

~~He~~ ~~must~~

"The Hirschfeld case can be read for the proposition that there is a balancing test to determine sufficient disclosure," Sterne said. "On one side the court puts the complexity of the technology being disclosed and claimed. On the other side the court puts the amount of time that would be required by one having ordinary skill in the art to take the application and reproduce the disclosed and claimed invention. Thus, under this balancing approach, the more complex a system, the more time that would be allowed before insufficient disclosure is found to exist. Thus, in a very simple invention, only a day or two of work may be allowed."

Sterne made it very clear that "a drafter should always err on the side of disclosure by including additional information if in doubt in a given expert system or AI patent situation."

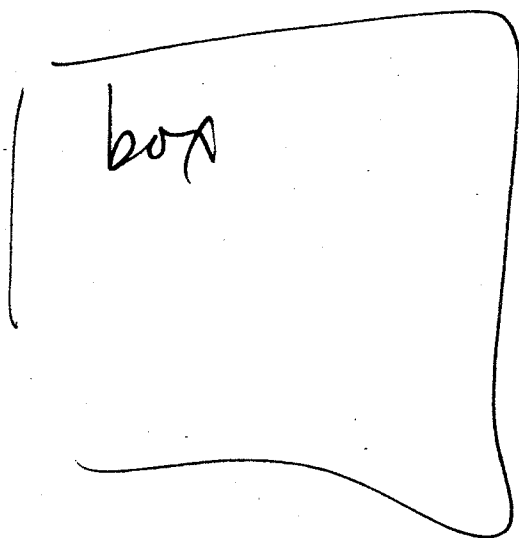
Regarding enablement and description requirements,

The fluid knowledge base ~~is a~~ will present
critical element, that will become a

significant ^{of AI} patent law problem,

Sterne predicted. ~~It~~ "Typically, the
knowledge base is organized lists whose
contents are changing overtime." I predict
that the dynamic nature of this critical
element of AI and expert system technology
will be a significant patent law problem.

It remains to be seen how it will be
resolved.



Copyright law Protection

In a series of Court of Appeal decisions between 1982 and 1984, ~~the~~ Copyright law established protects against literal copying of computer software in source or object code regardless of the storage medium.

Copyright Office Proposed Rules on Abbreviated
(Deposit to Preserve Trade Secret Status, See Sept. 30
Federal Register)

Considering ^{the} fluid knowledge base,

There are two copyright issues: Copyrightability and ~~the~~ deposit.

~~An imp~~

~~See~~ Stern Electronic v. Kaufman, Judge

~~Neumann~~

NEUMANN of the Second Circuit held that video game sequences ~~where~~ ^{were} copyrightable ~~able~~

as audio-visual works even though player participation could cause a large number of defined changes in the video display sequence.

Judge Neumann noted that there was enough specificity in the images and their possible sequences to grasp what the work was.

"If the changes to the knowledge base are permanent, then we have a standard derivative work situation. The permanent changes to the knowledge base constitute a derivative work."

Sterne also said that

The Copyright Office does not know what a suitable deposit scheme is for fluid databases. "They are currently investigating this very question. To do this, they have formed the Database Study Group."

"One possible deposit approach would be to accept every three months a deposit of the fluid knowledge base. The three month period is proposed in order to comply with section 412, which requires filing of an application for registration within three months of publication to preserve the statutory damage and attorney fee remedies."

"Thus, it is seen that Copyright registration can be obtained for the fixed Symbolic programming. The fluid knowledge [base] currently is not registrable. Hopefully, this will be changed shortly."

Whelan Decision

Since the

In the Whelan case broke new copyright law radically changing the scope of copyright protection accorded to computer software.

"In the Whelan decision, for example, the file structures and other aspects of the architecture and information flow of the program ~~where~~ ^{were} found copyright protectable. File structures can be analogized to the files found in a manual filing system. The arrangement of these ~~files~~ file structures was found by the court of Appeals to be protected.

"Taken at face value, it appears that many aspects of the knowledge base and the inference engine will be protected under copyright law, not only against literal copying but against the type of copying that occurred in the Whelan situation. It will be extremely

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difficult from a practical point-of-view to advise clients as to where the zone of protected copyrighted technology ends. Since copyright protection comes into being as soon as a work is fixed in any tangible medium of expression, it can be appreciated that copyright law will take a very increased role in AI and expert system infringement situations.

The notice requirement for published works under the 1976 Copyright Act needs compliance

If an application is filed within three months of the date of first publication of the work, section 412 states that the statutory damages and attorney fee remedies are not lost with respect to infringements that occur after the creation of the work and before the filing of the application.

"Thus, with AI and expert systems having short product lives, it can be seen that copyright law may be more effective than patent law since

cop. protectable rights come into being
as the work is created, and not
much as is the case under patent
law, rights come into existence only
when application issues.

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context. This is to AI and expert system
of copyright law in the newness of the use
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"The Whelan case
concerning how a party significant questions
engineering activities. Then, in legal reverse
engineering will have an unrelated to reverse
expert system industry since on the AI and
by the industry."

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has not taken legal protection seriously since it was developed in academic environments where ideas are freely exchanged and technology is not protected.

A reverse engineering approach called the clean room is used as a mechanism to avoid copyright infringement in the development of a compatible software product. The idea behind the

clean room from a copyright point of view is that it limits access to the protected software program used in the reverse engineering process only to those aspects of the protected product that are idea/public domain.

The clean room technique requires two teams, one team receiving a lawfully obtained copy of a protected work and decompiling it -- producing a document setting forth ideas and specifications that are in the ~~pro~~ unprotected idea domain.

This document is then passed on to the second team -- with no other communication --

which will create a new software product -- that does not infringe on the originally protected work.

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Sterne explained that "this reverse engineering process was used successfully by many of the micro computer manufacturers that have made clones of IBM and Apple computers.

"It is believed that the companies that literally copied Apple and IBM BIOS were the only ones that were sued, and that Apple and IBM did not go after the companies using this clean room method to generate BIOS since they were afraid of an adverse legal outcome.

On Sept. 22, 1986,

In *NEC v. Intel*, Judge Ingram ruled that Intel's microcode in its 8080 Series microprocessors was copyrightable. He set down for trial the issue of whether any of NEC's microcode developed using a clean room technique was a copyright infringer of Intel's microcode.

Trade Secret Protection

"Trade secret protection is equally as applicable [to] the protection of AI and expert systems as it is to software in general.

Trademark Protection

"Trademark protection may also be important," Stone said, "particularly if the mark becomes well known and enjoys a high reputation."

Contract Law

"Contract law may also provide additional modes of protection through the sales and lease agreements that are utilized with the AI and expert system technology."

Optimal Scheme For

"First trade secret and copyright law should always be used if available. In addition, patent law should be seriously considered, particularly if the invention is a major advance and the product life is long."

In some cases, legal protection of the technology is fundamentally ~~bad~~ restrictive

but AI + expert systems is coming out of the laboratory and into the marketplace.

The profit motive -- and therefore ^{legal} protection -- may do more for the dissemination of AI and expert system technology than any other factor

1. Patent
2. Copyright
3. Trade Secret
4. Trademark
5. Contract Law

is the first lecture ever on how to apply the 5 various modes of intellectual property protection to protect this revolutionary technology

Definite trend towards legal protection
a backlash in the AI + Expert System
Community

radically altering the way the technology
evolves and how it is controlled

significant questions

Copyright law more effective

Copyright law will take a very increased
role in AI + Expert System Infringement
situations

- raising unique legal questions
\$2 billion

Robert Greene Sterne, a Washington attorney
specializing in intellectual property involving computer-
related technology.

The trends also include a major problem between any patent or copyright law

Begin

The definite trends towards legal protection of artificial intelligence and expert system technology will create major legal problems and radically alter the way AI evolves and how it is controlled, according to one of the nation's top legal specialists!

These trends include a predicted backlash from the AI community itself, particularly the academic arena, since legal protection will inhibit intellectual freedom and spark restrictions that presently do not exist.

In ~~one~~ the first lecture ever on how to apply the five various modes of intellectual property protection for AI technology, Robert Greene Sterne, Washington attorney

Since AI and expert system technology is forecasted to be predicted to be a \$2 billion industry by 1990, Washington attorney Robert Greene Sterne expects the profit motive to eventually be more important to the growth + development of AI than any other factor. This profit motive inherently requires protection under ~~either patent~~ ^{legal} patent law, copyright, ~~trademark~~ ^{secret}, trademark and contract law.

| All are important

On top of that, very little case law exists in the field. The very nature of AI-

It is a toss up as to whether patent or copyright law is the most significant mode of intellectual property protection for artificial intelligence and expert system technology. While it is a close call, I believe that patent protection is more important, even though the recent Whelan decision from the Third Circuit seems to have significantly expanded the scope of copyright protection for software related technology. :-"

Greene explained to a group of experts in the field recently that "I know from my discussions with academics that they believe that legal protection of the technology is fundamentally bad since it radically alters the way the technology has been developed in the past since it creates restrictions that presently do not exist."

* Though Patent law may be more critical ^{with products} deterrent against infringers, Sterne explained that ^{being} Copyright law may be more effective ^{generally}.

* The average patent takes nearly 3 years to issue,

According to Sterne's firm survey, Copyright protections "come into being as soon as the work is created," ~~under patent law rights come~~ Sterne said, "Under patent law, rights" come into existence only when a patent application issues." Copyright law is also very inexpensive.

"However," Sterne said, "in terms of the deterrent effect against infringers, copyright law may not be as effective as patent law since treble damages are not available and courts in my opinion will have somewhat more difficulty applying the Copyright law than the patent law to the AI and expert system context. This is due to the newness of the use of the copyright law in the software context."

copyright law to take

"a very increased role" in AI and ^{expert} ^{system} ^{techno} ^{dec}
Sterne expects greater use of copyright as a result of an August 4, 1986 decision from Philadelphia's Third Circuit which he referred to as the Whelan Case.

"The Whelan is extremely significant," ~~Sterne~~ Sterne said, "since it breaks new copyright law."

What makes the Whelan case significant is the rule set down by the Third Circuit, he said. "The Court in deciding how to draw the line of demarcation between the protected expression of the program and the unprotected ideas stated that any aspect of the computer program that is not necessary to the purpose or function of the program is copyright protected. ~~Only those aspects~~ In other words, only those aspects of the program that are necessary for the purpose or function of the program are unprotected."

software-based

Regarding patent law, the most negative aspect described by Sterne is the pendency period. In an analysis of 119 patents, the average pendency period was 32½ months. The longest took 92 months and shortest was 8 months.

"The tendency period is of particular interest when one considers the short life span of many high technology products," Sterne said.

Still, Sterne predicted a significant increase in the number of patents issuing in AI and expert system technology. "I think ~~it's~~ it is fair to say that the large computer companies are taking a very aggressive position in obtaining patents in this area of technology. It behooves smaller companies or companies that are less informed to carefully monitor what their competitors are doing."

Satellite Search & Rescue

SARSAT Search + Rescue Satellite-Aided Tracking

- Carried on U.S. satellites
- Canada provides transponders; France the receiver/processors
- The Soviet equipment is COSPAS, an abbreviation in Russian for Space System for Search of Vessels in Distress

Calls : (1) NASA

(2) Canadian Dept. of Communication

(3) International Civil Aviation Organization

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201-506-9025
506-9007

Art
968-7333

Lillian
333-8312

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FAA Proposes Changes To Repair Stations

Avionics Rating

FAA "Radio rating" is expected to change
to "Avionics" rating

Calls: FAA. Barbara Crawford
267-3780

Leo Weston not in until 1/4/90
267-8283.

Logistics person

— 4 public meetings — last one held 12/12/89 and
Chris-Ductor 12/13/89.

to

→ Harold Camden FAA Bldg.
800 Independence Ave
• 267-3806

HOTTEST ISSUES.

Class ratings

There was a specific avionics speaker.
KLM.

Aeronautical Repair Station Association

European Aviation Association.

FAA.
computer

"You'll be lucky if you see these changes in by '92"

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Camden

Everybody feels that we need to do something with
it.

We didn't get as much opposition as we thought we would.
Opposition is good - It makes for a good meeting.

Barbara Crawford

S

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owned by 5 major US-
aviation companies.

Host. Delta Airlines of AVIONICS MAINTENANCE

expect a turnout of 500.

Program coming out 6 weeks before the meeting

Tues thru Thursday.

Larry is sending me 3 ^{issues.} copies of ARINC newsletter.

Story January 15 Interview.

Air traffic growth must be curtailed, says a top
~~Airline~~ ~~Development~~ aerospace expert, until ^{existing} technology
can catch up ~~can~~ be applied.

International air traffic across the Pacific is
expected to quadruple ~~within a decade~~ and air
traffic between Europe and Asia will triple all within
the next 10 years but airspace management requires
a global approach optimizing all available resources,
according to Capt. Robert G. Buley, Mgr of Ft.

For Monday - Jan 8

Prepare presentation for Phillips -

Call Ed Sumariga / meeting Jan 19 ←

Dan Cotter re meeting early in week

Finish Avionics readings and prepare stories, and back up for other Defense pubs

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He doesn't make false actorish moves;
his humor and energy go beyond his roles and
comment on them, indicating a stronger
character — a man hiding as a juvenile

intuitive master of mov technique, non actorish readings
+ minimal gestures, naturally way of about any
inflation of feeling

+
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