Liability and Expert Systems

Like any other tool or product, expert system builders must consider the legal implications of their systems.

I. Legal Frameworks

Legal Framework

- Warranty
  - Can be reduced through contractual limitations and waivers
- Negligence
  - Can be reduced by exercising due care
- Strict Liability
  - Most likely concern for expert system builders
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**Strict Liability Law**

- **Conditions**
  - A seller sells product
  - Product reaches consumer in condition it was manufactured

**Strict Liability Law (cont2)**

- **Proof**
  - Product released into stream of commerce
  - Product had a defect
  - Danger was created by defect
  - Product left in dangerous condition
  - Product could be made safe
  - Defective condition caused injury to consumer

**Strict Liability Law (cont3)**

- **Rationale**
  - A manufacturer who benefits from the sale of a product must pay for injuries caused by it

II. Factors that lead to strict liability
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Factors Leading to Strict Liability

- Manufacturing defects
- Design defects
- Failure to warn

Manufacturing Defects

- Proved if:
  - Does not meet specifications of manufacturer
  - Arise from flaws in manufacturing process
  - Comparison to other standards by same manufacturer

Design Defects

- Proved if:
  - current design cannot prevent injury
  - product could have been designed in alternative way
  - an alternative design was feasible in terms of economy and technical feasibility

Failure to Warn

- Proved if warning:
  - does not specify risk
  - is inconsistent with use of product
  - does not provide a reason
  - does not reach user
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III. Tests of Liability

Tests of Liability

- Customer Expectation Test
- Risk Utility Test

Customer Expectation Test

- A product must perform in a reasonable and expected manner
- Proof hinges on being a product:
  - tangibility
  - mass production
  - mass distribution
  - transfer of ownership
  - perfectibility

Customer Exp. Applied to E/S

- Expert systems are products when mass produced and distributed
- Custom systems are not likely to be covered under strict liability
- If a third part uses an E/S, then not likely to be covered
  - but negligence may apply
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Risk Utility Test

- No such thing as a perfectly safe product
- Trade-off between safety and utility in design of every manufactured product

Risk Utility Example 1

Risk Utility-Low Risk & Cost

Risk Utility-Safety Standards
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Risk Utility Applied to E/S

- Conditions
  - Expert systems are a technology that is proving itself and are valuable to society
  - Expert systems are often developed by entrepreneurs with limited resources
  - Expert systems are not perfectible in a linear fashion

Risk Utility Applied to E/S (cont2)

- Q: Did manufacturer weigh trade-offs in design, testing and validation?
- Conclusion
  - Risk utility should not be used excessively
  - Negligence may be more appropriate

IV. Defenses against strict liability

Defenses Against Strict Liability

- Defenses
  - Misuse of product
  - Consumer assumes risk
  - Substantial change in condition of product
  - Consumer altered product
  - Product represents state of the art
  - Same defense as for textbooks
V. Summary

Summary

- Strict liability tries to balance needs of society vs. safety of individuals
- The question of what is an expert system is fuzzy
- Over-application will stall technological innovation

Summary(cont2)

- There is little precedent with these systems
- The real question is, who is responsible?
  - Developers, shell builders, or users?

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