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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2015/031600

International filing date (day/month/year)
19.05.2015

Priority date (day/month/year)
27.05.2014

International Patent Classification (IPC) or both national classification and IPC
INV. G06F17/30 ADD. G06F17/00 H04N5/225 G03B19/02 H04N1/21

Applicant
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

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PCT/ISA/210

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2015/031600

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed.
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. ☐ forming part of the international application as filed:
 - ☐ in the form of an Annex C/ST.25 text file.
 - ☐ on paper or in the form of an image file.
 - b. ☐ furnished together with the international application under PCT Rule 13*ter*.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
 - ☐ in the form of an Annex C/ST.25 text file (Rule 13*ter*.1(a)).
 - ☐ on paper or in the form of an image file (Rule 13*ter*.1(b) and Administrative Instructions, Section 713).
4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-17, 19-29, 31-56</u>
	No: Claims	<u>18, 30</u>
Inventive step (IS)	Yes: Claims	<u>24-26, 28, 29, 33-35, 37, 38</u>
	No: Claims	<u>1-23, 27, 30-32, 36, 39-56</u>
Industrial applicability (IA)	Yes: Claims	<u>1-56</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item VI

Certain documents cited

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
WO2015/038351	19.03.2015	28.08.2014	27.05.2014
Present Application		19.05.2014	27.05.2014

- 1 Document D1 = WO2015/038351 indicated in the Search Report as a P-document (with priority date of 27.05.2014) is not to be regarded as state of the art according to Articles 33(2) and (3) PCT, as far as the date of priority claimed (27.05.2014) can be allowed for the relevant parts of the present application (see Rule 64(3) PCT).

D1 was published before the filing date of the present application, it was not published before the priority date of the present application; both have the same priority date, so D1 is only relevant for state of the art in accordance with Rule 70.10 PCT.

If the priority date of the present application would be invalid, the present application would not meet the criteria of Rule 70.10 PCT, because the subject-matter of all claims is not new in view of **D1 = WO2015/038351**, see D5 fig. 2 and pages 7-9 are identical with the present application figure 2 and pages 7-9.

Re Item VIII

Certain observations on the international application (clarity)

- 2 Although claims 1, 18, 40 (respectively 9, 30, 48) have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought and in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.
- 3 The application does not meet the requirements of Article 6 PCT, because claim 1 is not clear :

3.1 Support by the description

The description defines page 16 line 5, page 17 line 15 and figure 6, 8 "a graphic representative of said aspect ratio **and** said orientation".

i) But the description only defines in page 10 lines 10, 11, line 15 "***an inset rectangle 225 is inscribed within the overall sensor that is best-fit to the maximum boundaries of the sensor given the desired optimal aspect ratio for the given (current) orientation***".

Fig. 4, page 14 lines 3-5 define "An inscribed rectangle 440, as described previously, may also be overlaid on the image to indicate an aspect ratio of the image or video to be captured". There is here no mention of an orientation, contrary to the wording of claim 1 and contrary to the description pages 16-17, thus leading to subject matter in claim 1 not supported by the description, Article 6 PCT, or even to an unclear description Article 5 PCT.

ii) Moreover, the expressions "*inset rectangle 225* ", "*insert rectangle*", "*inscribed rectangle*" and "*a graphic representative of said aspect ratio **and** said orientation*" seem to refer to the same feature. However, the terminology and the signs must be consistent throughout the application, Rule 10.2 PCT.

3.2 In addition, figure 2 defines an inscribed square 225, not any inscribed rectangle, leading to an unclear claim, Article 6 PCT.

For example, the "maximum boundaries of the sensor" is nowhere defined in the description and can therefore not be used as a basis for the definition of the "inscribed rectangle". Thus, because of the potential contradiction between description and figure 2, the description may be deemed unclear, Article 5 PCT.

3.3 Essential feature

The content of the description page 10 lines 1-11, 21-23 is deemed to represent essential features to solve the problem posed in the description page 10 line 22 : "*the framing adjusts based on the dynamically provided aspect ratio*", merely stated as a result to be achieved in claim 1 lines 7-10 "***interpolating ...; overlaying ...***".

3.4 Antecedent & contradiction

Claim 1, the description page 15 line 20 - page 16 line 6 and fig. 6 define "*The fourth step is receiving data representing an aspect ratio (step 640)*".

However, The "***aspect ratio***" has no antecedent. It is not clear whether it is defined by the sensor (as in the description page 10 lines 2-4) or by the user (selected by the user as defined in page 10 lines 13-15; page

13 lines 7-8).

The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

3.5 Essential feature

The description page 10 line 2 defines that the aspect ratio is chosen, therefore user defined. This is considered an essential feature but is not defined in present claim 1.

3.6 Contradiction

The expression "**receiving data representing a video stream**" in claim 1 line 3 is vague and in contradiction with the description page 9 that defines "the user begins shooting" and page 2 line 4 "... video ... are recorded ...".

3.7 Vague and non technical feature

The expression "**framing**" in claims 6 & 40 is vague. "framing" refers to how the content is viewed or photographed and put into the field of vision : For instance either centered, close-up, panorama, portrait; it is a subjective and aesthetical concept depending on the content. Its meaning is not technical.

This expression leaves therefore the reader in doubt as to the meaning of the features to which it refers, thereby rendering the definition of the subject-matter of these claims unclear and non technical, Article 6 PCT.

Moreover, non technical features do not contribute to an inventive step.

3.8 Result to be achieved

The expression "**the framing ... is maintained**" in claim 40 represents a result to be achieved. Claim 40 does not meet the requirements of Article 6 PCT because the matter for which protection is sought is not clearly defined.

The claim attempts to define the subject-matter in terms of the result to be achieved, which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.

Moreover, the description page 4 line 9 confuses "framing" with the meaning of "orientation", either horizontal or vertical, or with "aspect ratio" (1:1 or 4:3 or 16:9) : A "close-up" framing for instance does not define whether its orientation is vertical or horizontal.

However, the wording ought to remain coherent throughout the description, figures and claims, Rule 10.2 PCT.

The description page 10-11 could form the basis for a clearer definition of the claimed subject matter.

3.9 Result to be achieved

The expression "**Interpolating an orientation**" in claim 1 and in page 15 fig. 6 represents a result to be achieved. Claim 1 does not meet the requirements of

Article 6 PCT because the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved, which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.

The description page 16 lines 18-20 provide the basis for a clearer claim.

4 Contradiction

The expression "**the framing ... is maintained by zooming ...**" in claims 7, 15, 27, 37, 42, 50 represents a contradiction in the claims because the expression "framing is maintained" means for instance close-up is maintained, but "zooming" means on the contrary that the framing will vary for instance from close-up to panorama. Therefore, the requirements of Article 6 PCT are not fulfilled.

The description page 13 lines 10-16 defines "no matter how the device is oriented, scene is zoomed in or out to keep consistent framing ... the object of interest would stay the same size ..." provides the basis for clear claims.

5 Essential feature

The expression in the description page 9 lines 15-19 "**visualizing the final output in an overlay on the device's viewfinder during shooting**" is deemed an essential feature to solve the problem merely stated by the result to be achieved in claim 1 line 4 "displaying a representation of said video stream".

6 Essential feature

It is clear from the description on page 9 line 18 that feature "**during shooting**" is essential to the definition of the invention. Since independent claim 1 does not contain this feature it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

7 Essential feature

It is clear from the description on page 12 lines 8, 9, 10, 17 that feature "**continuously synchronize**" is essential to the definition of the invention. Since independent claim 1 does not contain this feature it does not meet the requirement following from Article 6 PCT taken in combination with Rule 6.3(b) PCT that any independent claim must contain all the technical features essential to the definition of the invention.

- 8 There seem to be some contradictions in the description and claims, Article 6 PCT, among following concepts :
- Rendering (displayed Image) Aspect Ratio = 1:11 or 16:9 or 4:3 (screen width : screen length)
- Image Aspect Ratio = 1:11 or 16:9 or 4:3 (Width in pixels : Height in pixels)
- Orientation = Vertical / Horizontal
- Framing = close-up / panorama / ...
- Sensor Aspect Ratio = Sensor Width x Sensor Length (e.g. 24x36)
- Zooming = x Zoom-factor
- Interpolation of an orientation, page 15 fig. 6
- Interpolation of an intermediate orientation page 16,
- Interpolation dimensions between two optimal aspect ratio, page 10,
- 8.1 See also D2 = US2011193982 figs. 8A, 9B; D4 = US2007171293 page 2, §77; D10 = US2013238990 fig. 17 for the definitions of those concepts in the prior art.
- 9 The same reasoning applies, by analogy to the subject-matter of the corresponding **independent claims 9, 18, 30, 40, 48** which is therefore also considered not clear, Article 6 PCT.
- 10 Remark concerning independent apparatus claims 9, 30, 48 (Rule 6.4 PCT)
- 10.1 The apparatus defined in **independent claims 9, 30, 48** merely comprises an image sensor that captures a video stream; an inertial sensor that determines rotational values; a memory that stores data; and a processor.
- i) Such apparatus is notoriously known from commercially available cameras, for instance the camera of D2 = US2011193982 fig. 2 or D4 = US2007171293 fig. 3.
- ii) This apparatus is only characterised by the method that configures its processor to perform all the steps of the respective methods defined in claims 1, 18, 40.
- Therefore, since the apparatus claims have all the features of the corresponding method claims, they should be dependent thereof, Rule 6.4 PCT.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1 WO 2015/038351 A1 (THOMPSON LICENSING [FR]) 19 March 2015 (2015-03-19)
- D2 US 2011/193982 A1 (KOOK SEUNG-RYONG [KR] ET AL) 11 August 2011 (2011-08-11)
- D3 MARK ROBINS AND HEATHER BEAN: "Orientation locked video in digital still photography", RESEARCH DISCLOSURE, MASON PUBLICATIONS, HAMPSHIRE, GB, vol. 498, no. 72, 1 October 2005 (2005-10-01), XP007135559, ISSN: 0374-4353
- D4 US 2007/171293 A1 (OKAMOTO TEPPEI [JP]) 26 July 2007 (2007-07-26)
- D5 EP 0 738 075 A2 (EASTMAN KODAK CO) 16 October 1996 (1996-10-16)
- D6 US 2005/146620 A1 (MONROE DARRIN D [US] ET AL) 7 July 2005 (2005-07-07)
- D7 US 2011/279697 A1 (SHINGU JUN [JP] ET AL) 17 November 2011 (2011-11-17)
- D8 US 2008/246830 A1 (MARTIN ALEXIS [FR] ET AL) 9 October 2008 (2008-10-09)
- D9 US 2011/228112 A1 (KAHEEL AYMAN [EG] ET AL) 22 September 2011 (2011-09-22)
- D10 US 2013/238990 A1 (UBILLOS RANDY [US] ET AL) 12 September 2013 (2013-09-12)

Claim 1

- 11 Furthermore, the above-mentioned lack of clarity notwithstanding, the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33 (3) PCT, and the criteria of Article 33(1) PCT are therefore not met.
- 11.1 **D2 = US2011193982** is regarded as being the prior art closest to the subject-matter of claim 1, and discloses a method of processing a video stream comprising the steps of:
initiating capture of a video stream (D2 implicit);
receiving data representing a video stream (D2 §37; fig. 1);
displaying a representation of said video stream (D2 cl. 5, 8);

receiving data representing an aspect ratio (D2 cl. 2);
receiving data representing rotational position (D2 cl. 10 "*rotation information*");
~~—interpolating~~ (D2 cl. 2 "determining" is considered functionally equivalent to "interpolating"; §37 defines "rotates the image with the predetermined aspect ratio by a predetermined angle") *an orientation based on the received data representing rotational position, and*
- overlaying ~~a graphic representative of said aspect ratio and said orientation~~ over said representation of said video stream (D2 cl. 1 "*preview screen*").

- 11.2 The subject-matter of claim 1 therefore differs from this known video recording method in that
i - interpolating an orientation based on the received data representing rotational position;
and
ii - overlaying a graphic representative of said aspect ratio and said orientation over said representation of said video stream.
- 11.3 There are two partial problems to be solved by the present invention : They may therefore be regarded as :
i) to orientation-lock the pictures of a video stream to a user defined aspect ratio.
ii) to inform the user of an aspect ratio and of an orientation.
These partial problems are not interrelated.
- 11.4 The solution proposed in claim 1 of the present application is considered not to involve an inventive step (Article 33(3) PCT) for the following reasons .
- 11.4.1 i) **D3 = XP7135559** page 2 and the figure on D3 page 2 defines interpolating an orientation based on the received data representing rotational position ; Since D3 page 1 defines "*a digital camera with the ability to detect and record its angular orientation*", the person skilled in the art of video aspect ratio would make use of the teaching of **D3** in the method of **D2** without making use of inventive skills.
- 11.4.2 ii) **D4 = US2007/171293** defines the display of an aspect ratio and of an orientation for a still picture camera, see D4 fig. 5, 6; claim 8 "*photo information*" : This feature has already been employed for the same purpose in a similar apparatus.
The object of the disclosure of D4 is to compensate for a rotation between captures.

Since it is notorious that modern cameras like the one of D4 fig. 1 enable

also video recording, and looking to inform the user of an orientation, It would be obvious to the person skilled in the art of image recording, namely when the same result is to be achieved, to apply these features of D4 with corresponding effect to a video recording according to **D2**, thereby arriving at a method for overlaying aspect ratio and orientation according to claim 1.

Independent Claim 9

- 12 Notwithstanding the above-mentioned lack of clarity, and in view of **D2 = US2011193982** §64, the same reasoning applies by analogy with the subject matter of claim 1 to the subject-matter of the corresponding apparatus **independent claim 9** which is therefore also considered not to involve an inventive step.

Independent Claim 40

- 13 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **independent claim 40** does not involve an inventive step in the sense of Article 33(3) PCT.
- 13.1 **D4 = US2007/171293** is regarded as being the prior art closest to the subject-matter of claim 40, and discloses a method of processing a **video-stream** [photograph] comprising the steps of:
initiating capture of a ~~video-stream~~ (D4);
receiving data representing a ~~video-stream~~ photograph (D4 §40);
displaying a representation of said ~~video-stream~~ (D4 §75, §77);
receiving data representing an aspect ratio (D4 §4; §78, 79) ;
receiving data representing rotational position (D4 §44); and
~~overlaying a graphic representative of said aspect ratio and said rotational position over said representation of said video-stream~~, wherein **framing** of the video is maintained in the overlaid graphic representation (D4 §78).
- 13.2 The subject-matter of claim 40 therefore differs from this known video recording method in that
i - a method of processing a video stream instead of a photograph;
iii-wherein framing of the video is maintained in the overlaid graphic representation.
ii - overlaying a graphic representative of said aspect ratio and said orientation over said representation of said video stream.

- 13.3 There are two partial problems to be solved by the present invention : They may therefore be regarded as :
- i) to record a video stream.
 - ii) to inform the user of an aspect ratio and of an orientation.
- These partial problems are not interrelated.

- 13.4 The solution proposed in claim 40 of the present application is considered not to involve an inventive step (Article 33(3) PCT) for the following reasons :

- 13.4.1 i) **D2 = US2011/0193982** defines that modern cameras are able to process both video and photographic data, see also D2 §64, fig. 4.

- 13.4.2 ii) **D4 = US2007/171293** defines the display of an aspect ratio and of an orientation for a still picture camera, see D4 fig. 5, 6; claim 8 "*photo information*" : This feature has already been employed for the same purpose in a similar apparatus.
The object of the disclosure of D4 is to compensate for a rotation between captures.

Since it is notorious that modern cameras like the one of D4 fig. 1 enable also video recording, and looking to inform the user of an orientation, It would be obvious to the person skilled in the art of image recording, namely when the same result is to be achieved, to apply these features of D4 with corresponding effect to a video recording according to **D4**, thereby arriving at a method for overlaying aspect ratio and orientation according to claim 1.

- 13.4.3 iii) **D4 = US2007/171293** : The feature "wherein **framing** of the video is maintained in the overlaid graphic representation" is considered equivalent to the feature defined in D4 §77 "*it is preferable that the aspect ratio of the monitor 20 be higher than a reciprocal number of the aspect ratio of the image receiving area in order to prevent the displayed static image of wide width from being too small.*"

A zooming is de facto provided by modifying the aspect ratio of the monitor in D4.

Since the embodiments of D4 deal with the general problem of image visualizing and recording, and looking to optimise the user experience, It would be obvious to the person skilled in the art of image recording, namely when the same result is to be achieved (to maintain a subject size), to apply these features of D4 with corresponding effect to an image recording according to **D4**, thereby arriving at the method according to claim 40.

Other Prior Art

- 14 **D9 = US2011/0228112** defines a method of processing a video stream comprising the steps of:
initiating capture of a video stream (D9 fig. 1 implicit);
receiving data representing a video stream (D9 figs. 1, 4 implicit);
displaying a representation of said video stream (D9 fig. 1 "130");
receiving data representing rotational position (D9 fig. 1 "orientation information 110");
- 14.1 The subject-matter of **independent claim 40** therefore differs from this known method known from D9 in that
overlaying a graphic representative of said aspect ratio and said rotational position over said representation of said video stream, wherein framing of the video is maintained in the overlaid graphic representation.
receiving data representing an aspect ratio;

Independent Claim 48

- 15 Notwithstanding the above-mentioned lack of clarity, and in view of **D4 = US2007/171293** figs. 1-4, the same reasoning applies by analogy with the subject matter of **independent method claim 40** to the subject-matter of the corresponding apparatus **independent claim 48** which is therefore also considered not to involve an inventive step.
- 16 The **dependent claims 2-8, 10-17, 41-47, 49-56**, apart of those dependent claims comprising essential features, do not contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of Article 33(1) PCT, the reasons therefore are that their features have already been employed for the same purpose in the prior art or consist of slight constructional changes which come within the scope of the customary practice followed by persons skilled in the art (Article 33(3)PCT). See for instance:
- 16.1 Claims 2, 10, 41, 49 (aspect ratio changes in response to orientation) : This is the normal case in the prior art, see
D2 = US2011193982 fig. 9B;
D5 = EP0738075 fig. 1;
D4 = US2007171293 figs. 5, 6 & 7, 8.
- 16.2 Claims 3, 11, 42, 50 (interpolation, average velocity) : New.
- 16.3 Claims 4, 12, 43, 51 (interpolation, time stamp) : New.

- 16.4 Claims 5, 13, 44, 52 (interpolation, content analysis) : In the claims, "Image analysis" has no effect on overlaying, contrary to the description page 12 lines 14-20 where "Image analysis" has an effect on the orientation detection, Article 6 PCT.
New.
- 16.5 Claims 6, 14, 45, 53 (maintain framing) :
D2 = US2011193982 figs. 7, 8A, 9B, § [0091] "*the horizontal or vertical image information is used to rescale the vertical size of an image according to the height of a display screen (730)*";
D3 = XP007135559 page 2 defines that a horizon is maintained;
D9 = US2011228112 fig 5 "510";
D4 = US2007/171293 §77; D10 = US2013238990 fig. 63, 64.
D8 = US2008246830 fig. 3, §47 (rotation), §52, 55 "reframing".
- 16.6 Claims 7, 15, 46, 54 (zooming) : New.
- 16.7 Claims 8, 16, 47, 55 (cropping) : New.
- 16.8 Claims 17, 56 (viewfinder overlay) : Notorious feature in commercially available camera, see D4 fig. 6;
See also D7 = US2011279697 fig. 9 that defines a graphical overlay showing image aspect ratio and sensor size.

Independent Claim 18

- 17 The above-mentioned lack of clarity notwithstanding, the subject-matter of **independent claim 18** is **not new** in view of **D5, D6 or D9** in the sense of Article 33(2) PCT, and the criteria of Article 33(1) PCT are therefore not met.
- 17.1 **D6 = US2005/0146620** defines a method comprising the steps of:
initializing a capture mode (D6 claim 1; §5 photographs);
receiving data representing an image (D6 claim 1);
receiving data representing rotational position (D6 claim 1);
deactivating said capture mode (D6 implicit);
interpolating an orientation of the image based on rotational position data (D6 §26 "calculations");
rotating said image in response to said interpolated orientation to generate a rotated image (D6 §26; claim 1; claim 9); and
storing said rotated image (D6 claim 10).

- 17.2 D5 = EP0738075 defines a method (D5 §1 photography) comprising the steps of:
initializing a capture mode (D5 implicit fig. 3);
receiving data representing an image (D5 claim 8);
receiving data representing rotational position (D5 claims 3, 5);
deactivating said capture mode (D5 implicit in fig. 3 "expose CCD");
interpolating (D5 fig. 7) an orientation of the image based on rotational position data (D5 claim 1; page 5 left column);
rotating said image in response to said interpolated orientation to generate a rotated image (D5 claim 1; fig. 3); and
storing said rotated image (D5 fig. 3).
- 17.3 D9 = US2011/0228112 defines a method comprising the steps of:
initializing a capture mode (D9 claim 1);
receiving data representing an image (D9 claim 1; §6 "*for each of multiple video images*");
receiving data representing rotational position (D9 claim 1);
deactivating said capture mode (D9 implicit);
interpolating an orientation of the image based on rotational position data (D9 §31-39);
rotating said image in response to said interpolated orientation to generate a rotated image (D9 §42; claim 1); and
storing said rotated image (D9 claim 7; §6

Independent Claim 18

- 18 Notwithstanding the above-mentioned lack of clarity, the same reasoning applies, by analogy to the subject-matter of the corresponding **independent claim 30** which is therefore also considered not new.
- 19 The **dependent claims 19-29, 31-39**, apart of the dependent claims comprising essential features, do not contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of Article 33(1) PCT, the reasons therefore are that their features have already been employed for the same purpose in the prior art or consist of slight constructional changes which come within the scope of the customary practice followed by persons skilled in the art (Article 33(3)PCT). See for instance:

- 19.1 Claim 19 (displaying) : The mere display of information does not contribute to an inventive step.
- 19.2 Claims 20 : Augmented reality feature, presumably corresponding to figure 4 of the description. A camera viewfinder of D7 figs. 8, 9 provides this feature. See also D10 fig. 17; §224.
- 19.3 Claims 21, 31 (AR changes with rotation) : Rotation is considered here equivalent to orientation. This is the normal case in the prior art :
D2 = US2011193982 fig. 9B;
D5 = EP0738075 fig. 1;
D4 = US2007171293 figs. 5, 6 & 7, 8.
- 19.4 Claim 22 (frame of a video) : Notorious in the prior art, see for example D9 = US2011228112 §6 "**for each of multiple video images**".
- 19.5 Claims 23, 32 (interpolate begin & end) : New, but not unexpected with the sampled inertial/gyroscopic sensor of commercially available cameras.
- 19.6 Claims 24, 33 (average velocity) : New.
- 19.7 Claims 25, 34 (time stamp) : New, but not unexpected with any sampled inertial sensor.
- 19.8 Claims 26, 35 (image content analysis) : New.
- 19.9 Claims 27, 36 (maintain framing) :
D2 = US2011193982 figs. 7, 8A, 9B, § [0091] "*the horizontal or vertical image information is used to rescale the vertical size of an image according to the height of a display screen (730)*";
D3 = XP007135559 page 2 defines that a horizon is maintained;
D9 = US2011228112 fig 5 "510";
D4 = US2007/171293 §77;
D8 = US2008246830 fig. 3, §47 (rotation), §52, 55 "reframing".
D10 = US2013238990 fig. 63, 64.
- 19.10 Claims 28, 37 (zooming) : New.
- 19.11 Claims 29, 38 (cropping) : New.
- 19.12 Claim 39 (a display) : Notorious in the prior art, see D4 figs. 7, 8.

Re Item VII

Certain defects in the international application (form, content)

- 20 Figure 2 reference "250" does not correspond to figure 2 reference "250" of D1 having the same priority.