

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FACEBOOK, INC.,
Petitioner,

v.

THADDEUS GABARA,
Patent Owner.

IPR2021-00201
Patent 8,836,698 B2

Before BART A. GERSTENBLITH, JOHN D. HAMANN, and
FREDERICK C. LANEY, *Administrative Patent Judges*.

GERSTENBLITH, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background

Facebook, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting institution of *inter partes* review of claims 1–20 (“the Challenged Claims”) of U.S. Patent No. 8,836,698 B2 (Ex. 1001, “the ’698 patent”). Thaddeus Gabara (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).¹

An *inter partes* review may be instituted only if “the information presented in the petition . . . and any [preliminary] response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). For the reasons given below, Petitioner has not established a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims of the ’698 patent. Accordingly, we do not institute an *inter partes* review.

B. Related Proceedings

Petitioner and Patent Owner identify the following related matter: *Gabara v. Facebook, Inc.*, No. 2020-2333 (Fed. Cir.), which is an appeal from *Gabara v. Facebook, Inc.*, No. 19-cv-09890 (S.D.N.Y.). Pet. 1; Paper 5 (Patent Owner’s Mandatory Notices), 1. Petitioner challenges claims of related patents—U.S. Patent Nos. 8,930,131 B2; 8,706,400 B1; and 8,620,545 B1—in IPR2021-00116, IPR2021-00118, and IPR2021-00200, respectively. Paper 5, 1–2. Additionally, Petitioner and Patent Owner are

¹ Petitioner requested, but was not authorized, to file a preliminary reply to the Preliminary Response because Petitioner did not establish good cause for its request. Paper 8.

also the parties in IPR2021-00117, wherein Petitioner challenges claims of unrelated U.S. Patent No. 9,299,348 B2.

C. Real Parties in Interest

Petitioner identifies Facebook, Inc. as the real party in interest. Pet. 1. Patent Owner identifies Thaddeus Gabara as the real party in interest. Paper 5, 1.

D. The Asserted Grounds of Unpatentability and Declaration Evidence

Petitioner challenges the patentability of claims 1–20 of the ’698 patent on the following grounds:

Claim(s) Challenged	35 U.S.C. §²	Reference(s)/Basis
1–6, 8–13, 15–18	103(a)	Kim, ³ Roussos ⁴
7, 14, 19, 20	103(a)	Kim, Roussos, Hakala ⁵

Pet. 3. Petitioner supports its challenge with a Declaration by Sandeep Chatterjee, Ph.D. (Ex. 1002).

² The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Because the ’698 patent has an effective filing date before March 16, 2013, we apply the pre-AIA version of the statutory basis for unpatentability.

³ KR Patent No. 10-2006-0027180, filed Sept. 22, 2004, issued Mar. 27, 2006. Petitioner filed a certificate of translation with the original Korean-language document as Exhibit 1009. We refer to the English-language translation, filed as Exhibit 1004 (“Kim”).

⁴ Giannis Roussos, et al., *3D Navigation and Collision Avoidance for nonholonomic aircraft-lift vehicles*, 24 INT. J. ADAPT. CONTROL SIGNAL PROCESS. 900 (2010) (Ex. 1005, “Roussos”).

⁵ U.S. Patent No. 6,452,544 B1, issued Sept. 17, 2002 (Ex. 1006, “Hakala”).

E. The '698 Patent

The '698 patent is directed to a method and apparatus for identifying a 3-D object from a 2-D display of a portable unit. Ex. 1001, code (54). The '698 patent explains that touch screens on portable devices have been used to change the scale and location of maps displayed on those devices, but that “minimization and magnification processes may cause the user to lose bearing, particularly since the distance between locations is difficult to sense from scrolling the map across the screen of a portable device.” *Id.* at 1:43–47. The '698 patent is intended to help “overcome this shortcoming in current portable systems for providing map directions.” *Id.* at 1:47–49.

One embodiment of the '698 patent “introduces a background map that remains stationary.” Ex. 1001, 1:64–65. A portable unit is moved within a plane parallel to the screen of the unit and as the unit is moved, “images of the background map appear on the screen of the portable device.” *Id.* at 1:64–2:1. The '698 patent describes that “[t]he handheld or portable unit is like a Sliding Window which provides a view of this image of a stationary map lying in the background of the portable unit.” *Id.* at 2:11–14.

Another embodiment of the '698 patent “is to view a stationary three dimensional (3-D) background image by moving the handheld unit within a three dimensional (3-D) space.” Ex. 1001, 2:62–64. In this embodiment, “[t]he map would be three dimensional and would correspond in scale to the display screen of the portable unit.” *Id.* at 2:64–66. The '698 patent explains that “[t]he third dimensional can be viewed by moving the device perpendicular to the plane of the screen of the portable device forming a rectangular cuboid Thus, slices of the volume of the 3-D image are viewed.” *Id.* at 2:66–3:3. Additionally, “the user can view the map in the

XY plane, XZ plane, YZ plane or any angled plane between these three axes.” *Id.* at 3:3–5.

Figure 6a is reproduced below:

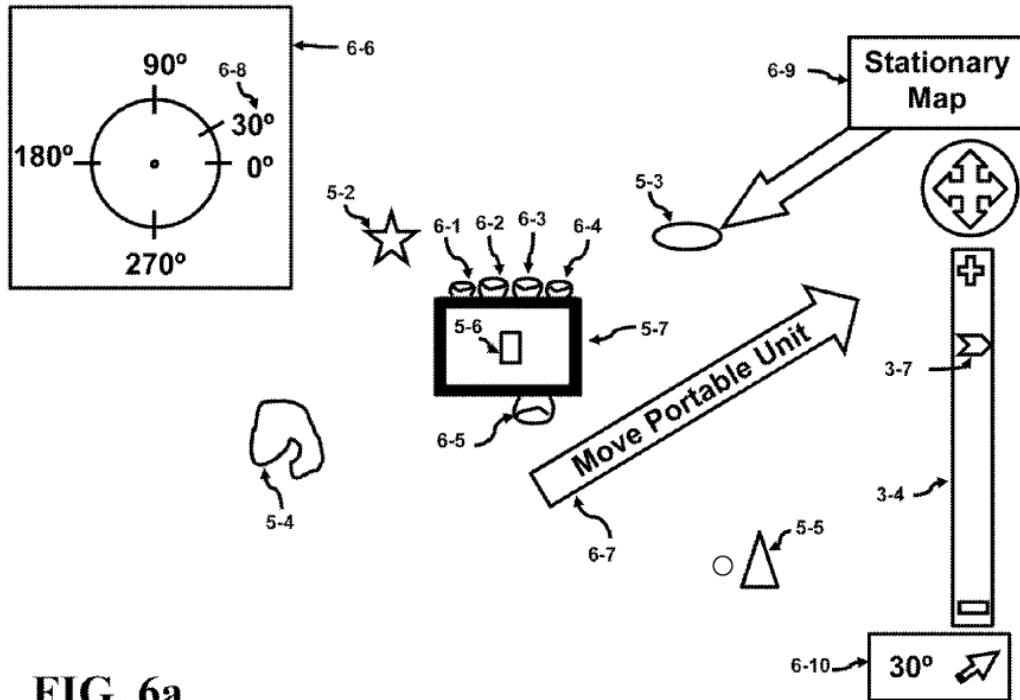


FIG. 6a

Figure 6a of the '698 patent “shows a sub-scale portion of the representative map of FIG. 5a can be viewed on the screen of a portable hand held device when the scale is magnified.” Ex. 1001, 5:45–48. Figure 6a shows portable unit 5-7 being held by a user’s thumb 6-5 and fingers 6-1 through 6-4 and the screen of portable unit 5-7 “presents a portion of the image of a stationary map 6-9 showing the rectangle 5-6.” *Id.* at 10:61–65. Figure 6a “uses a stationary map while the portable unit is moved.” *Id.* at 10:66–11:1. Other objects of the image of stationary map 6-9 (e.g., star 5-2, oval 5-3, structure 5-4, and triangle 5-5) are not currently displayed by screen 5-7. *Id.* at 11:2–8, Fig. 6a. As the portable unit is moved, however, one or more of those other objects is displayed on the screen, as described in the context of Figure 6b. *See id.* at 11:59–61.

Figure 6b is reproduced below:

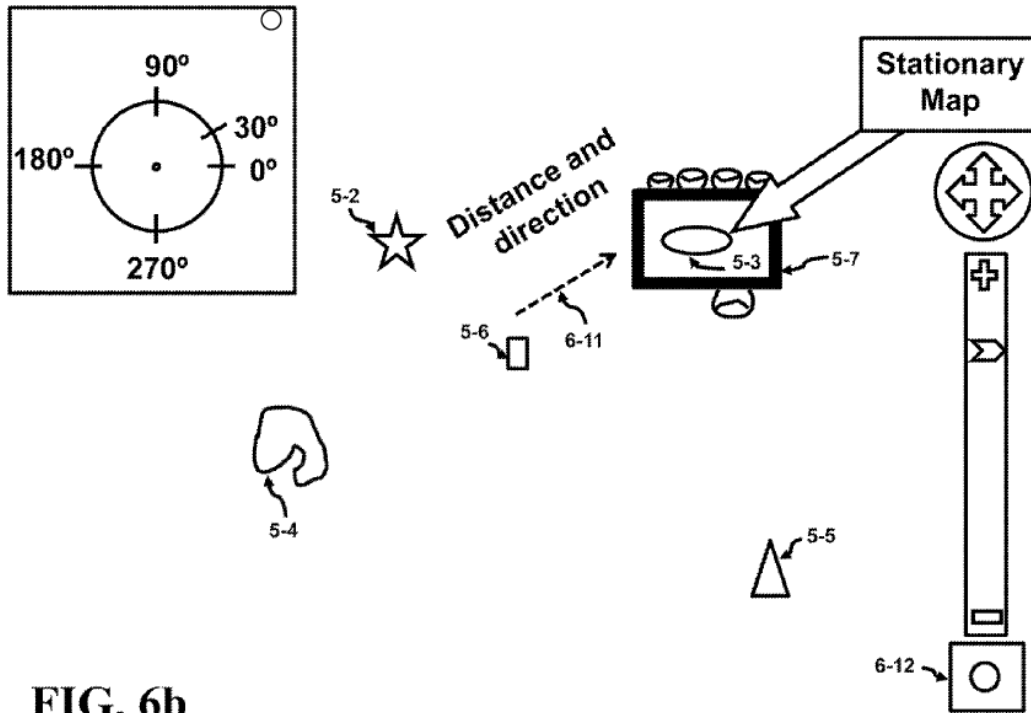


FIG. 6b

Figure 6b of the '698 patent "illustrates a first sub-scale portion of the representative map of FIG. 5a that can be viewed on the screen of a portable hand held device after the portable hand held device is physically moved." Ex. 1001, 5:49–52. In Figure 6b, the portable device was moved through a distance and direction corresponding to vector 6-11 until display 5-7 presents oval 5-3 within the display screen of the portable unit. *Id.* at 11:61–65.

Figures 10a and 10b are reproduced below:

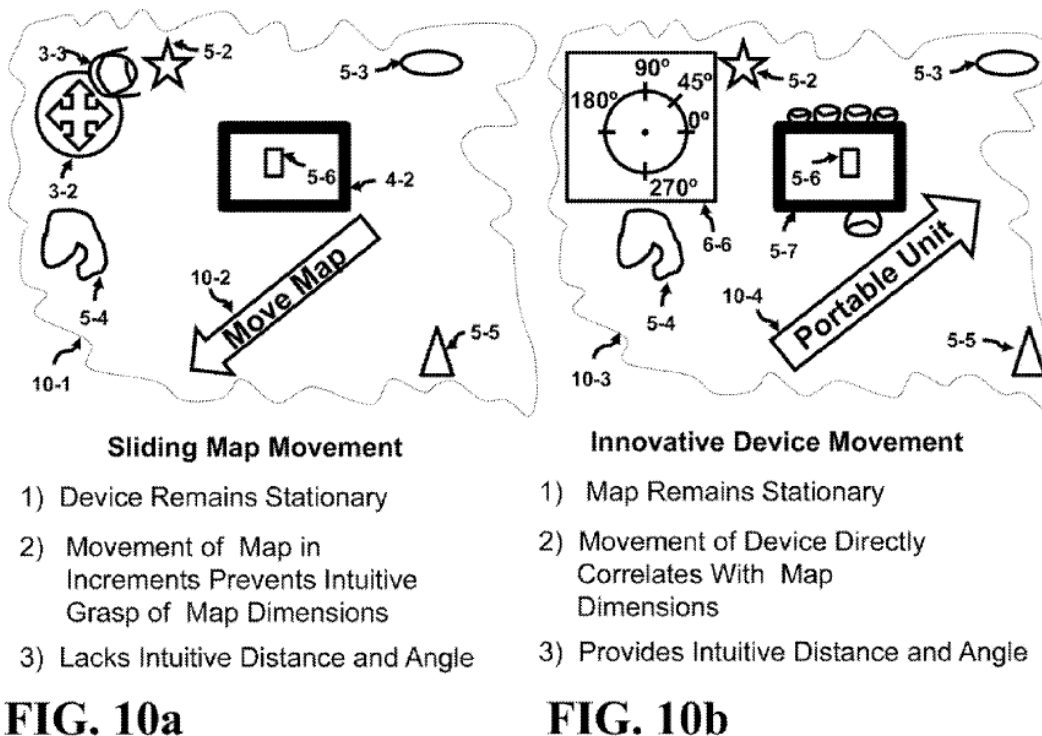


Figure 10a of the '698 patent “illustrates the conventional map movement performed in a stationary portable device,” while Figure 10b “shows the inventive portable device movement to view a stationary map that provides a Sliding Window perspective of a map.” Ex. 1001, 6:49–53. The '698 patent explains that Figures 10a and 10b “illustrate the difference between the two systems of when the map is moved and when the device is moved.” *Id.* at 15:44–46. In Figure 10a, “the map 10-1 is moved while the portable unit 4-2 remains stationary.” *Id.* at 15:46–47. In contrast to Figure 10a, Figure 10b “shows the innovative embodiment of the device movement technique.” *Id.* at 16:1–2. In Figure 10b, “[t]he screen of the portable unit 5-7 moves to the upper right and displays the stationary map on the screen of the portable unit. Thus, the user moves the portable unit 5-7 in the direction 10-4 while the map 10-3 remains stationary.” *Id.* at 16:4–8. One

critical aspect of the “innovative device movement” is that “map 10-3 remains stationary.” *Id.* at 16:8–9.

F. Illustrative Claim

Claims 1, 8, and 15 are the independent claims challenged in this proceeding. Claim 1 is illustrative of the claimed subject matter and is reproduced below with Petitioner’s bracketing added for reference:

1. [pre] A portable unit comprising:
 - [1a] three dimensional image of a stationary map coupled to a memory containing an object;
 - [1b] a plane containing a first axis and a second axis in the stationary map, wherein the second axis intersects the first axis at a reference point;
 - [1c] a third axis intersects the plane at the reference point;
 - [1d] a screen of the portable unit displays a two-dimensional cross-sectional image of the object within the plane;
 - [1e] the portable unit is moved from the reference point to a final point defined by a vector;
 - [1f] an inertial guidance system configured to provide movement data to a microprocessor as the portable unit is moved;
 - [1g] the microprocessor calculates a magnitude and a direction of the vector using software;
 - [1h] the direction includes a first angle from the first axis and a second angle from the third axis;
 - [1i] the magnitude comprises a distance between the reference point and the final point;
 - [1j] the microprocessor extracts image data from the memory corresponding to the magnitude and the direction of the vector; and
 - [1k] the screen of the portable unit displays the image data extracted from the memory; wherein
 - [1l] the extracted image data corresponding to the magnitude and the direction of the vector is configured by the

microprocessor to display a new two-dimensional cross sectional image of the object.

Ex. 1001, 20:55–21:14.

G. Level of Ordinary Skill in the Art

Petitioner, supported by Dr. Chatterjee’s testimony, proposes that a person of ordinary skill in the art at the time of the invention would “possess[] at least a bachelor’s degree in software engineering, computer science, computer engineering, or electrical engineering with at least two years of experience with software application development, including experience in developing software and systems for portable devices that can manipulate and render digital images, such as maps.” Pet. 12–13 (citing Ex. 1002 ¶¶ 29–31). Additionally, Petitioner explains that “a person could also qualify as a [person of ordinary skill in the art] with some combination of (1) more formal education (such as a master’s of science degree) and less technical experience or (2) less formal education and more technical or professional experience.” *Id.* (citing Ex. 1002 ¶¶ 29–31).

Patent Owner “does not dispute Petitioner’s definition” for purposes of this proceeding and its Preliminary Response. Prelim. Resp. 28.

At this stage of the proceeding, we find Petitioner’s proposal consistent with the level of ordinary skill in the art reflected by the ’698 patent and the prior art of record, *see Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978), and, therefore, we adopt Petitioner’s unopposed position as to the level of ordinary skill in the art for purposes of this Decision.

II. CLAIM CONSTRUCTION

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2020). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art at the time of the invention. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc). In construing claims in accordance with their ordinary and customary meaning, we take into account the specification and prosecution history. *Phillips*, 415 F.3d at 1315–17.

Additionally, only terms that are in controversy need to be construed, and these need be construed only to the extent necessary to resolve the controversy. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (holding that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs.* in the context of an *inter partes* review).

At this stage of the proceeding, the parties agree that the claim terms should be given their plain and ordinary meaning. Pet. 13; Prelim. Resp. 28. Accordingly, we need not construe expressly any claim terms for the purpose of this Decision.

III. ANALYSIS

A. *Legal Standards – Obviousness*

The U.S. Supreme Court set forth the framework for applying the statutory language of 35 U.S.C. § 103(a) in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966):

Under § 103[(a)], the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.^[6]

As explained by the Supreme Court in *KSR International Co. v. Teleflex Inc.*:

Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.

550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”)).

⁶ Neither party relies upon objective indicia of nonobviousness at this stage of the proceeding.

“Whether an ordinarily skilled artisan would have been motivated to modify the teachings of a reference is a question of fact.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327 (Fed. Cir. 2016) (citations omitted). “[W]here a party argues a skilled artisan would have been motivated to combine references, it must show the artisan ‘would have had a reasonable expectation of success from doing so.’” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360–61 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068–69 (Fed. Cir. 2012)).

B. Obviousness over Kim and Roussos

Petitioner contends the combined teachings of Kim and Roussos would have rendered the subject matter of claims 1–6, 8–13, and 15–20 obvious to one of ordinary skill in the art at the time of the invention. Pet. 23–79. Patent Owner asserts that this contention is deficient because Petitioner does not show that Kim discloses a *stationary* map, a limitation recited in each of the three independent claims. Prelim. Resp. 33–38. Patent Owner argues that Kim instead teaches that the map “shifts, rotates, or distorts, as part of generating a new image to display.” *Id.* at 34. For the following reasons, we find that Petitioner has not carried its burden of showing that Kim teaches or suggests a stationary map and, thus, fails to demonstrate a reasonable likelihood that it would prevail in establishing that the combined teachings of Kim and Roussos would have rendered the subject matter of claims 1–6, 8–13, and 15–20.

1. Kim

Kim, titled “Portable device and method for reflecting movement of the same in a three-dimensional space in video data,” relates generally to a

“video data processing device able to reflect movement of a portable device in video data.” Ex. 1004, code (54), 2. Kim states that the prior art was “insufficient for reflecting the various movements of a terminal in a three-dimensional or two-dimensional image accurately and in real time.” *Id.* at 2. The purpose of the disclosed technology, according to Kim, is to address this insufficiency by “provid[ing] a device and method for accurately reflecting, in real time, the position, attitude and movement of a portable device which processes a three-dimensional or two-dimensional game program or video data, in such video data.” *Id.* at 3.

Kim describes using a portable device “equipped with an accelerometer and a gyroscope to detect changes in the velocity and angle of the portable device on the vertical, horizontal and distal axes, and the detected values are converted into position data and attitude data through sensor compensation and an inertial measurement calculator.” Ex. 1004, 3. The portable device includes a control unit that “converts the position data and attitude data of the portable device into vector data,” which may be used “to generate three-dimensional video data” or “to accurately reflect the movement or attitude of the portable device in a three-dimensional or 2-dimensional image.” *Id.*

Kim describes the control unit as having, among other things, a central processing unit with an attitude data initialization means and a position data initialization means. Ex. 1004, 4. The attitude data initialization means “carries out (i) the establishment of a reference axis, wherein the direction of [the portable device] attitude data (roll, pitch and yaw) are matched to the actual x, y and z axes of the terminal, and offset correction values for each are configured; (ii) unit configuration, wherein

data units and size are configured, and; (iii) direction configuration, wherein direction of rotation (clockwise or counterclockwise) is configured.” *Id.*

The position data initialization means “sets a reference axis for position data and configures units (mm, cm, etc.) and direction (back to front, left to right, down to up, etc.).” *Id.* Using the coordinates and attitude data received from the portable device, Kim describes several conversion equations used by the control unit to reflect a corresponding movement of an object. *Id.* at 5–6.

As an example, Kim describes an application of the disclosed technology in which the object is a map from a map viewing program or map searching program. Ex. 1004, 7–8. To begin, an image of a map is loaded into a first memory from a database, a portion of the image is displayed, and a point selected by a user upon startup is set as the present reference point with the reference coordinates at the center of the screen. *Id.* at 7, Fig. 9. Due to movement of the portable device, the image displayed on the screen is modified according to the respective attitude data using the conversion equations. *Id.*

First, the conversion equation for converting the coordinates of each pixel of the map according to yaw (i.e., rotation) data is applied to establish a new x' and y' coordinate for the respective pixel and the resulting rotated map image is stored in a second memory space. Ex. 1004, 7, Fig. 10.

“Next, the coordinates of the respective pixels are transformed according to the data for roll and pitch” using another conversion equation to find x'' and y'' .” *Id.* “Changes in roll and pitch cause the map image displayed on the screen to move horizontally in the x axis or y axis direction” and the “reference point for the new coordinates of the horizontally moved image

becomes $(x'', y'') = (0, 0)$.” *Id.* at 8, Fig. 12. As a result of this movement of the map image, parts of the image may become empty and the control unit may load additional map data from the database to fill in the empty areas. *Id.* at 8. Kim explains that “the step of horizontal movement using roll and pitch data and the step of rotating using yaw data may be performed in any order, and the process is repeated according to the image refresh time of the screen every 1/60 second, for example.” *Id.*

2. *Discussion*

a. *Independent Claim 1*

i. *1pre and Limitation 1[a]*

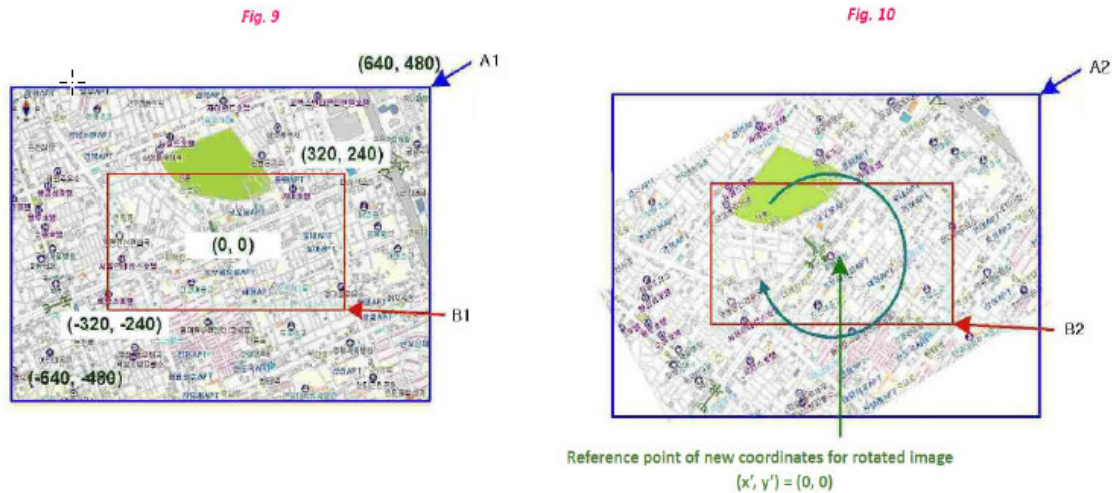
1pre and limitation 1[a] recite “[a] portable unit comprising: a three dimensional image of a stationary map coupled to a memory containing an object.” Ex. 1001, 20:55–57.

Petitioner contends that Kim “discloses a portable device/terminal” and “3-D images of stationary maps coupled to an object stored in a memory, where the object is a 3-D model of a map and the 3-D images are the various viewpoints of the model.” Pet. 27 (citing Ex. 1004, Abstract, 3). Petitioner asserts, “Kim states that the three-dimensional image can be an image of a stationary map and that the related object(s) are stored in a memory, where Figure 1 shows the memory.” *Id.* (citing Ex. 1004, 7, Fig. 1). Petitioner relies upon Kim’s Figures 9 through 14, which apply Kim’s disclosure “to a map viewing program or map searching program.” *Id.* at 28 (quoting Ex. 1004, 7). Notably, with respect to Kim’s alleged disclosure of a “stationary map,” Petitioner asserts that Kim’s “Figure 13b shows a three dimensional image of a stationary map loaded from the

memory corresponding to a stored 3-D map model/object.” *Id.* (citing Ex. 1004, 7, Fig. 13b).

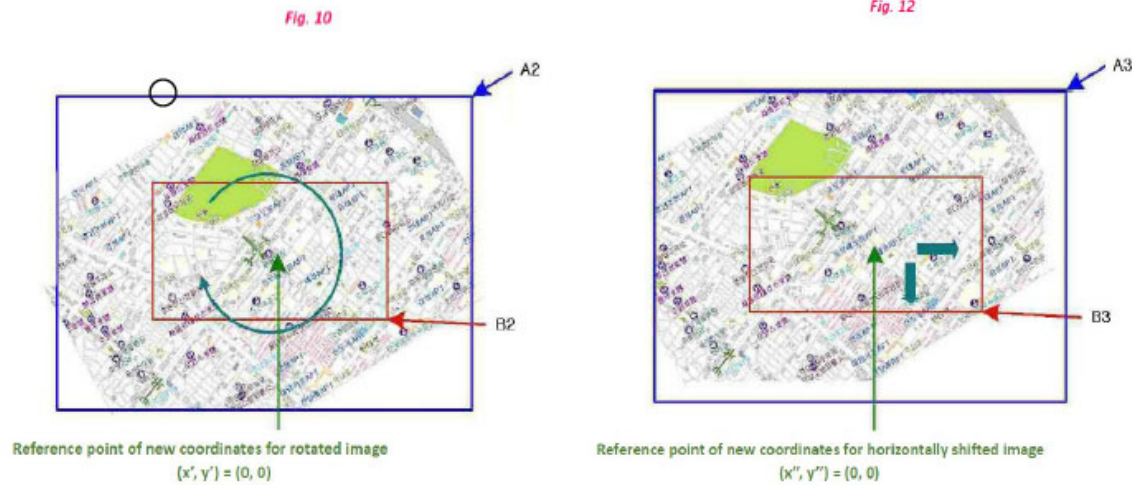
Patent Owner raises several arguments in response to Petitioner’s challenge based on Kim, including that Kim does not teach or suggest that Figure 13b shows a “stationary map.” Prelim. Resp. 33. Patent Owner argues that Petitioner contends Figure 13b is stationary, but Petitioner does not explain “how Fig. 13b is ‘stationary’” and does not provide support from Kim establishing that Figure 13b is stationary. *Id.* Patent Owner asserts that Kim’s map program (Application 2), shows that “rather than remaining stationary, the map instead shifts, rotates, or distorts, as part of generating a new image to display on the portable terminal (‘PT’).” *Id.* at 34. In particular, Patent Owner points to Kim’s description of Figures 9 through 12, which illustrate how the background map changes as the portable terminal is rotated. *Id.* (citing Ex. 1004, 7–8, 13–15). Patent Owner explains that Figures 9–14b are part of Application 2 and that “Kim does not indicate that a different process or series of transformations would be used for Figs. 13b and 14b than for Figures 9, 10, and 12.” *Id.*

Patent Owner compares Kim’s Figures 9 and 10, asserting that they show the entire map shifting to rotate the field of view shown in the display image B2 as compared to display image B1, as shown below:



Prelim. Resp. 34–35. Kim’s Figure 9 is a map image showing an example of Kim’s invention applied to a map program. Ex. 1004, 2. Kim’s Figure 10 is a map image showing an example of Kim’s invention applied to a map program, “wherein the map image has been rotated following rotation of the portable device.” *Id.* Patent Owner asserts that “[a]s is apparent, the *entire map* is shifting to rotate the field of view shown in the display image (B2), rather than staying stationary. The blank corners in Figure 10 in A2 prove this, showing where the map started in its original orientation.” Prelim. Resp. 35. Patent Owner points to Kim’s description that “A1 is ‘modified according to the respective data’ and transformed into A2—a *new* background image that is stored in a separate memory—by converting ‘the coordinates of each pixel according to yaw data’” *Id.* (citing Ex. 1004, 7). Patent Owner contends that Kim teaches that A2 suffers “distortion of pixels” due to rotation and is not used in further rotation transformations. *Id.* Patent Owner argues that Kim’s portable terminal “displays a portion (B2) of this new image (A2), not a new portion of the original background image (A1).” *Id.*

Additionally, Patent Owner points to Kim's description of Figure 12 as a "horizontally shifted image" of A2. Prelim. Resp. 35. Patent Owner compares Figures 10 and 12 below:



Id. at 36. Kim's Figure 10 is a map image showing an example of Kim's invention applied to a map program, "wherein the map image has been rotated following rotation of the portable device." Ex. 1004, 2. Kim's Figure 12 is a map image showing an example of Kim's invention applied to a map program, "which shows a map image in a case wherein the portable device has been moved in the horizontal direction." *Id.* Patent Owner asserts that in this comparison, map A3 moves (shifting left) to change what is shown on display B3. Prelim. Resp. 36. Patent Owner explains that the shift from A2 to A3 "is effected by taking 'the coordinates of the respective pixels' which are 'transformed according to the data for roll and pitch.'" *Id.* (citing Ex. 1004, 7).

Patent Owner contends that "Kim rotates or shifts the original map (A1) to create *new images* (A2 and A3)" and accomplishes this "by recalculating *every single pixel* in the underlying image based on the type of motion input it receives." Prelim. Resp. 36–37. Patent Owner asserts that

“Kim does not indicate that a different process or series of transformations would be used for Figs. 13b and 14b than for Figures 9, 10, and 12,” and, therefore, Petitioner has not shown that Kim teaches a “stationary map.” *Id.* at 37. Further, because Petitioner relies only on Kim, and not Roussos for this limitation, Patent Owner asserts Petitioner fails to establish that claim 1 would have been obvious. *Id.* at 37–38.

Patent Owner identifies a deficiency in Petitioner’s argument and evidence. Specifically, Petitioner relies upon Figure 13b as showing a three dimensional image of a stationary map, but Petitioner fails to point to anything in Kim teaching that the map is stationary. *See, e.g.*, Pet. 28. Kim states that “[t]he map image displayed in response to rotation or movement of the [portable terminal] is as shown in Fig. 13a, Fig. 13b, Fig. 14a, and Fig. 14b.” Ex. 1004, 8. Kim explains:

[T]he map image of Fig. 13b is displayed when the [portable terminal] is in an initial position as shown in Fig. 13a, and when the user lifts up the right side of the [portal terminal] as shown in Fig. 14a, the map image of Fig. 14b, which is the map image of Fig. 13b shifted to the right, is displayed.

Id. Kim’s Figures 13a, 13b, 14a, and 14b are reproduced below:

Fig. 13a

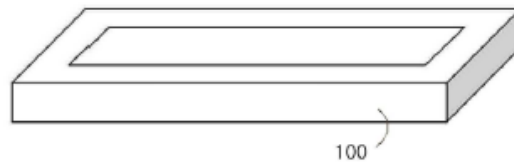


Fig. 13b

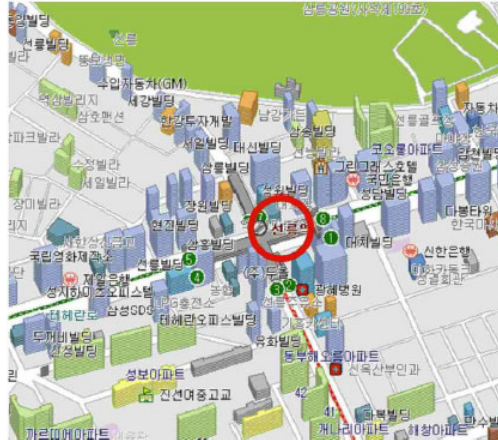


Fig. 14a

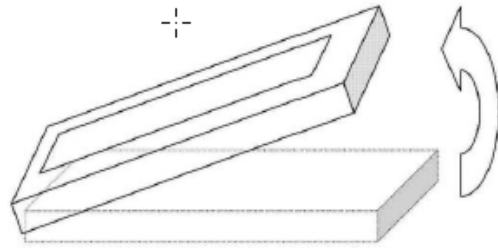


Fig. 14b



Figures 13a and 13b “show a case wherein the portable device (100) is in a stationary position, and the display of a map image in such case.” Ex. 1004, 2. Figures 14a and 14b “show a case wherein the portable device (100) is being moved, and the display of a map image in such case.” *Id.* Kim

explains that “Application 2” is its “map program” and Figures 9 through 14 provide “an example applying the present invention to a map viewing program or map searching program.” *Id.* at 7. The details Kim provides regarding its map program application, however, are described with respect to Figures 9 through 12. Petitioner does not point to anything in Kim teaching that the map program, and particularly Equations 6 and 7, is applied differently with respect to Figures 13a, 13b, 14a, and 14b. Rather, Dr. Chatterjee testifies that one of ordinary skill in the art would understand Kim’s discussion of Figures 9 through 12 to apply to Figures 13a, 13b, 14a, and 14b. *See* Ex. 1002 ¶ 65 (“Kim also teaches using *the same systems and calculations* to manipulate a three-dimensional image on a two-dimensional screen to accurately reflect movement or attitude of the portable device.” (emphasis added)).

As discussed with respect to Figure 9, Kim explains that after the portable terminal is moved, A1 is no longer the background image for the display. Rather, the image displayed on the screen is modified according to Kim’s Equation 6. Ex. 1004, 7. In particular, with reference to Figure 10, Kim explains that a rotation transformation occurs creating the image shown as A2 and the newly converted image A2 is saved in a different domain of the memory space (referred to as “second memory”). *Id.* Thereafter, Kim does not use this new image A2 in new rotation transformations because the transformation from A1 to A2 “caused distortion of pixels.” *Id.* Kim discloses a similar process with reference to Figure 12, where, after transformation in accordance with Kim’s Equation 7, Kim uses image A3, also saved in second memory. *Id.* at 7–8.

These transformations are identifiable when comparing Kim's Figures 9, 10, and 12, reproduced below:

Fig. 9

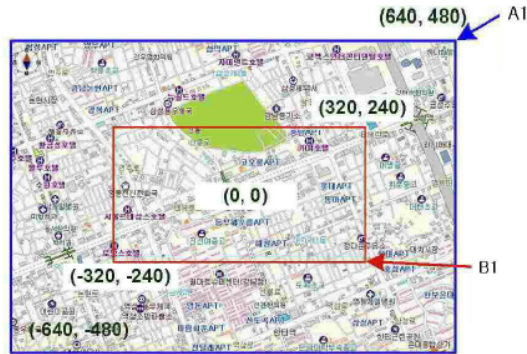
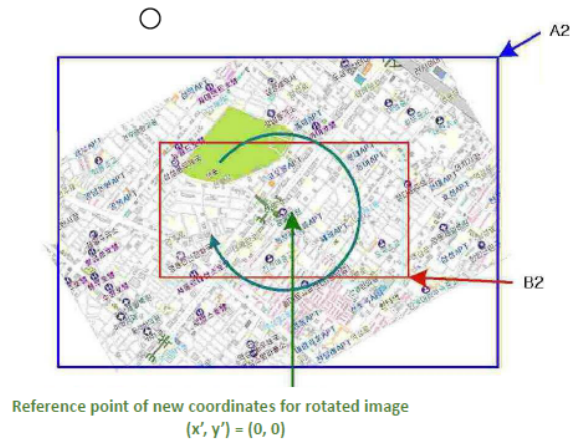
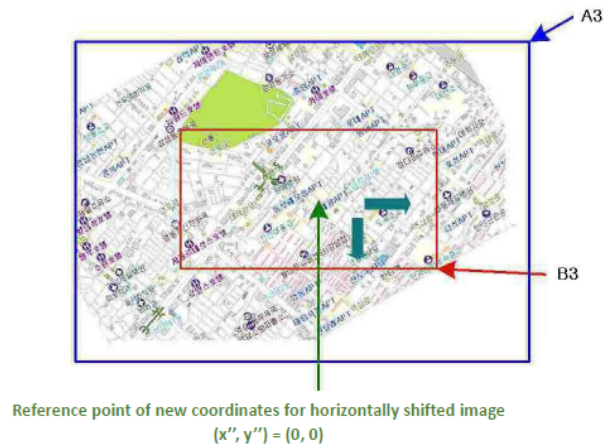


Fig. 10



Reference point of new coordinates for rotated image
(x', y') = (0, 0)

Fig. 12



Reference point of new coordinates for horizontally shifted image
(x'', y'') = (0, 0)

Kim's Figure 9 "is a map image showing an example wherein [Kim's] invention is applied to a map program, wherein the map image has been

initialized.” Ex. 1004, 2. Kim’s Figure 10 “is a map image showing an example wherein [Kim’s] invention is applied to a map program, wherein the map image has been rotated following rotation of the portable device.” *Id.* And, Kim’s Figure 12 “is an example wherein [Kim’s] invention has been applied to a map program which shows a map image in a case wherein the portable device has been moved in the horizontal direction.” *Id.* When Kim’s portable terminal is moved, it is apparent that the background image A1 also is moved, creating A2 and, subsequently, A3.

In light of the above discussion of Kim’s description of Figures 9 through 14, Petitioner has not shown sufficiently⁷ that the map shown Figure 13b is *stationary*, as recited in claim 1. Petitioner does not rely upon Roussos as teaching the “stationary map” recited in claim 1 or assert that one of ordinary skill in the art would have modified Kim in light of Roussos to satisfy this claim limitation. *See, e.g.*, Pet. 27–30 (relying upon Kim); *see also id.* at 26 (discussing the proposed combination as including Roussos’s coordinate system). Accordingly, Petitioner has not shown sufficiently that the combination of Kim and Roussos teaches or suggests a stationary map as recited in claim 1.

b. Independent Claims 8 and 15

Independent claims 8 and 15 similarly recite a “stationary map.” *See* Ex. 1001, 21:36–38 (Claim 8 is directed to “[a] portable unit comprising” *inter alia* “a three dimensional image of a *stationary map* coupled to a

⁷ Dr. Chatterjee’s testimony also does not explain why one of ordinary skill in the art would have understood Kim’s Figure 13b to disclose a “stationary map” when Kim describes the map moving in the context of Figures 9 through 12. *See, e.g.*, Ex. 1002 ¶ 95.

memory containing an object” (emphasis added)), 22:12–17 (Claim 15 is directed to “[a] method of displaying a new two-dimensional cross-sectional image of an object corresponding to a portable unit displaced by a vector of from [sic] a reference point comprising the steps of: coupling a memory containing a three dimensional image of the object in a *stationary map*” (emphasis added)). Petitioner relies upon its analysis of claim 1 for these limitations of claims 8 and 15. *See* Pet. 72 (discussing claim 8), 76–77 (discussing claim 15). Accordingly, for the same reasons discussed with respect to claim 1, Petitioner has not shown sufficiently that the combination of Kim and Roussos teaches or suggests a stationary map.

c. Dependent Claims 2–6, 9–13, and 16–20

Claims 2–6 depend from claim 1 (Ex. 1001, 21:15–32), claims 9–13 depend from claim 8 (*id.* at 21:51–22:8), and claims 16–20 depend from claim 15 (*id.* at 22:43–61). Petitioner’s discussion relies upon Kim as teaching or suggesting the “stationary map” recited in the independent claims from which each of the dependent claims depends. *See* Pet. 54–72 (discussing claims 2–6), 75–76 (discussing claims 9–13), 78–79 (discussing claims 16–20). Accordingly, for the same reasons discussed with respect to claim 1, Petitioner has not shown sufficiently that the combination of Kim and Roussos teaches or suggests a stationary map.

C. Obviousness over Kim, Roussos, and Hakala

Petitioner asserts the combined teachings of Kim, Roussos, and Hakala would have rendered the subject matter of claims 7, 14, 19, and 20 obvious to one of ordinary skill in the art at the time of the invention. Pet. 79–85. Claim 7 depends from claim 1 (Ex. 1001, 21:33), claim 14 depends from claim 8 (*id.* at 22:9), and claims 19 and 20 depend, directly or indirectly, from claim 15 (*id.* at 22:56, 60). Petitioner relies upon Hakala as teaching or suggesting the additional limitations expressly recited by claims 7, 14, 19, and 20. *See, e.g.*, Pet. 81 (“As explained under Ground 1, Kim in view of Roussos teaches or renders obvious all the limitations of claim 1 and Hakala provides the additional disclosures for claim 7.”), 84 (“the limitations of claim[s] 14 and 19-20 substantively correspond to the limitations of claim 7”). Accordingly, for the same reasons discussed with respect to claim 1, Petitioner has not shown sufficiently that the combination of Kim, Roussos, and Hakala teaches or suggests a stationary map.

IV. CONCLUSION

For the foregoing reasons, Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that at least one claim of the ’698 patent is unpatentable.

V. 35 U.S.C. § 314(a)

Patent Owner contends that we should exercise our discretion to deny institution pursuant to 35 U.S.C. § 314(a). Prelim. Resp. 3–11. Petitioner opposes Patent Owner’s argument. *See* Paper 8 (Decision Denying Petitioner’s Request to File Preliminary Replies to Patent Owner’s Preliminary Responses), 3 (noting that Petitioner requested authorization to

file a preliminary reply to respond to Patent Owner's argument regarding discretionary denial under § 314(a)). Because we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that at least one claim of the '698 patent is unpatentable, we need not reach the issue of discretionary denial pursuant to § 314(a).

VI. ORDER

Accordingly, it is:

ORDERED that the Petition is *denied* as to the Challenged Claims of the '698 patent; and

FURTHER ORDERED that no *inter partes* review is instituted.

IPR2021-00201
Patent 8,836,698 B2

For PETITIONER:

Sanjeet K. Dutta
Suhrid Wadekar
Naomi L. Birbach
GOODWIN PROCTER LLP
sdutta@goodwinlaw.com
swadekar@goodwinlaw.com
nbirbach@goodwinlaw.com

For PATENT OWNER:

Micah Rappazzo
Ryan J. Singer
STROOCK & STROOCK & LAVAN LLP
mrappazzo@stroock.com
rsinger@stroock.com