

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ILLINOIS  
EASTERN DIVISION

|                               |   |               |
|-------------------------------|---|---------------|
| VEHICLE INTELLIGENCE AND      | ) |               |
| SAFETY LLC,                   | ) |               |
|                               | ) |               |
| Plaintiff-Counterdefendant,   | ) |               |
|                               | ) |               |
| v.                            | ) | No. 13 C 4417 |
|                               | ) |               |
| MERCEDES-BENZ USA, LLC and    | ) |               |
| DAIMLER AG,                   | ) |               |
|                               | ) |               |
| Defendants-Counterplaintiffs. | ) |               |

**OPINION AND ORDER**

Plaintiff Vehicle Intelligence and Safety LLC ("VIS") brings this action against Mercedes-Benz USA, LLC and Daimler AG (collectively "defendants") charging infringement of United States Patent No. 7,394,392 entitled "Expert Safety Screening of Equipment Operators ("the '392 patent") issued July 1, 2008.

The case is now before the court on defendants' second Rule12(c) motion for judgment on the pleadings. A previous motion for judgment on the pleadings was denied without prejudice to being renewed after conducting term-construction proceedings in accord with *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995). *See Vehicle Intelligence & Safety LLC v. Mercedes-Benz USA, LLC*, 2014 WL 983123 (N.D. Ill. March 13, 2014). After term-construction proceedings, an order was entered resolving claim construction issues. *See*

*Vehicle Intelligence & Safety LLC v. Mercedes-Benz USA, LLC*, 2014 WL

4652563 (N.D. Ill. Sept. 18, 2014) ("*VIS II*"). Defendants now renew their motion for judgment on the pleadings contending that the '392 patent is based on an abstract idea and that the claims do not contain an "inventive concept" sufficient to confer patent eligibility pursuant to 35 U.S.C. § 101.

The '392 Patent Abstract is as follows:

Methods and systems using one or more expert systems to screen equipment operators for impairments, such as intoxication, physical impairment, medical impairment, or emotional impairment, to selectively test the equipment operators and control the equipment (e.g., automobiles, trucks, industrial vehicles, public transportation vehicles, such as buses, subways, trains, planes, and ships, and dangerous machinery in general) if impairment of the equipment operator is determined. One embodiment is a method to screen an equipment operator for intoxication, using one or more expert systems. A second embodiment is a method to screen an equipment operator for impairment, such as intoxication, physical impairment, medical impairment, or emotional impairment, using one or more expert systems. A third embodiment is an equipment operator screening system to determine impairment, such as intoxication, physical impairment, medical impairment, or emotional impairment, using one or more expert systems.

The '392 Patent does not invent impairment detection methods or devices. The patent discloses eleven prior art patents for impairment detection systems which are incorporated by reference. The patent acknowledges that the prior art patents have been issued to detect driver impairment. Cols. 1-3. Many of these patents are linked to locking systems that prevent vehicle operation unless

the operator passes a breath analyzer, voice analyzer, and/or skin sensor test.

Cols. 1-2 (describing U.S. Patent Nos. 6,886,653; 6,748,301, & 4,738,333).

The Amended Complaint alleges that defendants have directly infringed at least claim 8 of the '392 Patent by selling each Mercedes-Benz vehicle that incorporates a feature of the vehicle referred to as ATTENTION ASSIST.

Claim 8 of the '392 Patent is an exemplary claim. It is as follows:

A method to screen an equipment operator for impairment, comprising:

- screening an equipment operator by one or more expert systems to detect potential impairment of said equipment operator;
- selectively testing said equipment operator when said screening of said equipment operator detects potential impairment of said equipment operator; and
- controlling operation of said equipment if said selective testing of said equipment operator indicates said impairment of said equipment operator, wherein said screening of said equipment operator includes a time-sharing allocation of at least one processor executing at least one expert system.

Col. 15, ll. 30-43.

The description of the preferred embodiments includes:

Embodiments of the invention can be implemented by utilizing combinations of one or more modules (e.g., using all of a module, or using a portion of a module) already existing in the equipment as standard features. For example, in a typical vehicle there is an operations module (e.g., an equipment operations module allowing the equipment operator to determine one or more functions of equipment, such as speed of operation and direction of movement), an

audio module (e.g., a sound entertainment module, or a communication module), a navigation module (e.g., a map display module), an anti-theft module (e.g., a motion detector module), and a climate control module (e.g., an air-conditioning module). Many of these modules have become very sophisticated in their operator interfaces and in their convenience to the equipment operator. These existing modules also can provide useful information on past and/or current operator actions to assist in the process of determining whether the equipment operator is truly impaired or not impaired.

Col. 6, ll. 33-49.

Additional descriptive data is as follows:

Embodiments of the invention can be constructed using one or more data processing systems already existing in the equipment modules listed above, in a time-sharing allocation of their available processors and memory. Such existing equipment modules frequently have some unused memory and unused processor time available after performing their existing module functions. Alternatively, one or more additional data processing systems (e.g., based on any commercially available microprocessor of any word bit width and clock speed, a control Read-Only-Memory, or a data processing equivalent) can be dedicated to combining the information gathered from one or more modules listed above, or disclosed by one or more of the prior art patents incorporated by reference.

Col. 7, ll. 9-22.

A Rule 12(c) motion for judgment on the pleadings challenging patent eligibility must be shown by clear and convincing evidence appearing in the patent. Every patent is presumed to be issued properly, absent clear and convincing evidence to the contrary. *See Microsoft Corp. v. i4i Ltd. P'ship*,

131 S. Ct. 2238, 2242 (2011); *CLS Bank Int'l v. Alice Corp.*, 717 F.3d 1269, 1304-05 (Fed. Cir. 2013) (*en banc*), *aff'd*, 134 S. Ct. 2347 (2014).

To be patent eligible, a claimed invention must be a "new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." 35 U.S.C. § 101. The Supreme Court has held that there are three narrow exceptions to statutory patent eligibility: "laws of nature, physical phenomena, and abstract ideas." *Bilski v. Kappos*, 561 U.S. 593, 601 (2010) (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980)). To overcome a charge of abstract idea preemption it must appear that the claim limitations reflect an "inventive concept" that adds significantly to, and limits, the expanse of any abstract idea. *Mayo Collaborative Serv. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293-944 (2012).

The Supreme Court held in *Alice Corp.*, 134 S. Ct. at 2355, that the two-part framework set forth in *Mayo* applies to all contentions that patents embody ineligible, abstract ideas contrary to § 101. First, it must be determined whether the patent is directed to an abstract idea, and, second, it must be determined whether any element, or combination of elements, in the claim is sufficient to ensure that the claim amounts to significantly more than the abstract idea itself--more than an instruction to apply the abstract idea. This has been referred to as an inventive concept.

Abstract ideas are excluded from eligibility based on the concern that monopolization of the basic tools of scientific and technological work could impede innovation more than promote it. Abstract ideas referred to in *Alice Corp.*, 134 S. Ct. at 2350, include: fundamental economic practices instructing how to hedge a risk, citing *Bilski*, 561 U.S. at 599; an algorithm code for converting binary-coded numerals to pure binary form, citing *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972); and a mathematical formula for computing alarm limits in a catalytic conversion process, citing *Parker v. Flook*, 437 U.S. 584, 594-595 (1978).

Limitations that may be enough to qualify as significantly more or to embody an inventive concept were said to be improvements to another technology or technical field or improvements to the functioning of a computer. *Alice Corp.*, 134 S. Ct. at 2359-60. However, requiring no more than a generic computer to perform generic computer functions that are well-understood activities previously known to the computer industry would not be sufficient. *Id.* at 2359 (citing *Mayo*, 132 S. Ct. at 1297, 1301).

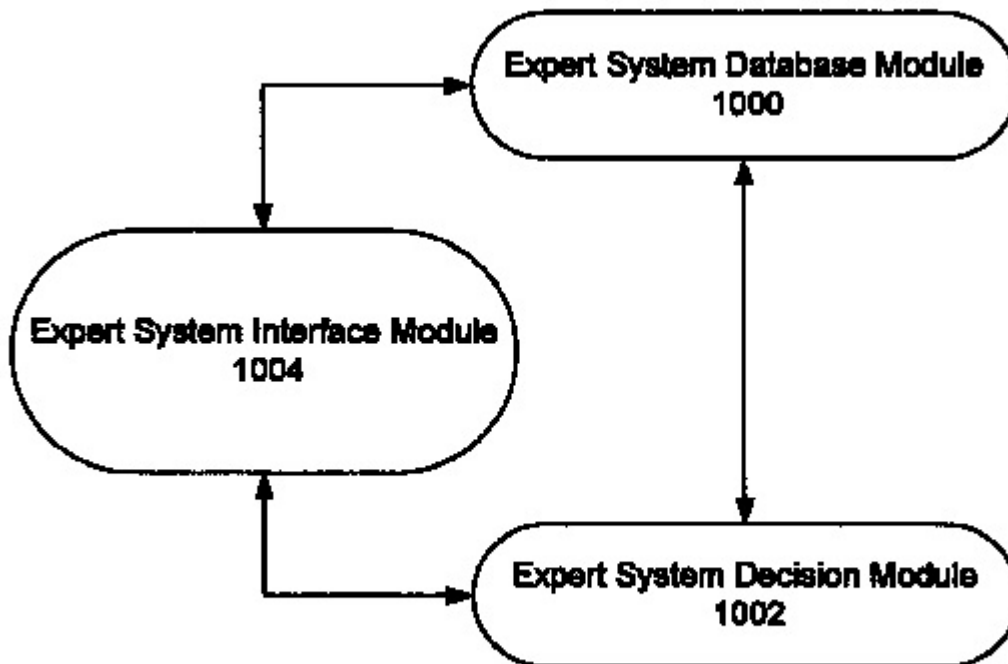
The claims in this case broadly relate to the concept of testing operators of any kind of moving equipment for any kind of physical or mental impairment. This concept qualifies as an abstract idea within the meaning of the cited Supreme Court precedents as well as Federal Circuit precedents. See *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1333 (Fed. Cir. 2012) (processing information through a

clearinghouse); *Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (creating an electronic profile); *Planet Bingo, LLC v. VKGS LLC*, 578 F. App'x 1005, 1007-08 (Fed Cir. 2014) (computer-aided management of multiple sets of bingo numbers).

The Federal Circuit has also held that methods "which can be performed entirely in the human mind" are abstract ideas. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1373 (Fed Cir. 2011) (verifying the validity of credit card transactions). *See also SmartGene, Inc. v. Advanced Biological Labs., SA*, 555 F. App'x 950, 954-55 (Fed. Cir.), *cert. denied*, 135 S. Ct. 58 (2014) (ranking and selecting treatments for sick patients). Similarly, considering which to apply and evaluating the results from multiple methods for testing whether an equipment operator is suffering from a physical, medical, or emotional impairment is a process that can be carried out by doctors, EMT's, police officers, and others.

Having concluded that the '392 patent embodies an abstract idea, it is necessary to consider whether the elements of infringing claims 8, 9, and 11

through 18 set forth an inventive concept sufficient to transform the claims into a patent-eligible application of equipment operator impairment testing. Claim 8 is representative. The key term is "expert system(s)," which appears in all of the claims which are charged to be infringed. VIS concedes that to overcome prior art in the field of impairment-detection systems, the '392 patent provides that an "expert system" is used to screen and selectively test for operator impairment and control of equipment. The patent does not define the term "expert system" as such; however, the figures, particularly Figure 8, and the related specifications provide intrinsic evidence of what is intended.



**FIG. 8**



Expert systems are a class of computer programs first developed in the 1960's that seek to emulate the decision-making of human experts in a field of expertise (e.g., chemistry, medicine, geology). An expert system stores knowledge obtained from human experts in a "knowledge base." In the field of medical diagnosis, an expert system will include rules concerning the symptoms and characteristics associated with various ailments. The system will have a "decision module" inference engine that is programmed to selectively apply expert rules stored in the knowledge base in order to resolve problems. An example of the application of an Artificial Intelligence system is a backward-chaining process that searches the knowledge base for rules to either verify or disprove that a patient has or doesn't have flu. The decision module will search for and apply rules in the knowledge base related to symptoms of flu. The application of those rules may verify the hypothesis or lead to other hypotheses and the application of additional rules. Also, the expert system must have a means of interfacing with a user.

*The New Encyclopedia Britannica*, Vol. 4 at 633 (Micropedia, 15th ed. 2005), states:

**expert system**, an advanced computer program (instruction set) that mimics the knowledge and reasoning capabilities of an expert in a particular discipline. Its programmers strive to clone the expertise of one or several human specialists to create a tool that can be used by a layperson to solve difficult or ambiguous problems. A chief advantage of expert systems is their low cost compared with the expense of paying an expert or a team of specialists;

Expert systems differ from conventional computer programs, the chief functions of which include data manipulation, calculations, and information retrieval. In contrast, expert systems combine facts with rules that state relations between the facts to achieve a crude form of reasoning analogous to artificial intelligence. The two main components of an expert system are (1) the knowledge base, which differs from a database in that it contains executable program code (instructions) and (2) the inference engine, which interprets and evaluates the instructions and data in the knowledge base.

As used in the '392 patent, the term "**expert system(s)**" was construed

to mean:

a computer program consisting of<sup>[1]</sup> (1) a **database module** that contains information a specialist would consider in an analysis of an equipment operator for impairment; (2) a **decision module** that applies logic for screening and testing an equipment operator for impairment and for controlling equipment, and (3) an **interface module** which **interfaces** with one or more equipment modules and the equipment operator.

*VIS II*, 2014 WL 4652563 at \*3.

Claim 8 provides that “screening” an equipment operator for potential impairment is implemented using an “expert system” that “includes a time-sharing allocation of at least one processor.” Generic computer automation of the conventional “screening” step does not amount to an “inventive concept.” An

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<sup>1</sup>At the October 9, 2014 status hearing, on the oral motion of plaintiff and without objection by defendants, the word comprising was substituted for the words "consisting of." It was suggested by plaintiff that the word "comprising" is a broader term which allows for other possible elements in the expert system. It was not stated, however, what those elements were.

abstract idea does not become patent-eligible by specifying that a computer can be used to implement the idea. *Alice Corp.*, 134 S. Ct. at 2358 (“These cases demonstrate that the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.”). In *Alice Corp.*, the asserted claims required use of a computer as a third party to mitigate settlement risk. The computer performed the steps of creating account records, obtaining account data, adjusting account balances, and issuing automated instructions to execute valid transactions. *Id.* at 2359. The computer was comprised of various components--including a “data storage unit,” a “data processing system,” and a “communications controller,” *id.* at 2360--that were configured to implement the settlement process. The Court explained that generally requiring some non-specific computer implementation of “purely conventional” steps is not an inventive concept. *Id.* at 2359. Commonplace computer components--such as a data storage unit--are insufficient under § 101. *Accenture Global Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1344-45 (Fed. Cir. 2013) (“recitation of a combination of computer components including an insurance transaction database, a task library database, a client component, and a server component, which includes an event processor, a task engine, and a task assistant.”); *Dealertrack*, 674 F.3d at 1333 (Use of a “central processor” did not qualify as patent-eligible because patent was “silent as to how a computer aids the method, the extent to which a computer aids the method, or the

significance of a computer to the performance of the method. The undefined phrase 'computer aided' is no less abstract than the idea of a clearinghouse itself.”).

The “expert system” as construed is a generic computer, performing the otherwise conventional steps of screening for impairment. The claims do not require that the expert system be programed to perform the function in any specific way; indeed, as noted above, the claim seeks to cover any type of testing for any kind of impairment. As in *Dealertrack*, “[b]ecause the computer here can be programmed to perform very different tasks in very different ways . . . it does not play a significant part in permitting the claimed method to be performed.”

674 F.3d at 1333 (quoting *Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008); *CyberSource, Inc.*, 654 F.3d at 1375).

Claim 8 does not recite any new or improved computer technology or provide new physical components. The components of the “expert system” of the '392 patent cover hardware and software that fall squarely within the category of generic computer components that courts have held to be insufficient under § 101. *SmartGene*, 555 F. App'x at 955 (“The claim does not purport to identify new computer hardware: it assumes the availability of physical components for input, memory, look-up, comparison, and output.”).

Independent Claim 16 of the '392 patent provides as follows:

16. A system to screen an equipment operator, comprising:

a screening module to screen and selectively test an equipment operator when said screening indicates potential impairment of said equipment operator, wherein said screening module utilizes one or more expert system modules in screening said equipment operator; and

a control module to control operation of said equipment if said selective testing of said equipment operator indicates said impairment of said equipment operator, wherein said screening module includes one or more expert system modules that utilize at least a portion of one or more equipment modules selected from the group of equipment modules consisting of: an operations module, an audio module, a navigation module, an anti-theft module, and a climate control module.

Col. 16, ll. 47-61.

Claim 16 provides for “modules” that “screen” equipment operators for impairment, “selectively test” potentially impaired operators, and “control operation” of the equipment in response to the impairment testing. The “screening” is performed using an “expert system” that utilizes equipment modules. It is not limited to any particular type of impairment, does not require any specific method of impairment testing, and does not specify how the “expert system” would be programmed to perform the “screening.” The “screening module,” “expert system,” and “control module” elements of claim 16 fail to set forth an “inventive concept” for the same reasons that the parallel limitations of claim 8 are deficient.

Claim 16 requires the expert system to “utilize at least a portion of . . . an operations module, an audio module, a navigation module, an anti-theft module, [and/or] a climate control module.” The element does not meaningfully limit the concept of impairment detection because it does not specify how the expert system must “utilize at least a portion” of the various “modules.”

*Dealertrack*, 674 F.3d at 1333. The additional language of claim 16 does not add anything beyond the construction of “expert system,” which already required the system to “interface with one or more equipment modules.” Requiring that impairment testing utilize information about how equipment is operated is a conventional practice long present in impairment detection.

VIS has also alleged infringement of dependent claims 9, 11-15, and 17-18. These claims, whether considered individually, or in combination with claim 8 or 16, do not contain any “inventive concept” that would qualify for patent protection.

The exemplary claim language of claims 9 and 12 is as follows:

The method of claim **8**, wherein said screening of said equipment operator includes utilization of at least a portion of one or more existing equipment modules selected from the group of existing equipment modules consisting of: an operations module, an audio module, a navigation module, an anti-theft module, and a climate control module.

Col. 15, ll. 44-49 (claim 9). *See also* Col. 16, ll. 7-13 (claim 12) (substituting "selective testing" for "screening").

This limitation reflects the language of claim 16. This is not a sufficient limitation on the concept of impairment testing because the claim does not require that the various “modules” be “utilized” in any particular way and, basing impairment determinations on information about the operation of equipment is a conventional step of impairment testing.

The exemplary claim language of claims 11 and 18 is as follows:

The method of claim **8**, further comprising measuring at least one characteristic of said equipment operator including one or more characteristics selected from the group consisting of: at least one chemical in proximity to said equipment operator, breathing rate of said equipment operator, blood pressure of said equipment operator, blood pulse rate of said equipment operator, blood oxygen level of said equipment operator, electrical resistance of a portion of skin of said equipment operator, electrical conductivity of a portion of skin of said equipment operator, temperature of a portion of skin of said equipment operator, one or more optical characteristics of at least one eye of said equipment operator, optical response to at least one stimulus of at least one eye of said equipment operator, at least one speech characteristic of said equipment operator, comparison of at least one speech characteristic of said equipment operator to a reference speech characteristic of said equipment operator, a speed of dexterity of said equipment operator in performing at least one task, and a consistency of dexterity of said equipment operator in performing at least one task.

Col. 15, l. 54 to Col. 15, l. 6 (claim 11). *See also* Col. 17, l. 13 to Col. 18, l. 15.

Claim 11 provides a list of factors that may be “measured” to detect impairment. This list of characteristics correlated with impairment is a list of nonpatentable laws of nature. *PerkinElmer, Inc. v. Intema Ltd.*, 496 F. App'x

65, 71 (Fed. Cir. 2012) ("The 'measuring' steps are insufficient to make the claims patent-eligible. They merely tell the users of the process to measure the screening markers through whatever known method they wish. . . . These steps tell the user to engage in well-understood, routine, conventional activity previously engaged in by scientists who work in the field.").

The exemplary claim language of claims 13 and 17 is as follows:

The method of claim **8**, wherein said controlling operation of said equipment includes one or more control responses selected from the group of control responses consisting of: disabling said equipment, disabling said equipment after a time delay, temporarily disabling said equipment for a preselected time duration, shutting off power to said equipment, limiting operation of said equipment to a lower speed of operation, limiting the operation of said equipment to allow only return of said equipment to a pre-selected state, limiting the operation of said equipment to allow return of said equipment to a pre-selected location, autonomously moving said equipment to another location, denying entry to said equipment, activating an alarm, sending a warning message to another entity for assistance, issuing a warning message to an impaired equipment operator, and making a request for another equipment operator to replace an impaired equipment operator and then restricting operation of said equipment if said request is not obeyed within a pre-selected time.

Col. 16, ll. 13-30 (claim 13). *See also* Col. 16, l. 16 to Col. 17 l. 12 (claim 17).

The claims list the examples of “controlling operation” of the equipment. This list indicates that "controlling operation” is merely a conventional step because it includes even the routine step of reporting the results of an impairment test.



Claim 14 provides:

The method of claim 8, wherein said selective testing of said equipment operator includes a time-sharing allocation of one or more processors of one or more existing equipment modules executing one or more expert systems.

Col. 16, ll. 31-34.

Claim 14 requires that the selective testing be done using a “processor.”

A “processor” is a generic computer component the use of which does not amount to an inventive concept.

Claim 15 provides:

The method of claim 8, wherein said selective testing selectively changes according to one or more other factors chosen from the group of factors consisting of air temperature, oxygen level, carbon dioxide level, carbon monoxide levels, nitrous oxide levels, hydrocarbon vapor levels, the presence of any gas associated with impairment, air humidity, air pressure, time of day, time duration of vehicle parking, voice loudness levels in proximity to said equipment, history of operation of said equipment by said equipment operator, initial beginning of operation of said equipment by said equipment operator, and ongoing operation of said equipment by said equipment operator.

Col. 16, ll. 35-46.

Claim 15 provides that the impairment testing changes in response to one or more of several listed factors. It represents the abstract idea of making a conditional decision. *Comcast IP Holdings I, LLC v. Sprint Commc'ns Co.*, 2014 WL 3542055 \*3-4 (D. Del. July 16, 2014) (concept of making a conditional determination is ineligible for patenting under § 101); *PerkinElmer*, 496 F. App'x

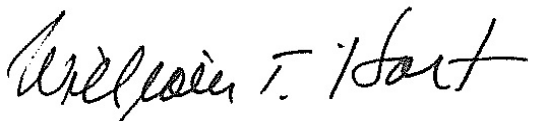
at 70-71 (process of taking subsequent down-syndrome test depending on the results of a first test is not patentable under § 101).

Claim 15 does not limit the concept of impairment testing because it does not confine the asserted claims to testing any particular type of impairment or use of any particular type of testing. The step of claim 15 could be performed entirely in the human mind.

Following briefing of the present motion, VIS called attention to a recent opinion of the Federal Circuit which considers the application of § 101 to a patent directed to computer architecture that applies to internet websites. *See DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). With one judge dissenting, the court held that a non-conventional process for resolving an internet-centric, hyper-link problem is patent eligible. The court distinguished *DDR* from *Alice; Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709 (Fed. Cir. 2014); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); *Accenture*; and *Bancorp* as involving generic computer equipment from the internet world of *DDR*. The *DDR Holdings* case is not applicable to the issues in this case. *Cf. Tenon & Groove, LLC v. Plusgrade S.E.C.*, 2015 WL 82531 \*7 n.5 (D. Del. Jan. 6, 2015); *KomBea Corp. v. Noguera L.C.*, 2014 WL 7359049 \*5 (D. Utah Dec. 23, 2014); *MyMedicalRecords, Inc. v. Walgreen Co.*, 2014 WL 7339201 \*4-5 (C.D. Cal. Dec. 23, 2014).

IT IS THEREFORE ORDERED that defendants' renewed motion for judgment on the pleadings [94] is granted. The Clerk of the Court is directed to enter judgment in favor of defendants-counterplaintiffs and against plaintiff-counterdefendant (1) dismissing plaintiff's cause of action with prejudice and (2) declaring United States Patent No. 7,394,392 invalid as not eligible to be patented under 35 U.S.C. § 101.

ENTER:

  
UNITED STATES DISTRICT JUDGE

DATED: JANUARY 29, 2015