

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

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

To:

see form PCT/ISA/220

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/US2018/052019

International filing date (day/month/year)  
20.09.2018

Priority date (day/month/year)  
29.09.2017

International Patent Classification (IPC) or both national classification and IPC  
INV. G06T11/00 G06T19/00

Applicant  
QUALCOMM INCORPORATED

**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 43*bis*.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 66.1*bis*(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.

Name and mailing address of the ISA:



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Date of completion of this opinion

see form PCT/ISA/210

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**Box No. I Basis of the opinion**

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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 43bis.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 13ter.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 13ter.1(a)).
    - on paper or in the form of an image file (Rule 13ter.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:

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**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**

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1. Statement

Novelty (N)	Yes: Claims	<u>9-13</u>
	No: Claims	<u>1-8, 14-30</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-30</u>
Industrial applicability (IA)	Yes: Claims	<u>1-30</u>
	No: Claims	

2. Citations and explanations

see separate sheet

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**Box No. VII Certain defects in the international application**

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

see separate sheet

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**Box No. VIII Certain observations on the international application**

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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 V**

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

Reference is made to the following document:

- D1 US 2011/164163 A1 (BILBREY BRETT [US] ET AL) 7 July 2011 (2011-07-07)
- D2 US 2009/322671 A1 (SCOTT KATHERINE [US] ET AL) 31 December 2009 (2009-12-31)
- D3 EP 2 983 139 A1 (SONY CORP [JP]) 10 February 2016 (2016-02-10)

**1 Lack of Novelty (Art. 33(2) PCT), Inventive Step (Art. 33(3) PCT)**

1.1 The present application does not meet the criteria of Article 33(2) PCT, because the subject-matter of **claims 1,14,20,28** is not new.

1.2 **D1** discloses the subject matter of **claim 1**:

*A method for displaying, in a mobile device, an augmented image, the method comprising:*

(abstract, Fig. 1A-C, [0002])

*capturing, by a camera of the mobile device, an image of a live scene; displaying the augmented image based on the captured image, the augmented image including at least one auxiliary object docked to a feature comprising a physical object visible in the captured image; and*

([0014-0016], [0022] "information layer (...) aligned" equates to "docked to a feature")

*updating the augmented image as the mobile device is moved, wherein the at least one auxiliary object remains docked to the feature as the augmented image is updated.*

([0022] "redraw the information layer" equates to "updating", "annotations remain properly aligned with their respective objects" equates to "docked")

1.3 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 14,20,28, which therefore are also considered not new.

- 1.4 The subject matter of the independent claims lacks also novelty over **D2** and **D3** (cf. the search report). Given the breadth of the claim wording, which amounts to displaying AR images on a mobile device in real-time with a proper alignment of annotations/objects, this can be even considered common knowledge.
- 1.5 The following dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (Art. 33(2) PCT):

Claims 2,15,16,21,22,29	<b>D1</b> [0014,0026]
Claim 3	<b>D1</b> Fig. 2A
Claim 4,23	<b>D1</b> [0031]
Claims 5,6,18,24	<b>D1</b> Fig. 2A, [0030-0033] "current location" implying an update
Claim 7,30	<b>D1</b> [0017]
Claim 8,25,26	<b>D1</b> Fig. 2A "You" equates to "tag"
Claim 10,27	<b>D1</b> [0022-0023], the "3D perspective view" implying that annotations outside the view frustum are clipped
Claim 17	<b>D1</b> [0020,0051,0056]

- 1.6 The following dependent claims do meet the requirements of the PCT in respect of inventive step (Art. 33(3) PCT). It has to be noted that although a technical problem is formulated, a technical effect of these claims is not acknowledged, i.e. they relate to presentation of information by well-known computer graphics techniques.
- 1.6.1 **Claim 9:** technical problem: modifying the graphical presentation of annotations/AR objects, independently scaling a rendered graphical object is part of the common knowledge.

- 1.6.2 **Claim 11:** technical problem: preventing the loss of annotation information when the camera view changes, the claimed solution amounts to a modified graphical layout of the AR image which provides no technical effect (mere cognitive content) and is a design option in graphical user interfaces.
- 1.6.3 **Claim 12:** see the reasoning for claim 9, the scaling of 3D graphics objects (cf. **D1** Fig. 2A) in case of forward/backward camera movements is obvious and common knowledge.
- 1.6.4 **Claim 13:** see the reasoning for claim 9, modifying the orientation of 3D graphics objects in case of different camera orientations is obvious and common knowledge.

### **Re Item VII**

#### **Certain defects in the international application**

In case of further prosecution of the application the following points should be observed.

- 2 The independent claims are not drafted in two-part form (Rule 6.3(b) PCT).
- 2.1 Reference signs are missing in the claims (Rule 6.2(b) PCT).
- 2.2 **D1** has not been acknowledged and its relevant content is not discussed in the opening part of the description (Rule 5.1(i) PCT).
- 2.3 In case of amended claims, the description should be adapted accordingly (Art. 6 PCT).
- 2.4 In case of amendments, the amendments carried out have to be clearly identified and the passages of the application as filed on which these amendments are based must be indicated.

### **Re Item VIII**

#### **Certain observations on the international application**

- 3 **Lack of Clarity, Support (Art. 6 PCT)**
- 3.1 Present **claim 1** fails to indicate that the method is "*computer-implemented*" and covers the case where the entire method or method steps are performed manually, whereas the description only discloses and supports the case where the method is performed by a computer.

- 3.2 **Claims 1,14,20,28** have been drafted as independent claims. The presence of different features, or apparently partially corresponding features in different independent claims, some of which are moreover of the same category, leads to a lack of clarity as to what should be considered to be the features necessary to the invention and how those features are to be defined. Thus the matter of protection is unclear.
- 3.3 In **claim 20** the wording "means for" is unclear as this has the meaning of "suitable for" and thus applies to any kind of camera, computer etc. The wording "means adapted/configured to" is missing.