique may include dividing image data into sections (for example, a 16-by-16 grid) and analyzing the data in a particular section or sections (a claimed “target area,” or the “target of processing”) as part of determining whether the section contains a subject (e.g., a face). *Id.* at 6:47-56. The '056 patent describes analyzing pixel values of the data in the target area, for example, thereby determining the proportion of pixel color values that correspond to a “flesh color.” *Id.* at 6:57-7:2.

The '056 patent also describes and claims “using . . . a position of said target area” as part of determining the subject area. *Id.* at 16:32-56. The specification describes that process as evaluating where in the image the target area under review resides. *Id.* at 7:10-30. Figures 5 and 6 illustrate an example analysis of image data in a target area to determine areas (labeled “FA,” meaning “face area”) corresponding to a subject (here, a face):

Fig.5

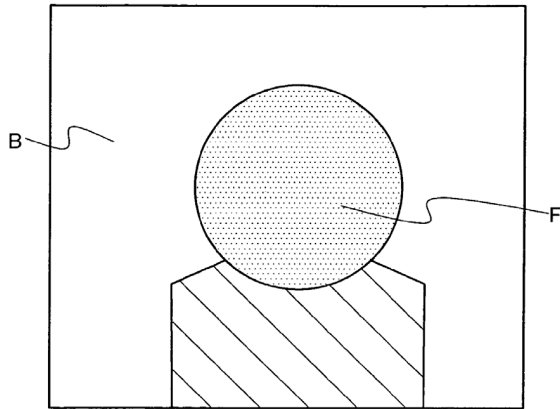
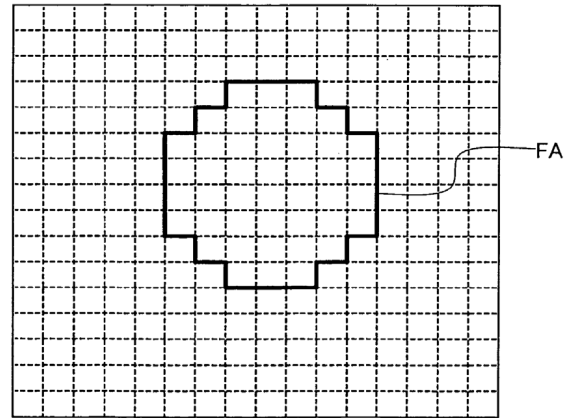


Fig.6



*Id.* at Figs. 5, 6, 7:3-30, 7:52-56.

After determining a “specific subject area,” the claimed inventions “calculate[] a specific subject characteristic value,” which represents a characteristic of image data corresponding to the determined specific subject area. *Id.* at 16:45-49. The specification provides an example of this calculation: a “flesh color pixel average value.” *Id.* at 6:4-9, 8:4-18. In the example, the invention determines “a weighted average value of the pixel value of the flesh color pixel data contained in the face area FA.” *Id.* at 8:4-18. The ’056 patent describes calculating specific subject characteristic values using a weight factor “determined according to the position of the flesh color pixel data in the face area FA,” Figure 7, or, when analyzing a plurality of face areas, “according to the size of each face area,” Figure 8:

Fig.7

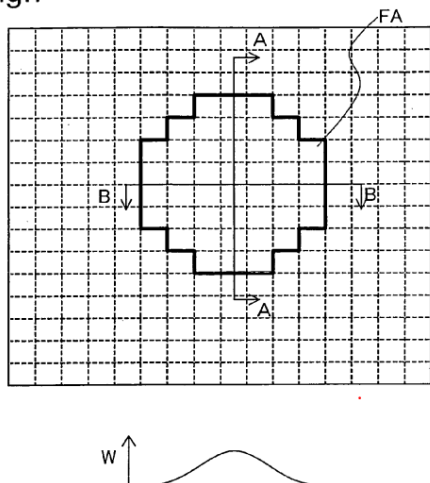
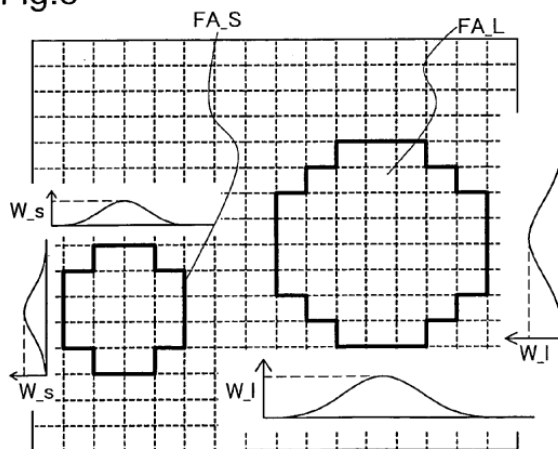


Fig.8



*Id.* at 8:19-52, Figs. 7, 8.

The '056 patent next “calculates a correction value for color balance correction using said calculated specific subject characteristic value and a preset characteristic target value.” *See, e.g., id.* at 16:50-53. The specification describes a “preset characteristic target value” as, for example, a “flesh color target value,” which represents “a flesh color that is desirable as the flesh color of the human subject.” *Id.* at 9:5-10. The specification describes calculating “flesh color reference correction values” based on differences between the “flesh color target value” and the “flesh color pixel average pixel value” calculated based on the image’s subject—from the determined “face area FA.” *Id.* at 9:5-42. Then the '056 patent’s technique “executes said color balance correction on said image data using said calculated correction value.” *See, e.g., id.* at 16:54-56, 10:11-16.

Claim 1 recites an example of calculating a specific subject characteristic value using a particular weighted distribution:

1. An image processing device for executing color balance correction on image data of a photographed image, said image processing device comprising:

[a] an image data acquisition module that acquires said image data;

[b] a specific subject area determination module that determines a specific subject area in said photographed image, wherein said specific subject area contains a specific subject in said photographed image;

[c] a specific subject characteristic value calculation module that calculates a specific subject characteristic value, wherein said specific subject characteristic value represents a characteristic of image data corresponding to said determined specific subject area,

[d] wherein said specific subject characteristic value calculation is executed using weighted distribution, and wherein said weighted distribution is set so as to be a

weight in a center area of said specific subject area larger than a weight in an area outside said center area;

[e] a correction value calculation module that calculates a correction value for color balance correction using said calculated specific subject characteristic value and a preset characteristic target value; and

[f] a correction execution module that executes said color balance correction on said image data using said calculated correction value.

*Id.* at 14:45-15:3.

Claim 10 recites an example of determining a specific subject area using particular information, i.e., position of the target area:

10. An image processing device for executing color balance correction on image data of a photographed image, said image processing device comprising:

[a] an image data acquisition module that acquires said image data[;]

[b] a specific subject area determination module that determines a specific subject area in said photographed

image, wherein said specific subject area contains a specific subject in said photographed image, and

[c] wherein said specific subject area determination module determines said specific subject area using pixel values of pixel data included in a target area for determination, and a position of said target area in said photographed image;

[d] a specific subject characteristic value calculation module that calculates a specific subject characteristic value, wherein said specific subject characteristic value represents a characteristic of image data corresponding to said determined specific subject area;

[e] a correction value calculation module that calculates a correction value for color balance correction using said calculated specific subject characteristic value and a preset characteristic target value; and

[f] a correction execution module that executes said color balance correction on said image data using said calculated correction value.

*Id.* at 16:32-56.

### **III. CLAIM CONSTRUCTION**

For purposes of this Preliminary Response, Patent Owner contends that the claim terms should receive their ordinary and customary meaning in light of the specification and prosecution history, as understood by a person of ordinary skill in the art. 37 C.F.R. § 100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

### **IV. LEGAL STANDARD**

The Board may not institute an *inter partes* review unless the Petition demonstrates a reasonable likelihood that the petition would prevail with respect to at least one of the claims challenged in the petition. 35 U.S.C. § 314(a).

### **V. LEVEL OF ORDINARY SKILL IN THE ART**

For purposes of this Preliminary Response only, Patent Owner does not dispute the level of skill for a person of ordinary skill in the art (“POSITA”), set forth in the Petition. Pet. at 16. The level of skill in the art does not affect whether to deny institution, because the Petition and its expert do not address certain claim limitations and disclosures from the applied references. Patent Owner does not waive, however, any argument regarding the proper level of skill and reserves the right to later advance additional arguments.

**VI. THE PETITION DOES NOT ESTABLISH A REASONABLE  
LIKELIHOOD THAT THE ASSERTED REFERENCES RENDER  
UNPATENTABLE ANY CHALLENGED CLAIM.**

**A. The Petition does not establish a reasonable likelihood that Yano  
in view of Schroder renders obvious claims 1, 3-7, and 11 (Ground  
1).**

**1. Yano: Overview**

Yano “relates to an image processing apparatus which corrects gradation and color reproduction characteristics of an image photographed (or shot) by a digital camera or the like.” Ex. 1005 ¶[0002]. Yano describes a process that “automatically correct[s] image data” and outputs “optimum characteristic[s].” *Id.* ¶[0007].

Yano describes an image processing apparatus including an image obtaining processing unit and “a face region extraction processing unit.” *Id.* ¶[0024], Fig. 1. Yano teaches that its “face region extraction” process begins after the face region extraction processing unit extracts the face region. *See id.* ¶[0032] (“That is, first, the face region is extracted from the image data. Then . . .”). Notably, Yano does not describe *how* it identifies and extracts that face region, nor does it describe the use of position information to identify and extract a face region. Rather, at most Yano explains that after extracting a face region, Yano filters and reduces that extracted image data, identifies and extracts “eye candidates” in the extracted region, and, if “the extracted pair of eye candidates indicates the eyes,” “sets a

rectangular region” based on the eye candidates. *Id.* ¶¶[0032]-[0034], Figs. 3B, 3C.

But even in this “eye candidates” process, Yano does not describe the use of position information.

**FIG. 3B**

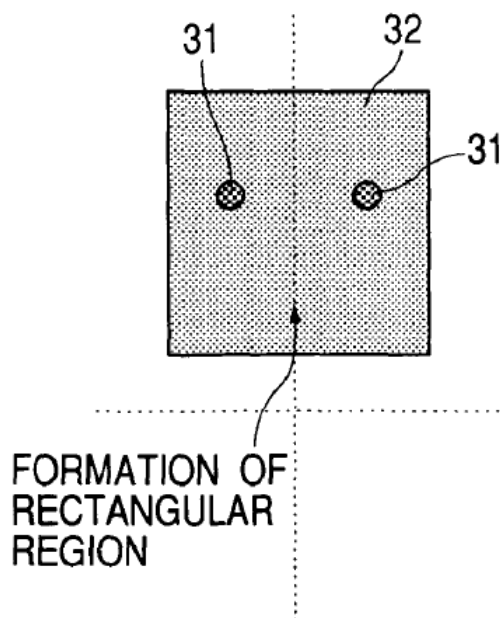
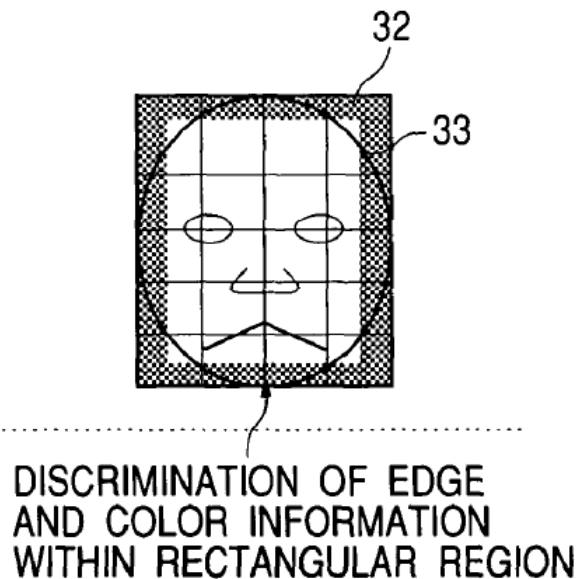


**FIG. 3C**



During the face region extraction process, Yano’s “image feature amount calculation unit” calculates an “image feature amount,” for example, a “lightness distribution” calculation. *Id.* ¶¶[0025], [0040]. Yano describes performing a calculation per pixel: Yano “calculates histograms, average values and distribution values of the lightness, hue and the like in regard to each pixel of the face region 33, and calculates the total number of pixels included in the face region 33.” *Id.*

¶[0040]. Yano does not describe using a weighted distribution as part of calculating “image feature amounts.” *See also* Ex. 2001 ¶¶49-51.

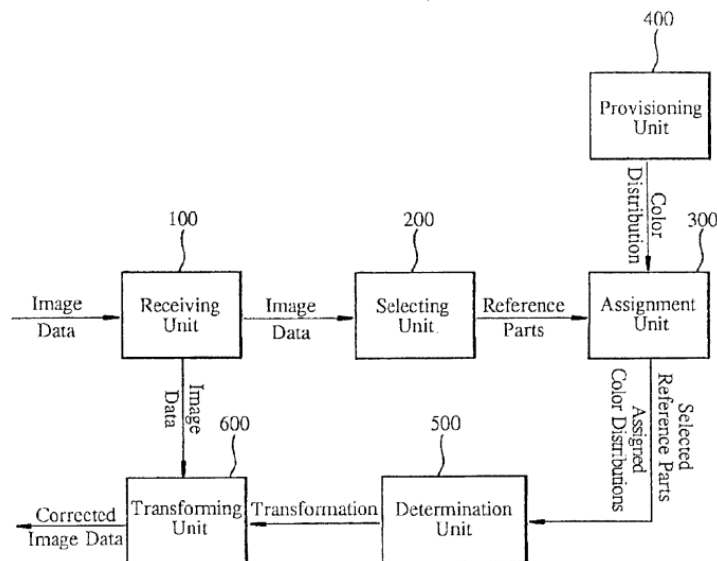
## 2. Schroder: Overview

Schroder “relates to the field of correction of colors of photographic images” and “using memory colors as a reference for the correction.” Ex. 1006 at 1:8-9, 2:19-21. “Memory colors” or “reference colors” “represent colors characteristic for a significant part of most photographic images.” *Id.* at 2:50-54. Schroder describes storing memory color distributions, accessing the information as needed, and/or updating the information based on new statistical inputs (e.g., new images to inform the “memory color”). *Id.* at 2:54-61, 3:40-43.

Relevant here, Schroder’s color correction method includes receiving image data and selecting “one or more reference parts of the image represented by the image data.” *Id.* at 3:44-65. Schroder does not describe how to select “reference parts,” other than providing that a user may select parts “by means of a mouse” or via a “user interface,” or via an “algorithm” that analyzes color values or patterns “to detect regions related to reference colors.” *Id.* at 6:36-60; *see also id.* at Figs. 2, 3. Like Yano, Schroder also does not teach or suggest using position information to identify reference parts.

Schroder’s process determines a “transformation” for those pixels, “based on the reference colors (memory colors) assigned to the selected parts [reference

parts] of the image.” *Id.* at 4:12-35. In particular, Schroder discloses assigning a color value to a reference part that includes more than one pixel: “the color value assigned to the relevance part may be a function of the color values of the pixels in the relevance part,” for example, the mean or median value, “or the color values in the center of the relevance part may be more weighted than the color values of the pixels in the periphery of the reference part.” *Id.* at 10:47-60. Notably, Schroder *does not select reference parts based on image-specific subjects*. Rather, Schroder explains that a “reference part of the image usually represents a spatial section of the image,” based on color. *Id.* at 3:55-56. Thus, like Yano, Schroder also does not teach or suggest calculating a “specific subject characteristic value,” for image data corresponding to a determined specific subject area, using a weighted distribution.



*Id.* at Fig. 7. See also Ex. 2001 ¶¶52-54.

**3. The Petition fails to show that Yano in view of Schroder renders obvious all limitations of any challenged claim.**

- a. Claim 1: The Petition fails to show that Yano in view of Schroder renders obvious “wherein said specific subject characteristic value calculation [of image data corresponding to said determined specific subject area] is executed using weighted distribution, and wherein said weighted distribution is set so as to be a weight in a center area of said specific subject area larger than a weight in an area outside said center area” (claim 1[d]).**

The Petition fails to show that Yano in view of Schroder renders obvious “wherein said specific subject characteristic value calculation [of image data corresponding to said determined specific subject area] is executed using weighted distribution, and wherein said weighted distribution is set so as to be a weight in a center area of said specific subject area larger than a weight in an area outside said center area.” Ex. 2001 ¶¶55-58. The claim, as a whole, provides that the “specific subject characteristic value” “represents a characteristic of image data corresponding to said determined specific subject area.” Ex. 1001 at claim 1. The claim does not recite using weighted distribution to perform *any* calculation for *any* image data. The claim requires a particular calculation *for that specific subject characteristic value* and related image data. The Petition concedes that Yano does not teach or suggest calculating a specific subject characteristic value using

weighted distribution. And the Petition fails to show that Schroder cures Yano's deficiency.

The Petition does not—cannot—argue that Schroder teaches or suggests calculating a specific subject characteristic value using weighted distribution, because Schroder does not *calculate a specific subject characteristic value of image data corresponding to said determined specific subject area*. The Petition argues only that Schroder “calculate[s] a characteristic color value (specific subject characteristic value) of the *reference part* using a weighted distribution.” Pet. at 26 (emphasis added). But Schroder selects “reference parts” throughout an image based on color and spatial patterns—reference parts are merely regions in which “usually at least most of the color values and the part are similar or even equal.” Ex. 1006 at 4:1-2; *see also id.* at 3:55-56 (“A reference part of the image usually represents a spatial section of the image.”), 6:46-60 (describing algorithm to select reference parts that analyzes color values and/or spatial distribution “to detect regions related to reference colors”). The Petition cites no evidence that Schroder's “reference” or “relevance” parts *represent a specific subject area*, as the claim recites. *See also* Ex. 2001 ¶57.

Thus, the Petition fails to show that Yano in view of Schroder renders obvious “wherein said specific subject characteristic value calculation [of image data corresponding to said determined specific subject area] is executed using

weighted distribution, and wherein said weighted distribution is set so as to be a weight in a center area of said specific subject area larger than a weight in an area outside said center area.”

**b. Claims 3-7**

The Petition fails to show that Yano in view of Schroder renders obvious claim 1. Thus, the Petition fails to show that Yano in view of Schroder renders obvious claims 3-7, which depend from claim 1 (or from claim 4, which depends from claim 1). Ex. 2001 ¶59.

**c. Claim 11**

The Petition fails to show that Yano in view of Schroder renders obvious “wherein said calculating said specific subject characteristic value is executed using weighted distribution, and wherein said weighted distribution is set so as to be a weight in a center area of said specific subject area larger than a weight in an area outside said center area” (claim 11[d]). *See* § VI.A.3.a, *supra*; Ex. 2001 ¶59.

**B. The Petition does not establish a reasonable likelihood that Yano in view of Schroder and Steinberg renders obvious claims 2, 8, 12-16, and 18 (Ground 2).**

**1. Steinberg: Overview**

Steinberg “relates to digital image processing, particularly automatic suggesting or processing of enhancements of a digital image using information gained from identifying and analyzing faces appearing within the image.” Ex. 1007

at 1:45-48. For example, Steinberg “detects and isolates the faces from the rest of the picture, and determines sizes and locations of the faces relative to other portions of the image or the entire image.” *Id.* at 7:56-58. And “[b]ased on information regarding detected faces, preferably separate modules of the system collect facial data and perform image enhancement operations based on the collected facial data.” *Id.* at 7:59-62.

Relevant here, Steinberg describes “a method of perfecting the auto focus mechanism of the adjustable optical system as part of an image capture process using face detection.” *Id.* at 11:11-50. Steinberg notes that the method may use a “weighted average.” *Id.*; *see also id.* at 23:46-61 (describing “applying some weighted average” when using auto focus). Steinberg also describes weighting “groups of pixels” “based on relative size[]” as part of “perfecting the exposure of an acquired digital image” and activating a “built-in flash unit.” *Id.* at 11:66-12:19. Steinberg also describes “using face detection to improve output or rendering parameters,” and that the process may include assigning faces “a weight based on size of the faces, location within the frame, other parameters described herein, etc., which define the importance of the face in relation to other faces detected.” *Id.* at 18:32-63. But Steinberg does not teach or suggest how, if at all, to use detected face “weight” or “importance” in calculating pixel attributes or other values.

Steinberg does not teach or suggest calculating a specific subject characteristic value using weighted distribution based on the size of specific subject areas. *See* Ex. 2001 ¶¶60-62.

**2. The Petition fails to show that Yano in view of Schroder and Steinberg renders obvious all limitations of any challenged claim.**

- a. Claim 8: The Petition fails to show that Yano in view of Schroder and Steinberg renders obvious “when a plurality of said specific subject areas are determined, said specific subject characteristic value calculation is executed using weighted distribution, wherein said weighted distribution is set according to a size of each specific subject area on each specific subject characteristic value of said plurality of specific subject areas” (claim 8[f]).**

The Petition fails to show that Yano in view of Schroder and Steinberg renders obvious “when a plurality of said specific subject areas are determined, said specific subject characteristic value calculation is executed using weighted distribution, wherein said weighted distribution is set according to a size of each specific subject area on each specific subject characteristic value of said plurality of specific subject areas.” Ex. 2001 ¶¶63-68. The Petition concedes that neither Yano nor Schroder teaches or suggests the limitation. *See* Pet. at 47-52; *see also* § VI.A.3.a, *supra*. And the Petition fails to show that Steinberg teaches or suggests calculating a specific subject characteristic value using weighted distribution based on the size of specific subject areas.

The Petition notes that Steinberg describes “a process where each of the faces [in an image] is given a weight based on size of the faces, location within the frame, other parameters described herein, etc., which define the importance of the face in relation to other faces detected.” Ex. 1007 at 18:59-63. But the Petition cites no evidence that suggests that Steinberg teaches using those weights to calculate a specific subject characteristic value or other attribute. The Petition cites two excerpts from Steinberg’s disclosure, neither of which describes calculating a specific subject characteristic value using weighted distribution based on the size of specific subject areas. *See* Pet. at 49. Steinberg discloses *no* calculation using its “weight” or “importance” designations. The Petition omits important context.

First, the Petition cites Steinberg at 12:9-19, which describes “a method of perfecting the exposure of an acquired digital image using face detection in the acquired image.” Ex. 1007 at 11:67-12:1. Steinberg provides that “[a]n analysis is performed of the corresponding attributes of the groups of pixels” (“image attributes may include exposure”), and Steinberg determines whether and to what extent to activate a built-in flash. *Id.* at 12:4-8. Steinberg states that “[t]he groups of pixels of faces may be given a certain weight based on weight criteria,” and “[t]he weight criteria may be calculated based on relative sizes of the groups of pixels.” *Id.* at 12:15-19. At most, Steinberg describes weighting pixel groups as part of setting exposure or using flash. The Petition cites no evidence that suggests

that Steinberg discloses calculating a specific subject characteristic value for a plurality of specific subject areas using the weight criteria. Ex. 2001 ¶66.

Second, the Petition cites Steinberg at 18:58-63, which describes detecting and marking faces in a captured image. *Id.* at 18:56-63. Steinberg explains that detecting “may be more than a binary process of selecting whether a face is detected or not[.] It may also be designed as part of a process where each of the faces is given a weight based on size of the faces,” “which define the importance of the face in relation to other faces detected.” *Id.* Steinberg does not describe *using* the weight assignments. Indeed, Steinberg goes on to state that—seemingly regardless of weight assignments—the process compares the face attributes to default values to “determine a potential transformation”; Steinberg describes no relationship between the weight assignments and the attributes. *Id.* at 19:8-12. The Petition cites no evidence that suggests that Steinberg discloses calculating a specific subject characteristic value for a plurality of specific subject areas using the weight assignments. Ex. 2001 ¶67.

Thus, the Petition fails to show that Yano in view of Schroder and Steinberg renders obvious “when a plurality of said specific subject areas are determined, said specific subject characteristic value calculation [of image data corresponding to said determined specific subject area] is executed using weighted distribution, wherein said weighted distribution is set according to a size of each specific

subject area on each specific subject characteristic value of said plurality of specific subject areas.”

**b. Claim 12**

The Petition fails to show that Yano in view of Schroder and Steinberg renders obvious “when a plurality of said specific subject areas are determined, said calculating said specific subject characteristic value is executed using weighted distribution, wherein said weighted distribution is set according to a size of each specific subject area on each specific subject characteristic value of said plurality of specific subject areas” (claim 12[f]). *See* § VI.B.2.a, *supra*; Ex. 2001 ¶69.

**c. Claims 13-16**

The Petition fails to show that Yano in view of Schroder and Steinberg renders obvious claim 12. Thus, the Petition fails to show that Yano in view of Schroder and Steinberg renders obvious claims 13-16, which depend from claim 12 (or from claim 13, which depends from claim 12). Ex. 2001 ¶69.

**d. Claim 18**

The Petition fails to show that Yano in view of Schroder and Steinberg renders obvious “when a plurality of said specific subject areas are determined, said specific subject characteristic value calculation is executed using weighted distribution, wherein said weighted distribution is set according to a size of each

specific subject area on each specific subject characteristic value of said plurality of specific subject areas” (claim 18[h]). *See* § VI.B.2.a, *supra*; Ex. 2001 ¶69.

**e. Claim 2**

The Petition fails to show that Yano in view of Schroder renders obvious claim 1, thus the Petition fails to show that Yano in view of Schroder renders obvious claim 2 (depends from claim 1). *See* § VI.A.3.a, *supra*; Ex. 2001 ¶70. The Petition relies on its Ground 1 arguments and adds Steinberg to show that the “specific subject characteristic value calculation is executed by obtaining a weighted average value of each specific subject characteristic value of a plurality of specific subject areas.” The Petition also fails to show that Steinberg discloses calculating a specific subject characteristic value using a weighted average, see § VI.B.2.a, *supra*, and for this independent reason, the Petition fails to show that Yano in view of Schroder and Steinberg invalidates claim 2. Ex. 2001 ¶70.

**C. Patent Owner has disclaimed claims 9 and 17 (Grounds 3 and 4).**

Patent Owner has disclaimed claims 9 and 17. Ex. 2002. Thus, the Board need not consider Grounds 3 and 4.

**D. The Petition does not establish a reasonable likelihood that Yano in view of Nakamura or Yano in view of Schroder and Nakamura renders obvious claim 10 (Grounds 5 and 6).**

**1. Nakamura: Overview**

Nakamura relates to “a method of extracting characteristic image data, such as density data or the like of a human face, which is used when a color original image is copied onto a color copy material or a black-and-white copy material.” Ex. 1009 at 1:10-15. Nakamura provides that “an object of the present invention is to provide a method of extracting characteristic image data in which only characteristic image data such as human face data is automatically extracted with high accuracy from a color original image such as a negative film.” *Id.* at 3:27-31. Nakamura describes a rudimentary process that includes “dividing a color original image into a plurality of pixels” and “breaking down” the pixels into their RGB values, dividing the image “into color regions having the same or similar hue values,” and “selecting at least one color region, which is a divided color region and which is a color region other than color regions which contact an outer edge of the color original image, and extracting data of the selected divided region as characteristic image data.” *Id.* at 3:41-52. Thus, Nakamura discloses extracting “characteristic image data.” *Id.* at 3:61-4:12.

Nakamura does not describe determining a specific subject area using a position of a target area for that subject for determination. Rather, Nakamura’s

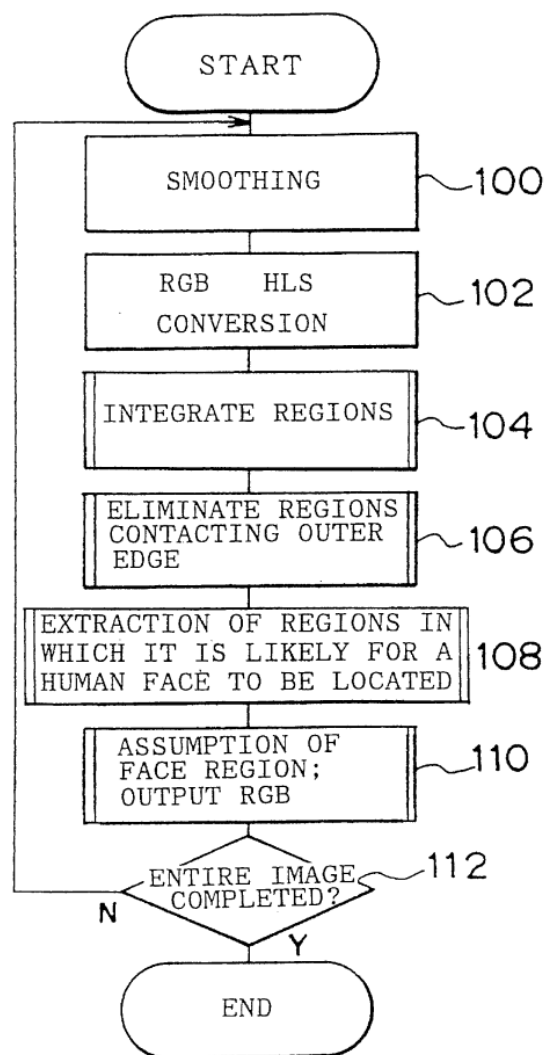
process *eliminates* regions and evaluates all remaining areas. Nakamura describes

(1) removing “regions contacting the outer edge of the original image” (step 106),

(2) extracting the remaining regions, “in which it is likely that a human face will be

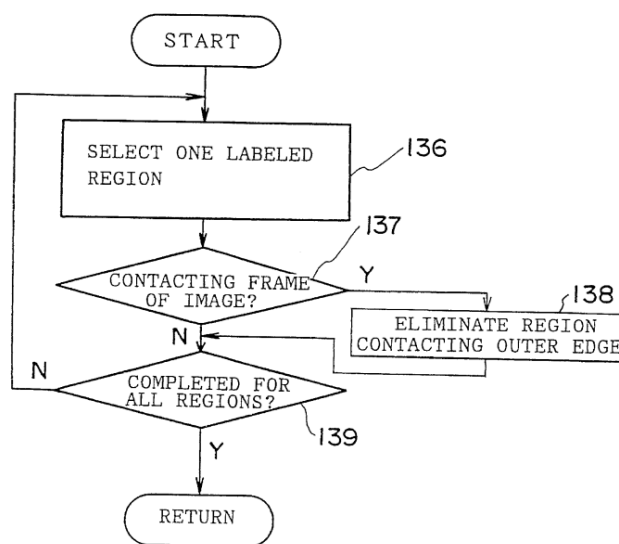
located” (step 108), and (3) *assuming* a face region (step 110):

FIG. 2



*Id.* at Fig. 2, 9:1-15. Figure 6 provides additional detail regarding Nakamura's "eliminate regions" step, disclosing that Nakamura processes "all of the regions," creating a "high probability that a characteristic image, e.g., a region including a face, remains." *Id.* at 10:64-11:19.

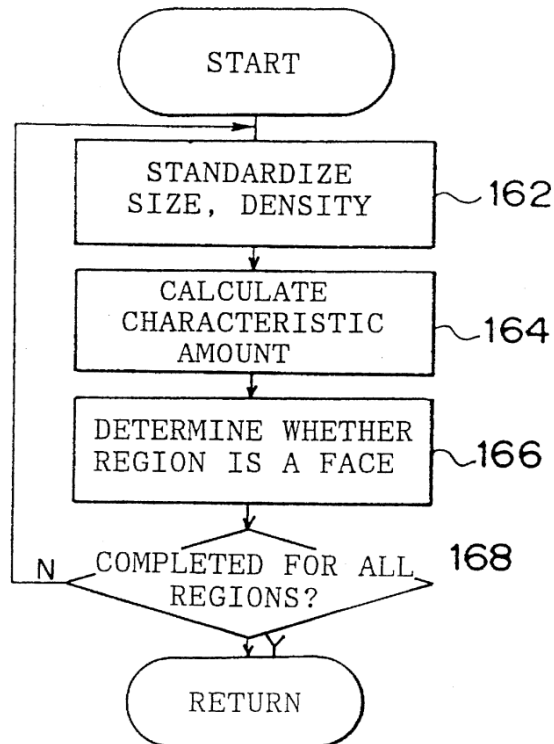
FIG. 6



*Id.* at Fig. 6.

Nakamura's process continues to eliminate regions, including, for example, "extremely small regions." *Id.* at 11:20-43, Fig. 7. Then Nakamura's process selects a region "as a region of notice." *Id.* at 11:44-46, Fig. 8. Nakamura does not describe how to select that region. Indeed, Nakamura selects the region and *then* determines whether it contains a human face. Nakamura repeats this process for all remaining image regions. *Id.* at 11:44-12:44.

FIG. 8



*Id.* at Fig. 8. *See also* Ex. 2001 ¶¶72-74.

2. The Petition fails to show that Yano in view of Nakamura or Yano in view of Schroder and Nakamura renders obvious all limitations of claim 10.
  - a. Claim 10: The Petition fails to show that Yano in view of Nakamura or Yano in view of Schroder and Nakamura renders obvious “wherein said specific subject area determination module determines said specific subject area using pixel values of pixel data included in a target area for determination, and a

**position of said target area in said photographed image” (claim 10[c]).**

The Petition concedes that Yano does not teach or suggest determining a specific subject area using “a position of said target area in said photographed image.” Pet. at 69-75. Instead, the Petition relies on Nakamura. But the Petition cites no evidence that shows that Nakamura teaches or suggests determining a specific subject area using “a position of said target area [for determination of a specific subject area] in said photographed image.” Telling, the Petition argues only that Nakamura discloses “exclusion of potential face regions that contact the outer edge of the image.” *Id.* at 72. The Petition confirms that Nakamura does *not* determine a specific subject area using position information for that target area for determination. Nakamura discloses the inverse: removing areas based on edge information and analyzing the remaining regions. Ex. 2001 ¶¶75-78.

Nakamura describes analyzing pixel data, creating “color regions,” and eliminating regions if the region contacts the image’s outer edge. Ex. 1009 at 3:39-4:12. The Petition cannot reconcile its arguments with Nakamura’s disclosure. Nakamura does not determine a specific subject area using position information *for the target area for determination*—rather, after eliminating “edge” regions, Nakamura checks all other regions, assumes that a “region of notice” appears “in a vicinity of the center of a color original image” and selects, seemingly at random, a

color region not for its position or its content but because *it remains for analysis*, i.e., it does not contact an outer edge. *Id.* Nothing in Nakamura considers a position of a target area for determination of a specific subject area in the image. Ex. 2001 ¶77.

Thus, the Petition fails to show that Yano in view of Nakamura discloses “wherein said specific subject area determination module determines said specific subject area using pixel values of pixel data included in a target area for determination, and a position of said target area in said photographed image.”

## VII. CONCLUSION

The Petition does not establish a reasonable likelihood that any of the challenged claims are unpatentable. The Board should deny institution.

Date: October 15, 2024

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IPR2024-00957

U.S. Patent No. 7,454,056

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## **CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION**

I certify that this Patent Owner's Preliminary Response complies with the word count limit and contains 4,921 words in 14-point Times New Roman font as calculated by the word count feature of Microsoft Office, in compliance with 37 C.F.R. § 42.24(a)(1)(i). This word count is inclusive of all text and footnotes but does not include the table of contents, table of authorities, certificate of service or word count, or appendix of exhibits or claim listing.

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**CERTIFICATE OF SERVICE**

I certify that on October 15, 2024, a copy of Patent Owner's Preliminary Response, including exhibits, was served in its entirety by electronic mail to Petitioner's counsel at the following addresses indicated in Petitioner's Mandatory Notices:

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