PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)
(PCT Rule 44bis)

Applicant’s or agent’s file reference
ATOXZ-1861

FOR FURTHER ACTION

International application No.
PCT/US2016/039777

International filing date (day/month/year)
06 June 2016 (06.06.2016)

Priority date (day/month/year)
22 June 2015 (22.06.2015)

International Patent Classification (8th edition unless older edition indicated)
See relevant information in Form PCT/ISA/237

Applicant
WAYMO LLC

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 9 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

☒ Box No. I Basis of the report
☐ 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 Article 35(2) with regard to novelty, inventive step or 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

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

Date of issuance of this report

Authorized officer

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Form PCT/IB/373 (January 2004)
PATENT COOPERATION TREATY

INTERNATIONAL SEARCHING AUTHORITY

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

Date of mailing (day/month/year) 29 September 2016 (29.09.2016)

Applicant's or agent's file reference ATOZX-1861

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2016/035977

International filing date (day/month/year) 06 June 2016 (06.06.2016)

Priority date (day/month/year) 22 June 2015 (22.06.2015)

International Patent Classification (IPC) or both national classification and IPC
G05D 1/00(2006.01)I, G05D 1/02(2006.01)I, G06Q 50/30(2012.01)I

Applicant
GOOGLE INC.

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 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.

Name and mailing address of the ISA/KR
International Application Division
Korean Intellectual Property Office
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Date of completion of this opinion 29 September 2016 (29.09.2016)

Authorized officer
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Form PCT/ISA/237 (cover sheet) (January 2015)
Box No. 1 Basis of this 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))

☐ 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:
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) | Claims | YES |
| Inventive step (IS) | Claims | 1-20 |
| Industrial applicability (IA) | Claims | 1-20 |

2. Citations and explanations:

Reference is made to the following documents:

D1: US 8880270 B1 (GOOGLE INC.) 04 November 2014
D2: US 8935034 B1 (GOOGLE INC.) 13 January 2015
D3: US 8688306 B1 (PHILIP NEMEC et al.) 01 April 2014

1. Novelty and Inventive Step

1.1. Claim 1

D1, which is considered to be the closest prior art to the subject matter of claim 1, discloses that a system comprises:

memory storing detailed map information identifying a plurality of predetermined locations where a vehicle is able to pick up or drop off passengers ('data storage storing the possible destination from the list of possible destinations': see claim 10 and figure 2 in D1).

The features of claim 1 not yet compared above are not explicitly disclosed in D1, but they can be easily derived from the features of D1 and D2 in analogous art as follows: one or more server computers each having one or more processors, the one or more server computers being location ('control system including a processor': see figure 5 in D1) configured to:

receive a request from a client computing device, the request identifying a first location ('receiving, by the one or more computing devices, a request to navigate between the first location and a second location': see claim 11 and figure 1 in D2):

select a set of one or more suggested locations by comparing the predetermined locations to the first location: and provide the set of one or more suggested locations to the client.
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:

Claim 7 is unclear because 'the scoring' has not been previously defined. Therefore, claim 7 does not meet the requirements of PCT Article 6.

(NOTE: The international search report and the written opinion have been established on the assumption that claim 7 refers to claim 6.)
computing device (‘determining the possible destination from the list of possible destinations’: see claim 10 in D1).

Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1 and D2, thereby arriving at the claim. Therefore, claim 1 lacks an inventive step under PCT Article 33(3).

1.2. Claims 2–12

Claims 2–12 are directly or indirectly dependent on claim 1.

The additional feature of claim 2 is not explicitly disclosed in D1 and D2, but this feature is merely matters of design option in view of the feature of D3 in analogous art (‘the autonomous driving computer may display route options, including the predetermined route and the alternate route. The user may then select from one of the route options. The selected route may be received by the autonomous driving computer’: see column 5, lines 34-38).

The additional features of claims 3–8 can be easily derived from the features of D3 (‘the autonomous driving computer may display the route options, including the predetermined route and the alternate route, the user may then select from one of the route options, and the selected route may be received by the autonomous driving computer, wherein one or more alternative routes with deviation values at or below the maximum deviation threshold may be presented to the user’: see column 5, lines 34-38: column 14, lines 41-43).

The additional features of claims 9–10 can be easily derived from the features of D3 (‘the autonomous driving computer may display the route options, including the predetermined route and the alternate route, the user may then select from one of the route options, and the selected route may be received by the autonomous driving computer’: see column 5, lines 34-38).

The additional feature of claim 11 can be easily derived from the features of D1 (‘determining the possible destination from the list of possible destinations’: see claim 10) and D3 (‘once the vehicle has arrived at the destination, the vehicle may drop the particular occupant off at the destination’: see column 15, lines 52–53).

Continued on The Next Page
The additional feature of claim 12 can be easily derived from the feature of D1 ('determining the possible destination from the list of possible destinations': see claim 10).

Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1, D2 and D3 to arrive at claims 2-11, and to combine the disclosures of D1 and D2 to arrive at claim 12. Therefore, claims 2-12 lack an inventive step under PCT Article 33(3).

1.3. Claim 13

D1, which is considered to be the closest prior art to the subject matter of claim 13, discloses that a computer-implemented method comprises:
accessing, by one or more processors of one or more server computing devices, detailed map information identifying a plurality of predetermined locations where a vehicle is able to pick up or drop off passengers ('data storage storing the possible destination from the list of possible destinations': see claim 10 and figure 7A in D1).

The features of claim 13 not yet compared above are not explicitly disclosed in D1, but they can be easily derived from the features of D1, D2 and D3 in analogous art as follows:
receiving, by the one or more processors, a request from a client computing device, the request identifying a first location ('receiving, by the one or more computing devices, a request to navigate between a first location and a second location': see claim 11 in D2);
selecting, by the one or more processors a set of one or more suggested locations by comparing the predetermined locations to the first location ('determining the possible destination from the list of possible destinations': see claim 10 in D1) and identifying predetermined locations of the plurality of predetermined locations that are within a threshold distance of the first location and closest to the first location ('the autonomous driving computer may display route options, including the predetermined route and the alternate route. The user may then select from one of the route options. The selected route may be received by the autonomous driving computer': see column 5, lines 34-38 and figure 1 in D3);
providing, by the one or more processors, the set of one or more suggested locations to the client computing device ('providing the possible destination from the list of possible destinations': see claim 10 in D1).

Accordingly, it would be obvious to a person skilled in the art to combine the
disclosures of D1, D2 and D3 to arrive at claim 13. Therefore, claim 13 lacks an inventive step under PCT Article 33(3).

1.4. Claims 14–19

Claims 14–19 are directly or indirectly dependent on claim 13.

The additional feature of claim 14 can be easily derived from the features of D3 (‘the autonomous driving computer may display route options, including the predetermined route and the alternate route. The user may then select from one of the route options. The selected route may be received by the autonomous driving computer’: see column 5, lines 34–38).

The additional features of claims 15–19 can be easily derived from the features of D3 (‘the autonomous driving computer may display route options, including the predetermined route and the alternate route, the user may then select from one of the route options, and the selected route may be received by the autonomous driving computer, wherein one or more alternative routes with deviation values at or below the maximum deviation threshold may be presented to the user’: see column 5, lines 34–38: column 14, lines 41–43).

Accordingly, it would be obvious to a person skilled in the art to combine the disclosures of D1, D2 and D3 to arrive at claims 14–19. Therefore, claims 14–19 lack an inventive step under PCT Article 33(3).

1.5. Claim 20

D1, which is considered to be the closest prior art to the subject matter of claim 20, discloses that a non-transitory, tangible, computer readable medium comprises: accessing detailed map information identifying a plurality of predetermined locations where a vehicle is able to pick up or drop off passengers (‘data storage storing the possible destination from the list of possible destinations’: see claim 10 and figure 7A in D1).

The features of claim 20 not yet compared above are not explicitly disclosed in D1, but they can be easily derived from the features of D1, D2 and D3 in analogous art as follows:

one or more processors to perform a method, the method (‘control system including a
processor’; see figure 5 in D1) comprises:
receiving a request from a client computing device, the request identifying a first location
‘receiving, by the one or more computing devices, a request to navigate between a first
location and a second location’; see claim 11 in D2);
selecting a set of one or more suggested locations by comparing the predetermined
locations to the first location (‘determining the possible destination from the list of
possible destinations’; see claim 10 in D1);
sco
r block of the plurality predetermined locations based on a first plurality of
factors related to the difficulty in a person reaching a respective given one for the
identified predetermined locations from the first location (‘the autonomous driving
computer may display route options, including the predetermined route and the alternate
route. The user may then select from one of the route options. The selected route may
be received by the autonomous driving computer’; see column 5, lines 34-38 and figure 1
in D3);
providing the set of one or more suggested locations to the client computing device; and
providing instructions to a vehicle to stop at the first location (‘providing the possible
destination from the list of possible destinations’; see claim 10 in D1).

Accordingly, it would be obvious to a person skilled in the art to combine the
disclosures of D1, D2 and D3 to arrive at claim 20. Therefore, claim 20 lacks an
inventive step under PCT Article 33(3).

2. Industrial Applicability

Claims 1-20 are industrially applicable under PCT Article 33(4).