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

VEHICLE INTELLIGENCE AND)
SAFETY LLC,)
)
          Plaintiff,)
)
    v.) No. 13 C 4417
)
MERCEDES-BENZ USA, LLC,)
)
        Defendant.)

OPINION AND ORDER

This case is before the court for construction of disputed terms in U.S.

Patent No. 7,394,392 ("the '392 patent"). Summary judgment was denied without

prejudice in order to conduct term-construction proceedings in accord with

procedures in *Markman v. Westview Instruments, Inc.*, 52 F. 3d 967 (Fed. Cir.

1995). The parties have submitted expert witness declarations, briefs, and exhibits.

The court has also heard oral argument.

The '392 patent is entitled "Expert System Safety Screening of

Equipment Operators." It was issued on July 1, 2008 based on an application filed

on June 10, 2005. The patent abstract indicates that it relates to "[m]ethods and

systems using one or more expert systems to screen equipment operators for

impairments, such as intoxication, physical impairment, mental impairment, or

emotional impairment, to selectively test the equipment operators and control the equipment."

Plaintiff Vehicle Intelligence and Safety LLC ("VIS") accuses defendants Mercedes-Benz USA, LLC and Daimler AG of infringing claims 8, 9, and 11-18 of the '392 patent. Each of the asserted claims specifies an "expert system" to screen and test equipment operators for potential impairment and to control equipment. Claim 8, which is representative, provides:

> 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.

Pursuant to Local Patent Rule 4.2(f), the parties have submitted a Joint Claim Construction Chart containing proposals for construction of seven terms in the '392 patent as follows:

No.	Claim Term and Phrase	Plaintiff's Proposed Construction	Defendants' Proposed Construction
1.	"expert system(s)" (claims 8, 14, 16)	System to apply logic for screening an equipment operator for potential impairment by interfacing with one or more equipment modules and by gathering and analyzing data that a specialist would consider in performing the analysis.	A computer program consisting of three distinct components: (1) a knowledge database that contains substantive rules obtained from human experts, (2) a decision module separate from the knowledge database that applies the rules stored in the knowledge database and draws inferences based on the application of those rules, and (3) a user interface.
2.	"selectively test[ing] said equipment operator" (claims 8, 16)	Plain and ordinary meaning, no construction necessary.	Perform[ing] a subsequent test of said [an] equipment operator which is capable of determining impairment independently of said screening.
3.	"wherein said screening of said equipment operator includes a time-sharing allocation of at least one processor executing at least one expert system" (claim 8)	Plain and ordinary meaning, no construction necessary. Alternatively: wherein said screening of said equipment operator includes a time-sharing allocation of at least one processor executing the at least one expert system.	Wherein said screening of said equipment operator is performed using at least one non-dedicated processor running at least one other expert system

4.	includes a time-sharing allocation of one or more processors" (claim 14)	Plaint and ordinary meaning, no construction necessary.	Is performed using one or more non-dedicated processors.
5.	"dexterity" (claims 11, 18)	Plain and ordinary meaning, no construction necessary.	Skill in performing a manual task.
6.	"speed of dexterity" (claims 11, 18)	Plain and ordinary meaning, no construction necessary.	Indefinite under 35 U.S.C. § 112, ¶2.
7.	"control[ling] operation of said equipment" (claims 8, 16)	Includes activating an alarm and issuing a warning message to an impaired equipment operator.	No construction necessary.

As stated in ***Phillips v. AWH Corp.***, 415 F.3d 1303, 1313 (Fed. Cir. 2005), the starting point for claim construction is the patent itself. "[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." ***Id.*** Claims "should be so construed, if possible, as to sustain their validity." ***Id.*** at 1327 (quoting ***Rhine v. Casio, Inc.***, 183 F.3d 1342, 1345 (Fed. Cir.1999).

The parties agree that the key term to be construed 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.

Expert System Database Module
1000

Expert System Interface Module
1004

Expert System Decision Module
1002
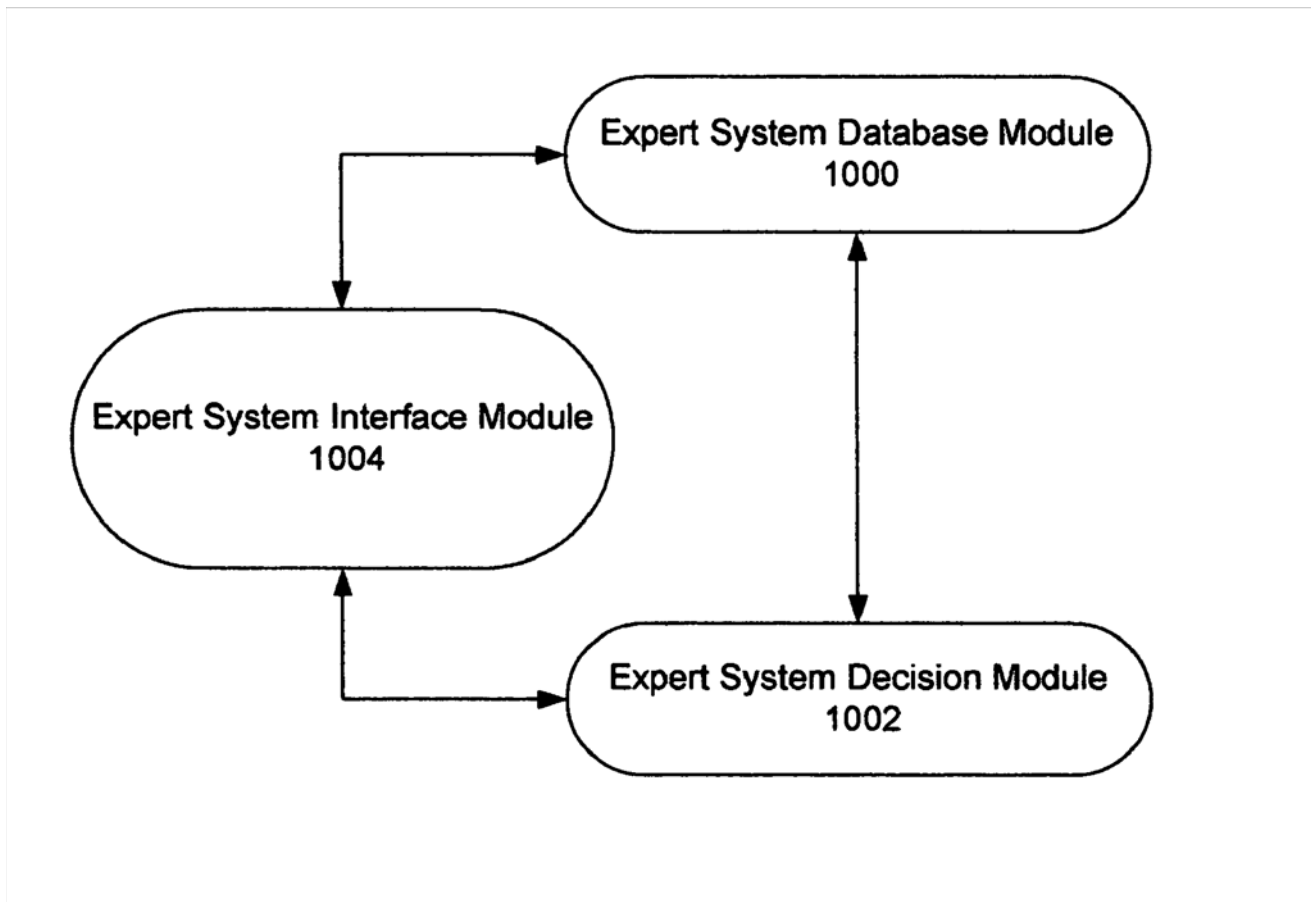
The difference between the parties' construction is that VIS proposes a construction that appears to equate the "expert system" with "conventional computer programs." Defendants propose construing the term with the type of computer program developed for use in the field of Artificial Intelligence programs.

Expert system is a term that is commonly used in the field of Artificial Intelligence. Defendants' expert explains that expert systems are a class of computer programs that were first developed in the 1960's. They 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.

Defendants cite numerous sources defining expert systems. 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.

VIS does not dispute the accuracy of this definition of expert system in the field of Artificial Intelligence, but it denies that the term is the same as used in the '392 patent. It states that the rules in the knowledge base of an Artificial Intelligence expert system are not necessary or required, although it admits that the expert system described in the '392 patent employs logic which may correspond to the rules included in a knowledge database.

Defendants argue that VIS's computer position results in duplicating prior art applications distinguished on the face of the '392 patent which were distinguished by reason of the fact that they lack an expert system. Those prior art applications for impairment detection utilize microprocessors. This argument tends to go beyond the construction of terms. It is not necessary or appropriate to decide exactly what type of computer system is required by the '392 patent in order to provide a construction of the term "expert system" that can be understood by a factfinder. Accordingly, the following construction is adopted:

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

a computer program consisting of (1) a database module that
contains information a specialist would consider in an analysis
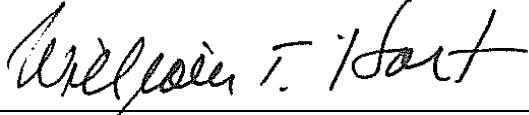of an equipment operator for impairment; (2) a **decision**

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.

Having reviewed the parties' proposed claim construction presentations of other terms, it is concluded that the remaining terms in the '392 patent are sufficiently clear, have plain and ordinary meaning, and require no construction.

IT IS THEREFORE ORDERED that, in this proceeding, the term "expert system(s)" as used in the '392 patent will be given the construction: "a computer program consisting of (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." The remaining contested terms of the '392 patent are sufficiently clear

without any additional construction. This case is set for a hearing on status on

October 9, 2014 at 2:00 p.m.

ENTER:

_____
UNITED STATES DISTRICT JUDGE

DATED: SEPTEMBER 18, 2014