UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID BRUCE KUMHYR

Appeal 2009-007158
Application 10/636,982
Technology Center 3600

Decided: November 6, 2009


FETTING, Administrative Patent Judge.

DECISION ON APPEAL
STATEMENT OF THE CASE

David Bruce Kumhyr (Appellant) seeks review under 35 U.S.C. § 134 (2002) of a final rejection of claims 1, 4, 6, 7, 9-13, 16-18, and 20-22, the only claims pending in the application on appeal.

We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

The Appellant invented a method, apparatus, and program for catching product mismatches at the point of sale (Specification 1).

An understanding of the invention can be derived from a reading of exemplary claims 1 and 12, which are reproduced below [bracketed matter and some paragraphing added].

1. A method, in a data processing system, for detecting item mismatch, the method comprising:

   [1] identifying a first item to be purchased by a user and identifying a second item to be purchased by the user, wherein

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1 Our decision will make reference to the Appellant’s Appeal Brief (“App. Br.”, filed October 15, 2008) and the Examiner’s Answer (“Ans.”, mailed December 26, 2008), and Final Rejection (“Final Rej.”, mailed June 11, 2008).
the first item to be purchased and the second item to be purchased have associated product information;

[2] determining whether the first item to be purchased is a mismatch of the second item to be purchased based on the product information;

[3] responsive to determining that the first item to be purchased is a mismatch of the second item to be purchased:

[a] notifying the user that the first item to be purchased is a mismatch of the second item to be purchased;

[b] determining whether the second item to be purchased has a first match list of items; and

[c] responsive to determining that the second item to be purchased has a first match list of items,

[d] suggesting a first matching item to the user from the first match list of items and providing location information for the first matching item to the user; and

[4] responsive to determining that the first item to be purchased is not a mismatch of the second item to be purchased, or responsive to determining that the second item to be purchased does not have a first match list of items:

[a] determining whether the second item to be purchased is a mismatch of the first item to be purchased based on the product information; and

[b] responsive to determining that the second item to be purchased is a mismatch of the first item to be purchased:

[i] notifying the user that the second item to be purchased is a mismatch of the first item to be purchased;

[ii] determining whether the first item to be purchased has a second match list of items; and

[iii] responsive to determining that the first item to be purchased has a second match list of items, suggesting a second matching item to the user
12. The method of claim 1, wherein determining whether the first item is a mismatch of the second item includes:

[1] determining whether the first item is within a sphere of influence of the second item; and

[2] responsive to the first item being within a sphere of influence of the second item, comparing product information of the first item with product information of the second item, and wherein determining whether the second item is a mismatch of the first item includes:

[a] determining whether the second item is within a sphere of influence of the first item; and

[b] responsive to the second item being within a sphere of influence of the first item, comparing product information of the second item with product information of the first item.

THE REJECTIONS

The Examiner relies upon the following prior art:

Bieganski et al. US 6,412,012 B1 Jun. 25, 2002

Claims 1, 4, 6, 7, and 9-12 stand rejected under 35 U.S.C. § 101 for failing to claim patentable subject matter.

Claims 1, 4, 6, 7, 9-13, 16-18, and 20-22 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Bieganski.
ISSUES

The pertinent issues to this appeal are:

• Whether the Appellant has sustained the burden of showing that the Examiner erred in rejecting claims 1, 4, 6, 7, and 9-12 under 35 U.S.C. § 101 for failing to claim patentable subject matter.
  
  o This pertinent issue turns on whether the Appellant has waived his arguments towards this rejection.

• Whether the Appellant has sustained the burden of showing that the Examiner erred in rejecting claims 1, 4, 6, 7, 9-13, 16-18, and 20-22 under 35 U.S.C. § 103(a) as unpatentable over Bieganski.
  
  o This pertinent issue turns on whether the Bieganski describes or suggests all of the limitations of claim 1 and the term “sphere of influence” of claim 12.

FACTS PERTINENT TO THE ISSUES

The following enumerated Findings of Fact (FF) are believed to be supported by a preponderance of the evidence.

Facts Related to the Prior Art

Bieganski

  01. Bieganski is directed to a collaborative filtering and recommender system (Bieganski 1:35-37).

  02. The system has a compatibility engine uses historical information, shopping cart information, and recommendation set
information in combination with compatibility rules to determine recommended items for a consumer (Bieganski 7:14-18). Each item has a set of compatibility rules associated to it and these rules define complimentary rules and substitute rules (Bieganski 5:13-48). The compatibility process includes the compatibility modifier receiving all of the information sets and applying the compatibility rules in order to render a set of compatibility-modified recommendations (Bieganski 10:50-64).

03. Compatibility rules include complement rules (where the purchase of one item indicates that a second item is a good complement to the first item) and substitute rules (where the second item is unlikely to be a good companion to the first item) (Bieganski 9:3-15). Both the complement rule and the substitute rule can have bidirectional implication rules that specify a two-way relationship (Bieganski 9:16-18). Compatibility rules can further include associated weights or values and priority levels associated to the items (Bieganski 9:63-65 and 10:6-8). User preference data can also be incorporated into determining compatibility matches (Bieganski 18:5-13).

04. Bieganski further describes a non-compatibility-aware sales system for a grocery store (Bieganski 17:60-61). The system contains store maps and sales information used in conjunction with a wireless adapter to provide a user with non-compatibility-awareness (Bieganski 17:64-66).
Facts Related To The Level Of Skill In The Art

05. Neither the Examiner nor the Appellant has addressed the level of ordinary skill in the pertinent art of product compatibility and recommendation systems. We will therefore consider the cited prior art as representative of the level of ordinary skill in the art. See Okajima v. Bourdeau, 261 F.3d 1350, 1355 (Fed. Cir. 2001) [T]he absence of specific findings on the level of skill in the art does not give rise to reversible error "where the prior art itself reflects an appropriate level and a need for testimony is not shown." Litton Indus. Prods., Inc. v. Solid State Sys. Corp., 755 F.2d 158, 163.

Facts Related To Secondary Considerations

06. There is no evidence on record of secondary considerations of non-obviousness for our consideration.

PRINCIPLES OF LAW

101 - Bilski

The law in the area of patent-eligible subject matter for process claims has recently been clarified by the Federal Circuit, See In re Bilski, 545 F.3d 943 (Fed. Cir. 2008) (en banc), petition for cert. filed, 77 USLW 3442 (U.S. Jan. 28, 2009) (No. 08-964).

The en banc court in Bilski held that “the machine-or-transformation test, properly applied, is the governing test for determining patent eligibility of a process under § 101.” Id. at 956. The court in Bilski further held, “that inquiry is insufficient to determine whether a claim is patent-eligible under §
101. And it was certainly never intended to supplant the Supreme Court’s test. Therefore, we also conclude that the “useful, concrete and tangible result” inquiry is inadequate and reaffirm that the machine-or-transformation test outlined by the Supreme Court is the proper test to apply.” *Id.* at 959-60.

The Supreme Court, however, has enunciated a definitive test to determine whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself. A claimed process is surely patent-eligible under § 101 if: (1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing. See Benson, 409 U.S. at 70, 93 S.Ct. 253. *Id.* at 954. The court explained that “the use of a specific machine or transformation of an article must impose meaningful limits on the claim’s scope to impart patent-eligibility.” (citations omitted) and “the involvement of the machine or transformation in the claimed process must not merely be insignificant extra-solution activity.” *Id.* at 961-62 (citations omitted).

The court declined to decide under the machine implementation branch of the inquiry whether or when recitation of a computer suffices to tie a process claim to a particular machine. *Id.* at 962. As to the transformation branch of the inquiry, however, the court explained that transformation of a particular article into a different state or thing “must be central to the purpose of the claimed process.” *Id.* As to the meaning of “article,” the court explained that chemical or physical transformation of physical objects or
substances is patent-eligible under § 101. *Id.* The court also explained that transformation of data is sufficient to render a process patent-eligible if the data represents physical and tangible objects, i.e., transformation of such raw data into a particular visual depiction of a physical object on a display. *Id.* at 962-63. The court further noted that transformation of data is insufficient to render a process patent-eligible if the data does not specify any particular type or nature of data and does not specify how or where the data was obtained or what the data represented. *Id.* at 962 (citing *In re Abele*, 684 F.2d 902, 909 (CCPA 1982) (process claim of graphically displaying variances of data from average values is not patent-eligible) and *In re Meyer*, 688 F.2d 789, 792-93 (CCPA 1982) (process claim involving undefined “complex system” and indeterminate “factors” drawn from unspecified “testing” is not patent-eligible)).

**Claim Construction**

During examination of a patent application, pending claims are given their “broadest reasonable interpretation consistent with the specification. . . .” *In re Prater*, 415 F.2d 1393, 1404-05 (CCPA 1969); *See also In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369 (Fed. Cir. 2004).

Limitations appearing in the specification but not recited in the claim are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (claims must be interpreted “in view of the specification” without importing limitations from the specification into the claims unnecessarily). *See also Tex. Digital*, 308 F.3d 1200, 1204-05.
Although a patent applicant is entitled to be his or her own lexicographer of patent claim terms, in ex parte prosecution it must be within limits. In re Corr, 347 F.2d 578, 580 (CCPA 1965). The applicant must do so by placing such definitions in the specification with sufficient clarity to provide a person of ordinary skill in the art with clear and precise notice of the meaning that is to be construed. See also In re Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994) (although an inventor is free to define the specific terms used to describe the invention, “this must be done with reasonable clarity, deliberateness, and precision”; where an inventor chooses to give terms uncommon meanings, the inventor must set out any uncommon definition in some manner within the patent disclosure so as to give one of ordinary skill in the art notice of the change).

Obviousness

A claimed invention is unpatentable if the differences between it 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.” KSR Int’l Co. v. Teleflex Inc., 550 U.S. 398, 406 (2007); Graham v. John Deere Co., 383 U.S. 1, 13-14 (1966).

In Graham, the Court held that that the obviousness analysis is bottomed on several basic factual inquiries: “[(1)] the scope and content of the prior art are to be determined; [(2)] differences between the prior art and the claims at issue are to be ascertained; and [(3)] the level of ordinary skill in the pertinent art resolved.” Graham, 383 U.S. at 17. See also KSR, 550 U.S. at 406. “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” Id. at 416.
ANALYSIS

Claims 1, 4, 6, 7, and 9-12 rejected under 35 U.S.C. § 101 for failing to claim patentable subject matter

This rejection was first raised in the Answer. The Appellant has not argued this rejection in a Reply Brief. We take this as an indication that the Appellant has waived arguments as to this rejection and as such we summarily sustain the Examiner in rejecting claims 1, 4, 6, 7, and 9-12 under 35 U.S.C. § 101 for failing to claim patentable subject matter.

Claims 1, 4, 6, 7, 9-13, 16-18, and 20-22 rejected under 35 U.S.C. 103(a) as unpatentable over Bieganski

The Appellant first contends that (1) Bieganski fails to describe identifying a first item to be purchased by a user and identifying a second item to be purchased by a user, wherein the first item to be purchased and the second item to be purchased have associated product information, and determining whether the first item to be purchased is a mismatch of the second item to be purchased based on the product information, as per limitations [1] and [2] of claim 1 (App. Br. 16).

We disagree with the Appellant. Bieganski describes a product recommendation system where each item has compatibility rules associated to the item (FF 02). These associated compatibility rules are the same as product information associated with the items. The system further incorporates historical, shopping cart, and recommendation set information with the compatibility rules to determine whether a second item is compatible with the first item (FF 02). The compatibility rules include a
substitute rule, which specifically defines when a second item is not compatible with a first item (FF 03). If a first item is not compatible with a second item, it is a mismatch for that item. As such, Bieganski describes items having associated compatibility rules and determining whether a second item is incompatible with a first item and suggests incompatible items are mismatches.

The Appellant specifically contends that Bieganski only describes recommending a second item after a first item has been selected (App. Br. 16). However, Bieganski makes a determination of whether a second item is incompatible with a first item (FF 02). Since Bieganski is capable of making this incompatibility determination, it suggests that Bieganski can make this determination whether the second item is selected or not. As such, Bieganski does suggest that a determination of compatibility can be made between two items at any point in time.

The Appellant further contends that (2) Bieganski fails to describe responsive to determining that the first item to be purchased is a mismatch of the second item to be purchased: notifying the user that the first item to be purchased is a mismatch of the second item to be purchased, as per limitations [3] and [3][a] (App. Br. 16). The Appellant specifically contends that because the Examiner has admitted that Bieganski fails to describe mismatches, Bieganski cannot describe limitations [3] and [3][a] (App. Br. 16).

We disagree with the Appellant. As discussed supra, Bieganski describes determining whether a second item is incompatible with a first item and a determination of compatibility suggests the ability to determine
whether items are a mismatch. Bieganski further describes rendering a recommendation list to a user based on a compatibility score (FF 02). That is, a user is notified of a list of compatible items suggested by the system. Bieganski further describes the system can provide non-compatibility-aware sales information that provides users with a determination of whether items are non-compatible (FF 04). In other words, the non-compatibility-aware sales system notifies a user on whether a second selected item is non-compatible with a first item. As such, Bieganski describes limitations [3] and [3][a].

The Appellant also contends that (3) Bieganski fails to describe determining whether the second item to be purchased has a first match list of items, and responsive to determining that the second item to be purchased has a first match list of items, suggesting a first matching item to the user from the first match list of items and providing location information for the first matching item to the user, as per limitations [3][b], [3][c], and [3][d] (App. Br. 16-17).

We disagree with the Appellant. As discussed supra, Bieganski describes rendering a recommendation list set for an item based on a compatibility determination of that item and providing the set to the user. Bieganski further describes maintaining store maps in the system and uses a wireless system to provide a user with recommendations (FF 04). The use of store maps and a wireless system suggests that the recommendations are a based on the user location and the product locations. As such, Bieganski suggests that the product locations are known on the store maps.
The Appellant additionally contends that (4) Bieganski fails to describe responsive to determining that the first item to be purchased is not a mismatch of the second item to be purchased, or responsive to determining that the second item to be purchased does not have a first match list of items: determining whether the second item to be purchased is a mismatch of the first item to be purchased based on the product information; and responsive to determining that the second item to be purchased is a mismatch of the first item to be purchased: notifying the user that the second item to be purchased is a mismatch of the first item to be purchased; determining whether the first item to be purchased has a second match list of items; and responsive to determining that the first item to be purchased has a second match list of items, suggesting a second matching item to the user from the second match list of items and providing location information for the second matching item to the user, as required by the entirety of limitation [4] (App. Br. 17-18).

We disagree with the Appellant. Limitation [4] first requires that the first item is not a mismatch of the second item and then requires in limitation [4][a] that the second item is not a mismatch of the first item. Bieganski specifically describes that compatibility analysis can be done using bidirectional implication rules that specify a two-way relationship between items (FF 03). That is, the analysis that both the first item is incompatible with a second item and the second item is incompatible with a first item is done. As such, Bieganski describes limitations [4] and [4][a] of claim 1.

Limitations [4][b][i-iii] recite the same limitations as limitations [3][a-d] and are described or suggested by Bieganski for the same reasons discussed supra.
The Appellant also contends that (5) Bieganski fails to describe a “sphere of influence”, as required by claim 12 (App. Br. 19). The Examiner has constructed a “sphere of influence” to mean a bidirectional or multidirectional relationship between two items (Ans. 14 and 26-27).

We agree with the Examiner. The Specification is silent as to a special definition for the term “sphere of influence.” We find that the Examiner’s construction of a sphere of influence to mean showing a bidirectional or multidirectional relationship is within its broadest reasonable interpretation. Bieganski describes using bidirectional and multidirectional rules analysis in determining the compatibility of two items, as discussed supra. As such, Bieganski describes claim 12.

CONCLUSIONS OF LAW

The Appellant has not sustained the burden of showing that the Examiner erred in rejecting claims 1, 4, 6, 7, and 9-12 under 35 U.S.C. § 101 as failing to claim patentable subject matter.

The Appellant has not sustained the burden of showing that the Examiner erred in rejecting claims 1, 4, 6, 7, 9-13, 16-18, and 20-22 under 35 U.S.C. § 103(a) as unpatentable over Bieganski.

DECISION

To summarize, our decision is as follows.
• The rejection of claims 1, 4, 6, 7, and 9-12 under 35 U.S.C. § 101 as failing to claim patentable subject matter is sustained.

• The rejection of claims 1, 4, 6, 7, 9-13, 16-18, and 20-22 under 35 U.S.C. § 103(a) as unpatentable over Bieganski is sustained.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2007).

AFFIRMED

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