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Computer Malpractice and Other Legal Problems Posed by Computer Vaporware

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"COMPUTER MALPRACTICE" AND OTHER LEGAL PROBLEMS POSED BY COMPUTER "VAPORWARE"

I. INTRODUCTION

The computer hardware[1] and software[2] trade is extremely complicated in that manufacturers, distributors and retailers must contend with thousands of available computer systems and parts, various financing and pricing concerns, training and retaining salespeople and much more.[3] Nonetheless, the picture has recently become further clouded by

1. The term "computer hardware" describes the physical computer equipment. Typically, the hardware comprising a "personal computer system" consists of a "central processing unit"—the main body of the computer housing the processing circuitry and disk drives—, a video display monitor, and a printer. *See* Note, *Copyright Infringement of Computer Programs: A Modification of the Substantial Similarity Test*, 68 MINN. L. REV. 1264, 1264 n.1 (1984); Management Sys. Assoc. v. McDonnell Douglas Corp., 762 F.2d 1161, 1163 n.2 (4th Cir. 1985). The personal computer system is also referred to as a "microcomputer," because it is sufficiently compact to fit on top of a desk.

Some additional types of computer systems are: (1) "laptops," which are portable and light enough to fit on the user's lap; (2) "minicomputers," which are somewhat larger, faster, and have considerably more storage capacity than microcomputers; and (3) "mainframes," which are faster and have more storage capacity than minicomputers, and which are so large that they sometimes occupy entire rooms. Further, some computers are not readily recognizable as such; some computers are merely "black boxes" which accompany, or are built into, high technology equipment such as industrial robots, CAT scanners, and electronic fuel injection systems.

2. Computer "software" essentially is that intangible part of a computer system which is not hardware. *See* Management Sys. Assoc., Inc. v. McDonnell Douglas Corp., 762 F.2d 1161, 1163 n.2 (4th Cir. 1985); Bender, *Software Protection: The 1985 Perspective*, 7 W. NEW ENG. L. REV. 405, 407 (1985); Note, *supra* note 1, at 1264 n.1.

Software comprises at least two classes of subject matter: computer programs, which are the operating instructions communicated to the computer by the user—for example, word processing and spread sheet programs, games, telecommunications packages, and many others—, and data bases, which are computer-readable representations of information—for example, customer lists, written documents and stored graphics. *See* Telex Corp. v. IBM, 367 F. Supp. 258, 274 (N.D. Okla. 1973); Bender, *supra* at 407.

The Copyright Act refers to a computer program as "a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result." 17 U.S.C. § 101 (1982).

3. The multitude and complexity of problems encountered by members of the computer industry are analogous to the problems encountered by members of other fast-paced businesses and professions, such as commodities trading and some areas of the medical profession. Consequently, the computer industry "burns out" its members within a relatively short period of time. *See Burnout: Is This Fast-Track Market Melting Down Its Talent Pool?*, Computer & Software News, Nov. 9, 1987, at 139 [hereinafter *Burnout*].

a growing number of lawsuits brought by dissatisfied purchasers against computer vendors.[4]

4. Computer purchasers generally become dissatisfied with their systems when the hardware or software is "dead on arrival" (DOA) that is, completely non-functional due to a manufacturing or design defect, or where the hardware or software does not accomplish all of the tasks the salesperson represented that it would, or some combination of the above. At one point during the infancy of the computer industry, some experts estimated that as many as forty percent of all systems failed. Chatlos Sys. v. National Cash Register Corp., 670 F.2d 1304, 1307 n.1 (3d Cir. 1982) (Rosenn, J., dissenting).

Although most computer manufacturers, distributors and retailers attempt to resolve problems encountered by their customers or settle litigation prior to trial, many cases have indeed gone to trial. *See* Graphic Sales, Inc. v. Sperry Corp., 824 F.2d 576 (7th Cir. 1987) (lessee denied recovery against manufacturer under fraud theory); Hunter v. Texas Instruments, Inc., 798 F.2d 299 (8th Cir. 1986) (buyer denied recovery under breach of express and implied warranties claims, because, under Arkansas law, manufacturer's warranty disclaimer was neither inconspicuous nor unconscionable); RRX Indus., Inc. v. LabCon, Inc., 772 F.2d 543 (9th Cir. 1985) (buyer recovered consequential damages from software seller for breach of contract; software is "good" under U.C.C.); Consolidated Data Terminals v. Applied Digital Data Sys., 708 F.2d 385 (9th Cir. 1983) (distributor recovered consequential damages from manufacturer for breach of express warranty); Convoy Co. v. Sperry Rand Corp., 672 F.2d 781 (9th Cir. 1982) (lessee recovered lease payments, costs of employees' additional labor, plus interest from manufacturer for breach of contract); Dunn Appraisal Co. v. Honeywell Information Sys., Inc., 687 F.2d 877 (6th Cir. 1982) (lessee recovered, for breach of contract and fraud, labor and costs of materials for converting data to be used on manufacturer's defective system); Glovatorium, Inc. v. National Cash Register Corp., 684 F.2d 658 (9th Cir. 1982) (buyer recovered compensatory and punitive damages from manufacturer under fraud theory); Iten Leasing Co. v. Burroughs Corp., 684 F.2d 573 (8th Cir. 1982) (where non-vital part of computer fails, buyer entitled only to out-of-pocket expenses, not revocation of acceptance); Earman Oil Co. v. Burroughs Corp., 625 F.2d 1291 (5th Cir. 1980) (lessee denied recovery under misrepresentation, breach of contract and breach of warranty claims where contract limited liability and disclaimed warranties in conscionable manner); Tilden Fin. Corp. v. Palo Tire Serv., 596 F.2d 604 (3d Cir. 1979) (summary judgment for lessor); Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737 (2d Cir. 1979), *aff'd after remand*, 651 F.2d 132 (2d Cir. 1981) (summary judgment for manufacturer precluded by fraud claim); Clayton Brokerage Co. v. Teleswitcher Corp., 555 F.2d 1349 (8th Cir.) (lessee recovered damages for fraud), *aff'd*, 562 F.2d 1137 (8th Cir. 1977) (en banc); United States v. Wegematic Corp., 360 F.2d 674 (2d Cir. 1966) (computer engineering difficulty not excuse for breach of contract); Sperry Rand Corp. v. Industrial Supply Corp., 337 F.2d 363 (5th Cir. 1964) (buyer granted rescission and damages for breach of implied warranty); Analysts Int'l Corp. v. Recycled Paper Prods., Inc., No. 85-C-8637 (N.D. Ill. June 19, 1987) (denied seller's motion to dismiss buyer's counterclaim of deceptive trade practices); Omni-Circuits, Inc. v. DRP, Inc., No. 85-C-9081 (N.D. Ill. Feb. 23, 1987) (implied warranty of fitness disclaimer challenged as inconspicuous; defendant's summary judgment motion denied); Shapiro Budrow & Assoc. v. Microdata Corp., No. 84-C-3589 (S.D.N.Y. Feb. 24, 1986) (buyer failed to show breach of limited warranty); Sierra Diesel Injection Serv. v. Burroughs Corp., 648 F. Supp. 1148 (D. Nev. 1986) (manufacturer denied summary judgment; buyer claimed breach of contract, breach of warranty and fraud), *reconsideration denied*, 651 F. Supp. 1371 (D. Nev. 1987); Darts Inv. Co. v. Wang Laboratories, Inc., No. 85-C-0099 (N.D. Ill. Apr. 30, 1985) (manufacturer's motion to dismiss

Consumers generally know less about computers than they know

granted, denying buyer's claims of breach of contract, breach of warranty, misrepresentation, unconscionability and inconspicuous warranty disclaimer); United States Welding, Inc. v. Burroughs Corp., 587 F. Supp. 49 (D. Colo. 1984) (negligent misrepresentation claim not precluded by contract claims); AccuSystems, Inc. v. Honeywell Information Sys., 580 F. Supp. 474 (S.D.N.Y. 1984) (purchaser recovered out-of-pocket losses under fraud theory); Computerized Radiological Serv., Inc. v. Syntex Corp., 595 F. Supp. 1495, 1510 (E.D.N.Y. 1984), *aff'd in part and rev'd in part*, 786 F.2d 72 (2d Cir. 1986) (continued use of defective CAT scanner by buyer precluded rescission based on revocation of acceptance; remanded on fraud claim); Invacare Corp. v. Sperry Corp., 612 F. Supp. 448 (N.D. Ohio 1984) (buyer's fraud claim precluded manufacturer's motion for summary judgment based on two-year contractual statute of limitation); AMF, Inc. v. Computer Automation, Inc., 573 F. Supp. 924 (S.D. Ohio 1983) (summary judgment precluded for defendant because genuine issues of material fact concerning fraud and failure of essential purpose of exclusive remedy clause); Jaskey Fin. and Leasing v. Display Data Corp., 564 F. Supp. 160 (E.D. Pa. 1983) (warranty disclaimer effective, under Maryland law, against all claims in, or sounding in, contract); Stone Supply Co. v. Minicomputer Sales and Leasing, Inc., 2 Prod. Liab. Rep. (CCH) ¶ 9824 (E.D.N.Y. Aug. 25, 1983) (seller's motion to dismiss denied despite contractual warranty disclaimer, limitation of remedy and limitation of damages); Management Assistance, Inc. v. Computer Dimensions, Inc., 546 F. Supp. 666 (N.D. Ga. 1982), *aff'd sub nom.* Computer Dimensions v. Basic/Four Corp., 747 F.2d 708 (11th Cir. 1984) (partial summary judgment for seller on issue of fraud in inducement where buyer had opportunity to inspect contract; no "good faith" claim available under U.C.C.); Office Supply Co., Inc. v. Basic/Four Corp., 538 F. Supp. 776 (E.D. Wis. 1982) (buyer denied recovery under breach of contract claim because damage limitation not unconscionable and buyer aware of warranty disclaimer); Bruffey Contracting Co., v. Burroughs Corp., 522 F. Supp. 769 (D. Md. 1981), *aff'd*, 681 F.2d 812 (4th Cir. 1982) (buyer failed to show breach of limited warranty; could not revoke acceptance or recover damages under Michigan law); Garden State Food Distrib., Inc. v. Sperry Rand Corp., 512 F. Supp. 975 (D.N.J. 1981) (lessee recovered, for breach of express and implied warranties, charges previously paid where lease limited liability and remedies); APLications, Inc. v. Hewlett-Packard Co., 501 F. Supp. 129 (S.D.N.Y. 1980) (knowledgeable buyer did not rely on seller's claims, summary judgment granted for seller in warranty and misrepresentation action) *aff'd*, 672 F.2d 1076 (2d Cir. 1982); Hi Neighbor Enters., Inc. v. Burroughs Corp., 492 F. Supp. 823 (N.D. Fla. 1980) (partial summary judgment granted for manufacturer on punitive damages and breach of contract issue where contract limited damages and disclaimed warranties; issue of punitive damages based on fraud preserved); Chatlos Sys., v. National Cash Register Corp., 479 F. Supp. 738 (D.N.J. 1979) (buyer awarded cover after purchased computer system did not match warranted performance), *rev'd as to damages*, 635 F.2d 1081 (3d Cir.), *aff'd*, 670 F.2d 1304 (3d Cir. 1980), *cert. denied*, 457 U.S. 1112 (1982); Diversified Env'ts., Inc. v. Olivetti Corp. of Am., 461 F. Supp. 286 (M.D. Pa. 1978) (lessee recovered lease payments with finance charges, interest and accountant's fees for breach of contract); Badger Bearing v. Burroughs Corp., 444 F. Supp. 919 (E.D. Wis. 1977) (dismissed buyer's action for breach of express and implied warranties and misrepresentation), *aff'd without opinion*, 588 F.2d 838 (7th Cir. 1978); Teamsters Sec. Fund v. Sperry Rand Corp., 6 Computer L. Serv. Rep. (Bigelow) 951 (1976) (lessee recovered additional costs of equipment, labor and supplies for breach of contract); Honeywell Information Sys., Inc. v. Demographic Sys., Inc., 396 F. Supp. 273 (S.D.N.Y. 1975) (buyer under installment contract not entitled to assert poor computer performance in replevin action by seller); Investors Premium Corp. v. Burroughs Corp., 389 F. Supp. 39 (D.S.C. 1974) (warranty disclaimer effective

against buyer's unsubstantiated breach of contract and tort claims); Carl Beasley Ford, Inc. v. Burroughs Corp., 361 F. Supp. 325 (E.D. Pa. 1973), *aff'd*, 493 F.2d 1400 (3d Cir. 1974) (buyer awarded purchase price and consequential damages under breach of sale and service contract); Burroughs Corp. v. Hall Affiliates, Inc., 423 So. 2d 1348 (Ala. 1982) (buyer recovered purchase price, but not punitive damages, under fraud theory); Kalil Bottling Co. v. Burroughs Corp., 127 Ariz. 278, 619 P.2d 1055 (Ariz. Ct. App. 1980) (judgment for manufacturer under warranty disclaimer and parol evidence rule; remanded on issue of failure of essential purpose of limited warranty); Acme Pump Co. v. National Cash Register Corp., 32 Conn. Supp. 69, 337 A.2d 672 (Conn. Super. Ct. 1974) (purchaser recovered purchase price under express and implied warranty theories); Neilson Business Equip. Center, Inc. v. Monteleone, 524 A.2d 1172 (Del. 1987) (lessee entitled to relief under breach of implied warranties; contract for hardware and software is "good" under U.C.C.); Brown v. Techdata Corp., 238 Ga. 622, 234 S.E.2d 787 (1977) (buyer awarded punitive damages under fraud theory); Burroughs Corp. v. Macon Rubber Co., 154 Ga. App. 322, 268 S.E.2d 374 (1980) (judgment for defendant-buyer on counterclaim for breach of implied warranties); Quad County Distrib. Co. v. Burroughs Corp., 68 Ill. App. 3d 163, 385 N.E.2d 1108 (1979) (measure of damages for failed software was contract price less market price at time of breach); Walter E. Heller & Co. v. Burroughs Corp., 49 Ill. App. 3d 213, 365 N.E.2d 1285 (1977) (warranty and damage disclaimers neither inconspicuous nor unconscionable); Data Processing Serv., Inc. v. L.H. Smith Oil Corp., 492 N.E.2d 314 (Ind. Ct. App. 1986) (computer programmer denied recovery under breach of employment contract where program failed to perform as warranted; computer programming not "good" under U.C.C.); Cricket Alley Corp. v. Data Terminal Sys., Inc., 240 Kan. 661, 732 P.2d 719 (1987) (buyer recovered for breach of express warranty and increased costs of labor); Atlas Indus., Inc. v. National Cash Register Corp., 216 Kan. 213, 531 P.2d 41 (1975) (buyer recovered purchase price, less finance payments, from manufacturer under express and implied warranty theories); Schatz Distrib. Co., Inc. v. Olivetti Corp. of Am., 7 Kan. App. 2d 676, 647 P.2d 820 (1982) (lessee recovered for breach of warranty total value computer would have had had it been delivered as warranted); Alexander v. Burroughs Corp., 350 So. 2d 988 (La. Ct. App. 1977), *aff'd in part and rev'd in part*, 359 So. 2d 607 (La. 1978) (plaintiff-buyer recovered finance charge and interest from date it demanded cancellation under theory of significant defect); Burroughs Corp. v. Chesapeake Petroleum and Supply Co., 282 Md. 406, 384 A.2d 734 (1978) (lessee awarded damages for breach of express warranty); Lovely v. Burroughs Corp., 165 Mont. 209, 527 P.2d 557 (1974) (lessees recovered under breach of implied warranty of fitness increased labor costs and losses incurred by sale of business adversely affected by defective computer), *appeal after remand*, 169 Mont. 454, 548 P.2d 610 (1976); Burroughs Corp. v. Century Steel, Inc., 99 Nev. 464, 664 P.2d 354 (1983) (defendant-manufacturer in privity with third-party lessee and liable for failure to install "workable" computer); Uniflex, Inc. v. Olivetti Corp. of Am., 86 A.D.2d 538, 445 N.Y.S.2d 993 (1982) (denied manufacturer's motion to dismiss); Rochester Welding Supply Corp. v. Burroughs Corp., 78 A.D.2d 983, 433 N.Y.S.2d 888 (1980) (contractual two-year statute of limitation commences only when buyer approves sale or seller/programmer concedes that it cannot properly program computer); Dumont Handkerchiefs, Inc. v. Nixdorf Computer, Inc., 63 A.D.2d 618, 405 N.Y.S.2d 89 (1978) (systems house ordered to specifically perform turn-key computer contract), *rev'd on other grounds*, 69 A.D.2d 776, 415 N.Y.S.2d 216 (1979); All-States Leasing Co. v. Ochs, 42 Or. App. 319, 600 P.2d 899 (1979) (lessor is not necessarily merchant; defendant-purchasers' implied warranties counterclaim withdrawn from jury); National Cash Register Co. v. Modern Transfer Co., 224 Pa. Super. 138, 302 A.2d 486 (1973) (integration clause precluded evidence of lessee's reliance on manufacturer's sales pitch); Schepps Grocery Co. v. Burroughs Corp., 635 S.W.2d 606 (Tex. Ct. App. 1982)

about most other products.[5] Consequently, they expect computer salespeople to have precise knowledge of both the industry in general and the particular equipment they sell.[6] Consumers tend to rely more heav-

(99.1% "up time" defeats failure of consideration claim); W.R. Weaver Co. v. Burroughs Corp., 580 S.W.2d 76 (Tex. Ct. App. 1979) (express contractual conditions precluded summary judgment); Aubrey's R.V. Center, Inc. v. Tandy Corp., 46 Wash. App. 595, 731 P.2d 1124 (1987) (buyer properly revoked acceptance of defective computer; awarded purchase price and finance charges).

Consequently, almost thirty percent of all computer vendors have become involved in litigation, in some manner and at some time, arising out of the sale of faulty systems.

5. Comment, *Computer Malpractice: Are Computer Manufacturers, Service Bureaus, and Programmers Really the Professionals They Claim to Be?*, 23 SANTA CLARA L. REV. 1065, 1069 (1983) (some commentators refer to this as "mystique of the computer").

One obstacle to understanding computers is the language used in the industry. "Computerese" is exceedingly difficult to understand and it is interpreted inconsistently throughout the industry. One journalist commented about his ignorance of computers and the recent broadcast of a computer commercial as follows:

> You may have seen this commercial on TV or heard it on the radio. It is for Wang computers.
>
> . . . .
>
> . . . One man quietly talks to another.
>
> . . . What he says is something like this:
>
> "I was giving a seminar on network management . . . making SNA work without IBM. Anyway, the room was filled with MIS guys . . . [p]lus a VS computer at each node. . . ."
>
> . . . .
>
> And I'm sitting there . . . grinding my choppers because I don't have the slightest idea what the heck this wise guy is talking about.
>
> . . . .
>
> It's techno-babble.

Memo to a Haughty Computer Ad: No Sale, The Pittsburgh Press, Nov. 5, 1987, at B3, col. 2.

Judges are also confused by computer jargon. As the United States District Court for the Northern District of Georgia stated:

> After hearing the evidence in this case the first finding the Court is constrained to make is that, in the computer age, lawyers and courts need no longer feel ashamed or even sensitive about the charge, often made, that they confuse the issue by resort to legal "jargon," law Latin or Norman French. By comparison, the misnomers and industrial shorthands of the computer world make the most esoteric legal writing seem as clear and lucid as the Ten Commandments or the Gettysburg Address; and to add to the Babel, the experts in the computer field, while using exactly the same words, uniformly disagree as to precisely what they mean.

Honeywell, Inc. v. Lithonia Lighting, Inc., 317 F. Supp. 406, 408 (N.D. Ga. 1970). *See also* Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737, 746 (2d Cir. 1979), *aff'd after remand*, 651 F.2d 132 (2d Cir. 1981).

6. *Memo to a Haughty Computer Ad: No Sale, supra* note 5, at B3, col. 2. Most salespeople in the computer business are paid on the basis of salary and commission, salary and bonus, commission and bonus, or straight commission. Clearly they have a vested interest in selling as many computers as they can. Thus, in order to increase their percentages of sales quota achieved, salespeople tend to overstate the capabilities of the products they sell. One commentator has even

ily on statements, literature and other representations about computers than they rely on representations about lower technology-products.[7] Over a period of time, a computer customer may become dependent upon and place his confidence and trust in the computer seller.[8] Consequently, a relationship may develop in which the seller makes promises to the buyer, but fulfills less than all of them.[9]

This relationship provides an opportunity for the seller to place "vaporware" with an unsuspecting consumer. Vaporware is a computer product which, unknown to the purchaser, has not yet been created or perfected.[10] The sale of vaporware is not an uncommon occurrence; some high technology companies depend upon sales revenues from un-

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likened computer salespeople to used car salesmen: "they engage in puffery, would rather not write things down, and may have end-of-the-fiscal-year inventory hanging like Damoclean scimitars over their jobs." Comment, *Damage Awards and Computer Systems—Trends*, 35 EMORY L.J. 255, 257 (1986).

7. Note, *Frankly Incredible: Unconscionability in Computer Contracts*, 4 COMPUTER L.J. 695, 703 (1984).

8. Comment, *supra* note 5, at 1070. Due to the salesperson's and consumer's disparate levels of computer expertise, reliance by the purchaser upon the salesperson is usually reasonable. AccuSystems, Inc. v. Honeywell Information Sys., Inc., 580 F. Supp. 474, 482 (S.D.N.Y. 1984). *See* Wallace & Maher, *Commercial Unfairness and Economic Inefficiency as Exemplified by Unfair Risk Allocations in Computer Contracts*, 6 U. PITT. J. LAW & COM. 59, 70 (1986); Note, *supra* note 7, at 703.

9. *See* Comment, *supra* note 6, at 257.

10. The term "vaporware" cannot be found in any court opinion. However, it is submitted that the term describes the essence of computer cases involving breach of contract, breach of warranty, misrepresentation and other actions by the dissatisfied purchaser when he or she either fails to receive a promised product since it has not been created or perfected, receives a product which is DOA, or receives a product which is perfectly functional but does not meet the purchaser's expectations.

Similarly, the term "vaporware" cannot be found in any secondary legal sources. However, the legal problems posed by its manifestation have been addressed in a wide range of excellent books and articles. *See, e.g.*, Conley, *Software Vendor Tort Liability*, 13 RUTGERS COMPUTER & TECH. L.J. 23 (1987); Cronin, *Consumer Remedies for Defective Computer Software*, 28 WASH. U.J. URB. & CONTEMP. L. 273 (1985); Galler, *Contracting Problems in the Computer Industry: Should Computer Specialists Be Subjected to Malpractice Liability?*, 50 INS. COUNS. J. 574 (1983); Gemignani, *Product Liability and Software*, 8 RUTGERS COMPUTER & TECH. L.J. 173 (1981); Matek, *Limiting Liability in Personal Computer Equipment Contracts*, 88 COMM. L.J. 562 (1983); Nycum, *Liability for Malfunction of a Computer Program*, 7 RUTGERS J. COMPUTERS TECH. & L. 1 (1979); Saltzberg & Heffernan, *Performance Claims in the Sale of Computers*, 7 W. NEW ENG. L. REV. 529 (1985); Scott, *Negligence and Related Tort Remedies for Hardware and Software Malfunctions*, 1 COMPUTER L. & PRAC. 166 (1985); Walker, *Computer Litigation and the Manufacturer's Defenses Against Fraud*, 3 COMPUTER L.J. 427 (1982); Wallace & Maher, *supra* note 8; Comment, *supra* note 6; Comment, *supra*, note 5; Comment, *Computer Software and Strict Products Liability*, 20 SAN DIEGO L. REV. 439 (1983); Note, *supra* note 7; Note, *Easing Plaintiffs' Burden of Proving Negligence for Computer Malfunction*, 69 IOWA L. REV. 241 (1983); Note, *Causes of Action in Computer Litigation: Special Problems for the Small or First Time User*, 14 LOY. U. CHI. L.J. 327 (1983); Note, *Negligence: Liability for Defective Software*, 33 OKLA. L. REV. 848 (1980); Note, *The Warranty of Merchantability and Computer Software Contracts: A Square Peg Won't Fit in a Round Hole*, 59 WASH. L.

perfected products to help pay for additional research and development.[11]

Such transactions inevitably promote dissatisfaction among purchasers and provide the basis for lawsuits for breach of contract, breach of warranty, failure of a warranty's essential purpose and more. These contract theories are pleaded along with tort theories such as fraud, intentional or negligent misrepresentation and product liability.[12] Additionally, courts have considered, but have uniformly rejected, a new cause of action entitled "computer malpractice,"[13] which would eliminate reliance by courts on nebulous negligence standards.[14]

Computer liability cases are often factually complicated by standard form contracts which limit remedies, provide warranty disclaimers and invalidate prior representations. Recovery is further hindered by nonquantifiable damages.[15] In addition, courts often misconstrue the facts or the law, or both, and determine damages in an inconsistent manner.[16] Furthermore, courts have not definitively resolved whether a

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REV. 511 (1984); Note, *Computer Contract Principles*, 20 U.C. DAVIS L. REV. 105 (1986).

11. The author was a district manager for a major manufacturer of computer printers and computers, and speaks from experience in this regard.

12. For an enumeration of lawsuits arising over computer sales, see *supra* note 4.

13. *See* Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737 (2d Cir. 1979), *aff'd after remand* 651 F.2d 132 (2d Cir. 1981); Chatlos Sys., Inc. v. National Cash Register Corp., 479 F. Supp. 738 (D.N.J. 1979), *rev'd as to damages*, 635 F.2d 1081 (3d Cir. 1980), *aff'd*, 670 F.2d 1304 (3d Cir.), *cert. denied*, 457 U.S. 1112 (1982).

Some computer purchasers have sought to establish computer malpractice as a tort, thereby treating computer professionals like doctors, lawyers, and architects, and to hold them to a higher standard of care than a negligence standard. Tanenbaum, *User-Vendor Litigation from the User's Perspective*, COMPUTER LITIGATION 1984: RESOLVING COMPUTER RELATED DISPUTES AND PROTECTING PROPRIETARY RIGHTS 475, 502-04 (1984). *See also* Comment, *supra* note 6, at 286-87; Comment, *supra* note 5, at 1066-93. For a discussion of computer malpractice, see *infra* notes 300-37.

14. The general standard of care subscribed to in negligence actions is that of the "reasonable man of ordinary prudence." W. KEETON, D. DOBBS, R. KEETON & D. OWEN, PROSSER AND KEETON ON TORTS § 32, at 173 (5th ed. 1984). The computer industry has relatively fewer standards by which to measure performance than other industries have, and as such, the "reasonableness" standard is inapposite. Comment, *supra* note 5, at 1074.

15. *See* D. BRANDON & S. SEGELSTEIN, DATA PROCESSING CONTRACTS 6 (1976); Gordon & Starr, *Software Development Contracts and Consulting Arrangements: A Structure for Enforceability and Practicality*, 7 W. NEW ENG. L. REV. 487, 488-89 (1985); Saltzberg & Heffernan, *supra* note 10, at 530-34; Wallace & Maher, *supra* note 8, at 67-68.

16. *See, e.g.*, AccuSystems, Inc. v. Honeywell Information Sys., Inc., 580 F. Supp. 474, 483 (S.D.N.Y. 1984) (plaintiff entitled to all pecuniary losses but must mitigate); Cricket Alley Corp. v. Data Terminal Sys., 240 Kan. 661, 669, 732 P.2d 719, 724 (1987) (damages include increased labor costs); Schatz Distrib. Co. v. Olivetti Corp. of Am., 7 Kan. App. 2d 676, 647 P.2d 820 (1982) (damages are difference between value of good delivered and as warranted).

contract for the purchase of computer software is a contract for "goods" or for "services."[17]

The multiplicity and complexity of legal issues raised by computers and their essential technology reflect computers' uniquely pervasive impact on society. However, the enormous legal impact of the computer is disproportionate to the computer's young age. Because the computer industry is emerging from its infancy and will undoubtedly play an even larger role in the world economy of the future, the judiciary may find it useful to establish practical and flexible standards for applying tort and contract law to vaporware cases.

Despite periods of recession in other areas of the economy, the demand for computers and related products in the United States has risen at a steady and rapid rate since 1978.[18] Consequently, the computer industry has created some of the world's largest and most profitable corporations.[19] The industry is therefore ever expanding, with new compa-

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17. *Compare* Computer Servicenters, Inc. v. Beacon Mfg. Co., 328 F. Supp. 653 (D.S.C. 1970), *aff'd*, 443 F.2d 906 (4th Cir. 1971) (data processing contract for performance of services) *and* Data Processing Serv., Inc. v. L.H. Smith Oil Corp., 492 N.E.2d 314, 318-19 (Ind. Ct. App. 1986) (development of custom-designed software is performance of services) *with* Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737, 741 (2d Cir. 1979), *aff'd after remand*, 651 F.2d 132 (2d Cir. 1981) (sale of "turn-key" system, that is, computer equipment, software and training, is sale of goods; services merely incidental) *and* RRX Indus., Inc. v. Lab-Con, Inc., 772 F.2d 543, 546 (9th Cir. 1985) (development of custom-designed software is sale of goods) *and* Neilson Business Equip. Center, Inc. v. Monteleone, 524 A.2d 1172, 1174-75 (Del. 1987) (turn-key system is a good).

18. The computer industry is one of the fastest growing sectors of the U.S. economy. "Average annual growth rates for companies in this industry have been 11.1% for the twenty-five year period ending in 1980." Rodau, *Computer Software: Does Article 2 of the Uniform Commercial Code Apply?*, 35 EMORY L.J. 853, 853 n.3 (1986). Furthermore, the industry is expected to continue growing. The number of computers purchased is expected to increase by a factor of ten during the next decade. *Id.* Accordingly, in 1988, the ten largest United States computer manufacturers collectively grossed approximately $90 billion in sales. *See infra* note 19. Furthermore, U.S. manufacturers account for only a portion of all computers sold within the U.S.

19. The top ten computer manufacturers in the United States are as follows:

Company	Sales ($ Millions)	Employees
Int'l Business Machines	50,000	405,000
UNISYS	10,770	128,000
Digital Equip. Corp.	7,590	93,500
Honeywell	6,620	93,500
Litton Ind., Inc.	4,520	57,200
Nat'l Cash Register	4,310	62,000
Control Data Corp.	3,670	38,800
Wang Laboratories, Inc.	2,640	30,000
Harris Corp.	2,210	28,000
SCM	2,000	20,900

DUN AND BRADSTREET'S MILLION DOLLAR DIRECTORY (1987).

The top ten computer retailers in the United States are as follows:

nies seeking to lure customers away from other established corporations by introducing and marketing their "latest technology" products.[20] However, these latest technology products often are not delivered on time to purchasers due to technological or economic obstacles.[21] Moreover, while significantly more products are delivered on schedule, they often fail to meet purchasers' expectations due to either the puffery of the salesperson or the purchasers' overly optimistic expectations.

II. BACKGROUND

The United States Court of Appeals for the Fifth Circuit decided one of the earliest vaporware cases in *Sperry Rand Corp. v. Industrial Supply Corp.*[22] In *Industrial Supply*, a pre-Uniform Commercial Code case, an industrial hardware distributor purchased a custom designed punch-card computer system from Sperry, who represented the system as more economical, faster and more efficient than the distributor's previous computer system.[23] The sales contract provided a thirty-day warranty for adjustments by Sperry and a ninety-day warranty for defective parts. It also included a merger clause which excluded all prior representations by Sperry about the system.[24]

After several months, Industrial Supply expressed to Sperry its dissatisfaction with the computer system, repudiated the contract and sought a refund of the system's purchase price.[25] Sperry refused, sug-

Company	Sales ($ Millions)	Employees
Businessland	600	2,030
NYNEX	388	N/A
Beltron	300	N/A
PacTel	295	N/A
Computer Innovations	256	980
The Computer Factory	225	N/A
Egghead	170	N/A
Inacomp	145	634
CompuShop	120	366
MBI	116	578

Computer & Software News, Oct. 5, 1987, at 17.

20. *See* Rodau, *supra* note 18, at 853 n.4.

21. In the computer field, market timing is essential to sales because the computer product often has a short life and may be quickly replaced by an improved model. Management Sys. Assoc. v. McDonnell Douglas Corp., 762 F.2d 1161, 1180 n.28 (4th Cir. 1985). Thus, once a product is near completion, or still in the design stage, salespeople will often sell the product as though it currently exists and is operational.

22. 337 F.2d 363 (5th Cir. 1964).

23. *Id.* at 366.

24. *Id.* at 367.

25. *Id.* The facts of the case do not reveal Industrial Supply's actual reason for repudiating the contract. Thus, it is unclear whether the problems experienced by Industrial Supply were due to a classic vaporware problem or to the youth of the computer industry and Industrial Supply's naivete about computers. One practitioner has suggested that such factually unclear cases are generally due to mere misunderstandings between parties, and as such, should not

gesting that Industrial Supply's dissatisfaction was due to its own unwillingness to properly accommodate the system.[26] Industrial Supply sued, claiming breach of express and implied warranties as well as fraud, and sought rescission of the contract.[27] Sperry defended by stating that the system was delivered as warranted, and that any other representations were merely opinions which had no legal impact upon the sale or were, in any event, excluded from the sales agreement by the contract's merger clause.[28]

The Fifth Circuit found in favor of Industrial Supply, holding that Sperry had breached the implied warranty of fitness for a particular purpose.[29] The court recognized Industrial Supply's inexperience with computer systems, and overlooked its common law duty to inspect.[30] The court further held that neither the contract's merger clause nor the parol evidence rule excluded the implied warranty of fitness.[31]

In *United States v. Wegematic Corp.*,[32] another early vaporware case, the Federal Reserve Board (the Board) agreed to purchase Wegematic's latest technology computer system.[33] The purchase order specified a

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serve as precedent. Ellis, *Contracting for Computer Equipment, Software and Services*, 61 FLA. B.J. 29, 29 (1987).

26. 337 F.2d at 367. Sperry suggested that Industrial Supply's employees found the transformation process so bothersome that they were simply unwilling to change their established accounting systems. *Id.* Consequently, Sperry contended that the suit was an attempt by Industrial Supply's management to pass off additional costs imposed by their employees' dissention. *Id.*

27. *Id.*

28. *Id.*

29. *Id.* at 369-70. The court held that the requirements for establishing such a breach are: (1) the seller is possessed of a superior knowledge of the articles sold; (2) the seller knows the particular purpose for which the articles are required; (3) the buyer relies upon the skill and judgment of the seller; and (4) the seller is aware of such reliance by the buyer. *Id.*

30. *Id.* at 370. The court stated:

> Industrial Supply did not know and could not be expected to ascertain, except by use and experiment, the functional abilities and capacities of the electronic equipment, with its transistors, tubes and diodes, and its varicolored maze of wiring, its buttons and switches, and the supplementing of machines and devices for the punching of cards and others for the sorting thereof. And, of course, the personnel of Industrial Supply could not be expected to understand the processes by which a set of these modern miracle-makers perform their tasks.

Id.

It should be noted that very few risks can be identified and assessed by the computer buyer before installation. Given the enormous complexity of hardware and software, even the most meticulous preinstallation system testing by an expert will overlook some defects. *See* Wallace & Maher, *supra* note 8, at 64 n.17. Furthermore, because programming and designing is a complex business, mistakes are an inevitable part of the manufacturing process. Shuey, *Choosing Programs for the Firm*, Nat'l L.J., Feb. 28, 1983, at 15, col. 3.

31. 337 F.2d at 370-71.

32. 360 F.2d 674 (2d Cir. 1966).

33. *Id.* at 674-75. Wegematic, which was a newly-organized corporation,

delivery date, liquidated damages and Wegematic's responsibility for excess costs incurred by the Board in the event Wegematic failed to comply with any provision of the agreement.[34] Subsequently, delivery of the advanced computer system proved to be impossible due to "basic engineering difficulties."[35]

Wegematic notified the Board that it would not deliver the system. The Board exercised its right under the contract to replace the computer by purchasing a similar system at a higher price.[36] The Board brought a breach of contract suit for the difference in price and liquidated damages. Wegematic defended by arguing that it required an additional two years and $1.5 million in order to correct the engineering problem. Therefore, Wegematic contended, the "practical impossibility" of completing the contract excused its default.[37]

The United States Court of Appeals for the Second Circuit decided in favor of the Board, holding that a manufacturer who represents his product as a "revolutionary breakthrough" impliedly assumes the risk of damages arising out of his breach.[38] The court further reasoned that to hold otherwise would permit an entrepreneurial developer "a wide degree of latitude with respect to performance while holding an option to compel the buyer to pay if the gamble should pan out."[39]

In these early vaporware cases the courts empathized with the naivete of purchasers of high technology products and found in their favor.[40] These decisions occurred in a commercial environment where

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represented that the computer was "a truly revolutionary system utilizing all of the latest technical advances," and featured that "maintenance problems are minimized by the use of highly reliable magnetic cores for not only the high speed memory but also logical elements and registers." *Id.*

34. *Id.* The contract provided that "the Board may procure the services described in the contract from other sources and hold the Contractor responsible for any excess cost occasioned thereby." *Id.*

35. *Id.*

36. *Id.* The Board bought a mainframe computer from IBM at a price which exceeded Wegematic's bid proposal by approximately $190,000. *Id.*

37. *Id.*

38. *Id.* at 676. Specifically, the court stated:

> We see no basis for thinking that when an electronics system is promoted by its manufacturer as a revolutionary breakthrough, the risk of the revolution's [non-]occurrence falls on the purchaser; the reasonable supposition is that it has already occurred or, at least, that the manufacturer is assuring the purchaser that it will be found to have when the machine is assembled.

Id.

39. *Id.* at 676-77. The court further stated that "[i]f a manufacturer wishes to be relieved of the risk that what looks good on paper may not prove so good in hardware, the appropriate exculpatory language is well known and often used." *Id.*

40. By contrast, one commentator suggests that in the past, courts have shown great deference to vendors in commercial sales disputes over failed installations, but as the need to protect an "infant industry" lessens, courts have become less generous toward vendors and are currently finding their way

parties are generally presumed to deal at arm's length and to owe no duties to each other except those that may be found within the four corners of the contract.[41]

Although these vaporware cases have served as precedent for subsequent lawsuits involving the sale of nonexistent or unperfected computer products,[42] many courts have been less compassionate to plaintiffs' claims. Courts have often ignored the unique context of cases involving computers when applying traditional legal principles and have mechanistically applied the law to such cases. This Comment will explore those other areas of the law which are apposite to vaporware cases, and will suggest a general framework for resolving legal issues which arise from the sale of defective computer systems.

III. ANALYSIS

Vaporware cases commonly involve general contract principles,[43] Uniform Commercial Code (U.C.C.) issues,[44] damages,[45] and fraud and misrepresentation claims.[46] Additionally, "computer malpractice", a proposed cause of action which has not yet been recognized by any court, may soon become a valuable tool for resolving problems which arise from the sale of defective computer systems.[47]

A. *General Contract Principles*

Vaporware cases often involve a "turn-key" computer system, that is, a custom designed software and hardware system sold as a package which is ready to perform a specialized function immediately upon delivery to the purchaser.[48] Purveyors of turn-key systems are often referred to as systems houses.[49] Most systems houses provide custom software

around warranty and damage disclaimers that are the rule in computer industry contracts. *See* Comment, *supra* note 6, at 255-58.

41. *See, e.g.*, Consolidated Data Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385, 392 n.6 (9th Cir. 1983) (unconscionability rarely exists in commercial setting where parties have equal bargaining power); Earman Oil Co. v. Burroughs Corp., 625 F.2d 1291, 1300 (5th Cir. 1980) (rebuttable presumption that commercial contract is at arm's length). *See also* Comment, *U.C.C. § 2-719 as Applied to Computer Contracts—Unconscionable Exclusions of Remedy?:* Chatlos Systems, Inc. v. National Cash Register Corp., 14 CONN. L. REV. 71, 98 (1981). *Contra* Horning v. Sycom, 556 F. Supp. 819, 821 (E.D. Ky. 1983) (solo medical practitioner successfully avoided contract).

42. *See infra* notes 62-337 and accompanying text.

43. *See infra* notes 48-99 and accompanying text.

44. *See infra* notes 100-241 and accompanying text.

45. *See infra* notes 272-299 and accompanying text.

46. *See infra* notes 240-271 and accompanying text.

47. *See infra* notes 300-337 and accompanying text.

48. Neilson Business Equip. Center, Inc. v. Monteleone, 524 A.2d 1172, 1174-75 (Del. 1987).

49. *See* Bender, *supra* note 2, at 410. Sellers of turn-key systems are also referred to in the computer industry as Value Added Resellers (VARs), that is,

to meet the specifications of their clients.[50] In the typical computer contract case, the plaintiff is a small business which purchases a turn-key system under a written agreement from a larger systems house.[51]

In a turn-key sales contract, the purchaser will typically attempt to define in advance the software's structure and the hardware's specifications. However, the system's final form can usually be determined only after the contract has been signed and the seller has had an opportunity to determine whether its programming abilities can satisfy the purchaser's needs. Consequently, this conflict creates a "catch-22" situation for turn-key system purchasers.[52]

Contracts for turn-key systems often necessitate the services of independent programmers and consultants.[53] In such cases, the systems house will attempt to contract with the purchaser for a finished product that conforms to the user's specifications.[54] The user, on the other hand, will attempt to contract for a completely "bug free" system.[55] This tension generally results in contractual vagueness, a common feature of development and consulting contracts.[56] The contract will vaguely state the expected nature of the finished product and the estimated man-hours necessary to complete the product.[57]

Three provisions are commonly found in standardized computer equipment sales contracts: 1) the manufacturer's warranty against defects in material and workmanship for some period of time; 2) the manufacturer's disclaimer of all other warranties, express and implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose; and 3) a merger clause which pro-

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computer dealers who specialize in custom designing computer hardware and software systems for end users. Computer & Software News, Oct. 5, 1987, at 12, col. 1. In the U.S., VARs account for a huge amount of computer hardware and software sales and consulting. *Id.* A 1984 study by *Mini-Micro Systems* estimated the sales of micros and minis through VARs at over $50 billion. Another study, by Digital Equipment, projected an $111 billion market among first-time users in special applications markets alone from 1984 to 1990. *Id.* Thus, VAR business is big and is growing at well over fifty percent per year. *Id.*

50. *See* Bender, *supra* note 2, at 410.

51. Saltzberg & Heffernan, *supra* note 10, at 530.

52. Gordon & Starr, *supra* note 15, at 488. This is a "catch-22" because one cannot accurately and completely detail the definition of a software program that has not yet been created. *Id.* at 488 n.2. Since hardware is becoming consistently more reliable, it should be noted that, unlike the first lawsuits involving computers, the bulk of future litigation is likely to focus more on software and less on hardware. Zammit, *Computer Software and the Law*, 68 A.B.A. J. 970, 970-71 (1982). The primary legal concern in the future will be related to software, particularly custom designed software. *Id.*

53. Adam, Gordon & Starr, *Contractual, Financial, and Tax Issues in Major Procurements*, 4 COMPUTER L.J. 465, 487-96 (1984).

54. *Id.*

55. *Id.*

56. *See* Gordon & Starr, *supra* note 15, at 488-89.

57. *Id.*

vides that the written agreement constitutes the entire agreement between the purchaser and purveyor, and that the written agreement supersedes all prior communications between the parties, including all oral and written proposals.[58] However, these contractual limitations of liability are generally not effective against claims for negligence[59] or fraud.

The standardized contract is an important mechanism for allocating risk.[60] If a risk cannot be identified and assessed in advance, the use of a limitation of liability provision in a standardized contract provides a convenient means of allocating such contingent risk in advance.[61] The effect of these standard computer contracts provisions under traditional contract principles is distinctive in several respects and is discussed below.

1. *Parol Evidence Rule*

Courts have in some vaporware cases given full effect to contractual merger clauses and as a result have precluded plaintiffs' claims. For example, in *Office Supply Co. v. Basic/Four Corp.*,[62] the United States District

58. *See* Saltzberg & Heffernan, *supra* note 10, at 534; *see also* Hunter v. Texas Instruments, Inc., 798 F.2d 299, 301 n.5 (8th Cir. 1986); Consolidated Data Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385, 391 n.5 (9th Cir. 1983); Earman Oil Co. v. Burroughs Corp., 625 F.2d 1291, 1294 nn.6-8 (5th Cir. 1980); AMF, Inc. v. Computer Automation, Inc., 573 F. Supp. 924, 927 (S.D. Ohio 1983); Office Supply Co. v. Basic/Four Corp., 538 F. Supp. 776, 778-79 (E.D. Wis. 1982); Honeywell Information Sys., Inc. v. Demographic Sys., Inc., 396 F. Supp. 273, 275 n.1 (S.D.N.Y. 1975); Kalil Bottling Co. v. Burroughs Corp., 127 Ariz. 278, 280, 619 P.2d 1055, 1056-57 (Ariz. Ct. App. 1980); Comment, *supra* note 6, at 259.

The collective effect of these three clauses has often been to eliminate almost any chance of a successful claim for breach of express or implied warranties. *See* Saltzberg & Heffernan, *supra* note 10 at 534. The first provision is a minimal warranty. *Id.* The second and third provisions exclude warranties as to the performance or capacity of the computer system. *Id.* Moreover, the third clause, a "merger" or "integration" clause, employs the parol evidence rule to exclude sales literature or sales talk that might otherwise be found to create an express warranty. *Id.* Such clauses have, in some cases, been held to shield computer vendors entirely from liability for breach of warranty when computer systems do not work as the consumer expected. *Id.*

59. *See* Gordon & Starr, *supra* note 15, at 512 n.56.

60. *See* Wallace & Maher, *supra* note 8, at 67-68.

61. *Id.* The standardized contract thereby generates considerable social benefits as well as onerous problems. *Id.* A standardized contract amounts to private legislation imposed by the computer industry without negotiated input from buyers who will also be governed by it; thus, it is illusory to maintain that, in such cases, freedom of contract exits. *Id.*

62. 538 F. Supp. 776 (E.D. Wis. 1982). After two months of comparison shopping, Office Supply Company, Inc. (Office Supply), entered into a contract with Basic/Four Corporation (Basic/Four) for the purchase of computer hardware and the lease of accounting software. *Id.* at 778. The sales agreement provided a 90-day warranty against defects in material, workmanship, and operating failure from ordinary use, limited Office Supply's remedy to free repair by Ba-

Court for the Eastern District of Wisconsin held that a computer sales contract which specifically provides that it constitutes the entire agreement and understanding between the parties through an integration clause prevents consideration of parol evidence to vary the terms of the agreement.[63] The plaintiff was, therefore, precluded from suing under a breach of contract or warranty theory.[64]

The Arizona Court of Appeals applied the same contractual principle to fraud and misrepresentation claims in *Kalil Bottling Co. v. Burroughs Corp.*[65] In *Kalil* the court held that, because the contract specifically ex-

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sic/Four, excluded Basic/Four's liability for loss of profits and incidental and consequential damages, disclaimed all express and implied warranties in lowercase italicized lettering, and excluded all prior agreements. *Id.* After the computer equipment was installed, Office Supply sent a letter to Basic/Four informing the latter that the software appeared to be satisfactory. *Id.* Office Supply discovered shortly thereafter that the software did not, in fact, work satisfactorily. *Id.* Basic/Four worked with Office Supply to correct the "bugs" for several months, and continued to do work beyond the warranty period. *Id.* Yet, the software was not perfected until after three years and additional expenditures by Office Supply. *Id.* Office Supply brought suit against Basic/Four, claiming breach of contract, breach of express and implied warranties, failure of limited warranty's essential purpose, and negligence in manufacture, design, installation, and repair. *Id.* at 778-79. The court granted Basic/Four's motion for summary judgment on all these claims. *Id.* at 793.

63. *Id.* at 782 (citing APLications, Inc. v. Hewlett-Packard Co., 501 F. Supp. 129 (S.D.N.Y. 1980), *aff'd*, 672 F.2d 1076 (2d Cir. 1982)). The court based its holding on the fundamental principle that contractual language must be interpreted in an effort to determine the intent of the contracting parties. *Id.* at 782. The Uniform Commercial Code parol evidence rule provides:

> Terms with respect to which the confirmatory memoranda of the parties agree or which are otherwise set forth in a writing intended by the parties as a final expression of their agreement with respect to such terms as are included therein may not be contradicted by evidence of any prior agreement or of a contemporaneous oral agreement but may be explained or supplemented
>
> (a) by course of dealing or usage of trade (Section 1-205) or by course of performance (Section 2-208); and
>
> (b) by evidence of consistent additional terms unless the court finds the writing to have been intended also as a complete and exclusive statement of the terms of the agreement.

U.C.C. § 2-202 (1978).

64. 538 F. Supp. at 786.

65. 127 Ariz. 278, 619 P.2d 1055 (Ariz. Ct. App. 1980). The Kalil Bottling Company (Kalil) replaced its previous computer system with a computer from Burroughs Corporation (Burroughs) through a third-party lease/purchase agreement. *Id.* at 279, 619 P.2d at 1056. The sales agreement warranted against defects in material and workmanship for one year, waived all damages, negated all prior representations, excluded implied warranties of merchantability and fitness for a particular purpose, expressly extended all guarantees and warranties to Kalil, and limited all remedies to repair or replacement. *Id.* at 279-80, 619 P.2d at 1056-57. The system frequently "crashed," causing a backlog at Kalil. *Id.* Kalil brought suit against Burroughs, claiming breach of contract, breach of express warranty, breach of implied warranties of merchantability and fitness for a particular purpose, negligent misrepresentation, fraud, and consumer fraud. *Id.* at 280, 619 P.2d at 1057.

cluded the alleged misrepresentations, Kalil's claims for negligent misrepresentation, fraud and consumer fraud could not be proved by extrinsic evidence under the parol evidence rule.[66]

In contrast, the United States District Court for the District of Nevada held in *Sierra Diesel Injection Service v. Burroughs Corp.*,[67] that the parol evidence rule does not exclude evidence of fraud in the inducement of a contract, even where the court finds that there is an integrated agreement.[68] Rather, the court held that parol evidence may always be used to show fraud in the inducement of the contract, even if there has been a valid integration, because fraud in the inducement invalidates the entire contract.[69]

Although the plaintiffs in *Office Supply, Kalil* and *Sierra* were each commercial entities that purchased similar computer systems, the courts interpreted the relationship between the parol evidence rule and merger clauses differently. It is submitted that *Office Supply* and *Sierra* offer better reasoned holdings. As the court in *Office Supply* held, a contract should be capable of precluding certain causes of action.[70] However, as the *Sierra* court intimated, a cause of action for fraud or misrepresentation attacks the validity of the contract as a whole. Precluding such claims based on the parol evidence rule would beg the question whether an enforceable contract existed at all.[71]

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66. *Id.* at 282, 619 P.2d at 1058.

67. 648 F. Supp. 1148 (D. Nev. 1986), *reconsideration denied*, 651 F. Supp. 1371 (D. Nev. 1987). Sierra Diesel Injection Service (Sierra) contracted with Burroughs Corp., Inc. (Burroughs), for the purchase of a computer hardware and software "multi-program" system which would administer Sierra's billing and accounts receivable tasks. 648 F. Supp. at 1149. Burroughs represented that one of its computer models could handle the requirements of Sierra's business, and installed the system shortly thereafter. *Id.* Subsequently, the system proved to be inadequate for Sierra's needs, and after four years of attempting to resolve the problem, Burroughs replaced the system with a more advanced model. *Id.* The advanced model proved to be insufficient as well. *Id.* Sierra brought suit against Burroughs after an additional three years for, among other claims, fraud, misrepresentation, and breach of contract and warranty. *Id.*

68. 651 F. Supp. at 1377.

69. *Id.* The court stated: "authorities hold that merger clauses . . . are strong evidence of integration, but that they are not necessarily conclusive [that the writings are the final expression of the parties' agreement]." *Id.* at 1376.

70. 538 F. Supp. at 782. This proposition is inapplicable where the provision in question is determined to be unconscionable. For a discussion of unconscionability, see *infra* notes 219-239 and accompanying text.

71. 651 F. Supp. at 1377. In order to avoid problems with the relationship between the parol evidence rule and contractual integration clauses, parties to a computer contract should particularize terms of payment, delivery, acceptance, respective responsibilities of purveyors and programmers, "force majeure" terms, software capabilities, hardware capacities, and much more. *See* Ellis, *supra* note 25, at 29-30; Gordon & Starr, *supra* note 15, at 489-97. Because consumers are in general becoming progressively more knowledgeable about computers, and because computer hardware and software development is currently more of a science and less of an art, parties to computer contracts can more easily specify with greater detail the terms of the contract. *See* Ellis, *supra* note 25, at 29. Fur-

2. *Lease Agreements and Contractual Rights and Duties*

Although the U.C.C. did not recognize leases until recently,[72] courts have historically applied sales contract principles to computer leases. For example, in *Neilson Business Equipment Center, Inc. v. Monteleone*,[73] the Delaware Supreme Court held that, although computer agreements are often structured as leases, the substance of such transactions are properly characterized as sales.[74] Additionally, in *Office Supply*,[75] the United States District Court for the Eastern District of Wisconsin held that a sale of software which is in lease form for reasons related to copyright protection is nonetheless a "sale" for purposes of the U.C.C.[76]

Finally, in *Earman Oil Co. v. Burroughs Corp.*,[77] the United States Court of Appeals for the Fifth Circuit held that because a three-party lease transaction was a financing arrangement, the real economic effect of the transaction was a sale directly from Burroughs to Earman under the "contemporaneous transaction" principle.[78] Under this doctrine,

thermore, the more detailed and precise a computer goods or services contract is, the better the contract will serve the needs of both the vendor and the user. *See* Gordon & Starr, *supra* note 15, at 488-89.

72. *See* U.C.C. § 2A (1987)(U.C.C. applies to leases).

U.C.C. § 2-102 (1978) states in pertinent part: "Unless the context otherwise requires, this Article applies to transactions in goods; it does *not* apply to any transaction which although in the form of an unconditional contract to sell or present sale is intended to operate only as a security transaction . . . ." *Id.* (emphasis added).

73. 524 A.2d 1172 (Del. 1987). The plaintiff's office assistant, who had no prior experience with computers, obtained through a lease/purchase agreement a custom designed computer system from Neilson Business Equipment Center (Neilson). *Id.* at 1172-74. Although Neilson did not design the software, it purchased a suitable software program which it tailored to meet Dr. Monteleone's particular business needs, and renamed it "Neilson Medical Office Management System." *Id.* The system subsequently failed to satisfy all of Dr. Monteleone's billing and accounting needs. *Id.* After eight months of debugging attempts, Neilson successfully effected modifications. *Id.* Nonetheless, Dr. Monteleone brought suit against Neilson, claiming breach of warranties of merchantability and fitness for a particular purpose. *Id.*

74. *Id.* at 1175 (citing Earman Oil Co. v. Burroughs Corp., 625 F.2d 1291, 1293 n.5 (5th Cir. 1980)).

75. For a discussion of the facts and holding in *Office Supply*, see *supra* note 62.

76. 538 F. Supp. at 778 n.1.

77. 625 F.2d 1291 (5th Cir. 1980). In *Earman*, Earman Oil Company (Earman) leased a computer system from National Equipment Rental (NER), which had been sold to NER by Burroughs Corporation (Burroughs) after Earman had carefully negotiated the terms of the sale with Burroughs. *Id.* at 1294. The lease form contained the standard computer contract provisions. *Id.* at 1294 nn.6-7. Immediately after the computer was installed, it failed. *Id.* at 1293. Burroughs unsuccessfully attempted to remedy the problems over a course of two years. *Id.* Earman brought an action against Burroughs for breach of oral express warranties, implied warranty of merchantability, implied warranty of fitness for a particular purpose, and tortious misrepresentation of the computer's capabilities. *Id.*

78. *Id.* at 1297.

where a purchase agreement and a financing agreement "are executed by the same parties at or near the same time in the course of the same transaction and concern the same subject matter they will be read and construed together," even though the separate documents may have been executed days or weeks apart.[79]

A computer lease may, therefore, be legally similar to a computer purchase insofar as the same rights and duties may arise under both transactions. The United States Court of Appeals for the Eighth Circuit applied this analogy in *Hunter v. Texas Instruments, Inc.*[80] In *Hunter*, the court held that a manufacturer's liability for breach of warranty may be limited or excluded in a distributor's lease even though the manufacturer is not a party to the contract.[81] Thus, a party to a computer lease agreement cannot claim that its terms are per se invalid.

3. *The Relationship Between Express Warranties and Warranty Exclusions*

In some instances, warranties which are expressly included in a written sales contract are excluded by other contractual provisions. For example, a vendor may contractually exclude implied warranties of merchantability and fitness for a particular purpose, and in the same writing warrant against defects in material and workmanship. The legal result of this contradiction is unclear, giving rise to several possible consequences.

Perhaps these provisions directly conflict and, therefore, vitiate each other. Alternatively, each provision may pertain to unrelated characteristics of the product. Finally, perhaps a product must be free of defects in material and workmanship in order to be merchantable. The following cases illustrate the current relationship between express warranties and warranty exclusions.

In *Nixdorf Computer, Inc. v. Jet Forwarding, Inc.*,[82] the United States Court of Appeals for the Ninth Circuit applied the fundamental principle that if uncertainty exists about the meaning of contractual provisions, the language of the contract is to be construed most strongly against the drafter of the ambiguous term.[83] Moreover, in *W.R. Weaver*

79. *Id.* (quoting Atlas Indus., Inc. v. National Cash Register Corp., 216 Kan. 213, 220, 531 P.2d 41, 46-47 (1975)).

80. 798 F.2d 299 (8th Cir. 1986) (3-0 decision). Luther A. Hunter (Hunter) purchased a Texas Instruments, Inc. (TI) computer through a third-party finance company whose lease limited the lessee's available remedies and the manufacturer's liabilities. *Id.* at 300. Despite thirteen attempts by TI to fix the computer's "bugs," the system proved to be defective. *Id.* Hunter brought suit against TI claiming breach of express and implied warranties, and seeking consequential and incidental damages, including lost profits. *Id.* Hunter argued that TI's warranty disclaimer failed because it was unconscionable and inconspicuous, and TI's limitation of remedies was unconscionable. *Id.* at 301.

81. *Id.* at 302.

82. 579 F.2d 1175 (9th Cir. 1978).

83. *Id.* at 1178 (construing CAL. CIV. PROC. CODE § 1654 (Deering 1973)).

v. Burroughs Corp.,[84] the Texas Court of Appeals held that any ambiguity arising from the combined effect of an express warranty and a warranty exclusion will be resolved in favor of the express warranty.[85]

This principle was later applied to a computer vaporware case in *Consolidated Data Terminals v. Applied Digital Data Systems, Inc.*[86] In *Consolidated Data*, the United States Court of Appeals for the Ninth Circuit concluded that a general liability contractual disclaimer did not override the highly particularized warranty created by specifications.[87] Thus, if a contract includes both specific warranty language and a general disclaimer of warranties and the two cannot be reasonably reconciled, the specific warranty prevails over the general disclaimer and properly forms the basis for a breach of warranty action.[88]

This principle was invoked by the *Office Supply* court,[89] which extended coverage to software under an express warranty that covered hardware, but did not expressly cover software.[90] The court thereby

84. 580 S.W.2d 76 (Tex. Ct. App. 1979). W.R. Weaver Company (Weaver) agreed to lease computer hardware and purchase custom designed accounting software from Burroughs. *Id.* at 78. Among the terms and conditions of Burroughs' standard sales contract was the following additional provision: "Burroughs believes the programming being furnished hereunder is accurate and reliable and when programming accomplishes initially agreed-upon results, such programming will be considered completed." *Id.* In a separate written statement, Burroughs provided that the "software . . . will be operable prior to installation." *Id.* Burroughs assigned the lease to a third-party leasing company and, although Weaver made periodic lease payments for several years after installation, the software did not perform as agreed upon. *Id.* at 79. Consequently, Weaver brought suit against Burroughs, claiming breach of express warranty, breach of implied warranties of fitness and merchantability, and strict liability, seeking incidental and consequential damages including treble damages and attorney's fees. *Id.* Burroughs argued that the statute of limitations had run, and that all implied warranties and direct, incidental and consequential damages had been contractually waived. *Id.*

85. *Id.* at 81.

86. 708 F.2d 385 (9th Cir. 1983). Applied Digital Data Systems, Inc. (ADDS), a computer terminal manufacturer, entered into a non-exclusive requirements contract with Consolidated Data Terminals (CDT), a distributor of computer terminals. *Id.* at 388. In the course of their dealings, CDT distributed, among its other products, many units of ADDS's newest and supposedly most advanced terminals, the Regent 100, which, according to ADDS's literature, would operate at a lightning fast speed of 19,200 "baud," that is, they would display approximately 2700 characters per second on the terminal screen, thereby "filling" or "refreshing" the screen in less than one second. *Id.* In fact, none of the Regent 100s attained this speed—they functioned, on the average, at one-tenth of the speed—and many were totally inoperative. *Id.* at 389. CDT brought action against ADDS for fraud and negligence in its design, manufacture, and sale of the defective terminals. *Id.* ADDS counterclaimed for moneys owed to it for past transactions. *Id.*

87. *Id.* at 391 (construing U.C.C. § 2-316(1) (1978)).

88. *Id.* at 391-92.

89. For a discussion of the facts and holding in *Office Supply*, see *supra* note 62.

90. 538 F. Supp. at 783.

expanded the terms of the express warranty and constricted the scope of the warranty exclusion to allow warranty coverage which had not been bargained for by the parties.[91]

Based on these cases it appears that when express warranties and warranty exclusions conflict, courts will nullify the warranty exclusions and apply the express warranty. Alternatively, courts will include associated products under the terms of the express warranty and preclude application of the warranty disclaimer to them.

4. *Application of Express Warranties and Conditions*

Although courts liberally interpret express warranties when they conflict with contractual warranty disclaimers,[92] they apply them quite literally when express warranties and conditions stand alone. For example, in *RRX Industries, Inc. v. Lab-Con, Inc.*,[93] the United States Court of Appeals for the Ninth Circuit held that, despite efforts by a computer vendor to "timely install an operational software system, to repair malfunctions, and to train RRX employees,"[94] the vendor nonetheless breached its duties because the software did not function properly.[95] The court interpreted this failure as a reflection of the vendor's concurrent failure to adequately correct programming errors and to provide the purchaser's employees with sufficient training.[96]

In *Honeywell Information Systems, Inc. v. Demographic Systems, Inc.*,[97] the United States District Court for the Southern District of New York interpreted the payment terms of a computer sales agreement so literally that it found that the purchaser's payment was not conditioned upon performance by the vendor.[98] The court stated: "[E]ven taking defend-

91. *Id.*

92. For a discussion of interpretations of express warranties, see *supra* notes 77-85 and accompanying text.

93. 772 F.2d 543 (9th Cir. 1985). RRX Industries, Inc. (RRX), and Lab-Con, Inc. (Lab-Con, successor to TEKA), entered into an agreement in which Lab-Con would develop software for use in RRX's laboratories. *Id.* at 545. The agreement obligated Lab-Con to correct any "bugs" in the software, and limited Lab-Con's liability to the contract price. *Id.* The software proved to contain irreparable bugs. *Id.* RRX stopped payment under the contract, and brought an action for breach of contract and fraud against Lab-Con. *Id.* The district court awarded RRX the purchase price and consequential damages. *Id.*

94. *Id.* at 546.

95. *Id.*

96. *Id.*

97. 396 F. Supp. 273 (S.D.N.Y. 1975). Demographic Systems, Inc. (DSI), obtained a computer through an installment sales agreement from Honeywell Information Systems, Inc. (Honeywell). *Id.* at 276. The contract provided a warranty against defects in materials and workmanship, limited DSI's remedy to repair or replacement, and excluded all other warranties and representations. *Id.* at 275-76 n.1. Due to a long delay in installation of the complete system, DSI ceased its payments to Honeywell. *Id.* at 275. Honeywell brought suit against DSI for replevin and to recover the full value of DSI's promissory note. *Id.*

98. *Id.*

ant's allegations of poor equipment performance as true, defendant fails to state a valid defense to a replevin claim where, as here, performance was not a condition of payment under the Agreements."[99]

It is submitted that courts will interpret uncontradicted contractual provisions in a very literal manner. Perhaps this is an attempt to construe ambiguous form contracts in a consistent manner. However, literal interpretation of computer purchase agreements can sometimes have an unfair and disastrous effect upon the purchaser.

B. *Computer Contracts Under the U.C.C.*

Courts usually apply Article 2 of the U.C.C. to computer transactions which involve hardware.[100] In the process of determining whether the U.C.C. applies, however, courts have become involved in a lengthy analysis to determine whether software and hardware systems constitute "goods." Once it has been determined that they are goods and, therefore, the U.C.C. applies, courts have looked at the issues of conspicuousness of warranty exclusions, limitations of damages and remedies, implied warranties of merchantability and fitness for a particular purpose, failure of a warranty's essential purpose, unconscionability and other U.C.C. principles.

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99. *Id.*

100. *Compare* RRX Indus., Inc. v. Lab-Con, Inc., 772 F.2d 543 (9th Cir. 1985) (software system is good; U.C.C. applies) *and* Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737 (2d Cir. 1979), *aff'd after remand*, 651 F.2d 132 (2d Cir. 1981) *and* AMF, Inc. v. Computer Automation, Inc., 573 F. Supp. 924, 930 (S.D. Ohio 1983) (U.C.C. applies) *and* APLications, Inc. v. Hewlett-Packard Co., 501 F. Supp. 129 (S.D.N.Y. 1980), *aff'd*, 672 F.2d 1076 (2d Cir. 1982) (U.C.C. applies) *and* Office Supply Co., Inc. v. Basic/Four Corp., 538 F. Supp. 776, 783-84 (E.D. Wis. 1982) (U.C.C. applies) *and* Chatlos Sys. v. National Cash Register Corp., 479 F. Supp. 738 (D.N.J. 1979), *aff'd and remanded*, 635 F.2d 1081 (3d Cir.), *aff'd*, 670 F.2d 1304 (3d Cir. 1980), *cert. denied*, 457 U.S. 1112 (1982) (U.C.C. applies) *and* Badger Bearing v. Burroughs Corp., 444 F. Supp. 919 (E.D. Wis. 1977), *aff'd without opinion*, 588 F.2d 838 (7th Cir. 1978) (U.C.C. applies) *and* Neilson Business Equip. Center, Inc. v. Monteleone, 524 A.2d 1172 (Del. 1987) *and* W.R. Weaver Co. v. Burroughs Corp., 580 S.W.2d 76, 80 (Tex. Ct. App. 1979) (U.C.C. applies) *with* Computer Servicenters, Inc. v. Beacon Mfg. Co., 328 F. Supp. 653, (D.S.C. 1970), *aff'd*, 443 F.2d 906 (4th Cir. 1971) (sale of custom designed software was rendering of services; U.C.C. inapplicable) *and* Data Processing Serv., Inc. v. L.H. Smith Oil Corp., 492 N.E.2d 314, 318-19 (Ind. Ct. App. 1986) (sale of custom designed software was service).

See Comment, *supra* note 6, at 261. *See also* Gordon & Starr, *supra* note 15, at 525-26 (U.C.C. applies to hardware and software systems; but courts still undecided whether U.C.C. applies to software alone). One commentator suggests that "[t]he very conceptual base of the UCC, barely two decades old, is already inappropriate for the information economy." Davidson, *Common Law, Uncommon Software*, 47 U. PITT. L. REV. 1037, 1052-53 (1986) (citing U.C.C. §§ 2-314, -315 & -608 (1978)). "If the program is no more than a set of ideas, a contract to sell a program is a service contract and therefore is not covered by article 2." Note, *Computer Programs as Goods Under the U.C.C.*, 77 MICH. L. REV. 1149, 1150 (1979).

1. *Software Constitutes a "Good"*

The U.C.C., Article 2, applies exclusively to "transactions in goods."[101] "Goods," as defined by the U.C.C., are "all things (including specially manufactured goods) which are movable at the time of identification to the contract for sale . . . ."[102] Arguably, turn-key software may be a specially manufactured good;[103] however, it is unclear whether software is "movable."[104] Furthermore, the phrase "time of identification" is particularly ambiguous in the context of custom designed software, for such software is often delivered before it is completely "debugged."[105]

However, identification can be made "at any time and in any manner explicitly agreed to by the parties."[106] Moreover, identification may be tentative or contingent by agreement,[107] and there is no requirement under the U.C.C. that the goods be in a deliverable state at the time of

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101. U.C.C. § 2-102 (1978). The U.C.C. specifically states:

> Unless the context otherwise requires, this Article applies to transactions in *goods*; it does not apply to any transaction which although in the form of an unconditional contract to sell or present sale is intended to operate only as a security transaction nor does this Article impair or repeal any statute regulating sales to consumers, farmers or other specified classes of buyers.

Id. (emphasis added).

102. U.C.C. § 2-105(1) (1978).

103. *See* Note, *supra* note 100, at 1151.

104. Note, *supra* note 100, at 1152-53. "Program copies are 'movable' in any of their three principal forms: software, memory devices, or data transmissions." *Id.* at 1152.

105. *See* Davidson, *supra* note 100, at 1051-52 (identification is illusory concept in computer context). *See also* Note, *supra* note 100, at 1155 (software is analogous to records which are both movable and identifiable). It should be noted that most custom designed and packaged software is sold and accepted commercially with a number of "bugs" in it. *See* Davidson, *supra* note 100, at 1052-53. It is unclear whether software in this state is nevertheless "merchantable." *Id.*

106. U.C.C. § 2-501 (1978). The U.C.C. further states:

> In the absence of explicit agreement identification occurs
>
> (a) when the contract is made if it is for the sale of goods already existing and identified;
>
> (b) if the contract is for the sale of future goods . . . when goods are shipped, marked or otherwise designated by the seller as goods to which the contract refers . . . .

Id.

Thus, custom designed software can be treated as a future good, and the U.C.C. would, therefore, apply.

107. U.C.C. § 2-501 comment 2 (1978). The U.C.C. specifically states:

> In the ordinary case identification of particular existing goods as goods to which the contract refers is unambiguous and may occur in one of many ways. It is possible, however, for the identification to be tentative or contingent. In view of the limited effect given to identification by this Article, the general policy is to resolve all doubts in favor of identification.

Id. One commentator suggests that this confusion may be due to the varying use

identification.[108] Because the U.C.C. takes a broad approach to the term "goods," it is probably the case that computer software falls within its domain.

Patent attorneys have, for over twenty years, wrestled with the issue whether software is sufficiently "tangible" to enable it to be covered by the Patent Act.[109] The Patent Act provides that a patent may be obtained on any useful, new and nonobvious "process, machine, manufacture, composition of matter, or any new and useful improvement thereof."[110] This section of the Patent Act is sufficiently ambiguous that courts have made inconsistent determinations of software patentability.

In *Diamond v. Diehr*[111] the United States Supreme Court enunciated the definitive rule that one must first determine whether a mathematical algorithm is directly or indirectly recited in the claim, and if so, determine whether the claim merely recites a mathematical algorithm.[112] "If the answers to both questions are in the affirmative, the claim is nonstatutory; otherwise it is statutory."[113] In the software context, the rule embodied in *In re Abele*[114] is that a computer program is not merely an algorithm, and is therefore patentable, if it is applied in any manner to physical elements—such as a particular type of computer—or process steps.[115]

The Copyright Act (the Act) recognizes the statutory problems posed by computer software.[116] The Act also explicitly recognizes com-

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of terminology within the computer industry itself. *See* Rodau, *supra* note 18, at 861-62 & nn.30-31.

108. U.C.C. § 2-501 comment 4 (1978). The U.C.C. commentary specifically states:

> In view of the limited function of identification there is no requirement in this section that the goods be in deliverable state or that all of the seller's duties with respect to the processing of the goods be completed in order that identification occur. For example, despite identification the risk of loss remains on the seller under the risk of loss provisions until completion of his duties as to the goods and all of his remedies remain dependent upon his not defaulting under the contract.

Id. See also Gordon & Starr, *supra* note 15, at 526.

109. 35 U.S.C. §§ 101-376 (1982 & Supp. IV 1986).

110. *Id.* § 101 (1982).

111. 450 U.S. 175 (1981); *see also* Matter of Application of Bradley, 600 F.2d 807, 813 (9th Cir. 1979).

112. *See* Bender, *supra* note 2, at 414-15.

113. *Id.* at 415.

114. 684 F.2d 902 (C.C.P.A. 1982).

115. *Id.* at 908. *See also* Bender, *supra* note 2, at 416.

116. 17 U.S.C. § 101-914 (1982 & Supp. IV 1986). With respect to its general scope, the Copyright Act provides in pertinent part: "Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed, from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." *Id.* § 102(a). The earliest attempts to protect software successfully relied on trade secret law. *See* Rodau, *supra* note 18, at

puter software as a "tangible medium of expression" in a recent amendment to the Act, and bestows exclusive rights upon owners of computer programs.[117] Insofar as all computer programs fall into the domain of the Act and some computer programs combined with computer hardware fall into the domain of the Patent Act, it is submitted that the U.C.C.'s broad definition of "goods" should implicitly include computer software as well.[118] Courts almost unanimously share this sentiment.

854-55 n.6; Bender, *Trade Secret Protection of Software*, 38 GEO. WASH. L. REV. 909 (1970).

117. 17 U.S.C. § 117 (1982). The Act specifically provides:

> Notwithstanding the provisions of section 106, it is not an infringement for the owner of a copy of a computer program to make or authorize the making of another copy or adaptation of that computer program provided:
>
> (1) that such new copy or adaptation is created as an essential step in the utilization of the computer program in conjunction with a machine and that it is used in no other manner, or
>
> (2) that such a new copy or adaptation is for archival purposes only and that all archival copies are destroyed in the event that continued possession of the computer program should cease to be rightful.
>
> Any exact copies prepared in accordance with the provisions of this section may be leased, sold, or otherwise transferred, along with the copy from which such copies were prepared, only as part of the lease, sale, or other transfer of all rights in the program. Adaptations so prepared may be transferred only with the authority of the copyright owner.

Id. The difficulties with protecting software led Congress to appoint the National Commission on New Technological Uses of Copyrighted Works (CONTU) to study the problems of software protection. *See* Act of December 19, 1974, Pub. L. No. 93-573, 1974 U.S. CODE CONG. & ADMIN. NEWS (88 Stat.) 6849. The final report of the Commission led to the above amendment of the Copyright Act. For the full text of the Commission's report, see *Final Report of the National Commission of New Technological Uses of Copyrighted Works (July 31, 1978) Section on Software Copyrights*, 3 COMPUTER L.J. 53 (1981).

The Act bestows copyright protection upon computer programs despite the language of § 102(b) which specifically states: "[I]n no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work." 17 U.S.C. § 102(b) (1982). It is submitted that the combination of these sections thereby implicitly classifies computer programs as tangible items.

118. *See* Wallace & Maher, *supra* note 8, at 79-80. One commentator has suggested that this argument is purely academic:

> [T]he distinction [between tangibility and movability] appears to be crucial to taxing authorities and those who seek to apply Article 2 of the [U.C.C.]. . . . Such a distinction is likely a concern only to those who worry about the purity and the symmetry of the law. . . . The fact that the same computer program may be tangible under one law and intangible under another will not delay the tax collectors on their appointed rounds.

Bigelow, *The Challenge of Computer Law*, 7 W. NEW ENG. L. REV. 397, 404 (1985).

Another commentator has suggested that construction law may be an appropriate paradigm for analyzing the sale of custom designed software. *See* Davidson, *supra* note 100, at 1051.

In *Triangle Underwriters, Inc. v. Honeywell, Inc.*,[119] the District Court for the Eastern District of New York noted that software consists of both intangible intellectual property aspects, represented by ideas and concepts, and the resulting product of those intellectual property aspects which is software.[120] The court held that the system as a whole was within the Article 2 definition of goods.[121] On appeal, the United States Court of Appeals for the Second Circuit enunciated the general rule that a "contract is for 'service' rather than 'sale' [only] when 'service predominates,' and the sale of items is 'incidental.' "[122]

Similarly, in *RRX Industries, Inc. v. Lab-Con Inc.*,[123] the United States Court of Appeals for the Ninth Circuit held that, in determining whether a contract is one for sale or to provide services, courts must look to the essence of the agreement.[124] When a sale predominates, incidental services rendered do not alter the basic transaction.[125] The court held that the sale of software predominated in the transaction at bar.[126] Thus, employee training, repair services and system upgrading were merely incidental to the sale of the software package, and did not prevent characterizing the computer system as a good.[127]

In *Neilson Business Equipment Center, Inc. v. Monteleone*[128] the Delaware Supreme Court determined that the contract between Dr. Monteleone and Neilson Business Equipment Center was a mixed contract for both goods and services.[129] The court stated: "[w]hen a mixed contract is presented, it is necessary for a court to review the factual circumstances surrounding the negotiation, formation and contemplated performance of the contract to determine whether the contract is predominantly or

119. 457 F. Supp. 765 (E.D.N.Y. 1978), *aff'd in part and rev'd in part*, 604 F.2d 737 (2d Cir. 1979), *aff'd after remand*, 651 F.2d 132 (2d Cir. 1981). Triangle Underwriters, Inc. (Triangle), contracted with Honeywell for the purchase of computer hardware, standard software, and custom designed software for the purpose of supporting Triangle's printing lay-outs, word processing, billing, and accounting. *Id.* at 739. After its installation, the system constantly and consistently produced errors in billing and accounting. *Id.* at 740. After almost one year of attempting to correct the problem, Honeywell personnel gave up and departed from Triangle. *Id.* Triangle brought suit against Honeywell claiming fraud, breach of contract, and negligence. *Id.* at 739.

120. *Id.* at 769.

121. *Id.*

122. 604 F.2d at 742 (quoting North American Leisure Corp. v. A & B Duplicators, Ltd., 468 F.2d 695, 697 (2d Cir. 1972)).

123. 772 F.2d 543 (9th Cir. 1985). For a discussion of the facts and holding in *RRX Industries*, see *supra* note 93.

124. *Id.* at 546.

125. *Id.*

126. *Id.*

127. *Id.*

128. 524 A.2d 1172 (Del. 1987). For a discussion of the facts and holding in *Neilson*, see *supra* note 73.

129. *Id.* at 1174.

primarily a contract for the sale of goods."[130] The court based its determination that the contract was primarily for the sale of goods on Dr. Monteleone's intent to purchase a "turn-key" system, and not to obtain the hardware and software separately.[131]

By contrast, in *Computer Servicenters, Inc. v. Beacon Manufacturing Co.*,[132] an action involving a contract for data processing services, the United States Court of Appeals for the Fourth Circuit affirmed the lower court's ruling that, because the definition of goods is cast in terms of a contract for sale, the contract in controversy was not for the sale of goods but was for performance of services.[133] Additionally, in *Data Processing Service, Inc. v. L.H. Smith Oil Corp.*,[134] which involved a contract for the development of custom designed accounting software, the Indiana Court of Appeals held that the parties contracted for services and not for goods.[135] The court stated that "[t]he very terminology used by the trial court and the parties here show services, not goods were that for which Smith contracted. DPS was *to act* with specific regard to Smith's need."[136] The fact that the end result was to be delivered by means of some physical manifestation of the services such as magnetic tape, floppy disc or hard disc was immaterial and merely incidental.[137] Rather, the material element of the transaction was the purchaser's bargaining for the vendor's "knowledge, skill, and ability."[138]

2. *Computer Sales Fall Under the Implied Warranty of Merchantability*

The U.C.C. provides that "a warranty that the goods shall be merchantable is implied in a contract for their sale . . . ."[139] This contextual warranty cannot be found in the standard computer contract; rather, it

130. *Id.*

131. *Id.* at 1174-75.

132. 328 F. Supp. 653 (D.S.C. 1970), *aff'd*, 443 F.2d 906 (4th Cir. 1971).

133. 443 F.2d at 906-07.

134. 492 N.E.2d 314 (Ind. Ct. App. 1986). L.H. Smith Oil Corporation (Smith) orally contracted with Data Processing Services, Inc., (DPS) for the custom development of accounting software for Smith's in-house computer system. *Id.* at 316. After paying several DPS bills, Smith refused to pay any additional hourly charges. DPS brought suit alleging breach of contract and open account. *Id.*

135. *Id.* at 319.

136. *Id.* at 318 (emphasis in original).

137. *Id.* at 318-19.

138. *Id.* at 319.

139. U.C.C. § 2-314 (1978). The U.C.C. specifically provides:

> (1) Unless excluded or modified (Section 2-316), a warranty that the goods shall be merchantable is implied in a contract for their sale if the seller is a merchant with respect to goods of that kind. Under this section the serving for value of food or drink to be consumed either on the premises or elsewhere is a sale.
>
> (2) Goods to be merchantable must be at least as such as
>
> (a) pass without objection in the trade under the contract and description; and

arises from the commercial setting surrounding the transaction.[140] Yet, "[a] warranty that the law implies from the existence of a written contract is as much a part of the writing as the express terms of the contract."[141]

In *Neilson*,[142] the court reaffirmed this principle, declaring that "[e]very contract of sale entered into by a merchant includes an implied warranty that the goods sold be 'merchantable.' "[143] Additionally, a "computer system, to be merchantable, must have been capable of passing without objection in the trade under the contract description, and be fit for the ordinary purposes for which it was intended."[144]

The *Neilson* court enunciated the elements necessary to prove a breach of the implied warranty of merchantability. These elements are: "(1) that a merchant sold the goods; (2) that such goods were not 'merchantable' at the time of sale; (3) that plaintiff was damaged; (4) that the damage was caused by the breach of the warranty of merchantability; and (5) that the seller had notice of the damage."[145] The court then addressed the question whether Neilson's status as an "original equipment manufacturer" (OEM) distributor, that is, a distributor of goods which affixes its own label to products it resells,[146] affected its classification as a merchant.[147] The court concluded that, although Neilson did not manufacture the computer equipment purchased by Dr. Montele-

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(b) in the case of fungible goods, are of fair average quality within the description; and

(c) are fit for the ordinary purposes for which such goods are used; and

(d) run, within the variations permitted by the agreement, of even kind, quality and quantity within each unit and among all units involved; and

(e) are adequately contained, packaged, and labeled as the agreement may require; and

(f) conform to the promises or affirmations of fact made on the container or label if any.

(3) Unless excluded or modified (Section 2-316) other implied warranties may arise from course of dealing or usage of trade.

Id.

140. *See* W.R. Weaver Co. v. Burroughs Corp., 580 S.W.2d 76, 80 (Tex. Ct. App. 1979).

141. *Id.*

142. For a discussion of the facts and holding in *Neilson*, see *supra* note 73.

143. *Id.* at 1175 (construing U.C.C. § 2-314(1)-(2) (1978)).

144. *Id.*

145. *Id.*

146. An OEM is a company which purchases hardware . . . and systems software . . . from a vendor and adds value, in the form of applications software or other components, and then resells both the hardware and software, [under its own label and at a profit, to purchasers.] . . . An OEM is thus a type of middleman in the computer business.

AccuSystems, Inc. v. Honeywell Information Sys., Inc., 580 F. Supp. 474, 476 n.2 (S.D.N.Y. 1984).

147. *Neilson*, 524 A.2d at 1175 n.4. The court defined a merchant as "one who regularly deals in goods of the kind involved or otherwise has a professional

one, it held itself out as having a professional status with regard to computers, thereby elevating it to the status of a merchant.[148]

In *Cricket Alley Corp. v. Data Terminal Systems, Inc.*,[149] the Kansas Supreme Court interpreted the implied warranty of merchantability as it applied to computer cases. The court held that under the implied warranty of merchantability computer equipment is warranted to be reliably regular and consistent.[150] In dictum, the court intimated that undependability in a computer system is, in some ways, worse than not owning a computer altogether.[151]

Similarly, in *Aubrey's R.V. Center, Inc. v. Tandy Corp.*,[152] the Washington Court of Appeals held that, although all of the hardware and some of the programs did perform properly, the system as an integrated whole did not.[153] This fact supported a finding by the lower court of substantial impairment, a prerequisite for revocation of acceptance under the U.C.C.[154]

Therefore, it seems that courts will apply the implied warranty of merchantability to vaporware cases. However, when the parties have

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status with regard to the goods involved such that he or she could be expected to have specialized knowledge or skill peculiar to those goods." *Id.*

148. *Id.* The court's language rings of the professional status necessary to maintain a cause of action for malpractice. For a discussion of computer malpractice, see *infra* notes 300-37 and accompanying text.

149. 240 Kan. 661, 732 P.2d 719 (1987). Cricket Alley Corporation (Cricket), a chain of women's clothing retail stores, purchased ten Data Terminal Systems (DTS) cash registers from a third-party retailer. It based its decision to purchase these register's upon DTS's oral and written representations they would communicate with Cricket's Wang computer system and transmit sales and inventory information. *Id.* at 664, 732 P.2d at 721-22. Subsequently, the DTS systems failed to consistently communicate properly with Cricket's Wang computer, and Cricket replaced the DTS equipment with a similar system sold by another manufacturer. *Id.* at 665, 732 P.2d at 722. Cricket brought suit against DTS, Wang and the third-party retailer, alleging breach of express warranty and seeking consequential and incidental damages. *Id.* at 664, 732 P.2d at 721-22.

150. *Id.* at 666, 732 P.2d at 722-23.

151. *Id.* at 668, 732 P.2d at 723.

152. 46 Wash. App. 595, 731 P.2d 1124 (1987). Radio Shack sold Aubrey's R.V. Center, Inc. (Aubrey's), a computer manufactured by Tandy Corporation (Tandy) and a third-party inventory and accounting software package which was advertised in Radio Shack's catalog of software available for the Tandy computer. *Id.* at 596-98, 731 P.2d at 1126. Aubrey's did not notice a disclaimer in the front of the catalog which stated that Radio Shack neither supports nor services third-party software advertised in the catalog, nor did Radio Shack's salesman explain this policy to the plaintiff. *Id.* at 597, 731 P.2d at 1126. Subsequently, the third-party software proved to be full of "bugs." After attempting to remedy the software problem for almost a year, Tandy ceased its efforts and stopped communicating with Aubrey's. *Id.* at 598-99, 731 P.2d at 1126-27. Aubrey's brought suit against Tandy, seeking rescission of the sales contract and damages. *Id.* at 599, 731 P.2d at 1127.

153. *Id.* at 602, 731 P.2d at 1128.

154. *Id.*

contractually excluded the implied warranty of merchantability,[155] a dissatisfied purchaser has sacrificed the causes of action available to it under this warranty unless it can prove unconscionability.[156]

3. *Computer Sales Under the Implied Warranty of Fitness for a Particular Purpose*

The U.C.C. provides that when a seller reasonably knows or should know at the time of contracting that the purchaser is relying on the seller's skill or judgment to select suitable goods, the goods carry with them an implied warranty that they will be fit for the purpose for which they were purchased.[157] When these elements are satisfied, the implied warranty will in all instances attach to the goods, unless the parties have contractually excluded them.[158]

In *Neilson*,[159] the court reiterated this principle and further held that "[t]he buyer need not provide the seller with actual knowledge of the particular purpose for which the goods are intended or of his reliance on the seller's skill and judgment."[160] Rather, the warranty will attach to the goods if the circumstances are such that the seller merely has reason to perceive the purpose intended or that reliance exists.[161]

In *Cricket Alley*,[162] the court indicated that the purchaser had indeed relied on the advice of the seller.[163] The court determined that the capability of new equipment to communicate with the plaintiff's computer was the prime consideration in the transaction. The failure of this capability breached the implied warranty of fitness for a particular

155. For a discussion of limitation of damages, see *infra* notes 175-86 and accompanying text.

156. For a discussion of unconscionability, see *infra* notes 219-39 and accompanying text.

157. U.C.C. § 2-315 (1978).

158. *Id.*

159. For a discussion of the facts and holding in *Neilson*, see *supra* note 73.

160. *Neilson*, 524 A.2d at 1175-76. In other words, the seller need not have a subjective understanding of the purpose to which the purchaser will put the goods.

161. *Id.* The court specifically stated:

> There could hardly be a clearer case where a buyer relies on the professional expertise of the seller than that presented here. Dr. Monteleone needed a system that would perform specific functions, and relied on Neilson's professional expertise and experience in the computer and information processing field to develop and deliver a satisfactory computer system. Neilson clearly had reason to know of Monteleone's reliance on the company's expertise and breached the warranty of fitness for a particular purpose. Its liability is established under the [U.C.C.]
>
> . . . .

Id. at 1176.

162. For a discussion of the facts and holding in *Cricket Alley*, see *supra* note 149.

163. 240 Kan. at 666, 732 P.2d at 722.

purpose.[164]

The implied warranty of fitness for a particular purpose, therefore, often attaches to the sale of computer merchandise. One commentator suggests, however, that the implied warranty of fitness for a particular purpose should not attach to all sales of computer software.[165] Most software is designed to accomplish specific functions, such as accounting or word processing.[166] However, to allow the warranty of fitness to attach in all such instances would impose higher or additional obligations upon the vendor, even though it had no direct dealings with the purchaser and did not undertake any added responsibilities.[167]

4. *Limitation of Remedy*

The U.C.C. allows parties to a sales agreement to provide for remedies in place of, or in addition to, those remedies otherwise provided in the U.C.C.[168] Computer vendors will typically invoke this section and warrant only that they will repair or replace defective equipment within the warranty period.[169] Vendors' warranties may also provide that this

164. *Id.*

165. *See* Davidson, *supra* note 100, at 1052-53.

166. *Id.*

167. *Id.* This argument is fallacious. In the typical specialty software transaction, the purchaser relies upon the developer's catalogs or other literature to aid its decision, and has no direct contact with the vendor. Furthermore, the purchaser selects software for its specific capabilities, and often pays a large sum of money—as much as several thousand dollars—for software which closely meets the demands of a particularized application. To subject the sale of specialty software to a lower performance standard, such as the implied warranty of merchantability's fitness for an ordinary purpose, would defeat the very reason for the creation of such software.

168. U.C.C. § 2-719 (1978). The U.C.C. states in pertinent part:

> (1) Subject to the provisions of subsections (2) and (3) of this section and of the preceding section on liquidation and limitation of damages,
>
> (a) the agreement may provide for remedies in addition to or in substitution for those provided in this Article and may limit or alter the measure of damages recoverable under this Article, as by limiting the buyer's remedies to return of the goods and repayment of the price or to repair and replacement of non-conforming goods or parts; and
>
> (b) resort to a remedy as provided is optional unless the remedy is expressly agreed to be exclusive, in which case it is the sole remedy.

Id.

169. *See* Hunter v. Texas Instruments, Inc., 798 F.2d 299, 301 n.5 (8th Cir. 1986); Consolidated Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385, 391 n.5 (9th Cir. 1983); Earman Oil Co. v. Burroughs Corp., 625 F.2d 1291, 1294 nn.6-8 (5th Cir. 1980); AMF, Inc. v. Computer Automation, Inc., 573 F. Supp. 924, 927 (S.D. Ohio 1983); Office Supply Co. v. Basic/Four Corp., 538 F. Supp. 776, 778-79 (E.D. Wis. 1982); Honeywell Information Sys., Inc. v. Demographic Sys., Inc., 396 F. Supp. 273, 275-76 n.1 (S.D.N.Y. 1975); Kalil Bottling Co. v. Burroughs Corp., 127 Ariz. 278, 279-80, 619 P.2d 1055, 1056-57 (Ariz. Ct. App. 1980); Saltzberg & Heffernan, *supra* note 10, at 538; Comment, *supra* note 6, at 261-62; *see also* Gordon & Starr, *supra* note 15, at 498 ("[f]urthermore,

limited remedy is exclusive.[170]

In *Office Supply Co., Inc. v. Basic/Four Corp.*,[171] the court determined that this practice was permissible under the U.C.C.[172] In particular, the court allowed an exclusion of all implied warranties and a provision for a ninety-day express warranty limited to repair and replacement.[173] The court based its determination on its approval of similar contractual provisions in a previous case, and other courts' implicit approval of such provisions.[174]

Limitation of remedy provisions are advantageous to both parties to a computer sales agreement. If a computer system fails, the vendor is in the best position to provide the services and parts required to correct its defects. The purchaser will thereby receive the initially bargained-for product. Additionally, the vendor may contract to repair only those products which it is able to repair. Thus, courts have enforced such provisions and recognized rights and duties created by them.

5. *Limitation of Damages*

The U.C.C. permits parties to a computer contract to agree upon liquidated damages[175] and to limit consequential damages.[176] The U.C.C. also permits parties to exclude implied warranties of merchantability and fitness for a particular purpose.[177] This implies

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the warranty period should be limited in duration because developed software is rarely free of coding errors even after years of use").

170. *See* Comment, *supra* note 6, at 261.

171. 538 F. Supp. 776 (E.D. Wis. 1982). For a discussion of the facts and holding in *Office Supply*, see *supra* note 62.

172. 538 F. Supp. at 783.

173. *Id.*

174. *Id.*.

175. U.C.C. § 2-718 (1978).

176. U.C.C. § 2-719(3) (1978). The U.C.C. states: "Consequential damages may be limited or excluded unless the limitation or exclusion is unconscionable. Limitation of consequential damages for injury to the person in the case of consumer goods is prima facie unconscionable but limitation of damages where the loss is commercial is not." *Id.*

177. U.C.C. § 2-316 (1978). The U.C.C. states:

> (1) Words or conduct relevant to the creation of an express warranty and words or conduct tending to negate or limit warranty shall be construed wherever reasonable as consistent with each other; but subject to the provisions of this Article on parol or extrinsic evidence (Section 2-202) negation or limitation is inoperative to the extent that such construction is unreasonable.
>
> (2) Subject to subsection (3), to exclude or modify the implied warranty of merchantability or any part of it the language must mention merchantability and in case of a writing must be conspicuous, and to exclude or modify any implied warranty of fitness the exclusion must be by a writing and conspicuous. Language to exclude all implied warranties of fitness is sufficient if it states, for example, that "There are no warranties which extend beyond the description on the face hereof."
>
> (3) Notwithstanding subsection (2)

that the vendor may be exculpated from liability for all types of damages, including direct, consequential and incidental damages, which arise under these implied warranties. Furthermore, parties may allocate or divide the risks of nonperformance or defect among themselves in any proportion they choose.[178]

Vendors commonly insert disclaimers of all types of damages and, in case those fail in court, include a clause limiting their total liability under the contract to some maximum amount.[179] One commentator suggests that the use of such maximum liability clauses seems less offensive than the use of type-specific damage disclaimers.[180] When the amount of maximum liability is less than the purchase price, the limitation may amount to an assumption of risk by the purchaser.[181]

In *Office Supply*,[182] the court held that damage limitation clauses are valid.[183] Moreover, in a commercial setting damage limitation clauses are presumptively valid and the contracting parties are presumed to have acted at arm's length.[184] Indeed, the United States Court of Ap-

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(a) unless the circumstances indicate otherwise, all implied warranties are excluded by expressions like "as is", "with all faults" or other language which in common understanding calls the buyer's attention to the exclusion of warranties and makes plain that there is no implied warranty; and

(b) when the buyer before entering into the contract has examined the goods or the sample or model as fully as he desired or has refused to examine the goods there is no implied warranty with regard to defects which an examination ought in the circumstances to have revealed to him; and

(c) an implied warranty can also be excluded or modified by course of dealing or course of performance or usage of trade.

(4) Remedies for breach of warranty can be limited in accordance with the provisions of this Article on liquidation or limitation of damages and on contractual modification of remedy (Sections 2-718 and 2-719).

Id.

178. U.C.C. § 2-303 (1978). The U.C.C. states: "Where this Article allocates a risk or a burden as between the parties 'unless otherwise agreed', the agreement may not only shift the allocation but may also divide the risk or burden." *Id.*

179. *See* Comment, *supra* note 6, at 262 n.29. The damage ceiling provision apparently excludes consideration of liquidated damage issues. *Id.*

180. *Id.* The impact of type-specific disclaimers is generally unknown until litigation begins. *Id.* Thus, the parties may find it more satisfying, and perhaps strategic, to limit their total exposure to some maximum liability in advance. Furthermore, purchasers may object to overly expansive type-specific disclaimers, for the most limited warranty "is no warranty at all." *See* Gordon & Starr, *supra* note 15, at 497-98.

181. *See* Comment, *supra* note 6, at 262 n.29.

182. For a discussion of the facts and holding in *Office Supply*, see *supra* note 62.

183. 538 F. Supp. at 789 (construing CAL. COM. CODE § 2719(3) (Deering 1973)).

184. *Id.*

peals for the Eighth Circuit stated in *Hunter v. Texas Instruments, Inc.*[185] that damage limitation clauses may also properly be used to limit manufacturers' liability in remote contracts to which the manufacturer is not a party.[186]

Damage limitation clauses are, therefore, proper in computer contracts. In some instances, they may even be an attractive means for the parties to predetermine their exposure to potential liability. Consequently, damage limitation clauses may help parties to create precise computer contracts which leave little room for judicial interpretation or construction.

6. *Conspicuousness*

The U.C.C. provides that, in order to exclude or modify the implied warranty of merchantability, the relevant contractual language must state "merchantability" and be conspicuous.[187] In order to exclude the implied warranty of fitness for a particular purpose, the relevant contractual language must only be conspicuous.[188] The U.C.C. defines the term "conspicuous" as language which "a reasonable person against whom it is to operate ought to have noticed . . . ."[189] Furthermore, language in the body of a contract is "conspicuous" if it is in "larger or other contrasting type or color."[190]

The test of conspicuousness is objective: it is "whether attention can reasonably be expected to be called to [the contractual language]."[191] The objective nature of conspicuousness was reiterated by the United States Court of Appeals for the Eighth Circuit in *Hunter*.[192] There, the court found that the contractual disclaimer, which was in larger type than the surrounding language, satisfied the U.C.C. standard and was indeed conspicuous.[193]

Therefore, it appears that the issue of conspicuousness is a question of law which must be decided by the court.[194] The United States District Court for the Southern District of Ohio reiterated this principle in *AMF, Inc. v. Computer Automation, Inc.*[195] The court rejected AMF's "conspicuousness defense," holding that a business as large as AMF should

185. 798 F.2d 299 (8th Cir. 1986). For a discussion of the facts and holding in *Hunter*, see *supra* note 80.

186. *Id.* at 302.

187. U.C.C. § 2-316(2) (1978). For the text of this section, see *supra* note 177.

188. *Id.*

189. U.C.C. § 1-201(10) (1978).

190. *Id.*

191. U.C.C. § 1-201 comment 10 (1978).

192. For a discussion of the facts and holding in *Hunter*, see *supra* note 80.

193. 798 F.2d at 302-03.

194. U.C.C. § 1-201(10) (1978); *See also Hunter*, 798 F.2d at 302.

195. 573 F. Supp. 924 (S.D. Ohio 1983). AMF, Inc., (AMF) purchased a faulty computer system from Computer Automation, Inc. (CAI). *Id.* at 926.

have been, and most likely was, aware of the language disclaiming implied warranties.[196] It therefore appears that in a commercial setting courts should presume that parties subjectively and objectively understand such disclaimers.

This principle had already been expressed in dicta by the Texas Court of Appeals in *W.R. Weaver Co. v. Burroughs Corp.*[197] In *Weaver*, a computer lease contained a disclaimer of all warranties and all prior representations which was written in lower case lettering.[198] Although the court stated that the U.C.C. precluded application of the conspicuousness standard to the lease, it nonetheless held that the contractual disclaimer was "so written that a person against whom it would operate should have noticed it, particularly since this is a commercial transaction."[199]

In contrast, the United States District Court for the Eastern District of Wisconsin held in *Office Supply*[200] that disclaimers written in italicized print, in contrast to the regular print used on the rest of the contract, are nevertheless inconspicuous.[201] The court held, however, that when a buyer is actually aware of a warranty disclaimer, then the disclaimer is effective even if it is not conspicuous.[202]

In light of the above, courts will not allow an inconspicuousness defense against a warranty disclaimer when the party against whom enforcement is sought should have been, or actually was, aware of a disclaimer. The above decisions clearly reflect the objective test of conspicuousness found in the U.C.C. In addition, where the purchaser was actually aware of a disclaimer, it may not rely upon an inconspicuousness defense, notwithstanding the conspicuousness of the disclaimer. Thus, it appears that the judiciary has imposed an additional and alternative subjective standard on such claims.

7. *Failure of an Express Warranty's Essential Purpose*

The U.C.C. provides that express warranties may be created by the purchaser's reliance upon any oral or written affirmation of fact, promise or description of the goods.[203] However, in some circumstances an ex-

AMF brought suit against CAI, claiming breach of contract, breach of warranty, gross negligence, misrepresentation, and strict liability. *Id.*

196. *Id.* at 929.

197. W.R. Weaver Co. v. Burroughs Corp., 580 S.W.2d 76 (Tex. Ct. App. 1979). For a discussion of the facts and holding in *Weaver*, see *supra* note 84.

198. *Id.* at 81.

199. *Id.*

200. For a discussion of the facts and holding in *Office Supply*, see *supra* note 62.

201. *Id.* at 783-84.

202. *Id.* at 784.

203. U.C.C. § 2-313 (1978). The U.C.C. provides:

(1) Express warranties by the seller are created as follows:

(a) Any affirmation of fact or promise made by the seller to the

press warranty may be claimed to have failed of its "essential purpose."[204] For example, a limited repair remedy fails of its essential purpose when the "warranted goods fail to perform according to specifications as warranted despite the seller's efforts to repair . . . ."[205]

In the event that an express warranty fails of its essential purpose, a purchaser may pursue any remedy available under the U.C.C., despite contractual damage and warranty disclaimers.[206] Such "otherwise available damages" may include consequential damages which are generally "exactly what the disappointed buyer is seeking."[207] However, courts differ as to whether failure of essential purpose of a limited remedy does indeed negate an otherwise valid disclaimer of consequential damages.[208]

In *RRX Industries, Inc. v. Lab-Con, Inc.*,[209] the majority determined that a plaintiff may pursue the U.C.C.'s otherwise available remedies for breach of contract if its exclusive or limited remedy fails of its essential purpose.[210] However, the minority posited that a "repair remedy [which] failed of its essential purpose does not automatically lead to the further conclusion that a limitation of damages provision should not be

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buyer which relates to the goods and becomes part of the basis of the bargain creates an express warranty that the goods shall conform to the affirmation or promise.

(b) Any description of the goods which is made part of the basis of the bargain creates an express warranty that the goods shall conform to the description.

(c) Any sample or model which is made part of the basis of the bargain creates an express warranty that the whole of the goods shall conform to the description.

(2) It is not necessary to the creation of an express warranty that the seller use formal words such as "warrant" or "guarantee" or that he have a specific intention to make a warranty . . . .

Id. An example of an express warranty may be found in *Weaver*, where Burroughs gave oral and written "assurances." 580 S.W.2d at 81 (construing TEX. BUS. & COM. CODE ANN. § 2.313 (Vernon 1968)). For a discussion of limitation of remedies, see *supra* notes 168-72 and accompanying text.

204. U.C.C. § 2-719(2) (1978).

205. Consolidated Data Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385, 392 (9th Cir. 1983) (construing U.C.C. § 2-719(2) (1978)). For a discussion of the facts and holding in *Consolidated Data*, see *supra* note 86.

206. U.C.C. § 2-719(2) (1978).

207. *See* Saltzberg & Heffernan, *supra* note 10, at 538.

208. *See* Comment, *supra* note 6, at 262 & n.26.

209. 772 F.2d 543 (9th Cir. 1985). For a discussion of the facts and holding in *RRX Industries*, see *supra* note 93.

210. *Id.* at 547 (distinguishing S.M. Wilson & Co. v. Smith Int'l, Inc., 587 F.2d 1363 (9th Cir. 1978) ("where parties agree to limitation of damages provision, courts should not alter bargained-for risk allocation unless breach of contract is so fundamental that it causes loss which is not part of [contemplated] allocation")). *Contra* Consolidated Data Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385, 392 (9th Cir. 1983).

enforced."[211] Allowing the plaintiff to resort to *all* of the remedies under the U.C.C., the dissent argued, ignores the fundamental goal of section 2-719 to require parties to accept the legal consequences of a contract.[212]

The *AMF* court[213] held that whether a limited remedy failed of its essential purpose "will depend on whether the warrantor diligently made repairs, whether the repairs cured the defects, and whether the consequential loss in the interim was negligible."[214] The court further held that consequential losses need not be considered if the contract excludes liability for them.[215] In contrast to *AMF*, the *Office Supply*[216] court held that "[i]f a remedy is limited to repair and consequential and incidental damages are excluded, . . . then even if the repair remedy fails of its essential purpose, the buyer is limited to his breach of the bargain damages."[217] But if the purchaser can prove that the exclusion of incidental and consequential damages was unconscionable, it may recover breach of the bargain, incidental and consequential damages.[218]

Thus, an express warranty fails of its essential purpose when the good does not perform as warranted and the vendor either cannot or will not resolve the defect. In these circumstances, purchasers are entitled to recover damages available under the U.C.C., such as breach of the bargain damages, and perhaps even consequential and incidental damages. When a contract also contains type-specific damage disclaimers, however, the courts are split as to whether a purchaser may recover consequential and incidental damages under the U.C.C.

8. *Unconscionability*

The issue of the unconscionability of computer contract provisions is one of the most widely litigated areas of computer law. Additionally,

211. *RRX Industries*, 772 F.2d at 549 (Norris, J., concurring in part and dissenting in part).

212. *Id.* (Norris, J., concurring in part and dissenting in part) (citing U.C.C. § 2-719 comment 1 (1978)).

213. For a discussion of the facts in *AMF*, see *supra* note 195.

214. *Id.* at 928.

215. *Id. Accord* Kalil Bottling Co. v. Burroughs Corp., 127 Ariz. 278, 282, 619 P.2d 1055, 1059 (Ariz. Ct. App. 1980).

The *AMF* court further held that, although most cases addressing failure of essential purpose have decided it as a matter of law, the U.C.C. does not mandate that this issue is a question for the Court to decide. 573 F. Supp. at 928 n.2.

216. 538 F. Supp. 776 (E.D. Wis. 1982). For a discussion of the facts and holding in *Office Supply*, see *supra* note 62.

217. 538 F. Supp. at 787-88 (citing Chatlos Sys. v. National Cash Register Corp., 479 F. Supp. 738 (D.N.J. 1979), *rev'd as to damages*, 635 F.2d 1081 (3d Cir. 1980), *aff'd*, 670 F.2d 1304 (3d Cir.), *cert. denied*, 457 U.S. 1112 (1982)).

218. *Id.* at 787. The court based its determinations on the principle that a damage exclusion is separate and distinct from a limitation of remedy to repair, and it must receive consideration above and beyond the remainder of the contract. *Id.* at 788.

it has received more treatment in secondary sources than any other computer contract related issue. Although no court has yet adopted unconscionability as a means of vitiating oppressive contractual disclaimers in computer sales, commentators collectively favor its application in this area and several cases contain language strikingly similar to language found in these commentators' articles.

The U.C.C. provides that courts may exclude unconscionable portions of a contract or strike a contract as a whole if it contains unconscionable provisions.[219] The U.C.C. also specifically imposes this principle upon damage disclaimers.[220] Interpretation of the U.C.C. has yielded two types of unconscionability: procedural unconscionability, which is characterized by the "absence of meaningful choice;" and substantive unconscionability, which involves unjust and harsh contract terms which are "unreasonably favorable to the other party."[221]

Procedural unconscionability has two components: "oppression," which results from unequal bargaining power; and "unfair surprise," which results from hidden contractual terms that one party seeks to enforce against the other.[222] Substantive unconscionability usually involves harsh, one-sided terms.[223]

The criteria by which a court will determine the existence of unconscionability are: "(i) examination of the negotiation process and length of time in dealing; (ii) the length of time for deliberations; (iii) the experience or astuteness of the parties; (iv) whether counsel reviewed the contract; and (v) whether the buyer was a reluctant purchaser."[224]

Computer hardware and software purchasers frequently argue that warranty and damage disclaimers are unconscionable in order to avoid

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219. U.C.C. § 2-302 (1978). The U.C.C. provides:

> (1) If the court as a matter of law finds the contract or any clause of the contract to have been unconscionable at the time it was made the court may refuse to enforce the contract, or it may enforce the remainder of the contract without the unconscionable clause, or it may so limit the application of any unconscionable clause as to avoid any unconscionable result.
>
> (2) When it is claimed or appears to the court that the contract or any clause thereof may be unconscionable the parties shall be afforded a reasonable opportunity to present evidence as to its commercial setting, purpose and effect to aid the court in making the determination.

Id.

220. U.C.C. § 2-719(3) (1978). For the text of § 2-719(3), see *supra* note 176.

221. *See* Leff, *Unconscionability and The Code—the Emperor's New Clause*, 115 U. PA. L. REV. 485, 487 (1967); Wallace & Maher, *supra* note 8, at 72-73.

222. *See* Wallace & Maher, *supra* note 8, at 72-73.

223. *Id.*

224. *See* Earman Oil Co. v. Burroughs Corp., 625 F.2d 1291, 1299 (5th Cir. 1980); Office Supply Co. v. Basic/Four Corp., 538 F. Supp. 776, 788 (E.D. Wis. 1982) (citing *Earman*, 625 F.2d at 1299). *See also* Saltzberg & Heffernan, *supra* note 10, at 536 (citing *Earman*, 625 F.2d at 1299).

their harsh effects.[225] However, their claims have been categorically unsuccessful, regardless whether they allege procedural or substantive unconscionability.[226]

Most claims of unconscionability have been between commercial parties. This was the crucial factor in the Fifth Circuit's denial of the plaintiff's unconscionability claim in *Earman Oil Co. v. Burroughs Corp.*[227] The court held that in commercial settings businessmen are presumed to act at arm's length; thus, neither procedural nor substantive unconscionability will attach.[228]

In *Hunter v. Texas Instruments, Inc.*,[229] the Eighth Circuit focused on the purchaser's subjective knowledge and experience in denying Hunter's unconscionability claim.[230] The court took note of the purchaser's college education and the fact that he shopped around extensively before selecting the computer he eventually purchased.[231] Thus, the court found neither the absence of meaningful choice on the part of the plaintiff nor terms unreasonably favorable to the defendant.[232]

In *AMF Inc. v. Computer Automation, Inc.*,[233] the purchaser claimed

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225. *See* Comment, *supra* note 6, at 263.

226. *See, e.g.*, Hunter v. Texas Instruments, Inc., 798 F.2d 299, 303-04 (8th Cir. 1986) (procedural); *Earman*, 625 F.2d 1291 (procedural); Horning v. Sycom, 556 F. Supp. 819, 821 (E.D. Ky. 1983) ("boiler plate" bordering on procedural); *Office Supply*, 538 F. Supp. 776 (substantive); AMF, Inc. v. Computer Automation, Inc., 573 F. Supp. 924 (S.D. Ohio 1983) (substantive and procedural); Chatlos Sys., Inc. v. National Cash Register Corp., 479 F. Supp. 738 (D.N.J. 1979), *rev'd as to damages*, 635 F.2d 1081 (3d Cir.) (procedural), *aff'd*, 670 F.2d 1304 (3d Cir. 1980), *cert. denied*, 457 U.S. 1112 (1982); Badger Bearing Co. v. Burroughs Corp., 444 F. Supp. 919 (E.D. Wis. 1977) (substantive), *aff'd without opinion*, 588 F.2d 838 (7th Cir. 1978); Burroughs Corp. v. Chesapeake Petroleum & Supply Co., 282 Md. 406, 384 A.2d 734 (1978) (procedural). *See also* Comment, *supra* note 6, at 263.

227. 625 F.2d 1291 (5th Cir. 1980). For a discussion of the facts and holding in *Earman*, see *supra* note 77.

228. *Id.* at 1300. Although the presumption against unconscionability is rebuttable, *see* U.C.C. § 2-302(2) (1978), Earman failed to prove that the agreement was unconscionable. *Earman*, 625 F.2d at 1300. The court stated that the "procedural sort of unconscionability alleged by Earman requires a showing of overreaching or sharp practices by the seller and ignorance or inexperience on the buyer's part, resulting in a lack of meaningful bargaining by the parties." *Id.* (citing J. WHITE & R. SUMMERS, UNIFORM COMMERCIAL CODE § 4-3 (1972)). *Accord* Consolidated Data Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385, 392 n.6 (9th Cir. 1983).

The burden of demonstrating unconscionability of a limitation of remedies or damages provision lies with the plaintiff. *AMF Inc. v. Computer Automation, Inc.*, 573 F. Supp. at 930.

229. 798 F.2d 299 (8th Cir. 1986). For a discussion of the facts and holding in *Hunter*, see *supra* note 80.

230. *Id.* at 303-04.

231. *Id.*

232. *Id.* at 304.

233. 573 F. Supp. 924 (S.D. Ohio 1983). For a discussion of the facts and holding in *AMF*, see *supra* note 195.

procedural unconscionability based on the inconspicuous nature of warranty disclaimers.[234] The court held that mere inconspicuousness is not sufficient to establish unconscionability under the U.C.C.[235] The court also denied AMF's substantive unconscionability claim.[236]

Perhaps the closest that any court has come to invoking the unconscionability doctrine in a computer sales case is in *Horning v. Sycom*.[237] In *Horning*, a solo medical practitioner sought protection from a contractual forum selection clause under the principle of procedural unconscionability.[238] While the United States District Court for the Eastern District of Kentucky denied this argument, it recognized the disparity in bargaining power and stated:

> While the court cannot say that the defendant has engaged in overreaching, it does regard the clause as bordering on unconscionability as applied to the sale of an important piece of office machinery to a small businessman for the substantial price involved . . . . The forum selection clause is only one of many clauses in the form contract that together represent the best job of boiler-plating since the building of the Monitor.[239]

Thus, courts have largely ignored the unconscionability claims of parties to computer contracts. These denials have occurred repeatedly regardless of whether the contract negotiating environment was commercial or otherwise. However, it appears that courts may be moving in the direction of allowing unconscionability claims where the vendor is a relatively large commercial entity and the purchaser, regardless of its size, is inexperienced in the use of computers.

It is submitted that courts should more liberally invoke the doctrine of unconscionability than they do in other areas of the law. Unconscionability should apply in all compelling vaporware cases where purchasers are individuals or relatively small business entities, and are not members of the computer industry. However, the doctrine should not apply to vaporware cases involving large commercial entities or purchasers of any size that are members of the computer industry.

C. *Fraud and Misrepresentation*

Computer experts and neophytes alike often depend on the advice

234. *Id.* at 930.

235. *Id.*

236. *Id.*

237. 556 F. Supp. 819 (E.D. Ky. 1983). Dr. Charles Horning (Horning), leased a computer manufactured by Tandy Corporation and software developed by Sycom, all of which failed to operate properly. *Id.* at 820. Horning brought suit against Tandy, Sycom, and a third-party leasing company, claiming breach of contract, breach of U.C.C. warranties, negligence, and fraud. *Id.* at 821.

238. *Id.*

239. *Id.*

of salespeople in selecting computer equipment.[240] In the course of procuring sales, a computer vendor will often make written and oral statements designed to induce the user to select its products and services.[241] Some of these statements are mere puffery,[242] while others may provide the basis of the bargain. Those statements which provide the basis of the bargain and are untrue may provide an additional basis for a lawsuit for fraud or misrepresentation.

Recently, dissatisfied computer purchasers have brought causes of action for fraud and misrepresentation against vendors with increasing frequency.[243] If a purchaser can show that any of a vendor's representations were made with the intent to induce the purchase of the vendor's products and services, that the misstatement was material, and that the purchaser obtained the vendor's system relying on such a misstatement to its detriment, then a valid cause of action for fraud will lie.[244]

In *Management Assistance, Inc. v. Computer Dimensions, Inc.*,[245] the

240. For a discussion of the interaction between computer salespeople and purchasers, see *supra* notes 5-9 and accompanying text.

241. *See* Saltzberg & Heffernan, *supra* note 15, at 539-40.

242. *See* Comment, *supra* note 6, at 257; *see also* Sierra Diesel Injection Serv. v. Burroughs Corp., 651 F. Supp. 1371, 1377 (D. Nev. 1987) (statements of opinion are not actionable).

243. *See* Graphic Sales, Inc. v. Sperry Corp., 824 F.2d 576 (7th Cir. 1987); Management Sys. Assoc. v. McDonnell Douglas Corp., 762 F.2d 1161, 1173-75 (4th Cir. 1985); Consolidated Data Terminals v. Applied Digital Data Sys., 708 F.2d 385, 395 (9th Cir. 1983); Dunn Appraisal Co. v. Honeywell Information Sys., Inc., 687 F.2d 877, 882 (6th Cir. 1982); Glovatorium, Inc. v. National Cash Register Corp., 684 F.2d 658, 660 (9th Cir. 1982); Earman Oil Co. v. Burroughs Corp., 625 F.2d 1291, 1299 (5th Cir. 1980); Sierra Diesel Injection Serv. v. Burroughs Corp., 648 F. Supp. 1148, 1150 (D. Nev. 1986), *reh'g denied*, 651 F. Supp. 1371 (D. Nev. 1987); AccuSystems, Inc. v. Honeywell Information Sys., 580 F. Supp. 474, 481 (S.D.N.Y. 1984); AMF, Inc. v. Computer Automation, Inc., 573 F. Supp. 924, 932 (S.D. Ohio 1983); Management Assistance, Inc. v. Computer Dimensions, Inc., 546 F. Supp. 666, 668-71 (N.D. Ga. 1982); Kalil Bottling Co. v. Burroughs Corp., 127 Ariz. 278, 281, 619 P.2d 1055, 1058 (Ariz. Ct. App. 1980).

244. *See* W. KEETON, D. DOBBS, R. KEETON & D. OWEN, PROSSER AND KEETON ON TORTS 727-29 (5th ed. 1984); RESTATEMENT (SECOND) OF TORTS § 525 (1977); Saltzberg & Heffernan, *supra* note 15, at 539-40.

245. 546 F. Supp. 666 (N.D. Ga. 1982). In *Management Assistance*, after negotiating a complex series of agreements, Computer Dimensions, Inc. (CDI), a computer retailer, contracted for the purchase of computer equipment from Management Assistance, Inc. (MAI), a computer equipment wholesale distributor, allegedly based on the latter's promise to enter a distribution agreement which would provide for volume discounts to CDI. *Id.* at 668-71. During the course of these negotiations, CDI signed a letter of intent provided by MAI which enumerated the sales terms, released MAI from any and all liability arising from the specified computer equipment, and released MAI from any previously made commitments. *Id.* The delivered equipment was non-functional, but was repaired by MAI after two years. *Id.* Additionally, the parties did not enter into a distribution agreement. *Id.* CDI brought suit against MAI, alleging, among other things, fraud, promissory estoppel, and lack of good faith under the U.C.C. *Id.*

United States District Court for the Northern District of Georgia enunciated the elements necessary to establish a fraud claim:

> (1) [A] misrepresentation by defendant of a material existing fact, (2) with knowledge that it was false or with reckless disregard as to whether it was true, (3) with intent to deceive plaintiff, and (4) plaintiff acted upon the misrepresentation in reasonable reliance upon its veracity in a manner which caused proximate injury.[246]

The court rejected the plaintiff's claim of fraud[247] because the plaintiff's signature had not been "obtained by trick or artifice."[248]

In *AccuSystems, Inc. v. Honeywell Information Systems, Inc.*,[249] the United States District Court for the Southern District of New York held that the elements for fraud in the inducement consist of a representation of fact which: 1) was recklessly made or known by the vendor to be untrue;

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246. *Id.* at 671; *see also* Consolidated Data Terminals v. Applied Digital Data Sys., Inc., 708 F.2d 385 (9th Cir. 1983).

The Court for the Southern District of Ohio stated the elements somewhat differently:

> [U]nder both Ohio and California law, a plaintiff must prove the existence of various elements of fraud, including: (1) an actual or implied representation, (2) which relates to the present or past, (3) which was material to the transactions, (4) was false when made, (5) made with knowledge of its falsity, or with reckless disregard of its truth, (6) made with intent to mislead the other party into relying upon it, causing (7) justifiable reliance and (8) injury.

AMF, Inc. v. Computer Automation, Inc., 573 F. Supp. 924, 933 (citing Dunn Appraisal Co. v. Honeywell Information Sys., 687 F.2d 877, 882 (6th Cir. 1982) (suit involving breach of contract and warranty, applying Ohio law)).

247. Management Assistance, Inc. v. Computer Dimensions, Inc., 546 F. Supp. 666, 671-72 (N.D. Ga. 1982). The court also rejected the plaintiff's claim for "failure to perform contractual duties in good faith." The court stated:

> Failure to act in good faith in the performance or enforcement of contracts or duties under [Georgia's UCC] does not state a claim for which relief may be granted . . . . *Nor have we been able to discover a jurisdiction which allows recovery of damages under this general provision of the Uniform Commercial Code.*

Id. at 677 (quoting Chandler v. Hunter, 340 So. 2d 818, 821 (Ala. Civ. App. 1976)) (emphasis in original).

248. *Id.* at 671-72 (citation omitted).

249. 580 F. Supp. 474 (S.D.N.Y. 1984). Honeywell Information Systems, Inc. (Honeywell), agreed to provide software licenses and maintenance to AccuSystems, Inc. (AccuSystems). Honeywell represented to the president of AccuSystems that their Level 6 computer and its TL-6 operating system would support 32 terminals and perform complicated multi-tasking. *Id.* at 476. The agreements contained extensive limitations on damages and remedies available to AccuSystems. *Id.* at 476-77. Subsequently, the entire hardware and software system proved to be inadequate for AccuSystems' multi-tasking needs, and AccuSystems was forced to go out of business. *Id.* at 477. After nine months of system failure, AccuSystems brought suit against Honeywell, claiming breach of contract, negligence, fraud in the inducement, and "negligent misrepresentation." *Id.* at 478-79.

2) was offered to deceive the purchaser into acting upon the representation; and 3) caused injury.[250] The court found in favor of the purchaser on the fraud claim, but denied recovery of lost profits and punitive damages, because "[t]he evidence [did] not establish that the false representations were made maliciously or wantonly or that Honeywell's conduct was actuated by evil motives."[251]

In *Graphic Sales, Inc. v. Sperry Corp.*,[252] a purchaser brought suit against a computer vendor, seeking additional computer software that the vendor had advertised along with the purchased computer.[253] The advertisement did not expressly state that the software was "bundled" with the computer; rather, it merely stated that the software was "available." Therefore, the United States Court of Appeals for the Seventh Circuit decided as a matter of law that no misrepresentation had occurred, and dismissed the action.[254] In a similar case,[255] however, the United States Court of Appeals for the Fourth Circuit held that questions of misrepresentation are for the jury to decide.[256]

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250. *Id.* at 482. Furthermore, the plaintiffs must produce clear and convincing evidence of the fraud. *Id.*

251. *Id.* at 483. The court also dismissed the plaintiff's cause of action for "negligent misrepresentation" because the claim is not recognized by New York courts in the "absence of some special relationship of trust or confidence between the parties." *Id.* at 480.

252. 824 F.2d 576 (7th Cir. 1987). In *Graphic Sales*, after having researched computers for one year, George E. Price, president of Graphic Sales, negotiated for a period of two weeks with Robert W. Johnson, a Sperry sales representative, for the lease of a Sperry computer system to be used in conjunction with Mr. Price's printing and publishing business. *Id.* at 577. During the negotiations, Johnson described Sperry hardware and software which he felt would suit Price's purposes. *Id.* Before executing the lease agreement, Price's attorney reviewed and approved the agreement, which provided for separate lease charges for the hardware and software. *Id.* Subsequently, Price complained to Sperry that the system did not work according to contract specifications. *Id.* at 578. Price brought action against Sperry claiming fraud in the inducement, common law fraud, and violation of the Illinois Consumer Fraud and Deceptive Business Practices Act. *Id.* Price alleged that Sperry represented that the software was "bundled" with the hardware. *Id.* Sperry filed a counterclaim for amounts due under the agreement. The district court entered judgment in favor of Sperry, and the circuit court affirmed. *Id.*

253. *Id.*

254. *Id.*

255. Management Sys. Assoc., v. McDonnell Douglas Corp., 762 F.2d 1161 (4th Cir. 1985). McAUTO, a subsidiary of McDonnell Douglas Corporation, agreed to acquire specialty hospital software from Management Systems Associates, Inc. (MSA), through a purchase contract and a service contract. *Id.* at 1163. Under the purchase contract, MSA agreed to sell, deliver, and license its software to McAUTO, and to fully disclose to McAUTO all of the software's capabilities. *Id.* MSA brought suit against McAUTO, for, among other things, royalties allegedly owing to it. *Id.* at 1164. McAUTO counterclaimed, arguing that MSA breached its portion of the contract insofar as it failed to deliver essential parts of the software system at the time provided under the purchase contract, and that MSA misrepresented that its system was integrated. *Id.*

256. *Id.* at 1181. MSA contended that the facts disproved McAUTO's claim

Although fraud is tortious conduct which is compensable despite contractual disclaimers, courts have in several computer fraud cases applied contract law. In *Earman Oil Co. v. Burroughs Corp.*,[257] the United States Court of Appeals for the Fifth Circuit held that integration clauses in sales contracts prevent consideration of prior representations.[258] The court enigmatically stated that "the misrepresentation claim is in essence a contract-related claim and thus redundant and impermissible."[259]

Additionally, in *Kalil Bottling Co. v. Burroughs Corp.*,[260] the Arizona Court of Appeals held that a sales contract specifically negated the defendant's alleged misrepresentations.[261] Consequently, the plaintiff's claims for negligent misrepresentation, fraud and consumer fraud, based upon statements made prior to the signing of the contract, were not permitted under the parol evidence rule.[262]

By contrast, in *Sierra Diesel Injection Services v. Burroughs Corp.*,[263] the court held that the parol evidence rule may *not* be invoked in order to exclude evidence of fraud in the inducement of a contract, even where the court finds an integrated agreement.[264] The court based its conclusion on the principle that fraud in the inducement invalidates the entire contract.[265]

In dictum, the *Sierra* court distinguished statements of opinion and statements of fact.[266] The court posited that mere puffery is "outside the scrutiny of courts."[267] Additionally, the determination whether a statement is one of opinion or fact must be made in light of the context and circumstances in which it was made.[268]

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that the software was misrepresented as integrated, in that the software *could* be integrated, though at considerable expense. *Id.*

257. 625 F.2d 1291, 1299 (5th Cir. 1980). For a discussion of the facts and holding in *Earman*, see *supra* note 77.

258. *Id.* at 1298.

259. *Id.* at 1294 n.10.

260. 127 Ariz. 278, 619 P.2d 1055 (Ariz. Ct. App. 1980). For a discussion of the facts and holding in *Kalil*, see *supra* note 65.

261. 127 Ariz. at 282, 619 P.2d at 1058.

262. *Id.* at 282, 619 P.2d at 1058.

263. 651 F. Supp. 1371 (D. Nev. 1987). For a discussion of the facts and holding in *Sierra*, see *supra* note 67.

264. *Id.* at 1377.

265. *Id.*

266. *Id.*

267. *Id.* The *Sierra Diesel* court stated: "This rule recognizes that a certain amount of 'puffing' is present in virtually every commercial transaction, and that such statements of opinion must be allowed to pass outside the scrutiny of the courts." *Id.*

268. *Id.* The court stated that "[a]s to whether a statement is mere 'puffing,' or whether it is an actual factual representation, however, it seems that the context and circumstances in which the statements are made is crucial." *Id.*

In *Consolidated Data Terminals v. Applied Digital Data Systems, Inc.*,[269] the United States Court of Appeals for the Ninth Circuit recognized that plaintiffs commonly and vehemently argue fraud claims, because they may be entitled to recover punitive damages if they prevail.[270] Additionally, the court held that direct damages under a fraud theory are based on an "out-of-pocket" measure, as opposed to a contract theory's "benefit-of-the-bargain" measure.[271]

Thus, those courts that have tried fraud claims in the context of computer sales have established several rules. The elements necessary to establish a fraud claim are: (1) defendant's misrepresentation of a material existing fact; (2) defendant's knowledge that it was false, or reckless disregard as to whether it was true; (3) defendant intended to deceive plaintiff; and (4) plaintiff acted in reasonable reliance upon the veracity of the misrepresentation in a manner which proximately caused injury. The determination whether a statement is one of fact or opinion should be left to the fact finder. The parol evidence rule, in combination with a contractual integration clause, may bar fraud claims in some jurisdictions. Finally, if the plaintiff prevails, it may recover "out-of-pocket" direct damages and perhaps punitive damages as well.

D. *Damages*

Inherent in the sale of each computer system are direct and indirect risks of the failure of technology and the seller's nonperformance due to management or financial problems.[272] Because businesses generally rely heavily on the use of computers,[273] a system failure may cause an individual business to suffer substantial losses or perhaps even bank-

269. 708 F.2d 385 (9th Cir. 1983). For a discussion of the facts and holding in *Consolidated Data*, see *supra* note 86.

270. *Id.* at 393-94. *But see* AccuSystems, Inc. v. Honeywell Information Sys., 580 F. Supp. 474 (S.D.N.Y. 1984) (award of punitive damages depends on false representations made maliciously or wantonly or on conduct actuated by evil motives).

271. 708 F.2d at 393-94. There may be no practical distinction, because the two measures of damages may yield the same result. *Id.* This was the result in *Consolidated Data. Id.*

272. R. BERNACCHI & G. LARSEN, DATA PROCESSING CONTRACTS AND THE LAW 23 (1974). Specifically, these risks consist of:

1. direct risks associated with the failure of technology;
2. indirect risks associated with consequential events due to the failure of technology;
3. direct risks of nonperformance due to financial problems in the seller's organization;
4. direct risks of nonperformance or delayed performance due to management failures in the seller's organization.

Id.

273. The manufacturing and service industries alike depend on computers to run large portions of their business. Computers are used to control heavy machinery, robots, data storage and retrieval, and other vital business functions.

ruptcy.[274] Thus, it is important for computer purchasers to know whether and what damages are recoverable from their potentially disastrous purchases of vaporware.

1. *Damages Available Under Contract Theories*

In the event of a vendor's nondelivery of computer goods in breach of a contract, or the vendor's repudiation of that contract, the purchaser is entitled to recover the difference between the market value of the goods at the time of breach and the contract price, plus incidental and consequential damages, but less costs saved due to the breach.[275] If the purchaser has accepted delivery of goods which prove to be defective, then it may recover the difference between the value of the goods had they been delivered as warranted and their actual value, plus perhaps incidental and consequential damages.[276] Consequential damages consist of losses to person or property caused by a breach that the seller had reason to know would occur and which "cover" could not have prevented.[277] Incidental damages consist of any reasonable expenditures for the care and custody of rejected goods, cover and other reasonable

274. *See* R. BERNACCHI & G. LARSEN, *supra* note 272, at 136-37; Wallace & Maher, *supra* note 8, at 59 n.1 & 61-63. For example, a computer system purchased by one small businessman was delivered two months late and "dead on arrival". The businessman was consequently forced to liquidate his newly formed company and sell his family's two hundred-year old farm in order to pay his $1.2 million debt. Wallace & Maher, *supra* note 8, at 59-60 n.1.

One commentator sarcastically but correctly indicated that "[t]he capacity of machines for error is vastly greater than ours. A computer can . . . make more mistakes in the fraction of a second than a human in a lifetime." Rumbelow, *Liability for Programming Errors*, 9 INT'L BUS. L. 303, 303 (1981). Computer "glitches" are capable of creating such chaos that monolithic institutions such as the London Stock Exchange and the New York Stock Exchange have almost been brought to a grinding halt. *See Glitches*, New York Times, Oct. 28, 1986, at 47, col. 1-6; *System Failure*, Time, Feb. 8, 1988, at 52, col. 3.

275. U.C.C. § 2-713 (1978).

276. U.C.C. § 2-714 (1978). The U.C.C. states:

> (1) Where the buyer has accepted goods and given notification (subsection (3) of Section 2-607) he may recover as damages for any nonconformity of tender the loss resulting in the ordinary course of events from the seller's breach as determined in any manner which is reasonable.
>
> (2) The measure of damages for breach of warranty is the difference at the time and place of acceptance between the value of the goods accepted and the value they would have had if they had been as warranted, unless special circumstances show proximate damages of a different amount.
>
> (3) In a proper case any incidental and consequential damages under the next section may also be recovered.

Id.

277. U.C.C. § 2-715(2) (1978). The U.C.C. states:

> (2) Consequential damages resulting from the seller's breach include
>
> (a) any loss resulting from general or particular requirements and needs of which the seller at the time of contracting had rea-

expenses.[278]

The U.C.C. provides that the purchaser must cover;[279] however, failure to cover does not prevent the purchaser from seeking other remedies.[280] Furthermore, the U.C.C. promotes the liberal administration of its remedies in order to put the aggrieved party "in as good a position as if the other party had fully performed."[281]

The issue of whether goods are impaired and the plaintiff has suffered injury is generally recognized as a factual question.[282] Once the

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son to know and which could not reasonably be prevented by cover or otherwise; and

(b) injury to person or property proximately resulting from any breach of warranty.

Id.

278. U.C.C. § 2-715(1) (1978). The U.C.C. states: "Incidental damages resulting from the seller's breach include expenses reasonably incurred in inspection, receipt, transportation and care and custody of goods rightfully rejected, any commercially reasonable charges, expenses or commissions in connection with effecting cover and any other reasonable expense incident to the delay or other breach." *Id.*

279. U.C.C. § 2-711(1) (1978). The U.C.C. states:

(1) Where the seller fails to make delivery or repudiates or the buyer rightfully rejects or justifiably revokes acceptance then with respect to any goods involved, and with respect to the whole if the breach goes to the whole contract (Section 2-612), the buyer may cancel and whether or not he has done so may in addition to recovering so much of the price as has been paid

(a) "cover" and have damages under the next section as to all the goods affected whether or not they have been identified to the contract; or

(b) recover damages for non-delivery as provided in this Article (Section 2-713).

Id.

The U.C.C. also provides that the aggrieved party must make efforts to mitigate damages. U.C.C. § 1-106 comment 1 (1978).

280. U.C.C. § 2-712 (1978). The U.C.C. states:

(1) After a breach within the preceding section the buyer may "cover" by making in good faith and without unreasonable delay any reasonable purchase of or contract to purchase goods in substitution for those due from the seller.

(2) The buyer may recover from the seller as damages the difference between the cost of cover and the contract price together with any incidental or consequential damages as hereinafter defined (Section 2-715), but less expenses saved in consequence of the seller's breach.

(3) Failure of the buyer to effect cover within this section does not bar him from any other remedy.

Id.

281. U.C.C. § 1-106(1) (1978). The U.C.C. states:

(1) The remedies provided by this Act shall be liberally administered to the end that the aggrieved party may be put in as good a position as if the other party had fully performed but neither consequential or special nor penal damages may be had except as specifically provided in this Act or by other rule of law.

Id.

282. *See, e.g.*, Management Sys. Assocs. v. McDonnell Douglas Corp., 762

fact finder has determined that the plaintiff has suffered an injury, then the plaintiff is entitled to at least nominal damages.[283] Furthermore, if the vendor breaches a computer contract, then the purchaser may recover the difference between the fair market value of the goods accepted and the value the goods would have had if they had been delivered as warranted.[284]

Usually courts equate the purchase price with the value of the product if it had been as warranted.[285] However, in special circumstances, courts may use other measures.[286] Sometimes the value of the product if it had been as warranted is several times the purchase price, and the aggrieved party may recover disproportionate damages under the bene-

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F.2d 1161, 1180 (4th Cir. 1985) (lower court should have allowed question to go to jury); Aubrey's R.V. Center, Inc. v. Tandy Corp., 46 Wash. App. 595, 598, 731 P.2d 1124, 1128 (1987) (construing Washington version of the U.C.C., WASH. REV. CODE § 62A.2-608 (1966)) (substantial impairment is factual question).

283. Management Sys. Assocs. v. McDonnell Douglas Corp., 762 F.2d 1161, 1180 (4th Cir. 1985). The United States Court of Appeals for the Fourth Circuit stated:

> The principle that the violation of a legal right entitles a party to at least nominal damages has been applied to establish that "[i]n a suit for damages for breach of contract, proof of the breach would entitle the plaintiff to nominal damages at least." . . . We hold that plaintiff's evidence of breach of the construction contract was sufficient to go to the jury despite the fact that no damages were shown. The evidence established a prima facie case of breach of contract entitling defendant to at least nominal damages.

Id. (citations omitted)

284. Chatlos Sys., Inc. v. National Cash Register Corp., 670 F.2d 1304, 1309 (3d Cir. 1980) (construing U.C.C. § 2-714(2) (1978)); *see also* Schatz Distrib. Co. v. Olivetti Corp. of Am., 7 Kan. App. 2d 676, 679, 647 P.2d 820, 825 (1982) (construing KAN. U.C.C. ANN. § 2-714(2) (Vernon 1973)) ("Subsection (2) is generally in accord with the common law concept that damages in case of a breach of warranty are ordinarily the difference between the value of the article delivered and what it would have been worth had it been as warranted.").

In *Schatz*, Schatz Distributing Company, Inc. (Schatz), agreed to purchase a computer system from Olivetti Corporation of America, (Olivetti) based on an Olivetti sales representative's oral and written representations that the Olivetti computer could perform specific accounting functions. *Id.* at 677, 647 P.2d at 822. Olivetti located a custom programmer for Schatz who, in spite of working with several Olivetti employees over a period of time, was unable to get the system to work satisfactorily. *Id.* at 677, 647 P.2d at 822-23. Olivetti offered to locate a purchaser of the system at a reduced price, and sell another more expensive model to Schatz. *Id.* at 678, 647 P.2d at 823. Schatz refused and brought suit against Olivetti, claiming violation of express warranties and the implied warranty of merchantability and seeking consequential damages. *Id.* at 678, 647 P.2d at 823.

285. *Schatz*, 7 Kan. App. 2d at 680, 647 P.2d at 825.

286. Neilson Business Equip. Center, Inc. v. Monteleone, 524 A.2d 1172, 1176 (Del. 1987) (construing U.C.C. § 2-714(2) (1978)). Such "special circumstances" may consist of a lease arrangement where the lessee pays in installments. *Id.*

fit of the bargain theory.[287] Although the risk of this penalty may discourage sales by small computer companies, the parties may agree to contractually limit the vendor's total liability and lower the contract price as its consideration.[288]

In some cases, the aggrieved party may recover incidental and consequential damages as well.[289] In order for the plaintiff to recover consequential damages, the defendant must have had reason to know that the plaintiff would incur those damages in the event of the defendant's breach.[290]

Consequential damages may include economic damages, such as loss of goodwill[291] or they may consist of increased labor costs attributa-

287. RRX Indus., Inc. v. Lab-Con, Inc., 772 F.2d 543, 550 (9th Cir. 1985) (Norris, J., concurring in part and dissenting in part). One dissenting judge had profound conceptual difficulties with this phenomenon. *See* Chatlos Sys. v. National Cash Register Corp., 670 F.2d 1304, 1307-08 (3d Cir. 1980) (Rosenn, J., dissenting). The dissenting judge stated:

> [U]nder [the] benefit of the bargain theory the fair market value of the goods as warranted was several times the purchase price. . . . I believe there is no probative evidence to support the district court's award of damages for the breach of warranty in a sum amounting to almost five times the purchase price of the goods. The measure of damages also has been misapplied and this could have a significant effect in the marketplace, especially for the unique and burgeoning computer industry.

Id.

The Kansas Supreme Court has stated:

> Without incidental and consequential damages [the] goal [of U.C.C. § 1-106 (1978)] would be unreachable in many cases. . . . The availability of consequential damages is vital. It may mean the difference between recovering one dollar, and one million dollars, the damages caused as a result of the defective part, in personal injury, lost profits, and more.

Cricket Alley Corp. v. Data Terminal Sys., 240 Kan. 661, 665, 732 P.2d 719, 725 (1987).

288. *RRX*, 772 F.2d at 550 (Norris, J., concurring in part and dissenting in part). For a discussion of contractual limitations of total liability, see *supra* notes 176-87 and accompanying text.

289. Consolidated Data Terminals v. Applied Digital Data Sys., 708 F.2d 385, 392 (9th Cir. 1983) (construing U.C.C. § 2-715 (1978)). Incidental and consequential damages may also be contractually excluded. *Id.* at 392-93. For a discussion of contractual damage disclaimers, see *supra* notes 176-87 and accompanying text.

290. *Id.* at 393-94.

291. *Id.* The *Consolidated Data* court stated:

> Under these rules CDT was entitled to recover . . . . [a]s consequential damages . . . all losses that ADDS had reason to know CDT would incur as a result of a wholesale breach of warranty on the Regent units. Knowing that CDT was a distributor of computer equipment, ADDS had reason to know that if it supplied poor quality merchandise that failed to conform to product specifications, CDT would suffer a loss of goodwill with its customers because the customers would blame CDT for the product failures, and would become more reluctant to buy equipment for CDT in the future.

Id.

ble to the failure of the bargained-for computer system.[292] They may also include finance charges associated with a third-party lease arrangement[293] or even sales tax arising from the purchase of the computer system.[294]

The aggrieved party must also abide by the cover provisions of the U.C.C. If it fails to cover, a plaintiff may not recover damages which result after it learns of the breach.[295] Finally, the aggrieved party will not be awarded punitive damages under any contract theory, regardless of whether the breach is found to be gross or even willful.[296] It should

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292. Cricket Alley Corp. v. Data Terminal Sys., 240 Kan. 661, 665, 732 P.2d 719, 724 (1987) (construing KAN. U.C.C. ANN. §§ 84-2-714 and -715 (Vernon 1973)). In *Cricket Alley* the defendant argued that such increased labor costs were due to unique features of the plaintiff's business, and the defendant, therefore, could not have known that they would arise in the event of its breach. *Id.* at 666, 732 P.2d at 725. The Kansas Supreme Court responded to this argument by holding that this is a common injury suffered by retail stores when a computer contract has been breached. *Id.* (construing KAN. U.C.C. ANN. § 84-2-715(2)(a) (Vernon 1973)).

293. *See* Aubrey's R.V. Center, Inc. v. Tandy Corp., 46 Wash. App. 595, 600, 731 P.2d 1124, 1131 (1987); Schatz Distrib. Co. v. Olivetti Corp. of Am., 7 Kan. App. 2d 676, 680, 647 P.2d 820, 826 (1982) (quoting Hudson v. Dave McIntire, Inc., 390 N.E.2d 179, 184 (Ind. Ct. App. 1979)).

The Washington Court of Appeals has stated:

> The inclusion of finance charges within [U.C.C. § 2-714's] basic measure of damages overcompensates the buyer. Likewise, finance charges are not includable as incidental or consequential damages as they do not result from or arise incident to the breach.
>
> [However, t]he objective behind awarding damages to a buyer who justifiably revokes acceptance is different. There, the buyer is not merely seeking the benefit of his or her bargain. Rather, the buyer seeks to be restored to the position he or she would have been in if the contract had never been entered into. Thus, the objective of this remedy is primarily restitution. The measure of damages used to achieve this goal entitles the buyer not only to the return of the purchase, but also any expenses incurred by the buyer in reasonable reliance upon the contract, plus incidental and consequential damages arising from the breach.

Aubrey's, 46 Wash. App. at 599-600, 731 P.2d at 1131.

294. *Schatz*, 7 Kan. App. 2d at 680, 647 P.2d at 826 (quoting Hudson v. Dave McIntire, Inc., 390 N.E.2d 179, 184 (Ind. Ct. App. 1979)).

295. AccuSystems, Inc. v. Honeywell Information Sys., 580 F. Supp. 474, 483 (S.D.N.Y. 1984). The United States District Court for the Southern District of New York stated:

> However, plaintiffs took no steps to mitigate their damages. Indeed, they continued to experiment . . . until AccuSystems went out of business late in 1982. In view of the disclosure [by a Honeywell employee that the TL-6 operating system would not work as had been represented by Honeywell], plaintiffs could have terminated their efforts to make the TL-6 system operate and sought other equipment which would enable them to continue in business. Having failed to do so, they cannot hold Honeywell responsible for damages after [the date of the disclosure].

Id. (citations omitted).

296. Consolidated Data Terminals v. Applied Digital Data Sys., 708 F.2d

be noted, however, that courts will impose attorney fees and single or double costs as sanctions for bringing a frivolous action.[297]

2. *Damages Available Under Other Theories*

Generally, punitive damages are available under fraud and misrepresentation theories. Furthermore, courts will award lost profits, that is, "benefit of the bargain" damages, only where the breaching party's false representations were malicious or wanton, or its conduct was actuated by evil motives.[298] However, courts are in some cases reluctant to award economic losses where the aggrieved party can be sufficiently compensated under the U.C.C.[299]

E. *Computer Malpractice*

Computer technology is evolving and progressing at such a rapid rate that members of the computer industry are the only ones able to keep abreast of all of the daily advancements.[300] However, even manufacturers and vendors find that it is impossible to stay fully informed of currently available computer products, pending product introductions, product capabilities, pricing and other industry developments.[301] The number and diversity of computer products are so overwhelming that it is safe to say that computer purchasers are generally uninformed, if not naive, about computers.

It is apparent that computer purchasers know far less than computer professionals. Because of this disparity in the level of expertise of the computer purchaser and vendor, and because traditional tort and contract theories are often inadequate for resolving legal problems in-

385, 399 (9th Cir. 1983). The United States Court of Appeals for the Ninth Circuit stated: "[Only i]f CDT upon remand can establish that ADDS was guilty of fraud, malice, or oppression . . ., the district court [can] . . . award punitive damages upon that basis in such amount as shall seem reasonably appropriate." *Id.* (citation omitted).

297. RRX Indus., Inc. v. Lab-Con, Inc., 772 F.2d 543, 547 (9th Cir. 1985). The Ninth Circuit stated: "An appeal is frivolous where the result is obvious or the appellants' arguments are utterly meritless." *Id.* (citing FED. R. APP. P. 38; 28 U.S.C. § 1912 (1982)).

298. *AccuSystems*, 580 F. Supp. at 483 (S.D.N.Y. 1984).

299. Office Supply Co. v. Basic/Four Corp., 538 F. Supp. 776, 789 (E.D. Wis. 1982). The court stated:

> Under California law economic losses are not recoverable in tort. The rationale is explained [as follows]:
>
> Where the suit is between a nonperforming seller and an aggrieved buyer and the injury consists of damage to the goods themselves and the costs of repair of such damage or a loss of profits that the deal had been expected to yield to the buyer, it would be sensible to limit the buyer's rights to those provided by the Uniform Commercial Code.

Id. at 791 (quoting S.M. Wilson & Co. v. Smith Int'l, Inc., 587 F.2d 1363, 1376 (9th Cir. 1978)) (citations omitted).

300. *See* Gordon & Starr, *supra* note 15, at 511.

301. Comment, *supra* note 8, at 1070.

volving computers, it is submitted that dissatisfied purchasers need a more effective cause of action, specifically computer malpractice, to resolve their legal difficulties. As between experts and laymen, those who represent themselves as knowledgeable in the field of computers should bear the risk of computer failure.[302]

In two cases, courts have addressed the issue whether computer malpractice should be a viable cause of action.[303] This cause of action places computer vendors in the same professional context as physicians, attorneys, accountants, architects and engineers,[304] and holds "computer professionals" to a higher standard of care than a mere reasonableness standard.[305] Such a cause of action would vitiate contractual damage and warranty disclaimers,[306] thereby enabling dissatisfied purchasers to recover losses when other legal remedies are ineffective or inadequate.

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302. Gordon & Starr, *supra* note 15, at 511; Comment, *supra* note 8, at 1070.

303. *See* Chatlos Sys. v. National Cash Register Corp., 479 F. Supp. 738 (D.N.J. 1979), *rev'd and remanded*, 635 F.2d 1081 (3d Cir.) (rejected theory), *aff'd*, 670 F.2d 1304 (3d Cir. 1980), *cert. denied*, 457 U.S. 1112 (1982); Triangle Underwriters, Inc. v. Honeywell, Inc., 604 F.2d 737 (2d Cir. 1981) (rejected theory).

In a third case, F & M Schaefer Corp. v. Electronic Data Sys. Corp., 430 F. Supp. 988 (S.D.N.Y. 1977), *aff'd without opinion*, 614 F.2d 1286 (2d Cir. 1979), the United States District Court for the Southern District of New York suggested in a pretrial ruling that computer programmers are comparable to architects and accountants for statute of limitations tolling purposes. *See* transcript of oral pretrial ruling, No. 77-3982, 175-76 (S.D.N.Y. Nov. 15, 1977). The court made no other analogies and subsequently decided the case on other grounds. Consequently, *Schaefer* does not serve as precedent in the context of computer malpractice, and as such, it will not be further discussed in this Comment.

In 1985, the California Assembly attempted to legislate a form of computer malpractice. *See* Tong, *Computer Lemon Law Proposed*, Tribune (Oakland, Cal.), May 17, 1985. Assemblywoman Gloria Molia, a Democrat from Los Angeles, proposed a bill in a California Assembly Consumer Protection Committee meeting which would have required computer retailers and manufacturers to provide to consumers a disclosure form that lists each computer product's capabilities. *Id.* The bill provided that if the computer product fails to live up to the claims made in the form, the consumer can have the product replaced or refunded within one month of its purchase. *Id.* The bill was stalled by other Assembly members and several computer industry associations such as ABCD, The Microcomputer Industry Association, see *infra* note 318 and accompanying text, who indicated that the California Assembly already provides remedies to the consumer, and that such a law would unfairly single out the computer industry for "special treatment." *Id.*

304. *See* Gordon & Starr, *supra* note 15, at 511; Comment, *supra* note 6, at 286; Tanenbaum, *supra* note 13, at 488. Malpractice standards have also been applied to dentists, pharmacists, veterinarians, abstractors of title, pilots, nurses, chiropractors, and other professionals. Conley, *Software Vendor Tort Liability*, 13 RUTGERS COMPUTER & TECH. L.J. 23, 23 (1987).

305. *See* Gordon & Starr, *supra* note 15, at 511-12; Tanenbaum, *supra* note 13, at 488; Comment, *supra* note 6, at 286-87.

306. *See* Gordon & Starr, *supra* note 15, at 511-12; Comment, *supra* note 6, at 286-87.

Under traditional malpractice principles, professionals must exercise reasonable care and the measure of skill and knowledge ordinarily possessed by members in good standing in that profession.[307] "Professions" are characterized as: (1) based on a well defined body of knowledge; (2) limited to those individuals with high standards of behavior and competence; (3) having at least one association which promotes these high standards; (4) guided by a code of ethics; and (5) whose members assume a high degree of personal responsibility to act in an ethical way toward society in general and their clients in particular.[308] As a corollary, the typical professional malpractice action consists of the following elements: (A) the defendant has an elevated legal duty of care (B) which was breached by action or inaction, (C) thereby proximately causing (D) damage or injury to the plaintiff.[309]

Commentators have suggested that unlike physicians, attorneys, accountants, architects, engineers and others, members of the computer industry do not engage in a profession.[310] It is submitted that this conclusion is false and that its proponents rely upon fallacious reasoning. The computer industry is indeed a profession, for it satisfies each of the above mentioned characteristics of a profession.

First, the computer industry is based on a well defined body of knowledge; however, this body of knowledge is constantly expanding. At any moment the amount of this information is so vast that no single member of the industry can claim to know its entirety. Rather, individual members know only relatively small portions of the available information and they can learn what they do not already know by either consulting with other members or referring to a plethora of written or "stored" information. Thus, each member of the computer industry is a "specialist" and each "practices" a specialty such as software or hardware research, development, sales or marketing.

Physicians, attorneys, accountants, architects, engineers and others also possess only a limited amount of information regarding their respective professions. The members of each of these professions often specialize their practices, and refer to other members or to stored information to learn what they do not already know. Thus, the computer

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307. *See* Gordon & Starr, *supra* note 15, at 511-12; Tanenbaum, *supra* note 13, at 503-04.

308. Galler, *Contracting Problems in the Computer Industry: Should Computer Specialists Be Subjected to Malpractice Liability?*, 50 INS. COUNS. J. 574, 592 (1983). *See also* Comment, *supra* note 8, at 1078.

309. Galler, *supra* note 308, at 589; Comment, *supra* note 8, at 1083.

310. Conley, *supra* note 304, at 26 (profession characteristics (4) and (5) absent from computer industry); Galler, *supra* note 308, at 592-95 (all characteristics absent except (3)); Tanenbaum, *supra* note 13, at 488 (characteristic (4) absent). *Contra* Weyrauch, *Applying the "Continuous Treatment" Doctrine to Data Processing*, 24 ARIZ. L. REV. 703, 706 n.26 (1982) (non-profession argument currently "unconvincing" given prevalent computer use).

industry is analogous to more traditional professions in that it possesses a well defined body of knowledge.

It is further submitted that the computer industry is based on a well defined body of knowledge insofar as computer information is subject to technological advancements which are knowable by members of the industry. Similarly, more traditional professions are based on bodies of knowledge which are generally expanding due to scientific advancements, except perhaps the fields of accounting, law and psychiatry, which are based on subjective and artificial principles.

One commentator has suggested that a distinction should be drawn between the computer industry and traditional professions, insofar as members of the latter group must attend specialized institutions of higher education that teach a relatively standard curriculum and that members of the former group are not required to do so.[311] This characterization is based on either a false premise or an artificial distinction at best.

There is no question that physicians must undergo an extensive, rigorous and relatively standard higher education. Additionally, attorneys must undergo standard higher education in all states except California. However, accountants, architects, engineers, pharmacists, nurses and other professionals may practice their respective professions after having received only an undergraduate education. Additionally, abstracters of title, chiropractors and pilots may fulfill their educational requirements in a period of just two years or less. Yet, all of the above are designated "professions" and their members are subject to malpractice lawsuits.

Members of the computer industry do not categorically undergo extensive, standard higher education. Rather, discrete groups within the industry such as electrical engineers, software engineers, metallurgical engineers and others must obtain at least an undergraduate degree in fields which offer a relatively standard curriculum. Additionally, they may, and often do, obtain advanced degrees prior to or during their employment by computer hardware or software manufacturers. Furthermore, engineers within the computer industry are subject to malpractice suits regardless of their involvement in the computer industry.

Members of the computer industry who are involved in marketing must also receive undergraduate degrees and often advanced business degrees prior to their employment. Computer salespeople are also generally required to possess an undergraduate degree prior to their employment. However, they need not study any particular curriculum.

Technicians—computer repair and maintenance people—are the only members of the computer industry who need not obtain an undergraduate degree prior to their employment. Two computer industry associations, the Association for Computing Machinery (ACM) and the

311. Galler, *supra* note 308, at 592.

Data Processing Management Association (DPMA), have both sought, but failed, to establish a standard curriculum for computer technicians. Currently, technicians are generally required to obtain a one-year technical electronics degree beyond their high-school education. In addition, during the course of their employment by distributors and retailers, technicians—as well as salespeople—almost invariably attend a number of training courses sponsored by manufacturers of various computer products.

Each technician training course is an intensive "hands-on" class which lasts for approximately one week, and teaches the repair and maintenance of a subsection of each manufacturer's total line of available computer products. Technicians generally attend one or more training classes sponsored by each major computer manufacturer, and learn in great detail about the workings of most computer products they must eventually repair and maintain. Furthermore, distributors and retailers receive confidential technical periodicals from each computer manufacturer whose products they sell. These periodicals provide an additional base of stored information for technicians.

Thus, the above mentioned "higher education" distinction is artificial or arguably false. Not all members of traditional professions must attend specialized institutions of higher learning for an extended period of time. Furthermore, members of the computer industry are not "stuffed with hasty and far from professional computing skills."[312] Rather, they receive substantially more education than nonprofessionals, and their training often rivals the education received by most members of traditional professions.

Second, the computer industry is limited to those individuals with high standards of behavior and competence. Members of the computer industry are generally highly motivated and committed workers who are keenly aware of their customers and civic responsibilities.[313] They are also self-professed "workaholics" who would, in the words of one expert, "rather do this than stock a dairy case."[314] Thus, the computer industry is analogous to other traditional professions, insofar as both sets of members attempt to derive some type of personal and social satisfaction from their efforts.[315]

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312. *Id.* at 592.

313. *Responding to the Early Warning Signs*, Computer & Software News, Nov. 9, 1987, at 139.

314. *Id.* (quoting Peter Peterson, Executive Vice President of WordPerfect, a software manufacturer). *See also Burnout, supra* note 3, at 139 ("[A]s a company gets successful, you've got to get your people to realize that it's a marathon they're in. You don't want them to become one dimensional . . . .").

315. It is undisputed that there are some members of all traditional professions as well as the computer industry who are entirely self-serving. However, these unscrupulous professionals represent exceptions to the rule that professions are comprised of individuals who abide by high standards of behavior and competence.

Third and finally, the computer industry has at least one association which promotes high standards of behavior and competence, and has established ethical norms for the industry.[316] For example, a group of twelve of the largest computer mail-order firms have formed a trade group that plans to establish a set of business guidelines protecting the interests of both their members and consumers.[317] Additionally, ABCD, The Microcomputer Industry Association, has established a code of ethical standards which currently affects approximately twenty-five percent of the computer industry.[318] These organizations' efforts reflect computer professionals' recognition that consumers know substantially less than computer professionals know about computers.[319] Thus, it is submitted that members of the computer industry are attempting to become recognized as professionals, thereby requiring all of the industry's members to act according to higher ethical standards. Yet courts that have considered this issue refuse to place members of the computer industry under the same scrutiny as other professionals.

In *Chatlos Systems, Inc. v. National Cash Register Corp.*,[320] the United

316. Gordon & Starr, *supra* note 15, at 511.

317. Computer Reseller News, Nov. 2, 1987, at 4, col. 2. One member of the group stated: "[W]e're going to . . . [determine] how we can police the [mail-order] activity with certain consistent ethical standards . . . .' " *Id.* (quoting Matt Smith, vice president of operations of JDR Microdevices, Inc.).

318. Telephone interview with Bernard F. Whalen, Executive Vice President of ABCD, The Microcomputer Industry Association (Feb. 3, 1988). ABCD is a not-for-profit organization, and it is currently attempting to foster high levels of professional competence among individuals within the computer industry by enforcing several codes of business ethics which were drafted by members of the computer industry. *Id.* Manufacturers, distributors, retailers, software developers, and systems houses each must abide by an ABCD specialized code of ethical standards, and a member who repeatedly violates its governing code is subject to expulsion from the organization but may still stay in business. *Id.* ABCD also functions as a complaint resolution committee and a lobbying organization for the computer industry as a whole. *Id.* ABCD's headquarters are located at 1515 Woodfield Road, Suite 860, Schaumburg, Illinois 60173-5437.

The Institute for the Certification of Computer Professionals (ICCP) is also currently attempting to standardize conduct within the computer industry. Comment, *supra* note 5, at 1071. ICCP offers licenses such as the Certificate in Data Processing. *Id.* However, their efforts to standardize the industry have largely been ignored. *Id.* In addition, ACM at one time issued a Proposed Code of Conduct, but the code has long since been abandoned. *See* 5 COMPUTER L. SERV. (Callaghan) App. 7-3C at 1-39 (1968-80).

One commentator suggests that members of the computer industry should be regulated under a licensing scheme, because they are indeed members of a profession. *See* O'Connor, *Computer Professionals: The Need for State Licensing*, 18 JURIMETRICS J. 256, 263-67 (1978).

319. Gordon & Starr, *supra* note 15, at 511.

320. 479 F. Supp. 738 (D.N.J. 1979), *rev'd as to damages*, 635 F.2d 1081 (3d Cir.), *aff'd*, 670 F.2d 1304 (3d Cir. 1980), *cert. denied*, 457 U.S. 1112 (1982). Chatlos Sys., Inc. (Chatlos) consulted with several computer vendors and manufacturers before it eventually purchased computer hardware and software from National Cash Register Corporation (NCR). 479 F. Supp. at 741. An NCR sales representative indicated prior to the sale that the system selected by Chatlos

States District Court for the District of New Jersey refused to analogize computer vendors to other professionals.[321] The court stated "[s]imply because an activity is technically complex and important to the business community does not mean that greater potential liability must attach."[322] However, this decision ignores the total trust and confidence that computer purchasers often place in vendors.[323]

In *Triangle Underwriters, Inc. v. Honeywell, Inc.*,[324] the United States Court of Appeals for the Second Circuit similarly rejected the notion that computer vendors should be classified as professionals.[325] This classification is properly a function of the "trust and reliance that exists between a lay plaintiff and a professional defendant."[326] In the case of attorney malpractice, it is presumed that "[t]he client is hardly in a position to know the intricacies of the practice or whether the necessary steps in the action have been taken."[327] In the case of architect malpractice, "generally the client is required to rely almost totally on the professional advice of the architect. He must have confidence in the ar-

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would perform six business operations and store data on NCR's latest technology magnetic discs. *Id.* The NCR representative also stated that NCR's disc system was a good investment, insofar as it would solve inventory problems and result in direct savings to Chatlos. *Id.* NCR further represented that the system would be programmed by NCR personnel who would have the system "up and running" within six months of its purchase by Chatlos. *Id.* Subsequently, none of the above representations made by NCR were satisfied. *Id.*

321. *Id.* at 740-41 n.1.

322. *Id.*

323. It is submitted that, because the computer industry is so highly competitive, manufacturers and vendors have forsaken the "old school" of salesmanship and have replaced it with more savvy, and less heavy-handed, sales techniques. The "new school" of salesmanship includes, in many cases, befriending customers for the purpose of evoking their trust and confidence and in order to effectuate sales. In the experience of the author, those salespeople in the computer industry who subscribe to the "new school" are more successful than their "old school" counterparts. Consequently, salespeople who are members of the old-fashioned camp are adopting the more modern approach to salesmanship or are being replaced.

324. 604 F.2d 737 (2d Cir. 1979), *aff'd after remand*, 651 F.2d 132 (2d Cir. 1981). For a discussion of the facts and holding in *Triangle*, see *supra* note 119.

325. *Id.* at 745-46. The United States Court of Appeals for the Second Circuit refused to apply the principle of "continuous treatment" to a vaporware case in order to toll the statute of limitations. The court stated:

> The 'continuous treatment' concept [holds] . . . that in a suit for malpractice of physicians and nurses in a city hospital, the statute of limitations began to run 'at the end of continuous treatment or hospital-patient or physician-patient relationship,' and not at the last date of malpractice. . . . '[C]ontinuous treatment' [is]: '. . . treatment for the same or related illnesses for injuries, continuing after the alleged acts of malpractice, not mere continuity of a general physician-patient relationship.'

Id. at 744 (quoting Borgia v. City of New York, 12 N.Y.2d 151, 237 N.Y.S.2d 319, 187 N.E.2d 777 (1962)).

326. *Id.* at 744-45.

327. *Id.* at 745 n.15.

chitect and place his full trust in him."[328] Consequently, the court was unwilling to "[clothe] sellers or manufacturers of machinery in the garb of members of the learned professions."[329] To allow the plaintiff's contention, "and apply [malpractice concepts] generally to the law of commercial sales, would open Pandora's box . . . ."[330]

As in *Chatlos*, the *Triangle* court ignored the unique relationship of trust that exists between computer purchasers and vendors. The court also ignored the disparity in knowledge between the parties to computer contracts that is so common to the practice of law. Finally, the court underestimated the time and effort that computer vendors expend toward learning enough about computers and their capabilities in order to satisfy their customers' demands. Although computer salespeople are neither formally educated nor certified, their relative level of expertise should earn them the right to be recognized as professionals.

If members of the computer industry become recognized as professionals, and a malpractice cause of action becomes available to dissatisfied computer purchasers, then plaintiffs may enjoy certain procedural advantages. For example, in some states the statute of limitations may be longer for malpractice claims than for other tort or contract claims.[331] Furthermore, the relevant statute of limitations may be delayed for a malpractice claim under tolling principles such as fraudulent concealment or the continuous treatment doctrine.[332]

Plaintiffs in computer malpractice claims may enjoy substantive advantages as well. For example, plaintiffs who are not in privity with sellers may recover for their economic loss; in strict liability claims they cannot.[333] Sellers in computer malpractice claims may not be able to contractually limit or exclude damages or limit the purchaser's remedies.[334] Plaintiffs may not need to aver or prove scienter, as they must in fraud and misrepresentation claims.[335] Finally, defendants will not be able to argue that their statements were merely opinion and not fact, for courts may regard such distinctions as irrelevant.[336]

It is submitted that the enhanced judicial regulation that would result if computer sellers were viewed as professionals would protect the

328. *Id.* (quoting County of Broome v. Vincent J. Smith, Inc., 78 Misc. 2d 889, 358 N.Y.S.2d 998 (1974)).

329. *Id.* It is submitted that during its infancy, the computer industry was not a "learned profession." However, the computer industry is now in its adolescence, *see supra* notes 18 & 40, and as such, it is submitted that it has indeed become a "learned profession."

330. *Id.* at 746.

331. Galler, *supra* note 308, at 589.

332. *Id.*; Conley, *supra* note 304, at 26.

333. Conley, *supra* note 304, at 26.

334. Galler, *supra* note 308, at 589.

335. *Id.*

336. *Id.* at 589-90.

public interest.[337] It is further submitted that the time is ripe for establishing a paradigm for holding negligent or unscrupulous computer professionals liable for their actions. Computer malpractice should apply when it is clear that the consumer relied on the skill and judgment of the professional in selecting a defective system.

IV. CONCLUSION

The chasm which divides the average purchaser's knowledge about computers from that knowledge possessed by manufacturers, distributors and retailers suggests that the environment surrounding computer sales is currently unlike that surrounding the sale of almost all other items. This disparity provides a unique opportunity for the seller to have its way with an unsuspecting buyer.

Standard form agreements only perpetuate the disparity of bargaining power which is inherent in computer sales. It is submitted that, although courts have thus far been unwilling to review these form agreements in light of principles of unconscionability, the judiciary should apply the doctrine of unconscionability more liberally, as it does in other areas of the law. But not all computer sales involving standard contracts should be interpreted under an unconscionability analysis.

Courts should invoke other portions of the U.C.C. for all transactions between large commercial entities, and for all transactions in which a computer company of any size purchases computer equipment. The doctrine of unconscionability should be applied only in compelling cases involving purchasers that are individuals or relatively small business entities that are not members of the computer industry. Courts should carefully analyze the setting of each computer sale involving at least one individual purchaser or one relatively small commercial entity that is not a member of the computer industry, in order to determine whether to invoke substantive or procedural unconscionability as in other areas of the law. Further, courts should refrain from superficially categorizing plaintiffs in vaporware cases as "commercial entities," or as individuals with a "college education," or with some computer background, and should scrutinize each party's relative bargaining power and relative computer expertise.

Finally, it is submitted that the judiciary should be more amenable to computer tort claims, and adopt computer malpractice as a viable cause of action. This new tort will require the judiciary to carefully analyze the facts of each transaction and resist the temptation of cursorily classifying the parties into general categories. This increased potential liability will not stifle computer research and development. Rather, increased judicial sensitivity in the area of computer sales will remove

337. Comment, *supra* note 5, at 1071.

some of the fear and resentment that purchasers have toward computers and thereby promote computer sales.

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