

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MICHAEL ABRAHAM BENEDIKT, JULIANA FREIRE SILVA,
PATRICE ISMAEL GODEFROID, and AVINASH VYAS

Appeal 2008-3900
Application 10/252,210
Technology Center 2400

Decided¹: June 30, 2009

Before LEE E. BARRETT, LANCE LEONARD BARRY, and THU A.
DANG, *Administrative Patent Judges*.

BARRY, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

The Patent Examiner rejected claims 1-15. The Appellants appeal therefrom under 35 U.S.C. § 134(a). We have jurisdiction under 35 U.S.C. § 6(b).

INVENTION

The invention at issue on appeal, "VeriWeb[,] automatically discovers and systematically tests all execution paths that can be followed by a user in a Web application." (Spec. 4., ll. 18-20.) "[U]nlike traditional crawlers[,] which are limited to testing static links, VeriWeb automatically navigates through dynamic components of Web sites including . . . form submissions . . . (Spec. 4, ll. 20-22.)

ILLUSTRATIVE CLAIM

1. A method for use in the exploration and testing of Web sites including the steps of:

 systematically exploring a dynamic Web site, said Web site including one or more dynamically generated Web pages; including

 determining possible user actions that may be performed in a Web page,

 determining if any of said user actions correspond to at least one form,

 if so, automatically generating user values to populate said at least one form,

 automatically and systematically executing said determined user actions, and

 testing results of said execution for errors;

wherein said step of automatically generating user values to populate said at least one form further comprises:

determining a form schema;

identifying at least one signature that matches the determined form schema;

selecting one or more predetermined profiles associated with the identified signature(s);

utilizing the selected predetermined profile(s) to generate one or more candidate form completions; and

utilizing said candidate form completion(s) to provide said user values.

PRIOR ART

Monier	US 5,974,455	Oct. 26, 1999
Gupta et al	US 6,199,079	Mar. 6, 2001
Vine et al	US 2002/0056053	May 9, 2002

Sriram Raghavan et al., "Crawling the Hidden Web", 12/2000, pp. 1-25 (hereinafter Raghavan).

Rational Robot, http://www.rational.com/media/products/robot/d323_Robot.pdf, 2001, pp. 1-2 (hereinafter "Rational Software").

REJECTIONS

Claims 1, 3-6, 11, and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Raghavan and Gupta.

Claims 2, 7, 8, 10, 14, and 15 stand rejected under § 103(a) as being unpatentable over Raghavan, Gupta, and Rational Software.

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Claim 9 stands rejected under § 103(a) as being unpatentable over Raghavan, Gupta, and Vine.

Claim 13 stands rejected under § 103(a) as being unpatentable over Raghavan, Gupta, and Monier.

CLAIM GROUPING

When multiple claims subject to the same ground of rejection are argued as a group by appellant, the Board may select a single claim from the group of claims that are argued together to decide the appeal with respect to the group of claims as to the ground of rejection on the basis of the selected claim alone. Notwithstanding any other provision of this paragraph, the failure of appellant to separately argue claims which appellant has grouped together shall constitute a waiver of any argument that the Board must consider the patentability of any grouped claim separately.

37 C.F.R. § 41.37(c)(1)(vii).

Here, the Appellants argue claims 1, 3-6, and 11 as a group. (Br. 4-8.) The claims of the group are subject to the same ground of rejection. Therefore, we select claim 1 as the sole claim on which to decide the appeal of the group. "With this representation in mind, rather than reiterate the positions of the parties *in toto*, we focus on the issues therebetween." *Ex Parte Zettel*, 2007 WL 3114962, at *2 (BPAI 2007).

ANALOGOUS ART

The Examiner makes the following findings. "Gupta et al is analogous art because it is related to automatically processing of web page

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data . . . (Gupta, column 3, lines 11-19)." (Ans. 12.) "Rational Software is analogous art because it is related to automatic testing of web pages." (*Id.*) "Vine et al is analogous art because it is related to detecting and processing failures related to web sites." (*Id.* 14.) "Monier is analogous art because it is related to analyzing web pages." (*Id.* 15.) The Appellants argue that Gupta, Rational Software, Vine, and Monier are non-analogous art. (Br. 8, 12, 17, 19.)

ISSUE

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's findings that Gupta, Rational Software, Vine, and Monier are analogous art.

LAW

"Whether a reference in the prior art is 'analogous' is a fact question." *In re Clay*, 966 F.2d 656, 658, (Fed. Cir. 1992) (citing *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 n.9 (Fed. Cir. 1987)). Two criteria have evolved for answering the question: "(1) whether the art is from the same field of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *Clay*, 966 F.2d at 658-59 (citing *In re Deminski*, 796 F.2d 436, 442, (Fed. Cir. 1986); *In re Wood*, 599 F.2d 1032 (CCPA 1979)).

FINDINGS OF FACT ("FFs")

1. The Appellants' "VeriWeb addresses two critical problems: systematic Web site exploration and *automatically filling out forms.*" (Spec. 2 ll. 22-23 (emphasis added.))

2. Gupta discloses "[a] method of automatically filling in on-line forms presented by web pages" (Abs., ll. 1-2.)

3. The Appellants are involved in "Web-site testing" *inter alia.* (Spec. 2.)

4. Rational Software "automates GUI [i.e., graphical user interface] functional testing." (P. 1, col. 1.)

5. Vine "is directed to web failures and in particular to apparatus and methods for detecting and customizing web failures" (¶ 0002.)

6. "Whenever examining a new Web page, the [Appellants'] system determines all possible actions a user might perform" (Spec. 2.)

7. Monier's "Web crawler . . . analyz[es] Web pages on the World Wide Web" (Col. 1, ll. 10-12.)

ANALYSIS

The Appellants are involved with the problem of automatically filling out forms. (FF 1.) Similarly, Gupta automatically fills out on-line forms presented by web pages. (FF 2.) Therefore, we find that Gupta is reasonably pertinent to a particular problem with which the inventor is involved and, thus, is analogous art.

The Appellants are involved in testing Web sites. (FF 3.) Rational Software automates the testing of a GUI. (FF 4.) Persons skilled in the art would have known that Web sites and GUIs are implemented via software program. Therefore, the Appellants and Rational Software are both involved with testing software, and we agree with the Examiner's finding that Rational Software is analogous art.

Vine detects Web failures. (FF 5.) Because we agree with the Examiner that "detecting and processing failures related to web sites" (Ans. 14) is reasonably pertinent to the Appellants' testing of Web sites, we further agree with the Examiner's finding that Vine is analogous art.

As part of its testing, the Appellants' invention analyzes Web pages, determining all actions a user might perform. (FF 6.) Monier's Web crawler also analyzes Web pages. (FF 7.) Because the Appellants and Monier both analyze Web pages, we find that the latter reference is reasonably pertinent to a particular problem with which the inventor is involved. Therefore, we agree with the Examiner's finding that Monier is analogous art.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's findings that Gupta, Rational Software, Vine, and Monier are analogous art.

COMBINING TEACHINGS FROM REFERENCES

The Examiner makes the following findings and conclusions.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the automatic generation of user values in Gupta et al with the system in Raghavan et al because a user is not required to fill in multiple forms and the use [sic] does not have to repeatedly enter the same information in (Gupta, column 3, lines 11-19).

(Ans. 5.)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the logging in Rational Software with the system of Raghavan et al in view of Gupta et al because the recorded information is used to track and report about quality assurance testing (Rational, page 1).

(*Id.* 7.)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the HTTP error detection in Vine et al with the system in Raghavan et al in view of Gupta et al because the system improves on current systems of error detecting by detecting the failure and dynamically fixing it in view of the user (paragraph 9).

(*Id.* 9.)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to use the flagging and logging in Monier with the system in Raghavan et al in view of

Gupta et al because speed is increased and latency is decreased
(Monier, abstract).

(*Id.* 10.)

The Appellants make the following arguments. "[S]ince Raghavan alone discloses a method for automatic generation of user values to populate forms, there is no motivation whatsoever for one skilled in the art to look outside of the automated exploration and testing context to Gupta for such a method." (Br. 6.) Regarding the Examiner's reasons for combining teachings from Rational Software, Vine, and Monier with those of Raghavan and Gupta, the Appellants argue that these reasons "us[e] the benefit obtained from a combination as a motivation for that combination; this is impermissible hindsight." (*Id.* 13, 18, 20.)

ISSUE

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's combining of teachings from Raghavan, Gupta, Rational Software, Vine, and Monier.

LAW

The presence or absence of a reason "to combine references in an obviousness determination is a pure question of fact." *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). "[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result" to be nonobvious. *KSR Int'l v. Teleflex Inc.*, 550

U.S. 398, 416 (2007) (citing *United States v. Adams*, 383 U.S. 39, 50-51 (1966)).

"Any judgment on obviousness is . . . necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned from applicant's disclosure, such a reconstruction is proper." *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971). *See also Radix Corp. v. Samuels*, 13 USPQ2d 1689, 1693 (D.D.C. 1989) ("[A]ny obviousness inquiry necessarily involves some hindsight.").

FINDINGS OF FACT

8. Raghavan discloses that "[a] user 'fills out' a form by associating a value or piece of text with each element of the form. A [web] crawler must perform a similar value assignment by selecting suitable values from the domain of each form element." (P. 7, § 3.2.) (emphasis removed). Generally, the reference's crawler "[g]enerate[s] the best (untried) value assignment and submit[s] a completed form using that assignment." (P. 10, Step 4.) More specifically, "the crawler generates value assignments by textually matching element labels with labels in the L[abel Value Set] table." (P. 8, § 3.3.)

9. Gupta's " FIG. 3D depicts a flowchart . . . of the process steps for automated form filing [sic] according to a particular embodiment of the invention." (Col. 8, ll. 20-23.)

ANALYSIS

Raghavan discloses a web crawler for automatically generating user values to fill out on-line forms (FF 8) but does not disclose the specific steps of claim 1. Gupta teaches a process for automated form filling (FF 9), which includes the specific steps as explained *infra*. We find that one of ordinary skill in the art could have substituted the process of Gupta for that of Raghavan, and the results of the substitution would have been predictable.

Furthermore, the Examiner's reasons for combining teachings from Rational Software, Vine, and Monier with those of Raghavan and Gupta are based on the teachings of Rational Software, Vine, and Monier. These reasons do not include knowledge gleaned only from the Appellants' disclosure.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the Examiner's combining of teachings from Raghavan, Gupta, Rational Software, Vine, and Monier.

LIMITATIONS OF CLAIMS 1, 3-7, 11, AND 13

The Examiner makes the following findings.

Gupta et al teaches determining form identifiers (figure 3D, column 8, lines 20-25), matching an identifier to a pattern (column 8, lines 26-33), selecting the values to be used in the form (column 8, lines 26-50), using the values in the form (column 8, lines 26-50), and filling the form in and providing the values (column 8, lines 49-52).

(Ans. 5.)

The Appellants make the following arguments.

Gupta teaches that step 350 determines an appropriate form identifier for a particular vendor. Then, in step 352, the form identifier is used to determine one or more corresponding matching patterns. In step 354, the matching patterns determined from the form identifier are compared to a web page containing a form of interest to be filled in. This is fundamentally different than the claimed arrangement, where form schema are used to generate at least one signature, at least one profile is determined from the signature(s), and that profile is used to generate one or more candidate form completions. The profiles referred to in Gupta are vendor-specific matching patterns that are compared to a given web page that contains the form to be filled in. The recited profiles of the claim correspond to a signature or signatures that are generated from form schema determined for the particular form to be filled in.

(Br. 4-5.)

ISSUE

Therefore, the issue before us is whether the Appellants have shown error in the finding that Gupta discloses identifying at least one signature and determining a form schema, wherein the signature matches the schema; selecting at least one predetermined profile associated with the signature; using the selected profile to generate at least one candidate form completion; and using the candidate completion to provide user values.

LAW

The question of obviousness is "based on underlying factual determinations including . . . what th[e] prior art teaches explicitly and

inherently" *In re Zurko*, 258 F.3d 1379, 1383 (Fed. Cir. 2001). "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 783 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976)).

FINDINGS OF FACT

10. "[I]n a step 352 [of Gupta], [a] form identifier . . . is used to determine one or more corresponding matching patterns using relationship 70. Relationship 70 associates form identifier form name 72, which will be the form identifier determined in step 350, with pattern 74. Next, in a step 354, pattern 74 is matched against a page web page containing a form of interest which is to be filled in." (Col. 8, ll. 27-34.) "[I]n a step 358, the page is parsed in order to obtain a plurality of attributes." (*Id.* ll. 38-39.)

11. "Then, in a step 359, properties are identified using relationship 80 to identify those required to fill in the target form." (*Id.* ll. 39-41.)

12. "In a step 360, a value is obtained for each property using relationship 90 by matching the form identifier to a form name 94 and reading property—value pairs 96, 98 and 99." (*Id.* ll. 41-44.)

13. "Next, in a step 362, the properties determined in step 358 are transformed using relationship 80 to yield values for each attribute in the target form by applying transformation function 88 corresponding to property name 86 matching the property of interest in relationship 80 for the

particular form identifier form name 82. The result is used to fill in the attribute corresponding to attribute name 84. Finally, in a step 364, the target form is filled in with property values obtained in step 362." (*Id.* ll. 43-51.) Figure 3D labels these property values as "user values."

ANALYSIS

As aforementioned, Gupta teaches a process for automated form filling. (FF 9.) The process includes steps of determining at least one matching pattern, using the matching pattern to identify a web page containing a form of interest, and parsing the web page to obtain attributes. (FF 10.) We find that using the matching pattern to identify a web page containing a form of interest constitutes matching a signature to the form as claimed. Therefore, we further find that these steps would have suggested the claimed steps of identifying at least one signature and determining a form schema, wherein the signature matches the schema.

The reference's process also identifies properties required to fill in the target form. (FF 11.) We find that the required properties constitute a profile as claimed and that the properties are associated with patterns for identification. Therefore, we find that such identification of properties would have suggested the claimed selecting at least one predetermined profile associated with the signature.

Gupta's process obtains a value for each property. (FF 12.) We find the obtaining of values would have suggested the claimed use of the selected profile to generate at least one candidate form completion.

The reference's process transforms the properties to yield values for each attribute in the target form and fills-in the target form with the user values. (FF 13.) We find that the values for each attribute in the target form constitute at least one candidate form completion as claimed. We further find that the yielding of the values would have suggested the claimed step of using the selected profile to generate at least one candidate form completion. We also find that the filling-in of the form with the values would have suggested the claimed step of using the candidate completion to provide user values.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown no error in the finding that Gupta discloses identifying at least one signature and determining a form schema, wherein the signature matches the schema; selecting at least one predetermined profile associated with the signature; using the selected profile to generate at least one candidate form completion; and using the candidate completion to provide user values.

LIMITATIONS OF CLAIM 12

The Examiner finds that "Raghavan et al teaches generating values and based on the response assigning variables for the fields (section 4, page 10, steps 1-3)." (Ans. 12.) The Appellants argue that Raghavan "fails to teach or suggest the limitations of claim 12 directed toward . . . generating a set of partial matches and selecting a match from said set of partial

matches. Further, Gupta fails to supplement these fundamental deficiencies of Raghavan" (Br. 9.)

ISSUE

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that Raghavan teaches generating a set of partial matches and selecting a match therefrom.

LAW

"The Patent and Trademark Office (PTO) must consider all claim limitations when determining patentability of an invention over the prior art." *In re Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994) (citing *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983)).

ANALYSIS

The Examiner does not address, let alone show, that Raghavan and Gupta would have suggested the limitations of generating a set of partial matches and selecting a match therefrom.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown error in the Examiner's finding that Raghavan teaches generating a set of partial matches and selecting a match therefrom.

LIMITATIONS OF CLAIMS 2, 14, AND 15

The Examiner admits that the combination of Raghavan and Gupta "fails to teach storing actions and states explored." (Ans. 7.) He finds that "Rational Software teaches logging all test results for later review which one of ordinary skill in the art can interpret to include a state-space path from an initial Web page (Rational, page 2, column 1, paragraph 3)." (*Id.* 14.) The Appellants argue that Rational Software "does not teach or suggest . . . detecting when a prescribed state search depth is reached or that an error has been detected, and as a result of said detecting, re-initializing exploration from a predetermined initial URL" (Br. 11), i.e. uniform resource locator. They also argue that the reference "fails to meet the . . . limitations of claim 14 directed to the storage of a scenario defining a state-space path from an initial Web page to an error." (*Id.* 16.)

ISSUE

Therefore, the issue before us is whether the Appellants have shown error in the Examiner's finding that Rational Software teaches detecting when a prescribed state-space depth is reached and, as a result of said detecting, re-initializing an exploration from a predetermined URL or that the reference teaches storing a scenario defining a state-space path from an initial Web page to an error.

LAW

"A rejection based on section 103 clearly must rest on a factual basis. . . ." *In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967). "The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not

. . . resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis." *Id.*

FINDING OF FACT

14. Rational Software discloses that "Rational Robot automatically logs all test results." (P. 2, col. 1, ¶ 3.)

ANALYSIS

As aforementioned, the Examiner admits that Raghavan and Gupta fail to teach the limitations of claims 2 and 14. The part of Rational Robot on which he relies merely discloses automatically logging all test results. (FF 14.) The part mentions neither a prescribed state-space depth re-initializing an exploration from a predetermined URL, nor storing a scenario defining a state-space path from an initial Web page to an error. His aforementioned finding that one of ordinary skill in the art can interpret the logged test results to include a state-space path from an initial Web page strikes us as speculation or unfounded assumption, which cannot remedy the deficiencies in the rejection.

CONCLUSION

Based on the aforementioned facts and analysis, we conclude that the Appellants have shown error in the Examiner's finding that Rational Software teaches detecting when a prescribed state-space depth is reached and, as a result of said detecting, re-initializing an exploration from a predetermined URL or that the reference teaches storing a scenario defining a state-space path from an initial Web page to an error.

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DECISION

We affirm the rejections of claims 1, 3-11, and 13. In contrast, we reverse the rejections of claims 2, 12, 14, and 15.

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

AFFIRMED-IN-PART.

nhl

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