

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUNPIMON A. HOULIHAN, TRENT L. DENNIS,
WILLIAM V. MURPHY, and DAVID SCHWARTZ

Appeal 2007-2928
Application 10/217,641
Technology Center 3700

Decided: January 7, 2008

Before WILLIAM F. PATE, III, HUBERT C. LORIN, and
ANTON W. FETTING, *Administrative Patent Judges*.

PATE, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 52-67, all the claims currently pending in the application. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM.

THE INVENTION

Appellants' claimed invention is directed to interactive computer-based training (Spec. 1:9-10). Claims 52 and 66, reproduced below, are representative of the subject matter on appeal.

52. A method of instructing a student at a student workstation, comprising the steps of:
 downloading a lesson engine to the student workstation;
 providing courseware including a plurality of available lesson files for download to the student workstation;
 receiving a selection from the student specifying a lesson file from the plurality of available lesson files;
 downloading the student-selected lesson file to the student workstation; and
 running the student-selected lesson file on the lesson engine to present the student with interactive training.

66. An instructor-free computer-based interactive training program run by a lesson delivery system comprising the steps of:
 upon booting a student workstation, automatically downloading a lesson engine including a consistent user interface to the student workstation;
 prompting a student for a student identification parameter;
 based upon the student identification parameter, providing a plurality of available lesson files and associated multimedia content that the student is permitted to run;
 receiving a selection from the student specifying a lesson file from the plurality of available lesson files, and, in response to lesson file selection

made by the student, downloading the student-selected lesson file and associated multimedia content to the student workstation; and
running the student-selected lesson file and associated multimedia content on the consistent user interface to provide interactive computer-based training.

THE REJECTIONS

The Examiner relies upon the following evidence in the rejections:

Lee	US 5,267,865	Dec. 7, 1993
Daniels	US 5,310,349	May 10, 1994
Griswold	US 5,749,736	May 12, 1998

The following rejections are before us for review.

1. Claim 66 stands rejected under 35 U.S.C. § 101 for being directed to non-statutory subject matter.¹
2. Claims 52, 55, 56, 64, 65, and 67 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee and Daniels.
3. Claims 53, 54, 57-63 and 66 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee, Daniels, and Griswold.

ISSUE

Appellants contend that claim 66 is directed to statutory subject matter because the claimed invention (1) results in a physical transformation, and (2) provides a practical application because it produces a concrete, tangible and useful result (Br. 11). Appellants further contend that the Examiner failed to establish a *prima facie* case of obviousness because (1) the combination of Lee and Daniels

¹ The rejection of claim 67 under 35 U.S.C. § 101 has been withdrawn by the Examiner (Answer 2).

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fails to teach each and every claimed element, and (2) there is “no teaching or suggestion in the prior art references to combine Lee and Daniels” (*Id.*). The Examiner found that claim 66 is drawn to a computer program per se without “any sort of computer readable medium which is capable of allowing the realization of the functionality of the program” and therefore the claim is drawn to non-statutory subject matter (Answer 3). The Examiner further held that it would have been obvious “to incorporate the distribution method of the Daniels et al. system into the Lee et al. system so as [to] allow a student user the ability to independently select a lesson to work on prior to downloading all available lessons and thus reducing total transmission time and reducing the amount of memory necessary on the student workstations” (Answer 4). The issues before us are:

1. Whether Appellants have shown that the Examiner erred in rejecting claim 66 under 35 U.S.C. § 101 for being directed to non-statutory subject matter.
2. Whether Appellants have shown that the Examiner erred in rejecting claims 52, 55, 56, 64, 65, and 67 as being unpatentable over Lee and Daniels.
3. Whether Appellants have shown that the Examiner erred in rejecting claims 53, 54, 57-63 and 66 as being unpatentable over Lee, Daniels, and Griswold.

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed.

Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Lee teaches an interactive educational system and method (Lee, Col. 2, ll. 26-27).

2. According to the method of Lee, the teacher initializes the system and then the student enters their homework assignments from the previous day into the system (Lee, col. 6, l. 68 to col. 5, l. 2).

3. The teacher and/or system program can use the results of the homework assignments in conjunction with each student's progress to assign lesson segments to each student (Lee, col. 5, ll. 14-19).

4. The assignment process allows the teacher and/or system program to determine how much and what type of material each student can access for a given period of time (Lee, col. 5, ll. 19-22).

5. The assignment process is controlled by the CPU of the teacher's station which downloads the control programs corresponding to the lesson segments selected by the teacher and/or system program from the teacher's workstation to the selected student's workstation through the LAN (Lee, col. 5, ll. 26-32).

6. When run by the student (i.e., when the student selects a particular lesson segment) these control programs access the various information storage devices to retrieve the audio and visual data created for each lesson segment.

7. Lee does not disclose downloading the student-selected lesson file to the student workstation.

8. Daniels teaches a virtual school user interface running on networked personal computers for providing administrative and instructional functions to users in a scholastic environment (Daniels, col. 1, ll. 54-57).

9. When a student logs on, the Instructional Management System (IMS) displays a list of the sequences that have been assigned to the student, and the student then selects which of these sequences that he or she wishes to see (Daniels, col. 7, ll. 31-34).

10. The IMS also includes a Courseware Scheduler for delivering specific courseware to specific computers during specific time periods (Daniels, col. 12, ll. 3-5).

11. The purpose of the Courseware Scheduler is to program the system to deliver specific Courseware Assignments to specific workstations during specific time periods (Daniels, col. 12, ll. 15-18).

12. Rotation method is the other attribute of a Reservation that specifies the method to determine which Courseware Assignment will be delivered. There are two methods available (Daniels, col. 13, ll. 25-28).

13. One of the two rotation methods is Student Choice, i.e., the student may select which Courseware Assignment to work on after the completion of a Learning Event (Daniels, col. 13, ll. 29-31).

14. Griswold teaches a method and system for providing evaluation of the ability of a user to comprehend presented data (Griswold, col. 8, ll. 59-61).

15. The method and system is divided into an authoring portion and presentation portion (Griswold, col. 8, ll. 62-64).

16. The authoring portion allows a developer or author to take a pool of relevant data and organize it for presentation to a user. The presentation portion takes the data as organized and presents it to the user (Griswold, col. 8, ll.64-67).

PRINCIPLES OF LAW

“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.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 17-18.

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 1739, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in

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Graham reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” KSR, 127 S.Ct. at 1739 (citing *Graham*, 383 U.S. at 12 (emphasis added)), and reaffirmed principles based on its 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.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, 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 1740. 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.*

The Supreme Court stated that “[f]ollowing these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement.” *Id.* The Court explained,

Often, it will be necessary for a court to look to 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, all

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in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

Id. at 1740-41. The Court noted that “[t]o facilitate review, this analysis should be made explicit.” *Id.* (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”). However, “the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *Id.*

ANALYSIS

Rejection of claim 66 under 35 U.S.C. § 101

Appellants contend that claim 66 is directed to statutory subject matter because it “clearly recites a process that results in a physical transformation outside the computer for which a practical application in the technological art is disclosed” (Br. 10). The Examiner found that claim 66 is directed to a computer program per se which “is not claimed in combination with any sort of computer readable medium which is capable of allowing the realization of the functionality of the program” (Answer 3). More specifically, the Examiner asserts that “the claim is drawn to functional descriptive material, absent the structure to realize the functionality” (*Id.*).

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Claim 66 recites an instructor-free computer-based interactive training program run by a lesson delivery system including the steps of: upon booting a student workstation, automatically downloading a lesson engine...prompting a student...providing a plurality of available lesson files...receiving a selection...downloading the student-selected lesson file...and running the student-selected lesson file. The claimed steps are not a computer listing per se, i.e., they are more than the description or expression of the program, and, by the terms of the claim, are the steps of a process as run on an interactive system. They impart a functional relationship between the program and the lesson delivery system. See, e.g., *In re Lowry*, 32 F.3d 1579, 1583-84 (Fed. Cir. 1994). As such, we cannot sustain the Examiner's rejection of claim 66 as being drawn to non-statutory subject matter.

Rejection of claims 52, 55, 56, 64, 65, and 67 as unpatentable over Lee and Daniels

Appellants argue claims 52, 55, 56, 64, 65, and 67 as a group (Br. 12-15). As such, we select claim 52 as a representative claim, and the remaining claims of the group stand or fall with claim 52. 37 C.F.R. § 41.37(c)(1)(vii) (2007).

Appellants contend that the combination of Lee and Daniels fails to teach or suggest "separately downloading a lesson engine and a student selected lesson file to a student workstation" (Br. 12). More specifically, Appellants contend that Daniels fails to teach or suggest "downloading a lesson engine or a student lesson file to the student workstation (Br. 14). We disagree.

In rejecting claim 52, the Examiner found that Lee teaches “the lesson engine is downloaded to the student workstation and the teacher is allowed to separately select the lesson segment to be sent to [the] student, at which point the lesson segment is downloaded to the student computer,” therefore, the only difference between Lee and the claimed invention “is that the teacher makes the selection, not the student” (Answer 7). The Examiner further found that Daniels teaches a computerized educational system where the student is “capable of selecting the educational content that a user wishes to view...and the content is *downloaded* to the student station for execution and viewing...” (Answer 4) (emphasis added). Accordingly, those elements which Appellants contend are not taught by Daniels, the Examiner found to be taught by Lee. Appellants have not provided any arguments or evidence to refute the Examiner’s finding regarding the teachings of Lee. As such, we find Appellants’ arguments regarding the failure of Daniels to teach downloading a lesson engine and lesson files unpersuasive.

Furthermore, Daniels teaches a virtual school user interface (i.e., lesson engine) running on a networked personal computers for providing administrative and instructional functions to users in a scholastic environment (Finding of Fact 8). When a student logs on, the Instructional Management System (IMS) displays a list of the sequences (i.e., lesson file) that have been assigned to the student, and the student then selects which of these sequences that he or she wishes to see (Finding of Fact 9). The sequences or courseware is delivered, i.e., downloaded, to specific computers during specific time periods by the Courseware Scheduler (Finding of Facts 10 and 11). One of the methods for determining the courseware

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rotation (i.e., which lesson is to be downloaded to the student's computer) is Student Choice (Finding of Facts 12 and 13). Accordingly, contrary to Appellants' contention, Daniels teaches downloading a lesson engine and student-selected lesson file as claimed.

Appellants further contend that "the Examiner is required to provide some reason, suggestion or motivation as to why one of ordinary skill in the art would have modified Lee to achieve the claimed invention" (Br. 15). More specifically, Appellants contend that the Examiner has used inappropriate hindsight reconstruction because the Examiner "has merely stated one of the advantages of the claimed invention, not a suggestion or motivation to modify Lee to achieve that claimed invention" (*Id.*). However, in *KSR*, the Supreme Court held that a rigid application of such a mandatory formula as teaching, suggestion, or motivation (TSM) was incompatible with its precedent concerning obviousness. See *KSR* at 1741.

The Examiner held it would have been obvious to modify Lee to include the distribution system of Daniels in order to reduce the total transmission time and amount of memory necessary on the student workstations. Lee teaches an interactive educational system wherein the teacher and/or system program assigns lesson segments to each student (Finding of Facts 1-3). The assignment process is controlled by the CPU of the teacher's station which downloads the control programs corresponding to the lesson segments selected by the teacher from the teacher's workstation to the selected student's workstation through the LAN (Finding of Fact 5). Therefore, the system of Lee downloads all the lesson files

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assigned to a particular student at the same time. Daniels teaches a distribution method wherein the downloading of assigned lesson files or courseware is based in part on student selection (Finding of Facts 11-13). Therefore, the combination proposed by the Examiner is merely the substitution of one distribution method for another known distribution method. Where, as here “[an application] 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,” *KSR*, 127 S.Ct. at 1740 (citing *United States v. Adams*, 383 U.S. 50-51 (1966)). Appellants have provided no evidence that replacing the lesson file distribution method of Lee with the lesson file distribution method of Daniels produces an unexpected result or was uniquely challenging or difficult for one of ordinary skill in the art. As such, we find Appellants’ arguments regarding improper hindsight reconstruction unpersuasive.

Rejection of claims 53, 54, 57-63, and 66 as unpatentable over Lee, Daniels, and Griswold

Appellants contend that independent claim 66 is patentable over the combination of Lee and Daniels because (1) the combination fails to teach or suggest “separately downloading a lesson engine and a student selected lesson file to a student workstation” (Br. 12), and (2) the Examiner has used inappropriate hindsight reconstruction (Br. 15). See discussion regarding claim 52 presented, *supra*. Appellants further contend that Griswold fails to overcome the alleged deficiencies of Lee and Daniels (Br. 15). We find Appellants’ arguments with regard to Lee and Daniel unpersuasive for those reasons presented *supra*. As such,

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we sustain the Examiner's rejection of claims 53, 54, 57-63 and 66 as unpatentable over Lee, Daniel, and Griswold.

CONCLUSIONS OF LAW

We conclude that Appellants have shown that the Examiner erred in rejecting claim 66 for being directed to non-statutory subject matter, and Appellants have not shown that the Examiner erred in rejecting claims 52, 55, 56, 64, 65, and 67 as being unpatentable over Lee and Daniels, and claims 53, 54, 57-63 and 66 as being unpatentable over Lee, Daniels, and Griswold.

DECISION

The Examiner's decision to reject claim 66 under 35 U.S.C. § 101 as being drawn to non-statutory subject matter is reversed. The Examiner's decision to reject claims 52, 55, 56, 64, 65, and 67 as being unpatentable over Lee and Daniels, and claims 53, 54, 57-63 and 66 as being unpatentable over Lee, Daniels, and Griswold 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). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED

vsh

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