UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SUSANN MARIE KEOHANE, GERALD FRANCIS
MCBREARTY, JOHNNY MENG-HAN SHIEH, SHAWN PATRICK
MULLEN, and JESSICA KELLEY MURILLO

Appeal 2008-005957
Application 10/755,820
Technology Center 2100

Decided: September 18, 2009

Before JAMES D. THOMAS, ST. JOHN COURtenay III, and

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner’s final rejection of claims 1 through 15 and 17 through 22. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.
**Invention**

A method, apparatus, and computer instructions for managing caching of data by a browser. A request is received to retrieve a Web page. The request includes location information for the Web page. A determination is made as to whether a match is present in a data structure for the location information. In response to a match being present, the caching of data for the Web page is prevented or cached on a temporary basis. (Spec. 27, Abstract; Figs. 3, 5-6).

**Illustrative Claims**

1. A method in a data processing system for managing caching of data by a browser that is operable to retrieve and present web pages to a user of the data processing system, the method comprising:

   receiving a request to retrieve a Web page, wherein the request includes a location information for the Web page;

   determining whether a match is present in a data structure for the location information; and

   responsive to a match being present, managing caching of data for the Web page by preventing caching of data for the Web page by the browser such that the Web page is selectively cached by the browser based upon whether the match is present such that the data for the Web page is not maintained in a cache of the browser when the caching of the data is prevented.
9. A data processing system for managing caching of data by a browser that is operable to retrieve and present web pages to a user of the data processing system, the data processing system comprising:
   receiving means for receiving a request to retrieve a Web page, wherein the request includes a location information for the Web page;
   determining means for determining whether a match is present in a data structure for the location information; and
   managing means, responsive to a match being present, for managing caching of data for the Web page by caching the data for the Web page on a temporary basis by storing the data in a file that is overwritten with data for a second Web page when the second Web page is retrieved.

Prior Art and Examiner’s Rejections

The Examiner relies on the following reference as evidence of anticipation and unpatentability:

Chandra 6,457,047 B1 Sep. 24, 2002

The Examiner rejects claims 17 through 21 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Additionally, claims 1 through 4, 8 through 12, 17 through 20, and 22 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Chandra. The remaining claims on appeal, claims 5 through 7, 13 through 15, and 21, stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the Examiner relies upon Chandra alone.
Claim Groupings

Based upon Appellants’ arguments in the Brief and Reply Brief, independent claim 17 is representative of all claims rejected under 35 U.S.C. § 101. As to the rejection of certain claims under 35 U.S.C. § 102, independent claim 1 is considered representative of the subject matter of independent claims 1, 17, and 22 based upon the arguments presented at pages 14 through 16 of the principal Brief on appeal. Separate arguments are presented as to dependent claims 4, 12, 20, which recite the same limitation, dependent claim 8, and independent claim 9. Lastly, as to the rejection of certain claims under 35 U.S.C. § 103, Appellants’ arguments indicate that claim 6 is representative of the subject matter of claims 6 and 14. No arguments are presented in the principal Brief as to any other claim on appeal.

ISSUES

1. Have Appellants shown that the Examiner erred in concluding that the subject matter of representative independent claim 17 is directed to non-statutory subject matter within 35 U.S.C. § 101?

2. Have Appellants shown that the Examiner erred in finding that Chandra anticipates the subject matter of the grouped claims that are rejected under 35 U.S.C. § 102?

3. Have Appellants shown that the Examiner erred in concluding that the subject matter of representative dependent claim 6 would have being obvious to one of ordinary skill in the art within 35 U.S.C. § 103?
FINDINGS OF FACT

1. Appellants present the following as the state of the prior art:

   Currently, the most commonly employed method of transferring data over the Internet is to employ the World Wide Web environment, also called simply “the Web”. Other Internet resources exist for transferring information, such as File Transfer Protocol (FTP) and Gopher, but have not achieved the popularity of the Web. In the Web environment, servers and clients effect data transaction using the Hypertext Transfer Protocol (HTTP), a known protocol for handling the transfer of various data files (e.g., text, still graphic images, audio, motion video, etc.). The information in various data files is formatted for presentation to a user by a standard page description language, the Hypertext Markup Language (HTML). In addition to basic presentation formatting, HTML allows developers to specify “links” to other Web resources identified by a Uniform Resource Locator (URL). A URL is a special syntax identifier defining a communications path to specific information. Each logical block of information accessible to a client, called a “page” or a “Web page”, is identified by a URL. The URL provides a universal, consistent method for finding and accessing this information, not necessarily for the user, but mostly for the user’s Web “browser”. A browser is a program capable of submitting a request for information identified by an identifier, such as, for example, a URL. A user may enter a domain name through a graphical user interface (GUI) for the browser to access a source of content. The domain name is automatically converted to the Internet Protocol (IP) address by a domain name system (DNS), which is a service that translates the symbolic name entered by the user into an IP address by looking up the domain name in a database.

   Some of the features that provide a dynamic and adaptive nature for Web browsers used in surfing or browsing the Internet also are features that have high security concerns for individuals concerned about personal privacy. These features include cookies and page caching.
For example, when the user visits a credit card Website to view personal data, cookies and cached Web pages concerning the user’s visit may be cached onto the hard drive of the computer being used. Subsequent visits to other Websites may encounter fraudulent or mischievous sites that may wish to view or steal personal data from the user’s hard drive.

Some solutions for this issue include Web designers designing sites to prevent cookie or page caching to occur on the client computer. An example is a Java application that displays personal data in the application itself and not on the Web browser. Further, third-party plug-ins that flush all cookies and cache at set intervals also have been used. Additionally, one may manually set purge requests in the Web browser. One problem with programs providing for purging of sensitive data at set intervals or with the user manually purging data from the browser cache is that all of the data is purged. In some cases, such an event is undesirable. Further, in between events in which the browser cache is purged, a visit to a malicious Website may still result in the theft of personal or confidential data.

(Spec. 2, l. 8 to 4, l. 7).

Additionally, Appellants also indicate the state of the art in this manner:

Currently, a user may flush Web pages and cookies from cache through selecting an Internet option provided through browser.

(Spec. 11, ll. 28-30).

2. As relied upon by the Examiner, Chandra teaches, as part of the prior art, the following:

A typical web browsing application, such as Netscape® Navigator or Microsoft® Explorer, permits the user to cache web pages on their local computer. Then, during future browsing sessions, prior to retrieving the requested page from the server, the browser
checks to see if the web page is still stored in the web page cache. If the web page is in the cache, it is loaded from the cache. Otherwise, the browser requests the web page from the server. Typically, the browser deletes the cache after a certain period of time and does not permit caching of certain types of web pages, such as dynamic web pages. This type of caching may be referred to as static web page caching.

(Col. 1, ll. 10-22).

Chandra also teaches known functionalities of browsers at column 2, lines 20 through 26:

If a web site has multiple mirror sites, a directory name service (DNS) lookup (typically requested by the browser) will return multiple IP addresses in a list with a predefined order and the browser typically selects the first IP address. If the server selected by the browser is overloaded and a time-out occurs, the browser will select the next IP address in the list as so on.

PRINCIPLES OF LAW

Statutory Subject Matter

The subject matter of claims permitted within 35 U.S.C. § 101 must be a machine, a manufacture, a process, or a composition of matter. Moreover, our reviewing court has stated that “[t]he four categories [of § 101] together describe the exclusive reach of patentable subject matter. If the claim covers material not found in any of the four statutory categories, that claims falls outside the plainly expressed scope of § 101 even if the subject matter is otherwise new and useful.” In re Nuijten, 500 F.3d 1346, 1354 (Fed. Cir. 2007), reh’g en banc denied, 515 F.3d 1361 (Fed. Cir. 2008), cert. denied, 127 S. Ct. 70 (2008). Accord In re Ferguson, 558 F.3d
1359 (Fed. Cir. 2009). Thus, a “signal” cannot be patentable subject matter because it is not within any of the four categories. *In re Nuijten*, 500 F.3d at 1357.

*Anticipation*

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. Of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The properly interpreted claim must then be compared with the prior art.

The rule that anticipation requires that every element of a claim appear in a single reference accommodates situations where the common knowledge of “technologists” is not recorded in a reference, i.e., where technical facts are known to those in the field of the invention. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1269 (Fed. Cir. 1991). Similarly, *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995), confirms the longstanding interpretation that the teachings of a reference may be taken in combination with knowledge of the skilled artisan to put the artisan in
possession of the claimed invention within 35 U.S.C. § 102, even though the patent does not specifically disclose certain features.

Obviousness

Section 103 forbids issuance of a patent when “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.”


In KSR, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” id. at 415, and discussed circumstances in which a patent might be determined to be obvious. Id. at 415-16 (citing Graham v. John Deere Co., 383 U.S. 1, 12 (1966)). The Court reaffirmed principles based on it precedent that “[t]he 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. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” Id. at 417.

The Federal Circuit has recognized that “[a]n obviousness determination is not the result of a rigid formula disassociate from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrated why some combinations would have been obvious where others would not.” Leapfrog Enters, Inc. v. Fisher-Prince Inc., 485 F.3d 1157, 1161 (Fed. Cir. 2007) (citing KSR, 550 U.S. at 416).
The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was “uniquely challenging or difficult for one of ordinary skill in the art” or “represented an unobvious step over the prior art.” *Id.* at 1162 (citing *KSR*, 550 U.S. at 418).

**ANALYSIS**

*Rejection under 35 U.S.C. § 101*

Independent claim 17 recites a “computer program product encoded in a computer readable medium,” where the preamble ends with the recitation “the computer program product comprising.” The body of the claim recites various numbered instructions for performing a certain function.

The Examiner’s statement of the rejection at page 3 of the Answer takes the view that the claimed medium is directed to transmission-type media including signal communications. The Examiner takes the same view at page 7 of the Answer that the claimed computer readable medium “can be a signal bearing media, which is not tangible, and therefore is not statutory.”

We agree with this assessment of the Examiner since the paragraph bridging pages 19 and 20 of the Specification is consistent with the Examiner’s views as to what a computer readable medium comprises in the preamble of independent claim 17. Notwithstanding Appellants’ extensive arguments in the principal Brief and the positions at page 2 of the Reply Brief, the earlier-noted case law in this opinion indicates that such signal bearing media are non statutory subject matter under § 101. *See In re Nuijten*, 500 F.3d at 1354. This is buttressed by the fact that the computer program product is recited in the preamble to be merely encoded “in” the
computer readable medium, which is consistent with the signal bearing media of the noted paragraph in the Specification and the Examiner’s positions. Moreover, and significantly, it is this computer program product itself that is recited in detail in the body of the claim in the form of reciting various computer program instructions.

According to Appellants’ positions at page 2 of the Reply Brief, Appellants take issue with the Examiner’s characterization that the signal bearing media is non-tangible. Appellants go on to indicate that the word “tangible” is not limited to elements that may be perceived only by the sense of touch. Indeed, the footnote excerpt from a well-known dictionary at page 2 of the Reply Brief is of no help to Appellants’ expansive position since perceptability or realization of it by human mind clearly would not fall within any of the earlier-noted case law permitted categories of invention. We affirm the Examiner’s rejection of claims 17 through 21 under 35 U.S.C. § 101.

*Anticipation Rejection*

The teachings we have noted in Finding of Fact 2 from Chandra, as well as Appellants’ own recognition of the state of the admitted prior art reproduced in Finding of Fact 1, well support the Examiner’s conclusion of anticipation of the subject matter of representative independent claim 1 as well as independent claim 9. As to independent claim 9, the feature of managing permits the caching of web page data on a temporary basis which, later in time, is overwritten by new information. The temporary storage capabilities are taught by the Examiner’s relied on portion of Chandra
reproduced in Finding of Fact 2 since the browser is capable of deleting the cached web page after a certain period of time. This approach is consistent with what Appellants have recognized to be a part of the admitted prior art including the selective deletability (flushing and/or purging) of web page information at set intervals or even after every use by the user. The overwriting capability of independent claim 9 relates to an artisan’s understanding that the addressability of a given storage location is deallocated until such time as the operating system writes new data into that given location.

A view taken by the Examiner is that preventing caching in independent claim 1 does not mean total prevention. This analysis of the Examiner is consistent with the disclosed and claimed invention because the claim goes on to recite that, once a match is present, data is selectively cached by the browser, except that it is “not maintained in a cache.” This functionality is consistent with or restates more awkwardly the temporary storage requirements of representative independent claim 9 as well. Again, all of this functionality of representative independent claim 1 and independent claim 9 are inclusive of what is known in the prior art.

A view taken by the Examiner that is implicit in the rejection of the respective independent claims is that the cache itself comprises the claimed “data structure.” The discussion at the middle of page 4 of the Reply Brief agrees with this characterization of the Answer. There is no recited recitation in any independent claim on appeal of the functionality of actually placing any information in any data structure.
With this understanding in mind, the corresponding limitations in dependent claims 4, 12, and 20 recite adding a new location to a cache memory data structure or line entry. A person of ordinary skill in the art would understand from Finding of Fact 2, the portion at column 1 relied upon by the Examiner, that the user is permitted to cache pages and therefore, add new cacheable web page locations in a manner consistent with what is recited in these noted dependent claims. Moreover, this teaching is inclusive of what Appellants have recognized was a part of the prior art in Finding of Fact 1.

We turn next to the rejection of dependent claim 8, wherein a special type of prevention of the caching functionality is to send the data for a web page to a “/dev/null” directory.” As disclosed, this functionality is part of the prior art operating systems as recognized in the middle paragraph of page 13 of the Specification. Indeed, the manner in which a delete functionality from Chandra’s teachings as well as the Appellants’ admitted prior art teachings of flushing or purging information is not specifically taught, such as to be a capability known within the artisan’s knowledge, particularly with respect to known operating systems. The use of the claimed directory is also apparently known in the art as admitted by Appellants at the top of page 5 of the Reply Brief where it is considered by Appellants to be one of several known manners in the art to delete data. According to the explanation at page 13 of the Specification, known operating systems characterize this as a flushing operation or writing to a “black hole.” These characterizations are consistent with the Examiner’s extrinsic definitional evidence of what a “null” functionality is known in the
art to comprise, that is, a data sink or the discarding of information by writing it to a null location.¹

Thus, from the perspective of a person of ordinary skill in the art, we find an artisan having knowledge of the enabled Chandra reference would have been in possession of the argued functionalities recited in dependent claims 4, 8, 12, and 20 that are argued within the context of the rejection under 35 U.S.C. § 102. Therefore, we agree with the Examiner’s finding of anticipation. See In re Graves, 69 F.3d at 1152.

Obviousness Rejection

Lastly, we turn to the rejection of dependent claim 6 as representative of the subject matter of dependent claims 6 and 14. Claim 6 merely recites the additional denomination of a domain name in a conventional universal resource locator (URL). This is a known property of Internet accessibility services as noted in the column 2 location of Finding of Fact 2, as well as in Appellants’ discussion of the admitted prior art functionalities associated with well-known browsers. To the extent the Examiner relies upon inherency and/or Official Notice, what Chandra teaches is in the prior art to him as well as Appellants’ own recognition of what is in the prior art, well-justifies the Examiner’s views.

CONCLUSIONS OF LAW

1. Appellants have not shown that the Examiner erred in concluding that the subject matter of representative independent claim 17 is directed to non-statutory subject matter within 35 U.S.C. § 101.

2. Likewise, Appellants have not shown that the Examiner erred in finding that Chandra’s teachings of the prior art anticipate the subject matter of the claims rejected under 35 U.S.C. § 102.

3. Lastly, Appellants have also not shown that the Examiner erred in concluding that Chandra would have rendered obvious to a person of ordinary skill in the art the subject matter of representative dependent claim 6 on appeal.

DECISION

The Examiner’s rejection of claims 17 through 21 under 35 U.S.C. § 101 is affirmed. The Examiner’s rejection of claims 1 through 4, 8 through 12, 17 through 20, and 22 as being anticipated by Chandra under 35 U.S.C. § 102 is affirmed. Lastly, we also affirm the Examiner’s rejection of claims 5 through 7, 13 through 15, and 21 under 35 U.S.C. § 103 as being obvious over Chandra alone. All claims on appeal are unpatentable.

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
Appeal 2008-005957
Application 10/755,820

msc

IBM CORP (YA)
C/O YEE & ASSOCIATES PC
P.O. BOX 802333
DALLAS, TX 75380