

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MALLIK MAHALINGAM, ZHICHEN XU,
and CHUNQIANG TANG

Appeal 2008-2167
Application 10/284,109¹
Technology Center 2100

Decided: December 29, 2008

Before HOWARD B. BLANKENSHIP, JAY P. LUCAS, and THU A. DANG, *Administrative Patent Judges.*

LUCAS, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF CASE

Appellants appeal from a final rejection of claims 1, 2, 5 to 11, and 14 to 19 under authority of 35 U.S.C. § 134. The Board of Patent Appeals and

¹ Application filed October 31, 2002. The real party in interest is Hewlett-Packard Development Co.

Interferences (BPAI) has jurisdiction under 35 U.S.C. § 6(b). Claims 3, 4, 12, 13, 20, and 21 are canceled.

Appellants' invention relates to a method and system for storing and retrieving a version of an object when the version number is not in the directory, but the date of interest is known. In the words of the Appellants:

According to an embodiment of the invention, a method for generating a snapshot of a file system operable to store a plurality of objects comprises receiving a snapshot time identifying a point in time in a history of the file system; and identifying at least one object available at the snapshot time based on one or more of a creation timestamp and an invisible _ after timestamp for the at least one object.

(Spec., 3).

Claim 1 is exemplary:

1. A method for generating a snapshot of a file system operable to store a plurality of objects, the method comprising steps of:

receiving a snapshot time identifying a point in time in a history of the file system;

identifying at least one object available from the file system at the snapshot time based on one or more of a creation timestamp and an invisible _ after timestamp for the at least one object, wherein the creation timestamp is associated with a time the at least one object is created in the file system and the invisible _ after timestamp is associated with a time the at least one object is made unavailable to a user but is not deleted from the file system;

generating a creation timestamp for each of a plurality of objects in the file system; and

generating an invisible _after timestamp for each of the plurality of objects in the file system, wherein objects having an invisible _after timestamp are unavailable to the user after a time of the timestamp, but are not deleted from the file system;

wherein the step of identifying at least one object further comprises
determining whether a creation timestamp for the at least one object is before the snapshot time;
determining whether an invisible _after timestamp for the at least one object is after the snapshot time; and

identifying the at least one object as available in response to the creation timestamp being before the snapshot time and the invisible _after timestamp for the at least one object being after the snapshot time, wherein the at least one object is a new version created from one of the plurality of objects in the file system that is an old version of the at least one object, and the creation timestamp for the now version is subsequent in time to the invisible _after timestamp of the old version.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Beardsley US 6,304,980 B1 Oct. 16, 2001

Varman et al., *Optimal Storage and Access to Multiversion Data*, Proc. ICC'94, International Conference on Computing and Information, 1605-1620, (1994).

REJECTIONS

R1: Claims 1, 2, 5 to 11, and 14 to 17 stand rejected under 35 U.S.C. § 103(a) for being obvious over Varman.

R2: Claims 18 and 19 stand rejected under 35 U.S.C. § 103(a) for being obvious over Varman in view of Beardsley.

Groups of Claims:

The arguments will be considered in the order of the rejections.

Appellants contend that the claimed subject matter is not rendered obvious by Varman alone, or in combination with Beardsley, for failure of the references to teach the limitations in the claims. The Examiner contends that each of the claims is properly rejected.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the Briefs and the Answer for their respective details. Only those arguments actually made by Appellants have been considered in this opinion. Arguments which Appellants could have made but chose not to make in the Briefs have not been considered and are deemed to be waived.

We affirm the rejections.

ISSUE

The issue is whether Appellants have shown that the Examiner erred in rejecting the claims under 35 U.S.C. § 103(a). The issue for R1 turns on whether the Varman reference teaches rendering an object (e.g. document) in a file system as unavailable to the user but not deleted, in the manner claimed. The issue for R2 turns on whether the Varman reference discloses a semantic catalog as claimed.

FINDINGS OF FACT

The record supports the following findings of fact (FF) by a preponderance of the evidence.

1. Appellants have invented a file system for objects in a computer in which various types of records or documents, video clips, pieces of art or other items may be stored. (Spec., 2, bottom). Though the documents may be developed through various versions, most of which are kept (*Id.*), the directories of the file system may not be adapted to retrieve the proper document based on its version number. (Spec., 7, l. 4+). The retrieval of the proper version of a document in that case may be based on semantic information about the document. (Spec., 2, l. 22). Semantic information “may be related to predetermined features that can be extracted from an object.” (Spec., 5, ll. 22-23). Examples of semantic information given in the Specification include the shiny smile of a person (p. 1, l. 23) or word or term frequency information for a text file (p. 6., l. 3) or time stamps associated with the object. (P. 7, l. 5). A timestamp applied at the time of a version’s creation (creation timestamp) and when it is retired from active use and thus made unavailable or invisible (invisible_after timestamp) define the limits of when an object is in active use. (P. 11, l. 6). After the latter timestamp, the object is hidden from the user’s view (*Id.*) albeit not actually deleted from the database, so it can be recovered. (P. 11, l. 25).

2. The Varman reference is a 1994 paper published in the Proceedings of the International Conference on Computing and Information. It describes a storage structure designed to facilitate taking “snapshots” of a database to support query operations. (P. 1605, bottom). “A temporal database provides automatic storage and management of old (versioned) data.” (P. 1606, l. 6). Each record is given start and end timestamps, and “remains valid until the time at which it is either updated or deleted. If the record is updated at a time t_1 it creates a new version that is valid from t_1 to \$[present time], and the end timestamp of the previous version becomes t_1 .” (P. 1608, l. 3). Thus, we infer that the previous version is kept. “Snapshots” retrieve all records that are valid at a time t_1 and not those that are “not valid.” (P. 1608, last line). Each record node “consists of five fields: (key, start, end, cptr, info).” (P. 1611, l. 16). [cptr is a pointer to an access list.]. The info field is the information carried by the record. (*Id.*) Start and End are the fields containing the timestamps indicating the time of creation and “the time at which the record was either deleted or updated.” (*Ibid.*, l. 19).

PRINCIPLES OF LAW

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner’s position. See *In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) (“On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie*

obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.”) (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

“It is common sense that familiar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1732 (2007).

“A court must ask whether the improvement is more than the predictable use of prior-art elements according to their established functions.” *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. at 1731 (2007).

ANALYSIS

From our review of the administrative record, we find that the Examiner has presented a *prima facie* case for the rejections of Appellants' claims under 35 U.S.C. § 103. The *prima facie* case is presented on pages 3 to 11 of the Examiner's Answer. In opposition, Appellants present a number of arguments.

Arguments with respect to the rejection of claims 1, 2, 5 to 11, and 14 to 17 under 35 U.S.C. § 103 [R1]

Appellants contend that the Examiner erred in rejecting claims 1, 2, 5 to 11, and 14 to 17 for being obvious over Varman. Exemplary claim 1 recites “wherein objects having an invisible _after timestamp are unavailable

to the user after a time of the timestamp, but are not deleted from the file system....” Varman shows an update operation for versions of a record. (See FF#2 above). Appellants argue

[h]owever, in such an *update* operation, Varman et al. makes no mention of making files (i.e., alleged objects that are being claimed) that are deemed old versions of the updated/new versions to be unavailable to the user after a time of the *invisible_after* timestamp. In fact, all files remain available to the users, regardless whether they have an end timestamp (alleged “*invisible_after* timestamp”), until such files are deleted.

(App. Br. 8, middle).

Varman teaches that the old versions of updated files are not valid after the end timestamp. (P. 1608, l. 3). Appellants’ argument that Varman’s non-valid versions are still available, in a manner different from that disclosed in their own Specification, is not persuasive. Both the reference Varman and the Appellants do not delete an updated record. One calls the old version “not valid,” and the other calls it “invisibility” or “unavailable,” but we find that it amounts to the same thing. Since a major purpose of the Varman system is to allow operations to be performed on the “latest version of records i.e. on the current database” (p. 1607, l. 14) we find Appellants’ reading of the reference strained. Varman discusses the present version as being the valid version, and in our view, we find that this lays a foundation to support the Examiner’s conclusion of non-obviousness. See FF#2 above and Examiner’s arguments in the Answer, page 13, bottom for more elaboration.

We thus decline to find error in the Examiner's rejection of claims 1, 2, 5 to 11, and 14 to 17 under 35 U.S.C. § 103.

*Arguments with respect to the rejection
of claims 18 and 19
under 35 U.S.C. § 103 [R2]*

Claims 18 and 19 include the limitation that “the file system further comprising a semantic catalogue storing semantic information for the plurality of objects.” (Claim 18, last limitation). Appellants argue that Varman “does not disclose anywhere in its disclosure of ‘a semantic catalogue.’” (App. Br., 9, bottom). As mentioned in Finding of Facts #1 above: “[S]emantic information may be related to predetermined features that can be extracted from an object.” (Spec., 5, l. 22). Examples of semantic information given in the Specification include the shiny smile of a person (p. 1, l. 23) or word or term frequency information for a text file (p. 6., l. 3) or time stamps associated with the object. (P. 7, l. 5).

Examiner has pointed out that the records in Varman include different fields, some of which contain the substantive information of the record, the “info” field, and some of which fields contain information about that information, the “start, end and cptr (retrieval pointer)” fields. (Answer, 15, bottom). We do not find error in the Examiner's labeling the latter types of information “semantic information” as we find it consistent with the examples given by Appellants in the Specification. Thus, we find the

claimed limitation disclosed in the prior art, and the rejection supported by that disclosure.

CONCLUSION OF LAW

Based on the findings of facts and analysis above, we conclude that the Examiner did not err erred in rejecting the claims of R1 and R2 under 35 U.S.C. § 103.

DECISION

The rejection of claims 1, 2, 5 to 11, and 14 to 17 under 35 U.S.C. § 103(a) for being obvious over Varman is affirmed.

The rejection of claims 18 and 19 under 35 U.S.C. § 103(a) for being obvious over Varman in view of Beardsley is affirmed.

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).

AFFIRMED

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