

**United States Court of Appeals
for the Federal Circuit**

UNWIRED PLANET, LLC,
Appellant

v.

GOOGLE INC.,
Appellee

2015-1810, 2015-1811

Appeals from the United States Patent and Trade-
mark Office, Patent Trial and Appeal Board, in Nos.
IPR2014-00036, CBM2014-00005.

Decided: November 15, 2016

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Before REYNA, PLAGER, and HUGHES, *Circuit Judges*.

REYNA, *Circuit Judge*.

Unwired Planet, LLC (“Unwired”) appeals from the final written decisions of the Patent Trial and Appeal Board (“Board”) in *Inter Partes* Review (“IPR”) No. 2014-00036 and Covered Business Method (“CBM”) Patent Review No. 2014-00005. *Google Inc. v. Unwired Planet, LLC*, IPR2014-00036, 2015 WL 1478653 (P.T.A.B. Mar. 30, 2015) (“*IPR Final Decision*”); *Google Inc. v. Unwired Planet, LLC*, CBM2014-00005, 2015 WL 1519056 (P.T.A.B. Mar. 30, 2015) (“*CBM Final Decision*”). For the reasons stated below, we *affirm* the Board’s decision that the challenged claims of U.S. Patent No. 7,024,205 (the “205 patent”) are invalid as obvious in the IPR appeal and dismiss the CBM appeal as moot.

BACKGROUND

U.S. Patent No. 7,024,205

The ’205 patent is entitled “Subscriber Delivered Location-Based Services.” It describes a system and method for providing wireless network subscribers (e.g., cell phone users) with prioritized search results based on the location of their mobile device (e.g., the nearest gas station). The specification describes how search results can be personalized for subscribers by taking into account, for example, “favorite restaurants; automobile service plans; and/or a wide variety of other subscriber information.” ’205 patent col. 2 ll. 18–19.

In contrast, the specification also describes how search results can be ordered to give priority to “preferred service providers defined by the network administrator.” *Id.* at col. 8 ll. 35–36. This allows the network to generate revenue by charging service providers to be put on the preferred-service-provider list. *Id.* at col. 8 ll. 46–52. Preferred-provider status, in turn, leads to preferred

providers' listings being prioritized in search results provided to subscribers.

Prioritization based on subscriber information and preferred provider status is independent of a subscriber's location; hence, it can lead to service providers that are actually farther away from the subscriber being given priority over service providers that are nearer. As a consequence, the results returned to the subscriber can order preferred providers and other service providers that are farther away higher than nearer service providers. The parties and the Board refer to this result as "farther-over-nearer ordering," although that term is not used in the patent.

The sole independent claim of the '205 patent, claim 1, claims farther-over-nearer ordering in the context of wireless location-based services through a series of method steps. We treat claim 1 of the '205 patent as representative and dispositive because the parties do not argue that any limitations of the dependent claims alter the obviousness analysis in the context of the asserted prior art. Relevant here, it claims:

identifying, on said network platform, first and second service providers and associated first and second service provider information[,] . . . wherein said first service provider is farther from [a] mobile unit than said second service provider; [and]

based on said stored prioritization information, prioritizing said first and second service provider information, wherein said first [farther] location information is assigned a higher priority than said second [nearer] location information; and

outputting both said first and second service information on said mobile unit based upon said step of prioritizing.

'205 patent, cl. 1, col. 10 ll. 27–57.

Asserted Prior Art

Five asserted prior art references are relevant to the issues addressed below.

The primary reference, U.S. Patent No. 6,108,533 (“Brohoff”), is entitled “Geographical Database for Radio Systems.” It describes a system using a radio telecommunication network in combination with a database of consumer services. Brohoff col. 2 ll. 18–25. The system provides the information about nearby consumer services in response to search requests. To do so, the system determines the location of the mobile device sending the search request and provides information about nearby, relevant consumer services from its database. *Id.* at col. 2 ll. 33–42. Brohoff teaches using a database where the consumer services are grouped by geographic zones and returning location-based search results grouped by these geographic zones. *Id.* at col. 2 ll. 48–58, col. 3 ll. 13–19.

One secondary reference is Wilbert O. Galitz’s book *The Essential Guide to User Interface Design: An Introduction to GUI Design Principles and Techniques* (John Wiley & Sons, Inc. (1997)) (“Galitz”). It discusses principles for interface design, including discussing the advantages of various techniques for ordering text information and menus. *Id.* at 120–21, 255–56. It also discusses the benefits and applications of several ordering techniques, including alphabetic order. *Id.* at 256. Galitz further suggests how the design principles it discusses may be applied in designing interfaces for future, specialized devices. *Id.* at 32.

Another secondary reference is Laura Rich’s article *IQ News: New Search Engine Allows Sites To Pay Their Way*

To Top.¹ It describes a search engine that orders search results “according to who paid the most for that particular keyword” in a search. It also discusses ranking sites “according to user and editor input.”

A fourth reference is European Patent No. EP 0647076 (“Remy”), entitled, “Cellular radio communication system with access to location dependent service, location retrieving module and server module for personal, location dependent services.” It describes a cellular radio communication system within a network of geographical cells that responds to a location-based query with the nearest result.

Finally, International Patent No. WO 97/22066 (“Hopkins”) is entitled “Method for computer aided advertisement.” It describes a computer-implemented method for presenting vendor advertising information to a user. Hopkins discusses how users can search the information alphabetically, by name, by address, or by geographical area.

Procedural History

Google Inc. (“Google”) filed the IPR and CBM petitions on appeal on October 8, 2013. In both proceedings, Google challenged claims 1–6 of the ’205 patent. The Board consolidated the proceedings before the same panel and, on April 8, 2014, instituted both proceedings on all challenged claims. IPR2014-00036, 2014 WL 1410358; CBM2014-00005, 2014 WL 1396977. On March 30, 2015, the Board issued final written decisions invalidating all of the challenged claims as obvious.

¹ Laura Rich, *IQ News: New Search Engine Allows Sites To Pay Their Way To Top*, <http://www.adweek.com/news/advertising/iq-news-new-search-engine-allows-sites-pay-their-way-top-24893> (Feb. 23, 1998).

In the IPR final written decision, the Board held the challenged claims were obvious on three grounds. *IPR Final Decision*, 2015 WL 1478653, at *18. In the first ground, claims 1–3, 5, and 6 were held obvious over Brohoff in view of Galitz. In the second ground, claim 4 was held obvious in further view of Rich. In the third ground, claims 1–6 were also held obvious over Remy in view of Hopkins.

In the CBM final written decision, the Board held that claims 1–6 were invalid for lack of written description under 35 U.S.C. § 112 ¶ 1.² *CBM Final Decision*, 2015 WL 1519056, at *17. Specifically, the Board determined that the specification lacked written description support for the claim term “prioritization information establishing a basis independent of proximity and independent of any subscriber preferences for prioritizing said first and second service provider information” and for farther-over-nearer ordering. *Id.* at *14, *16.

Unwired appeals from both final written decisions. We consolidated the appeals for briefing and argument. Order Consolidating Appeals, No. 2015-1810, ECF No. 2 (Fed. Cir. July 15, 2015). We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. §§ 319, 329.

² 35 U.S.C. §§ 103 and 112 were replaced with new versions in the America Invents Act (“AIA”). *See* Leahy Smith America Invents Act, Pub. L. No. 112-29, §§ 3(c), 4(c), 125 Stat. 284, 287, 296 (2011) (“AIA”). However, the AIA versions of §§ 103 and 112 do not apply to the patents-in-suit in view of the AIA’s effective date provisions. *See* AIA, §§ 3(n)(1), 4(e), 125 Stat. 293, 297. Thus, we refer to the pre-AIA version of Title 35.

STANDARD OF REVIEW

We review the Board’s factual determinations for substantial evidence and its legal conclusion of obviousness de novo. *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1280 (Fed. Cir. 2015), *aff’d*, *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016); *Inphi Corp. v. Netlist, Inc.*, 805 F.3d 1350, 1354 (Fed. Cir. 2015). “Substantial evidence is such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Kenametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015) (quotation marks omitted).

DISCUSSION

A claim would have been obvious “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a) (2006). In order to determine if a claim would have been obvious, “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.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)). Given the differences between the prior art and the claimed invention, the claimed combination would have been obvious only if there was an apparent reason for a skilled artisan “to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418.

Unwired makes three challenges to the Board’s basis for the first ground of obviousness in the IPR. Unwired argues (1) that Galitz is not analogous prior art, (2) that the prior art does not teach farther-over-nearer ordering, and (3) that a person of skill in the art would not have been motivated to combine Brohoff with Galitz. Unwired

does not separately dispute the further combination with Rich in the second ground of obviousness. We find substantial evidence supports the Board’s factual findings with respect to the first two grounds of the IPR, and these facts lead to the conclusion that claims 1–6 of the ’205 patent were obvious. This resolves the patentability of all challenged claims, so we do not reach the third ground in the IPR or the issues presented in the CBM review.

1. The relevant prior art includes Galitz.

Unwired challenges the Board’s factfinding with respect to the scope of the prior art. Unwired argues that Galitz “has nothing to do with mobile telephony or location-based services, but instead is a manual for designers of graphic user interfaces—a thoroughly different concept.” Unwired Br. 16. We disagree.

Prior art is analogous and can be applied in an obviousness combination if it either (1) “is from the same field of endeavor, regardless of the problem addressed” or (2) “is reasonably pertinent to the particular problem with which the inventor is involved.” *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992). To determine if art is analogous, we look to “the purposes of both the invention and the prior art.” *Id.* at 659. If a reference disclosure and the claimed invention have a same purpose, the reference relates to the same problem, which supports an obviousness rejection. *Id.*

The field of endeavor of the ’205 patent is not limited to technical issues related to the wireless network system; it also teaches methods for ordering and displaying information from the network on users’ mobile devices. The ’205 patent discusses various ways that “the service information can be provided to the user,” including “on a visual display of the [mobile device], as an audible, recorded message, or through any other appropriate means.” ’205 patent col. 3 ll. 15–18. “In cases where the service information is provided as a menu of selections, the

method may further involve receiving a menu selection entered by the user and outputting further service information in response to the menu selection. *Id.* at col. 3 ll. 18–22. One particular problem the '205 patent addresses is how to display and order information on a mobile device. When a menu is displayed on a mobile device, it “may be ordered based on any of various criteria such as the preferences expressed in the subscriber profile, nearest to farthest, preferred service providers defined by the network administrator, etc.” *Id.* at col. 8 ll. 32–36.

The Galitz reference deals generally with graphical user interface design and includes a chapter devoted to menu design with specific suggestions for how to order menu items. J.A. 1182–94. This discussion substantially focuses on displaying and ordering text in lists and menus. One example that Galitz uses is address text, which it urges should be ordered “in the customary way” and sequenced to accord with user expectations, i.e., “street, city, state, and zip code.” J.A. 1053. Additionally, Galitz discusses future operating systems for internet-connected devices that “will aim at niches,” including “the purse or wallet.” J.A. 966. It suggests that the “narrower focus” on such devices “will result in much less complexity.” *Id.*

The Board also relied on the testimony of Dr. Donald Cox. *IPR Final Decision*, 2015 WL 1478653, at *10. He discussed the Yellow Pages as a “customary and conventional use of sequential or alphabetical ordering for location-based services.” *Id.* The Yellow Pages list businesses in a “specific geographic area,” sort “the businesses into similar types,” and then alphabetically order the listings in each category. *Id.* (quoting Decl. of Dr. Donald Cox, ¶ 27, J.A. 494).

Taken together, this evidence establishes that Galitz is analogous prior art to the '205 patent. The field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or

the particular focus within a given field. Here, both Galitz and the '205 patent are in the field of interface design, with Galitz focusing on graphical user interfaces and the '205 patent focusing on interfaces for location-based services. These two areas of focus overlap within the broader field of interface design because the teachings in graphical user interface design, including design principles for displaying text and ordering menus, have relevance in interfaces for location-based applications. Likewise, a skilled artisan seeking to apply interface design principles to display addresses—one of the particular problems dealt with by the inventor of the '205 patent—would reasonably look to Galitz, which teaches solutions to this same problem. As the Board found, Dr. Cox's testimony shows a skilled artisan would have understood the applicability of Galitz's teachings to this problem by providing an example of conventional address text and ordering in the location-based context. The Board correctly applied Galitz as analogous art based on substantial evidence that Galitz is both from the same field of endeavor as the '205 patent and is reasonably pertinent to the problem of displaying address information.

2. The prior art teaches prioritization that results in farther-over-nearer ordering.

Unwired argues that none of the prior art references cited teach farther-over-nearer ordering as claimed. It faults the Board for equating prioritization schemes that “*sometimes* return a farther result” with “farther-over-nearer ordering.” Unwired Br. 18–19 (emphasis in original). We reject this argument because combinations of prior art that sometimes meet the claim elements are sufficient to show obviousness. See *Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1326 (Fed. Cir. 2003).

Unwired acknowledges that the claims do not require prioritizing locations that are farther away *because* they

are farther away. The claims only require using prioritization information that *results* in a farther-over-nearer order. '205 patent, cl. 1, col. 10 ll. 53–55 (“wherein said first location information is assigned a higher priority than said second location information”). The claimed result, where a farther first location is given priority over a nearer second location, could result from many prioritization schemes that do not depend on location.

The prioritization information used in the proposed combination of the prior art is alphabetical ordering. Galitz recommends “alphabetical ordering” for lists with “a large number of options” and “small lists where no frequency or sequence pattern is obvious.” J.A. 1189. Alphabetical prioritization will often result in locations that are farther away being given a higher priority than locations that are nearer. For example, prioritizing a list of countries in English by alphabetical order will place Afghanistan before Niger, even when the prioritization is done in nearby Nigeria. Alphabetical order, thus, will result in instances of farther-over-nearer ordering.

It does not matter that the use of alphabetical order for locations would not always result in farther-over-nearer ordering. It is enough that the combination would sometimes perform all the method steps, including farther-over-nearer ordering. *See Hewlett-Packard*, 340 F.3d at 1326. Because the use of alphabetical order as prioritization information would sometimes meet the farther-over-nearer claims elements, the Board was correct to conclude that the proposed combination taught all of the elements of claim 1.

3. A skilled artisan would be motivated to combine.

Unwired argues that in the context of location-based services, a skilled artisan would have no motivation to combine the prior art references to achieve farther-over-nearer ordering. Unwired argues that “Google has never shown a motivation to modify Brohoff, because Google has

never shown that those working in the art perceived a problem with nearer-first ordering.” Unwired Br. 30.

Google argues that the proposed combination does not require abandoning nearer-first ordering. It notes that Galitz teaches the advantages of using ordering techniques in combination. Google characterizes the proposed combination as using the ordering techniques of Galitz in combination with Brohoff’s disclosure of grouping search results based on proximity zones. Google also argues that it does not need to show that there was a known problem with the prior art system in order to articulate the required rational underpinning for the proposed combination. We agree.

The Court in *KSR* described many potential rationales that could make a modification or combination of prior art references obvious to a skilled artisan. 550 U.S. at 417–22; *see also* MPEP § 2143. *KSR* overturned the approach previously used by this court requiring that some teaching, suggestion, or motivation be found in the prior art. 550 U.S. at 415. Instead, the Court explained that a rationale to combine could arise from “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.” *Id.* at 418. For example, the Court stated that “if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *Id.* at 417. For the technique’s use to be obvious, the skilled artisan need only be able to recognize, based on her background knowledge, its potential to improve the device and be able to apply the technique.

The device to be improved is Brohoff. The Board explained that Brohoff teaches a system that allows users to

search for information and be provided results based on their location. In the provided search results, “the identified service providers are grouped by their respective locations within a zone.” *IPR Final Decision*, 2015 WL 1478653, at *8 (citing Brohoff, col. 6 ll. 45–49). While the zones in Brohoff are ordered nearer-first, Brohoff does not explain how the service providers are prioritized within their zone groups. *See* Brohoff, col. 8 ll. 47–55.

The improvement is provided by using the technique of combining ordering methods found in Galitz. As the Board recognized, Galitz teaches benefits of various ordering techniques and suggests using them in combination. *IPR Final Decision*, 2015 WL 1478653, at *8. To take advantage of the benefits of multiple techniques, “[s]creen layout normally reflects a combination of [different] techniques.” *Id.* (quoting Galitz at 121, J.A. 1054) (second modification in original). Using ordering techniques in combination is, thus, a technique that a person of ordinary skill in the art would recognize could be used to improve information display.

The Board’s determination that a person of skill in the art would have been motivated to apply the techniques of Galitz to Brohoff is supported by substantial evidence. The Board found that testimony of Dr. Cox was entitled to “substantial weight because [it] is consistent with the teachings of Brohoff and Galitz.” *Id.* at *11. He explained that “Galitz recognized that information may be ordered by category—such as Brohoff’s geographic zones—and, within each category, information may be ordered by other prioritization information.” *Id.* at *8 (quoting Decl. of Dr. Donald Cox, ¶ 42, J.A. 502).

Unwired does not dispute that a person of ordinary skill in the art would have been able to apply the teachings of Galitz to make the improvement it suggests. Unwired claims that the specific problem of farther-over-nearer ordering itself is not discussed in the combined

references. Galitz’s teaching of the advantages of combining ordering techniques shows “there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418. Irrespective of whether a person of skill in the art would have recognized specific use of Brohoff, substantial evidence exists if she could have seen the advantages of applying the teachings of Galitz to improve Brohoff. This is sufficient to render the combination obvious. *Id.* at 417.

CONCLUSION

We *affirm* the Board’s determination that claims 1–6 of the ’205 patent were obvious in No. 2015–1810. We *dismiss* as moot the appeal in No. 2015–1811.

AFFIRMED-IN-PART AND DISMISSED-IN-PART

COSTS

No costs.