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## When Animals Attack: Spiders and Internet Trespass

*Steve Fischer*

### INTRODUCTION

Throughout history, courts have been forced to apply antiquated legal doctrines to new technologies. While one can expect a certain amount of tension when old laws are applied to new technology, the advent of the Internet and the legal controversies that have arisen from it represent an unprecedented array of new legal questions. As courts have struggled to answer these questions, some have argued that it is becoming increasingly apparent that our laws are not adequately equipped to handle new Internet-related controversies. Most recently, courts have been criticized for applying the ancient doctrine of trespass to chattels to unwanted Internet transmissions.

This Comment will address the legal and technological implications of *eBay v. Bidder's Edge*.<sup>1</sup> Particularly, this Comment will focus on the application of trespass to chattels to unwanted Internet transmissions. Part I will provide a background to the technological and legal issues in *eBay*. The technological background will also outline developing technology that the *eBay* decision may hinder. Part II will provide a foundation to the eBay-Bidder's Edge controversy and dissect the court's reasoning in *eBay*. Part III demonstrate that trespass to chattels is inappropriate for disputes involving the Internet and presents the policy implications of *eBay*. Specifically, this part will focus on the negative effect *eBay* will have on competition and the flow of information on the Internet. Part IV examines the reach of the *eBay* case and questions the practice of some Internet companies to disregard Internet norms. Part V focuses on the right to exclude and hypothesizes that eBay is using trespass to chattels to avoid proliferation of personal agents. Finally, Part VI examines a number of alternative solutions that will allow eBay and other

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1. *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

companies to coexist, even prosper, with agents. By implementing the solutions suggested in this section, eBay and other internet companies will be able to control their business interests without having to rely upon archaic laws that have the potential to restrict the flow of information on the Internet.

## I. BACKGROUND

### A. TECHNOLOGY BACKGROUND

A look at current technology is necessary to fully understand the issues surrounding trespass to chattels and its application to the Internet. Although the Internet encompasses a wide array of methods of communications, this comment will focus primarily on World Wide Web (Web) and other related technologies. What follows will outline the technology behind hyperlinking, search engines, spider blocking technology, bots, and intelligent agents.

#### 1. Hyperlinking

Generally speaking, hyperlinks hold together the Web. Hyperlinks are points in Web documents through which users may branch outward to other bodies of information.<sup>2</sup> Web pages may contain any number of hyperlinks, each of which may point to files or documents on different machines in different locations.<sup>3</sup> The power of hyperlinking lies in the fact that the links themselves can be embedded in content, thus allowing users of the web to easily locate information and seamlessly follow relationships between documents.<sup>4</sup> Deeplinking, a specific type of hyperlinking, refers to the practice of providing a hyperlink on a Web site to a page on another web site that is not the Web site's home page.<sup>5</sup>

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2. See Scott J. Rubin, *The Internet and the Legal Battlegrounds of the Future: From Internet Domain Names to Internet Keywords*, 68 UMKC L. REV. 77, 104 (1999).

3. See *id.*

4. See *id.*

5. See *Tech Encyclopedia*, (visited Nov. 20, 2000) <<http://www.techweb.com/encyclopedia/defineterm?term=deep+linking>>.

## 2. Search Engines

A search engine is a program that searches documents for specified keywords and returns a list of the documents where the keywords were found.<sup>6</sup> Although a search engine is really a general class of programs, the term is often used to specifically describe systems like Alta Vista and Yahoo! that enable users to search for documents on the World Wide Web.<sup>7</sup> While search engines vary, they typically consist of three components: a spider, an index, and an interface.<sup>8</sup>

### a. The Spider

Largely “invisible,” a spider is a program that automatically traverses the Web’s hypertext structure by retrieving a document, and recursively retrieving all documents that are referenced.<sup>9</sup> A spider visits a Web page, reads it, and then follows links to other pages within the site.<sup>10</sup> This is what it means when someone refers to a site being “spidered” or “crawled.”<sup>11</sup> A spider typically returns to a site on a regular basis, such as every month or two, to look for changes.<sup>12</sup>

### b. The Index

The second part of a search engine, the index, stores the content found by the spider.<sup>13</sup> Sometimes called the catalog, the index is like a giant book containing a copy of every Web page that the spider finds.<sup>14</sup> If a Web page changes, then the book is updated with the new information.<sup>15</sup>

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6. See *Webopedia*, (visited Nov. 20, 2000) <[http://webopedia.internet.com/TERM/s/search\\_engine.html](http://webopedia.internet.com/TERM/s/search_engine.html)>.

7. See *id.* More advanced search engines allow users to search for images, video, and sound recordings.

8. See Danny Sullivan, *How Search Engines Work* (visited Nov. 20, 2000) <<http://searchenginewatch.internet.com/webmasters/work.html>>.

9. See *id.*

10. See *id.*

11. See *id.*

12. See *id.*

13. See *id.*

14. See *id.*

15. See *id.*

### c. The Interface

Usually built into a Web page, the interface is the portion of a search engine that users can see and use. The interface allows a user to search the index for a specified keyword or keywords. The interface is driven by search engine software that sifts through the millions of pages recorded in the index to find matches to a search and ranks them in order of what it believes is most relevant.<sup>16</sup>

### 3. Spider Blocking Technology

Although largely viewed as a service to the Internet community, some publishers of Internet content object to the use of spiders. The reasons why one would wish to block a search engine from cataloging the contents of a Web site vary.<sup>17</sup> In some instances, the public benefits from the exclusion of spiders. For example, a Web site delivering baseball scores and statistics would not want much of its site spidered since its content changes frequently. Since a spider takes only what equates to a “snapshot” of a Web site at a given point in time, most spiders are ill-suited for Websites containing dynamic content. From the perspective of the public, spiders are also blocked for less desirable reasons. Some Web sites restrict spidering because they feel some pages on their site are “private.”<sup>18</sup> Others want to force visitors to access their content through their homepage.<sup>19</sup> While this list is far from exhaustive, it illustrates that in many situations it is beneficial to block spiders.

There are a number of ways to restrict the spidering of a Web site. The most frequently used tool is the robots.txt file.<sup>20</sup> The robots.txt is a file that exists on a Web site and indicates to visiting robots which parts of the site should not be visited.<sup>21</sup>

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16. *See id.*

17. *See* Maureen A. O'Rourke, *Taking Stock: The Law and Economics of Intellectual Property Rights: Shaping Competition on the Internet: Who Owns Product and Pricing Information?*, 53 VAND. L. REV. 1965, 1976-84 (2000) (discussing several reasons why companies may object to spidering).

18. *See* Lisa Hui, *Meta Data* (visited Nov. 20, 2000) <<http://library.thinkquest.org/26297/html/7.shtml>>.

19. *See id.*

20. *See* SPFC, (visited Nov. 20, 2000) <<http://www.spfc.org/robots.txt>> (providing and example of a robot.txt file).

21. *See* Martijn Koster, *Robots Exclusion* (visited Nov. 20, 2000)

Although spiders are not legally obligated to follow a robots.txt file, most of the major spiders respect the file's instructions.<sup>22</sup> Another technique for blocking spiders involves the less frequently used robots META tag.<sup>23</sup> Existing as hidden text within the code of a Web page, a robots META tag indicates to visiting robots if a document may be indexed, or used to harvest more links.<sup>24</sup> Additionally, sites can be password protected, with the passwords supplied to those who pay a fee or are otherwise granted access.<sup>25</sup> Finally, America Online has gone a step further, as it developed an entire network separate from the Web, and available only to AOL members.<sup>26</sup>

#### 4. Bots

Like spiders, bots are programmable agents that perform repetitive functions such as posting a message to multiple newsgroups or searching for information.<sup>27</sup> Bots typically collect related content from a wide variety of sources.<sup>28</sup> The proliferation of Internet commerce has created an environment where bots are able to thrive.<sup>29</sup> Since all web servers are connected, robot-like software is the perfect way to perform the methodical searches needed to find information.<sup>30</sup> For example, Web search engines send out robots that crawl from one server to another, compiling the enormous lists of URLs that are the heart of every search engine.<sup>31</sup> One particular type of bot, the shop bot, finds the lowest price on a particular item from a

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<<http://info.webcrawler.com/mak/projects/robots/exclusion.html>>.

22. See Danny Sullivan, *Search Engine Features Chart*, Search Engine Watch, at <http://www.ssw.com.au/SSW/Internet/SearchEngineTips.htm> (last visited Nov. 20, 2000).

23. See Martijn Koster, *HTML Author's Guide to the Robots META Tag* (visited Nov. 20, 2000) <<http://info.webcrawler.com/mak/projects/robots/meta-user.html>>.

24. See Koster, *supra* note 21 (suggesting that robot META tags are not as common as the robots.txt file because they are difficult to maintain over large sites, and most spiders are not programmed to recognize their commands).

25. See *id.*

26. See *id.*

27. See Techweb, *Tech Encyclopedia* (visited Nov. 20, 2000) <<http://www.techweb.com/encyclopedia/defineterm?term=BOT&exact=1>>.

28. See *id.*

29. See Gus Venditto, *What is a Bot?*, (visited Nov. 20, 2000) <[http://botspot.com/bot/what\\_is\\_a\\_bot.html](http://botspot.com/bot/what_is_a_bot.html)>.

30. See *id.*

31. See *id.*

collection of online retailers.<sup>32</sup>

## 5. Intelligent Agents

Though the line between bots and intelligent agents is quite fuzzy, a definition sheds some light on the difference. "An intelligent agent is a piece of software that performs a given task using information gleaned from its environment to act in a suitable manner so as to complete the task successfully."<sup>33</sup> An intelligent agent should be able to adapt itself based on changes occurring in its environment, so that a change in circumstances will still yield the intended result.<sup>34</sup> While the differences between bots and intelligent agents are typically a matter of degree, intelligent agents generally enjoy the following properties: autonomy, social ability, reactivity, proactivity, temporal continuity, and goal orientedness.<sup>35</sup>

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32. *See id.*

33. Bjorn Herman, *Intelligent Software Agents on the Internet: An Inventory of Currently Offered Functionality in the Information Society and a Prediction of (Near) Future Developments* (visited Nov. 20, 2000) <[http://www.firstmonday.dk/issues/issue2\\_3/ch\\_123/](http://www.firstmonday.dk/issues/issue2_3/ch_123/)>.

34. *See id.*

35. *See id.* Herman lists six characteristics that intelligent agents typically enjoy:

-Autonomy: agents operate without the direct intervention of humans or others, and have some kind of control over their actions and internal state,

-Social Ability: agents interact with other agents and (possibly) humans via some kind of agent communication language,

-Reactivity: agents perceive their environment (which may be the physical world, a user via a graphical user interface, a collection of other agents, the Internet, or perhaps all of these combined), and respond in a timely fashion to changes that occur in it,

-Proactivity: agents do not simply act in response to their environment, they are able to exhibit goal-directed behavior by taking the initiative,

-Temporal Continuity: agents are continuously running processes (either running active in the foreground or sleeping/passive in the background), not once-only computations or scripts that map a single input to a single output and then terminate, and

-Goal Orientedness: an agent is capable of handling complex, high-level tasks. The decision how such a task is best split up in smaller sub-tasks, and in which order and in which way these sub-tasks should be best performed, should be made by the agent itself.

*See id.*

## 6. The Benefits and Problems of Spiders

Since their inception in the early 1990s,<sup>36</sup> spiders, like most new technologies, are both a blessing and a curse.<sup>37</sup> Undoubtedly their greatest attribute, spiders are capable of performing tasks of enormous scale. For example, a single robot can do in a few minutes what it may take a human several hours to do.<sup>38</sup> While the growth of the Web quickly outstrips an individual's ability to assess and comprehend it,<sup>39</sup> spiders allow for large portions of the Web to be summarized. Spiders are also employed by system administrators and Webmasters as a statistical analysis and site maintenance tool.<sup>40</sup> Finally, spiders are touted as a tool to scour the Internet and track down unauthorized music and video files.<sup>41</sup>

Despite these benefits, early spiders presented a number of problems for the Internet community. Like most technology, spiders can be abused. If improperly built or carelessly used, spiders can exert a tremendous load on networks and Web servers.<sup>42</sup> Some spiders have caused servers and even entire networks to crash.<sup>43</sup> Since spiders build a central database of

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36. See Wes Sonnenreich, *A History of Search Engines*, (visited Nov. 20, 2000) <<http://www.wiley.com/compbooks/sonnenreich/webdev/history.html>> (stating that the popular public search engine, Excite, has roots that extend rather far back in the history of the Web and that when it was started by six Stanford undergraduates in February 1993, the product was initially called Architext).

37. See Jeff Prosize, *A Guide to Robots, Spiders, and Other Shadowy Denizens of the Web*, PC MAGAZINE ONLINE (July 1996) <<http://www.zdnet.com/pcmag/issues/1513/pcmg0045.htm>>.

38. See *id.*

39. See David Eichmann, *Ethical Web Agents*, (visited Nov. 20, 2000) <<http://www.ncsa.uiuc.edu/SDG/IT94/Proceedings/Agents/eichmann.ethical/eichmann.html>>.

40. See Webcrawler (visited Nov. 20, 2000) <<http://info.webcrawler.com/mak/projects/robots/active/html/type.html>> (displaying a chart of 200 spiders and their uses). Statistical Analysis, HTML validation, and mirroring are a few of the most common uses for spiders. Spiders are often used to report statistics such as the average number of documents per server, average size of a web page, etc. Spiders can validate HTML by inspecting the code behind a web page to ensure that links are valid. Mirroring refers to a technique used to synchronize files on the Internet.

41. Somewhat ironically, pirates have already been using the technology to locate and disseminate copyrighted material across the Internet. See *id.*

42. See *Web Robots FAQ* (visited Nov. 20, 2000) <<http://info.webcrawler.com/mak/projects/robots/faq.html>>.

43. See Martijn Koster, *Robots in the Web: Threat or Treat?* (April 1995)



documents, scalability is often an issue.<sup>44</sup> Additionally, most robots cannot distinguish between temporary and permanent Web pages. The consequence is that spiders contribute to the already enormous collection of clutter on the Web by indexing and providing links to pages that no longer exist.<sup>45</sup> While many of the problems created by early spiders have been fixed over time, spiders still have the ability create problems for Web site owners and Web users.

## B. LEGAL BACKGROUND: TRESPASS TO CHATTELS

Throughout history, courts have applied the common law to disputes surrounding developing technology.<sup>46</sup> For example, courts have used the common law doctrine of misappropriation to settle controversies arising from technological innovations such as long-distance telephone,<sup>47</sup> teletype services,<sup>48</sup> and radio<sup>49</sup> and television broadcastings.<sup>50</sup> Like misappropriation, courts have also applied the common law's trespass to chattels doctrine to technology-related controversies during the last century.<sup>51</sup>

Trespass to chattels originates from the common law remedy of *trespass de bonis asportatis*, a form of action for recovery of damages resulting from the taking of chattel property from the possession of the plaintiff.<sup>52</sup> A chattel as an article of personal property, as distinguished from real

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<<http://info.webcrawler.com/mak/projects/robots/threat-or-treat.html>>.

44. See *id.* Scalability is the ability of a computer application or system to continue to function well as it is changed in size or volume in order to meet a user need.

45. See Prorise, *supra* note 37.

46. See Bruce P. Keller, *Condemned to Repeat the Past: The Reemergence of Misappropriation and Other Common Law Theories of Protection for Intellectual Property*, 11 HARV. J. L. & TECH. 401, 406 (1998).

47. See *International News Service v. Associated Press*, 248 U.S. 215 (1918) (involving the copying and then selling of another's news stories).

48. See *id.*

49. See *Twentieth Century Sporting Club, Inc. v. Transradio Press Service, Inc.*, 300 N.Y.S. 159 (Sup. Ct. 1937) (involving the re-publication of events heard on a radio broadcast).

50. See *National Exhibition Co. v. Fass*, 143 N.Y.S. 2d 767 (Sup. Ct. 1955) (involving the transmission of baseball scores derived from watching a television broadcast).

51. See Keller, *supra* note 46.

52. See 7 Stuart M. Speiser et al., *THE AMERICAN L. OF TORTS* § 23:23 666-67 (1990).

property.<sup>53</sup> Personal property is everything that is the subject of ownership, not coming under the dominion of real estate.<sup>54</sup> Real property consists of land and generally whatever is erected or growing upon or affixed to land.<sup>55</sup> The Restatement declares that a trespass to chattels may be committed by intentionally dispossessing another of the chattel, or using or intermeddling with a chattel in the possession of another.<sup>56</sup>

### 1. Liability: Dispossession and Intermeddling

The Restatement lists the conditions necessary for liability:

“One who commits a trespass to a chattel is subject to liability to the possessor of the chattel if, but only if, (a) he dispossesses the other of the chattel, or (b) the chattel is impaired as to its condition, quality, or value, or (c) the possessor is deprived of the use of the chattel for a substantial time, or (d) bodily harm is caused to the possessor, or harm is caused to some person or thing in which the possessor has a legally protected interest.”<sup>57</sup>

At common law a trespass to chattels claim would lie only where personal property was taken.<sup>58</sup> Today, a trespass to chattel may be committed by intentionally dispossessing another of the chattel, or using or intermeddling with a chattel in the possession of another.<sup>59</sup> The difference between dispossession and intermeddling is significant with respect to the showing of injury. If the trespass to chattel results in dispossession, it does not matter that there has been no impairment of the condition, quality, or value of the chattel, and no other harm to any interest of the possessor.<sup>60</sup> The opposite is true with respect to impairment and deprivation. According to the Restatement, if a chattel is merely impaired or the owner is deprived of its use, the intermeddler is not subject to liability unless there is also harm to the possessor’s

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53. See BLACK’S LAW DICTIONARY (Sixth ed. 1999).

54. See *id.*

55. See *id.*

56. See RESTATEMENT (SECOND) OF TORTS § 217 (1965).

57. See *id.* § 218.

58. See Anne E. Hawley, Comment, *Taking Spam Out of Your Cyberspace Diet: Common Law Applied to Bulk Unsolicited Advertising Via Electronic Mail*, 66 UMKC L. REV. 381, 392 (1997).

59. See *supra* note 57 and accompanying text.

60. See RESTATEMENT (SECOND) OF TORTS § 218 cmt. a (1965).

materially valuable interest in the physical condition, quality, or value of the chattel.<sup>61</sup> In short, if the nature of the trespass falls short of dispossession, actual injury must be proven to maintain a cause of action.<sup>62</sup>

## 2. The Intent Requirement

Initially, an action for trespass to chattels would lie for any direct and immediate interference with the chattel, whether the trespass was intentional, negligent, or even accidental.<sup>63</sup> Over time however, courts took a more relaxed position on the issue of intent and began to limit trespass to chattels to intentional interferences.<sup>64</sup> The intent required for liability is not an intent to trespass, however, but rather an intent to make physical contact with another's possession.<sup>65</sup> Furthermore, it is not necessary that the actor knows or has reason to know that he is violating another's possessory right.<sup>66</sup>

## 3. Modern Trespass to Chattels Doctrine

Early common law required a physical touching of another's chattel.<sup>67</sup> The modern rule, abandoning the requirement of physical touching, dictates that a trespass may occur through indirect touching or entry.<sup>68</sup> The acceptance of indirect touching by modern courts has greatly expanded the reach of trespass to chattels as a legal remedy. Courts have held that dust particles,<sup>69</sup> smoke,<sup>70</sup> sound waves,<sup>71</sup> odors,<sup>72</sup> and

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61. *See id.* § 217 cmt. e.

62. *See generally* Hawley, *supra* note 58, at 392-93 and n.150.

63. *See* RESTATEMENT (SECOND) OF TORTS § 217 cmt. b (1965).

64. *See id.*

65. *See id.* § 217 cmt. e.

66. *See id.* § 217 cmt. c.

67. *See* Susan M. Ballantine, *Computer Network Trespass: Solving New Problems with Old Solutions*, 57 WASH. & LEE L. REV. 209, 236 n.167 (2000).

68. *See id.*; Hawley, *supra* note 58, at 392 n.84.

69. *See* *Wilson v. Interlake Steel Co.*, 32 Cal. 3d 229, 233-34 (1982) (explaining that dust particles from a cement plant that migrate onto another's real and personal property may give rise to trespass).

70. *See* *Ream v. Keen*, 838 P.2d 1073 (Or. 1992) (recognizing that smoke caused from burning grass may give rise to trespass).

71. *See* *Wilson v. Interlake Steel Co.*, 649 P.2d 922, 924-25 (1982) (suggesting that migrating intangibles such as sound waves may result in a trespass, provided they cause damage to property, as opposed to simply impeding an owner's use or enjoyment of property).

even microscopic particles<sup>73</sup> may constitute a trespass if they cause damage to another's property. Building upon the modern view that a trespass may occur without physically touching another's chattel, one court has held that electronic signals are sufficient to give rise to a claim for trespass.<sup>74</sup> Specifically, *Thrifty-Tel, Inc. v. Bezenek* held that electronic signals generated by a computer were sufficiently tangible to support a cause of action for trespass.<sup>75</sup>

Shortly after *Thrifty-Tel*, courts began to apply the doctrine of trespass to chattels to Internet technology. The first of these cases involved Internet Service Providers<sup>76</sup> (ISPs) and unsolicited bulk e-mail or "spam"<sup>77</sup> as it is popularly referred

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72. *See id.* at 925 (stating that an actual trespass may be predicated on a damaging odor).

73. *See Bradley v. American Smelting and Refining Co.*, 709 P.2d 782 (Wash. 1985) (holding that a cause of action exists where microscopic matter, undetectable to the human senses, is intentionally deposited and there is proof of actual and substantial damages).

74. *See Thrifty-Tel, Inc. v. Bezenek*, 54 Cal. Rptr.2d 468, 473 n.6 (Cal. App. 4th Dist. 1996).

75. *See id.* In *Thrifty-Tel*, two children attempted to crack Thrifty-Tel's authorization codes to make free long distance telephone calls. *See id.* at 471. At first, the defendants attempted to crack Thrifty-Tel's codes by entering randomly generated numbers. *See id.* Later on, the plaintiffs utilized a piece of software to automate and expedite the process. *See id.* Using the program, the plaintiffs generated over a thousand phone calls, blocking other Thrifty-Tel subscribers from accessing their phone lines. *See id.* With little discussion, the court stated that the evidence supported a verdict for Thrifty-Tel on a trespass theory. *See id.* at 473. In a footnote, the court compared electronic signals to successful trespass claims based upon dust particles or sound waves. *See id.* at 437 n.6. The court concluded that electronic signals are "sufficiently tangible to support a trespass cause of action." *Id.*

76. As its name suggests, an Internet Service Provider is a company that provides access to the Internet. *See FRANCIS BOTTO, DICTIONARY OF MULTIMEDIA AND INTERNET APPLICATIONS* 166 (1999). Small ISPs provide service via modem, ISDN, DSL, or cable modem, while the larger ones also offer private line hookups (T1, fractional T1, T3, etc.) *See id.* Examples of some ISPs are AOL, CompuServe, Prodigy, UUNET, and Netcom. *See NATHAN J. MULLER, DESKTOP ENCYCLOPEDIA OF THE INTERNET* 198 (1999).

77. Spam is junk e-mail, typically comprised of advertisements. *See NEWTON'S TELECOM DICTIONARY* 666 (1998). "Spamming" is sending a list of recipients unsolicited material through e-mail or Internet news systems. *See NATHAN J. MULLER, DESKTOP ENCYCLOPEDIA OF THE INTERNET* 406 (1998). "Spammers" are the individuals who send spam. Because spam is typically sent to thousands, even millions of e-mail addresses, it is also referred to as "bulk e-mail." Since spam is unsolicited, it is typically of no value to those who receive it. More than a simple annoyance, the proliferation of spam burdens the Internet in general. Spam wastes bandwidth, clogs mailboxes and often degrades the performance of ISP's e-mail services. Viewed as one of the largest problems on the Internet, spam has sparked scores of lawsuits and

to.<sup>78</sup> Since the sending and receiving of e-mail effectively amounts to the passing of electronic signals, courts have found little trouble using trespass to chattels against spammers.<sup>79</sup> Other courts soon followed *Thrifty-Tel*, applying the doctrine to chattels to other cases between ISPs and spammers.<sup>80</sup>

The law continued to evolve as a new wrinkle was added to e-mail trespass. While all of the early cases pitted ISPs against spammers, trespass to chattels is not a remedy reserved strictly to ISPs.<sup>81</sup> Companies other than ISPs have successfully used

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persuaded legislators in at least a dozen states to introduce bills that would make unsolicited bulk e-mail illegal. See Michael Stroh, *Spam is Still the Biggest Irritant of E-Mail*, THE BUFFALO NEWS, March 30, 1999; Elisa Batista, *Spam Bill Cooks in the House* (visited Apr. 14, 2001) <<http://www.wired.com/news/politics/0,1283,37638,00.html>> (discussing H.R. 3113, the Unsolicited Commercial Electronic Mail Act of 1999, which passed in the House by a 427-1 vote).

78. See *CompuServe Inc. v. Cyber Promotions, Inc.*, 962 F. Supp. 1015 (S.D. Ohio 1997) (holding that a cause of action for trespass to chattels may arise when one sends a substantial amount of electronic data and deliberately evades another's affirmative efforts to protect its computer equipment from such use). In *CompuServe Inc.*, CompuServe, an ISP, successfully enjoined unwanted spam on a theory of trespass to chattels. See *id.* Cyber Promotions was in the business of sending unsolicited e-mail advertisements to hundreds of thousands of Internet users. See *id.* at 1017. The court found intentional contact since the e-mail was sent directly to CompuServe e-mail addresses. See *id.* at 1027. Although the court found that transmission of the message over CompuServe is not dispossession of the system, it held that physical dispossession need not be shown. See *id.* at 1022. The court reasoned that the Restatement only required the property owner to show the value of the chattel was impaired due to interference as opposed to impairment of the chattel's physical condition. See *id.* The court found that CompuServe showed impairment in three different ways. First, CompuServe demonstrated that the spam was a burden on CompuServe's equipment because it devoured computer processing and storage capacity. See *id.* Second, CompuServe suffered loss of employee time and resources due to attempts at blocking Cyber Promotions' e-mail. See *id.* Finally, the court found harm to CompuServe's good will with regard to services provided. See *id.* at 1023. See also Dan L. Burk, *The Trouble with Trespass*, 4 J. SMALL & EMERGING BUS. L. 27, 30 (2000) (providing professor Burk's analysis of the case).

79. It is important to note that cases involving spam do not result in a dispossession of property because the ISP never loses physical control of its servers. Rather, spam has been held to impair the ISPs servers. Although the server is not physically damaged, impairment may be demonstrated by showing that the spam consumes computer-processing cycles and occupies memory space. See Burk, *supra* note 78, at 30. Additionally, courts have found that ISPs are adversely affected by the loss of employee time and resources developed to attempts to block email. See *id.*

80. See generally *America Online, Inc. v. LCGM, Inc.*, 46 F. Supp. 2d 444 (E.D. Va. 1998); *America Online, Inc. v. IMS*, 24 F. Supp. 2d 548 (E.D. Va. 1998).

81. See *America Online*, 46 F. Supp. 2d 444; *America Online*, 24 F. Supp.

trespass to chattels to block unsolicited e-mail.<sup>82</sup> Continuing to find trespass to chattels through the unwanted transmission of electronic signals, courts made the leap from e-mail to the Web. Courts have recognized that a cause of action for trespass to chattels may arise when one website links to content deep within the website of another.<sup>83</sup>

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2d 548; *CompuServe Inc.*, 962 F. Supp. 1015.

82. See *Intel Corp. v. Hamidi*, No. 98AS05067, 1999 WL 450944 (Cal. App. Dep't Super. Court Apr. 28, 1999). In *Intel*, Hamidi sent e-mail messages to thousands of Intel employees' e-mail addresses on Intel's computer system. See *id.* at 1. The messages concerned the employment practices of Intel. See *id.* Although once employed by Intel, Hamidi headed an anti-Intel campaign designed to disclose to current and prospective employees the purported injustices that occur at Intel. See Burk, *supra* note 78, at 31. When Intel asked Hamidi to cease sending the messages, Hamidi refused and successfully overcame Intel's efforts to block his messages. See *Intel*, 1999 WL 450944 at 1. Sensing that self-help efforts would not solve the problem, Intel filed suit against Hamidi obtaining an injunction on a theory of trespass to chattel. Intel argued that in sending the emails, Hamidi was using their proprietary e-mail system in a manner that violated company guidelines. See *id.* Relying upon *CompuServe*, the court stated that Hamidi's actions constituted the unauthorized use of private property. See *id.* Like the earlier spam cases, Intel was required to show injury since Hamidi's actions did not result in a dispossession. See *id.* Unlike *CompuServe*, Intel could not argue that it had lost customers since it does not provide Internet access. Instead, Intel successfully argued that it had been injured by lost employee time and output and lost resources due to blocking efforts, and time spent communicating with employees about Hamidi's e-mail's. See *id.* at 2. Although the court stated that there was evidence to support the finding that Intel's e-mail service was impaired, it is not clear how the court reached this conclusion. The court began by stating that "any impairment in value to Intel of its e-mail system is sufficient to show injury." See *id.* Next, the court referred to *Thrifty-Tel* and *CompuServe's* holdings that degradations to system resources are sufficient injury. See *id.* The court continued by stating that Intel clearly had been injured. See *id.* Strangely, injury was proven in terms of human time spent addressing the problem, not the obstruction of the e-mail system. See *id.*

83. See generally *Ticketmaster Corp. v. Tickets.Com, Inc.*, No. CV99-7654-HLH, 2000 U.S. Dist. LEXIS 12987 (C.D. Cal. Aug. 10, 2000) (recognizing a web spider that causes severe damage to the function of another's computer may give rise to an action in trespass to chattels). See *supra* notes 9-12 and 17-26 and accompanying text. *Ticketmaster* involved the world's largest ticket brokerage business, Ticketmaster, and Tickets.Com (Tickets), a website that sells tickets to events and provides information as to where other tickets may be purchased. See *id.* at \*4 and \*6-\*7. Where Tickets does not itself sell the tickets it is advertising, it provides a hyperlink to another online ticket broker selling the tickets. See *id.* at \*6. Where the exclusive ticket broker for an event is Ticketmaster, and the customer clicks on a link and then the customer is instantly transferred to the interior web page of Ticketmaster (bypassing the home page) for the particular event. See *id.* at \*7. The customer may then buy the tickets (from Ticketmaster, not Tickets) online. See *id.* Originally, Tickets copied the Ticketmaster event page and placed it on its own site. See *id.* Soon after, Tickets developed a more advanced method

#### 4. Summary of Trespass to Chattels on the Internet

In order to assert a successful claim of trespass to chattel's involving an Internet site, a plaintiff must prove an exclusive interest in its site.<sup>84</sup> More specifically, trespass to chattels involves injury by intentionally interference with another's rightful possession of personal property.<sup>85</sup> It "lies where an intentional interference with the possession of personal property has proximately caused injury."<sup>86</sup> Since there is no harm to computer equipment in a physical sense, the value of the computer or system must be impaired for trespass to lie.<sup>87</sup> Liability for trespass to chattels will not arise if the intermeddling is harmless.<sup>88</sup> Rather, the condition, quality, or value of the system must be impaired as a result of the plaintiff's intentional action.<sup>89</sup>

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of displaying Ticketmaster's ticket information. Tickets would begin by copying the interior Ticketmaster web pages. *See id.* at \*8-\*9. Then Tickets would extract the basic information regarding the events such as time, date, price, and venue. *See id.* at \*9. Once the information was extracted, Tickets would reformat it in a manner similar to that used by Tickets in the selling of its own tickets. *See id.* Among other claims, Ticketmaster alleged that Tickets' actions gave rise to a claim of trespass to chattels. *See id.* at \*14. The trespass to chattels claim was not based on Tickets' links themselves. *See id.* Rather, Ticketmaster focused on Tickets' method of using computers to monitor thousands of Ticketmaster web pages, alleging that such practice amounts to a trespass to chattels. *See id.* at \*16. The court stated that while a claim for trespass to chattels has merit, this case contained insufficient proof that Ticketmaster had been injured by Tickets' activities. *See id.* at \*18. The court explained that Ticketmaster had not provided any evidence that Tickets' spiders were a burden on their servers or that Tickets' actions interfered with the regular business of Ticketmaster. *See id.* at \*17.

84. *See* Jonathan Bick, *Trespass Theory Poses Threat to Internet*, N. Y. L. J., Aug. 21, 2000.

85. *See id.*

86. *Id.* (citing *Thrifty-Tel, Inc. v. Bezenek*, 54 Cal. Rptr.2d 468, 473 (Cal. App. 4th Dist. 1996)).

87. *See* RESTATEMENT (SECOND) OF TORTS § 218 cmt. h (1965).

88. *See id.* cmt. e.

89. *See id.*

II. *eBAY V. BIDDER'S EDGE*<sup>90</sup>

## A. THE PARTIES

## 1. eBay

eBay is the world's largest and most recognized person-to-person trading community on the Internet.<sup>91</sup> Self described as an "online auction," eBay allows buyers and sellers to meet.<sup>92</sup> eBay offers sellers the ability to list items for sale and prospective buyers the ability to search those listings and bid on items.<sup>93</sup> eBay also offers category listings which identify items in over 4,500 categories such as automobiles, computers, and teddy bears.<sup>94</sup> Users may browse the category listings to find items of interest or use eBay's search engine that searches eBay's entire database of auctions. eBay supplements its auctions with a variety of ancillary services, including message chat boards, articles, currency conversion tools, and advice.<sup>95</sup>

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90. On March 1, 2001, eBay and Bidder's Edge settled their lawsuit. According to eBay, the settlement prohibits Bidder's Edge from searching its site. Additionally, Bidder's Edge agreed to pay eBay an undisclosed amount of money and agreed to dismiss its antitrust counterclaim against eBay. Two weeks earlier, Bidder's Edge announced that it would shut down its website earlier in the week citing market conditions. Despite the dissolution of this specific controversy, the underlying issue of virtual trespassing on web sites remains unresolved.

91. eBay has an eighty-five percent market share of the on-line consumer to consumer auction market. See Answer to First Amended Complaint at 21, *eBay, Inc. v. Bidder's Edge, Inc.*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000). eBay provides millions of new auctions and 600,000 new items every day. See eBay, *eBay Company Overview* (visited Nov. 20, 2000) <<http://pages.ebay.com/community/aboutebay/overview/benchmarks.html>>. More than 60 million auctions have been completed on eBay since its inception. See eBay, *Benchmarks* (visited Nov. 20, 2000) <<http://pages.ebay.com/community/aboutebay/overview/benchmarks.html>>. During 1999, eBay users "generated more economic activity. . . than. . . any other consumer e-commerce site." eBay, *1999 Annual Report* (visited April 16, 2001) <[http://pages.ebay.com/community/aboutebay/investor/annual/1999\\_annual\\_10K.pdf](http://pages.ebay.com/community/aboutebay/investor/annual/1999_annual_10K.pdf)>.

92. See eBay, *eBay's Form S-1* (visited April 16, 2001) <<http://www.sec.gov/Archives/edgar/data/1065088/0001012870-98-001814.txt>>.

93. See eBay, *eBay*, 100 F. Supp. 2d at 1060.

94. See eBay, *eBay Company Overview* (visited April 16, 2001) <<http://pages.ebay.com/community/aboutebay/overview/benchmarks.html>>.

95. See Complaint for Plaintiff at 2, *eBay v. Bidder's Edge*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000).



## 2. Bidder's Edge

Bidder's Edge is a leading auction aggregator that offers online auction buyers the ability to search for items across numerous online auctions without having to search each host site individually.<sup>96</sup> Rather than visiting multiple auction sites to compare auction features, a user may go to the Bidder's Edge site to obtain and compare information on numerous auction sites.<sup>97</sup> Self-portrayed as "auction and vender neutral," Bidder's Edge does not conduct its own auctions or receive payment from the users of online auctions.<sup>98</sup>

Bidder's Edge uses software to spider the category and index pages of online auction websites that Bidder's Edge tracks.<sup>99</sup> Spiders add the information they collect to databases.<sup>100</sup> Bidder's Edge then uses "HTML parsing technology" to remove graphics and other irrelevant information.<sup>101</sup>

To delete information already in its database, Bidder's Edge uses a "pattern matcher."<sup>102</sup> This new information is then "normalized and categorized" which allows item listings from different sites to be included on the Bidder's Edge database.<sup>103</sup> Finally, Bidder's Edge uses the information in its database to build its own web pages listing the contents of the numerous online auctions that it tracks. A typical Bidder's Edge auction listing includes a one-line description of the item, the approximate bid price, the closing date and time of the auction, and the name of the host auction site.<sup>104</sup>

Bidder's Edge updates its database by causing its robots to crawl each auction site at least several times each day, each

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96. See *eBay*, 100 F. Supp. 2d at 1061. Bidder's Edge tracks over 200 leading online auction sites. See Bidder's Edge, *Bidder's Edge Corporate Info & Policies* (visited Nov. 20, 2000) <<http://biddersedge.com/background.jsp>>.

97. See Answer to First Amended Complaint at 10, *eBay v. Bidder's Edge*, 100 F. Supp. 2d 1058 (N.D. Cal. 2000).

98. See *id.* at 11.

99. See *id.*

100. See *id.*

101. The Bidder's Edge spiders collect the same information that end-users see. See *id.*

102. See *id.*

103. See *id.*

104. See Bidder's Edge (visited Nov. 20, 2000) <<http://www.biddersedge.com/search.jsp?ipp=25&q=rhinoceros&p=all>> (providing an example of the listings containing the keyword "Rhinoceros").

crawl of which may take as little as less than a minute to as much as several hours to complete.<sup>105</sup> Although the crawl should add at most a negligible load on a host auction site, Bidder's Edge makes efforts to minimize even that negligible effect.<sup>106</sup>

In addition to aggregating online auctions, Bidder's Edge also provides users with historical pricing dating including past high, low and average selling prices of similar items.<sup>107</sup> Bidder's Edge also offers its users personal shopper alerts,<sup>108</sup> buying tips, and an online magazine.<sup>109</sup>

## B. THE eBAY AND BIDDER'S EDGE CONTROVERSY

In 1998, eBay gave Bidder's Edge permission to list Beanie Baby and Furby auctions offered on eBay.<sup>110</sup> In the spring of 1999, Bidder's Edge expanded its coverage by searching all the categories of a number of online auctions, including eBay.<sup>111</sup> On April 24, 1999, eBay granted Bidder's Edge permission to crawl its site for a period of 90 days.<sup>112</sup> Although the parties attempted to enter a formal licensing agreement during this period, they were unable to do so.<sup>113</sup> In late August or early September 1999, eBay demanded that Bidder's Edge cease including information regarding eBay-hosted auctions.<sup>114</sup> Bidder's Edge complied and stopped displaying eBay's auctions on the Bidder's Edge site.<sup>115</sup> On October 29, 1999, Bidder's

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105. See Defendant's Answer at 12, *eBay*.

106. Bidder's Edge offers auction sites a direct data feed to Bidder's Edge at the site's expense. See *id.* A direct data feed removes the load on the host auction site because spiders are no longer needed.

107. Historical pricing data allows users to compare the going price of an item currently being auctioned against previous auctions of the same item. See *id.*

108. With Personal Shopper one can specify a search and Bidder's Edge will automatically run that search daily. See Bidder's Edge, *New Users Guide* (visited Nov. 20, 2000) <<http://biddersedge.com/usersguide.jsp>>. If the search yields results, Bidder's Edge notifies the users via email. See *id.*

109. See generally Bidder's Edge (visited Nov. 20, 2000) <<http://biddersedge.com/home.jsp>>.

110. See *eBay v. Bidder's Edge*, 100 F. Supp. 2d 1058, 1062 (N.D. Cal. 2000).

111. See *id.*

112. See *id.*

113. See *id.*

114. See *id.*

115. See *id.*

Edge once again began to spider eBay and included eBay auctions in the Bidder's Edge database.<sup>116</sup> Bidder's Edge resumed its spidering because it believed that it was not bound by eBay's User Agreement and had learned that other auction aggregators were continuing to include eBay auctions in their databases.<sup>117</sup> On November 9, 1999, eBay sent Bidder's Edge a letter reasserting that Bidder's Edge's activities were unauthorized, insisting that Bidder's Edge cease accessing the eBay site, alleging that Bidder's edge's activities constituted a civil trespass and offering to license Bidder's Edge's activities.<sup>118</sup> Bidder's Edge and eBay failed to reach an agreement because Bidder's Edge believed that the terms contained in eBay's offer required changes that would be detrimental to the Bidder's Edge user's experience.<sup>119</sup>

Since the two sides could not agree on licensing terms, eBay attempted to block Bidder's Edge from accessing the eBay site by prohibiting IPs that eBay believed belonged to Bidder's Edge.<sup>120</sup> Bidder's Edge countered by employing proxy servers designed to evade eBay's monitoring and blocking efforts.<sup>121</sup>

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116. See Defendant's Answer at 15, *eBay*.

117. See *id.*

118. See *eBay v. Bidder's Edge*, 100 F. Supp. 2d 1058, 1062 (N.D. Cal. 2000).

119. See Defendant's Answer at 16, *eBay*. The court stated that:

It appears that the primary dispute was over the method Bidder's Edge uses to search the eBay database. Specifically, eBay wanted Bidder's Edge to conduct a search of the eBay system only when the Bidder's Edge system was queried by a Bidder's Edge user. This reduces the load on the eBay system and increases the accuracy of the Bidder's Edge data. Bidder's Edge wanted to recursively crawl the eBay system to compile its own auction database. This increases the speed of Bidder's Edge searches and allows Bidder's Edge to track the auctions generally and automatically update its users when activity occurs in particular auctions, categories of auctions, or when new items are added.

See *eBay*, 100 F.Supp 2d at 1062.

120. See *id.* at 1061.

121. Also called a "proxy" or "application level gateway," a proxy server is an application that breaks the connection between a sender and receiver. See Techweb, *Tech Encyclopedia* (visited Nov. 20, 2000) <<http://www.techweb.com/encyclopedia/defineterm?term=proxy+server>>. Although proxy servers are typically used by companies to limit access to undesirable sites, they are also helpful in masking IP addresses. "Information requests sent through proxy servers cannot easily be traced back to the originating IP address and can be used to circumvent attempts to block queries from the originating IP address." See *eBay*, 100 F. Supp. 2d. at 1061. By the end of November 1999, eBay had blocked 169 IP addresses it believed Bidder's Edge was using to query eBay's system. See *id.* at 1062.

After the two companies were unable to reach an agreement on the terms of a license and self-help methods by eBay had failed, eBay filed suit on December 10, 1999 and requested an injunction to prevent Bidder's Edge from accessing its site.<sup>122</sup> eBay alleged nine causes of action including trespass to personal property, copyright infringement, and misappropriation.<sup>123</sup>

The court held that eBay was likely to prevail on the merits of its trespass claim and held that Bidder's Edge was prohibited from accessing eBay's computer systems with "any automated query program, robot, web crawler or other similar device."<sup>124</sup> Since the court found that eBay was entitled to relief based on its trespass claim, it did not consider eBay's remaining claims.<sup>125</sup> In addition to eBay's trespass claim, the court considered Bidder's Edge's arguments regarding copyright preemption and the public interest.<sup>126</sup>

### C. Trespass to Chattels

Citing *Thrifty-Tel*, the court set forth a two-prong test to establish a claim for trespass based on accessing a computer system.<sup>127</sup> First, the defendant must intentionally and without authorization interfere with plaintiff's possessory interest in the computer system.<sup>128</sup> Second, the defendant's unauthorized use must proximately result in damage to the plaintiff.<sup>129</sup> Since eBay demanded that Bidder's Edge discontinue spidering its site,<sup>130</sup> it was clear that Bidder's Edge was without authorization. Bidder's Edge had argued that it cannot trespass since eBay's website is publicly accessible.<sup>131</sup> The court

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122. See Lisa M. Ferri & Robert G. Gibbons, *Forgive Us Our Virtual Trespasses: The 'eBay' Ruling*, N.Y. L.J., June 27, 2000.

123. eBay's complaint contained claims for trespass to personal property, unfair business practices, copyright infringement, misappropriation, false advertising, federal trademark dilution, injury to business reputation, interference with prospective economic advantage, and unjust enrichment. See Plaintiff's Complaint at 1, *eBay*.

124. *eBay v. Bidder's Edge*, 100 F. Supp. 2d at 1073.

125. See *id.* at 1069.

126. See *id.*

127. See *id.* at 1069-70.

128. See *id.* at 1069.

129. See *id.* at 1069-70.

130. See *eBay v. Bidder's Edge*, 100 F. Supp. 2d at 1070.

131. See *id.*

dismissed this argument stating that eBay's servers are private property and access to them is conditionally granted.<sup>132</sup> Intent was proven through Bidder's Edge admittance that it employed its spiders to connect with and search eBay's database.<sup>133</sup> While eBay could not show substantial interference, the court stated that it was not necessary as eBay could show that Bidder's edge had used its system.<sup>134</sup>

With respect to the second prong of its test, the court found that the quality and value of eBay's property had been diminished by the actions of Bidder's Edge.<sup>135</sup> eBay did not claim that Bidder's Edge's spidering led to physical damage, nor did eBay maintain that it lost revenue or customers.<sup>136</sup> Instead, eBay asserted that Bidder's Edge appropriated eBay's personal property by consuming bandwidth and capacity, thereby compromising eBay's ability to use that capacity for its own purposes.<sup>137</sup> Reciting *CompuServe*, the court stated, "[t]he quality or value of personal property may be 'diminished even though it is not physically damaged by defendant's conduct.'"<sup>138</sup> Although Bidder's Edge argued that its searches represented a negligible load on eBay's computer services, the court stated that if injunctive relief was denied, other aggregators could

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132. See *id.* The court cited *Baugh v. CBS, Inc.*, 828 F. Supp. 745 (N.D. Cal. 1993) which held that in general, California does recognize a trespass claim where the defendant exceeds the scope of the consent. See *id.* at 756. The court also stated that even if Bidder's Edge was authorized to make individual queries, it exceeded the scope of any such consent when it used robots to query eBay's website. See *id.* at 1070.

133. See *id.*

134. The court stated that "[c]onduct that does not amount to a substantial interference with possession, but which consists of intermeddling with or use of another's personal property, is sufficient to establish a cause of action for trespass to chattel." See *id.* at 1065.

135. See Brief of *Amici Curiae* in Support of Bidder's Edge, Inc., Appellant, Supporting Reversal at 13-14, *eBay* (No. 00-15995).

136. See *eBay v. Bidder's Edge*, 100 F. Supp. 2d at 1071.

137. See *id.* Both parties agreed that Bidder's Edge accessed the eBay site approximately 100,000 times a day. See *id.* at 1063. *eBay* argued that Bidder's Edge's spiders constituted up to 1.53% of the total number of requests received by eBay and up to 1.10% of the total data transferred by eBay during certain period between October and November in 1999. See *id.* Bidder's Edge argued that their impact on eBay's servers was less and contended that their activity constituted no more than 1.11% of the requests received by eBay, and no more than 0.70% of the data transferred by eBay. See *id.* eBay stated that by February 20, 2000, Bidder's Edge's activity had fallen twenty-seven percent in both requests received and data transferred. See *id.*

138. *Id.* at 1071.

crawl the eBay site, thereby impairing its computer systems.<sup>139</sup> Stating that California law did not require eBay to wait for impairment, the court declared that eBay was entitled to preliminary injunctive relief.<sup>140</sup>

### III. TRESPASS TO CHATTELS WAS INCORRECTLY APPLIED IN *eBAY*.

The *eBay* decision has sparked considerable debate in the legal and technology communities. It appears to some that trespass to chattels applies to the Internet as well as it does to traditional personal property.<sup>141</sup> Moreover, some contend that trespass to chattels may be the most appropriate common law doctrine available for dealing with the Internet.<sup>142</sup> On the other hand, a number of scholars have claimed that reliance on trespass to chattels will seriously affect the Internet as we know it.<sup>143</sup>

As a preliminary matter, the impact of *eBay* hinges on the soundness of the court's reasoning. It may go without saying, but if *eBay* rests upon unsound legal principles and misconceived policy considerations, it is unlikely that *eBay* could withstand appellate scrutiny or serve as precedent in future cases. The three sections that follow will address errors in the *eBay* court's reasoning.

#### A. THE COURT ERRONEOUSLY SUBSTITUTED POTENTIAL FUTURE HARM FOR ACTUAL HARM IN *eBAY*

The *eBay* court's application of trespass to chattels has received significant criticism. Some commentators argue that an Internet user cannot possibly trespass a site.<sup>144</sup> Others suggest that copyright law may sometimes, though not always,

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139. *See id.* at 1071-72.

140. *See id.* at 1072.

141. *See* Brief of *Amici Curiae*, Reed Elsevier Inc., The National Association of Realtors and The e-commerce Coalition, Supporting Affirmance of the Order and Opinion of the District Court at 6-12, *eBay* (No. 00-15995).

142. *See* Hawley, *supra* note 58, at 392.

143. David Streitfeld, The Web's Next Step: Unraveling Itself; Software Threatens Search Engines, THE WASHINGTON POST, July 18, 2000.

144. *See* Ferri & Gibbons, *supra* note 122 (citing Ticketmaster Corp. v. Tickets.com, Inc., 2000 U.S. Dist. LEXIS 4553 (C.D. Cal. Mar. 27, 2000)).

preempt a trespass claim.<sup>145</sup> One critic has questioned the precedent relied upon in *eBay* and other early Internet-trespass cases.<sup>146</sup> Another Internet scholar contends that property laws are not meant to apply to something as ambiguous as cyberspace.<sup>147</sup> Most notably, a group of 28 law school professors, in a brief filed in support of Bidder's Edge, argued that the court improperly allowed a theory of potential future harm to substitute for the actual harm required by the trespass doctrine.<sup>148</sup> The group of amici professors, (professors) argue that the district court erred by presuming away one of the key elements of the cause of action.<sup>149</sup> Focusing on the requirement of injury, the professors stated that the court rejected every claim of harm that eBay alleged.<sup>150</sup> The professors rejected the court's theory of future harm through multiple aggregators as well as the court's reliance on eBay's argument that accessing a computer for a purpose not specifically authorized constitutes an injury.<sup>151</sup>

According to the professors, "[i]n place of evidence of actual injury, the court relied upon its theory of possible future harm should dozens of companies like Bidder's Edge attempt to do the same thing it is doing."<sup>152</sup> Unlike *Thrifty-Tel*, *CompuServe*, or *Intel*, the activities of Bidder's Edge did not prevent others from using eBay's service, result in a loss of employee time and resources, or impair a computer system.<sup>153</sup> Although the *CompuServe* court explained that spam devoured computer processing and storage capacity, the court also considered CompuServe's loss of employee time and resources developed to attempt to block email from Cyber Promotions.<sup>154</sup> Prior to *eBay*,

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145. See Trotter Hardy, *The Ancient Doctrine of Trespass to Web Sites*, J. ONLINE L. art. 7, 10-15 (October 1996).

146. See Burk, *supra* note 78.

147. See Daniel Roth, *Meet eBay's Worst Nightmare*, FORTUNE, June 26, 2000, at 199 (quoting Harvard law professor William Fisher).

148. See Brief of Amici Curiae in Support of Bidder's Edge, Inc., Appellant, Supporting Reversal at 14, *eBay* (No. 00-15995).

149. See *id.* at 13.

150. See *id.*

151. See *id.* at 14.

152. *Id.*

153. See *Thrifty-Tel, Inc. v. Bezenek*, 46 Cal. App. 4th 1559, 1564 (Cal. App. 4th Dist. 1996); *CompuServe Inc. v. Cyber Promotions*, 962 F. Supp. 1015, 1027-28 (S.D. Ohio 1997).

154. CompuServe attempted to employ technological means to block the flow of defendants' e-mail transmission to its computer equipment. See *CompuServe*, 962 F. Supp. at 1017. CompuServe implemented software

a court had never found injury solely based upon increased server load and diminished storage capacity.<sup>155</sup>

Furthermore, the professors criticize the court's reasoning with respect to the potentially damaging effects of a multitude of aggregators. Characterized as a speculative "chain of 'what ifs,'" the professors argue that "[t]here is no evidence that . . . [other aggregators] exist or are likely to spring into existence so as to bring about this hypothetical result."<sup>156</sup> While the court did not specifically name other aggregators or provide evidence to demonstrate that additional aggregators could injure eBay, the court's reasoning is persuasive nonetheless. First, Bidder's Edge was not the only online auction aggregator. For example, AuctionWatch, PriceRadar, and AuctionRover<sup>157</sup> are some of the aggregators that existed when eBay first filed suit against Bidder's Edge. Since the lawsuit, a number of other aggregators have appeared.<sup>158</sup> Additionally, it is difficult to argue that new and existing aggregators would not choose to spider eBay, the largest provider of Internet auctions.<sup>159</sup> Although the court's concern over "30 or 40 companies . . . using similar business models"<sup>160</sup> is a misestimate, the threat of multiple aggregators has always existed.

Despite the existence of multiple aggregators and the argument that new aggregators will undoubtedly spider eBay, some are not convinced that a multitude of aggregators will

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programs designed to screen out messages and block their receipt. *See id.* at 1019.

155. Although eBay must have expended time and energy in an attempt to block Bidder's Edge's spiders, eBay did not state that they experienced a loss of employee time or resources in its complaint. *See* Plaintiff's Complaint, *eBay*.

156. *See* Brief of *Amici Curiae* in Support of Bidder's Edge, Inc., Appellant, Supporting Reversal at 14, *eBay* (No. 00-15995). A plethora of auction aggregators would dilute the number of users who view each site, and so make it difficult to find the advertising sponsors necessary to support their existence. *See id.* at 14-15. The e-commerce market instead seems to be one in which a few sites end up dominating any given market niche. *See id.* at 15. Additionally, it is irrational to assume that aggregators would ever intentionally disable eBay or another online auction since aggregators depend on the information provided at the auction sites. *See id.*

157. *See* MSNBC, *Bidder's Edge Raises eBay Challenge* (visited Nov. 02, 2000) <<http://www.msnbc.com/news/330571.asp>>.

158. *See* Yahoo!, (visited Apr. 13, 2001) <[http://dir.yahoo.com/Business\\_and\\_Economy/Shopping\\_and\\_Services/Auctions/Industry\\_Information/Web\\_Directories/Search\\_Engines/](http://dir.yahoo.com/Business_and_Economy/Shopping_and_Services/Auctions/Industry_Information/Web_Directories/Search_Engines/)> (listing over 15 auction search engines).

159. *See supra* text accompanying note 92.

160. *See eBay*, 100 F. Supp. 2d at 1066 n.12.



have the destructive effects envisioned by the court in *eBay*. Maureen A. O'Rourke, Professor of Law at Boston University and party to the professors' brief, argues that internet economics suggest that unauthorized spiders will not overburden servers, as indicated by the *eBay* court.<sup>161</sup> O'Rourke contends that while the number of spiders indexing a site may be greater than one, there will not be enough spiders to cause a system to crash.<sup>162</sup> This argument is premised on the fact that most aggregators rely on advertising for their revenue.<sup>163</sup> If there is a large number of metasites, available advertising dollars will be spread across a large number of sites.<sup>164</sup> Accordingly, the market will not support an unlimited number of competing spiders given limited advertising dollars. A likely scenario is that a few aggregators will develop an audience and prosper while the majority of them will fail. While the *eBay* court was undoubtedly correct in its prediction that additional aggregators will surface, the harms that concerned the court are unlikely to develop because the market will not be able to support a multitude of spiders.

B. PRECEDENT DOES NOT SUPPORT INJUNCTION AS A REMEDY  
IN THE CONTEXT OF AN INTERNET TRESPASS.

In *eBay*, the court noted that "there is dearth of authority supporting a preliminary injunction based on an ongoing to trespass to chattels."<sup>165</sup> During the 1800s, the general rule was that an injunction could not prevent trespass upon personal property since legal remedies suffice for the plaintiff's redress.<sup>166</sup> Injunctions were granted to restrain a trespass to

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161. See Maureen A. O'Rourke, *Taking Stock: The Law and Economics of Intellectual Property Rights: Shaping Competition on the Internet: Who Owns Product and Pricing Information?*, 53 VAND. L. REV. 1965, 1980 (2000).

162. See *id.* at 1980-81.

163. See *id.* at 1981.

164. See *id.*

165. See *eBay*, 100 F. Supp. 2d at 1067.

166. See *Rohrer v. Babcock*, 114 Cal. 124, 125 (1896) ("It is no doubt true that in general an injunction does not lie to prevent trespass upon either real or personal property."); *McCoy v. Corporation of Chillicothe*, 3 Ohio 370, 375 (1828) ("There is no instance where an injunction has been awarded for the sole purpose of restraining trespasses upon personal property."); *Martin v. Jewell*, 37 Md. 530, 533 (1873) ("A Court of Equity has no jurisdiction, and will not intervene by injunction to restrain a mere trespass to real estate, and much less to personal property. . .").

chattels in only the rarest of cases.<sup>167</sup> For example, the property taken had to have some peculiar intrinsic value to the owner that could not be compensated in money.<sup>168</sup> Borrowing from trespass to land, the Court of Appeals of Maryland indicated that an injunction may be granted:

in a case where full and adequate relief cannot be granted at law; or where the trespass goes to the destruction of the property as it has been held and enjoyed; or where it is necessary to prevent multiplicity of suits in cases where the right is controverted by numerous persons, each standing on his own pretensions.<sup>169</sup>

A more recent case reiterated the general rule that “[i]n the absence of special circumstances, injunction will not be granted to protect personal property or to prevent a trespass with reference thereto or a wrongful conversion thereof, since the remedy at law is as a rule adequate.”<sup>170</sup> In *CompuServe*, the first case to apply an injunction when the chattel was a computer, the district court recognized that “[n]ormally, a

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167. See *Oldin v. Woodruff*, 31 Fla. 160 (1893).

168. See *id.* (internal citations omitted). (“[T]he court of equity has no jurisdiction to interfere by injunction to restrain trespass upon personal property, except in rare cases where the property trespassed upon or taken has some peculiar intrinsic value to the owner that could not be compensated in money, and that the remedy is at law, is well settled in this State as elsewhere.”).

169. See *Martin v. Jewell*, 37 Md. 530, 533 (1873).

170. *Wiles v. Wiles*, 134 W. Va. 81, 86-87 (1950).

Hence an action ordinarily will not lie to prevent the removal or conversion of personal property where the injury may be fully redressed by an action at law for damages, and, more particularly, where the taking may also be punished as a crime. . . . As a general rule equity will not interfere to prevent an injury to, or a sale of, personal property, for the reason that an action at law for damages usually is an adequate remedy; but for the purpose of protecting specific chattels of such peculiar value that they cannot be the subject of adequate compensation by way of damages, injunctions may be granted. A trespass upon personal property constituting an irreparable injury for which a court of law can furnish no remedy by damages or otherwise which will adequately and fully compensate the injured party for the wrong done may be enjoined. Instances of the issuing of injunction against such trespasses are necessarily very rare, and seem to be confined to cases where the property trespassed upon or taken has some peculiar intrinsic value to the owner that can not be compensated in money. If full compensation for the injury can be had by an action at law or otherwise, injunction to restrain the trespass will ordinarily be refused.

*Id.* (internal citations omitted).

preliminary injunction is not appropriate where an ultimate award of monetary damages will suffice.” Nevertheless, the court reasoned that an injunction was appropriate because the plaintiff’s actual loss, injury to business reputation and goodwill, was “impossible” to compute.<sup>171</sup>

In light of recent precedent, the court should not have granted eBay an injunction against Bidder’s Edge. The injunction was inappropriate because the facts of *eBay* do not conform with any of the above-mentioned exceptions to the general rule that injunctions will not restrain the trespass to a chattel. First, it is clear that eBay’s servers are not objects of “peculiar intrinsic value.”<sup>172</sup> Second, eBay did not seek to prevent a multiplicity of suits where the right is controverted by numerous persons, each standing on his own pretensions. Lastly, since the servers were not physically harmed or impaired, eBay could not argue that the trespass resulted in the destruction of the property. At first blush, eBay’s best argument would appear to be that used in *CompuServe*: actual loss is difficult, or impossible, to compute. However, a closer look at the nature of eBay’s alleged injury and factual differences between *eBay* and *CompuServe* reveals that actual loss to eBay is not difficult to compute. As a preliminary matter, it is worth noting that the danger of additional aggregators does not constitute actual harm because it represents only a hypothetical threat. Therefore, the only loss suffered by eBay was the diminished quality or value of its computer systems.<sup>173</sup> Unlike the harm to goodwill and business reputation in *CompuServe*, bandwidth and storage costs could not be easier to quantify and compute.

### C. THE *eBAY* INJUNCTION IS CONTRARY TO THE PUBLIC INTEREST

The Restatement (Second) of Torts explicitly states that the public interest is to be considered when determining the appropriateness of an injunction.<sup>174</sup> Both eBay and Bidder’s

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171. See *CompuServe Inc. v. Cyber Promotions*, 962 F. Supp. 1015, 1027 (internal citations omitted).

172. See *id.* at 1027-28. provides a painting by Rembrandt or a family heirloom valued for its associations as examples of a unique chattel that cannot be substituted. Servers obviously do not fall within this exception.

173. See *eBay*, 100 F. Supp. 2d at 1071.

174. See RESTATEMENT (SECOND) OF TORTS § 936(1)(f) (1965).

Edge vigorously argued that the public interest was in their favor.<sup>175</sup> The public interest controversy largely revolves around conflicting theories about the effect trespass to chattels will have on Internet commerce. Proponents of the Bidder's Edge position have argued that Internet commerce will suffer if companies can use trespass to chattels to control their information.<sup>176</sup> Conversely, supporters of eBay have argued that failure to grant businesses a right to exclude will endanger many of the fundamental activities on which the Internet and electronic commerce are based.<sup>177</sup>

In an amici brief in support of the *eBay* motion, Richard A. Epstein, professor of law at the University of Chicago, argues that it would be virtually impossible to invest in property.<sup>178</sup> In his brief, Epstein argues that the court should have used trespass to land to enjoin Bidder's Edge from accessing eBay's computer systems.<sup>179</sup> Although the court applied trespass to chattels, instead of trespass to land, much of Epstein's argument regarding land is transferable to personal property. At the heart of Epstein's right to exclude lies the ability of business owners to make individual deals to exclude outsiders.<sup>180</sup> "Without an effective right to exclude," writes Epstein, "the owner cannot charge others for their entry and use; and without the possibility of a financial return, investment activity would cease."<sup>181</sup> An owner may kick off a trespasser without any showing of harm at all if a server is viewed akin to land.<sup>182</sup> All would benefit from the granting of that valuable right, because it would reduce Web site owners to bargain over access rights.<sup>183</sup>

Epstein's comments are largely in response to earlier arguments made by the amici professors on behalf of Bidder's

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175. See Brief of Amici Curiae in Support of Bidder's Edge, Inc., Appellant, Supporting Reversal at 2, *eBay* (No. 00-15995).

176. See *id.*

177. See Brief of Amici Curiae, Reed Elsevier Inc., The National Association of Realtors and The e-commerce Coalition, Supporting Affirmance of the Order and Opinion of the District Court, *eBay* (No. 00-15995).

178. See *id.* at 3.

179. See *id.* at 6-12

180. See *id.* at 3.

181. *Id.*

182. See Carl S. Kaplan, *Treat eBay Listings as Property? Lawyers See a Threat*, N.Y. TIMES CYBER L. J., (July 28, 2000) (visited Apr. 13, 2001) <<http://partners.nytimes.com/library/tech/00/07/cyber/cyberlaw/28law.html>>.

183. See *id.*

Edge. The professors had argued that *eBay* would stifle competition and reduce the spread of information on the Internet.<sup>184</sup> According to the professors, “without information about products and prices, there can be little, if any, competition.”<sup>185</sup> The professors assert that there are at least four ways in which the Internet enhances competition and efficiency: (1) by reducing search costs for the buyer; (2) by reducing set-up costs for the seller; (3) by reducing advertising costs for the seller; and (4) by increasing choice for the buyer.<sup>186</sup>

Dan L. Burk, professor of law at the University of Minnesota and party to the professors’ brief, claims that Epstein’s argument is empirically incorrect.<sup>187</sup> According to Burk, if Epstein’s argument were correct, there would be little information on the Internet, as few content providers exercise a right to exclude.<sup>188</sup> While few providers exclude, there exists a tremendous amount of information on the Internet.<sup>189</sup> Burk believes Epstein’s claim that a right to exclude is essential is exaggerated because it ignores the fact that other business models encourage investment without requiring a right to exclude. For example, user subscriptions, advertising agreements, and fundraising are some sources of revenue that are not dependent on a right to exclude.<sup>190</sup> The abundance of free information on the Internet demonstrates that exclusionary rights are not essential to promoting investment in the Internet.

#### IV. THE REACH OF *eBAY*

A large part of the attention surrounding the *eBay* litigation concerns the belief of the amici professors that the district court’s theory will make both search engines and linking illegal.<sup>191</sup> Given the enormous ramifications of such a

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184. See Brief of Amici Curiae in Support of Bidder’s Edge, Inc., Appellant, Supporting Reversal at 2-8, *eBay* (No. 00-15995).

185. *Id.* at 4.

186. See *id.* at 4-5. See also *infra* text accompanying notes 237-47 (providing a more detailed look at the economic benefits provided by the Internet).

187. Interview with Dan L. Burk, Professor of Law, University of Minnesota Law School, in Minneapolis, Minn. (Nov. 8, 2000).

188. *Id.*

189. *Id.*

190. *Id.*

191. See Brief of Amici Curiae in Support of Bidder’s Edge, Inc., Appellant,

statement if true, it has received considerable attention from both the press and legal scholars.<sup>192</sup> While it is undeniable that *eBay* may alter and prohibit particular Internet behavior in the future, the decision will not bring about an apocalyptic “end of the Internet” as predicated by some. Still, the concern over *eBay*’s potential reach is far more than “a Chicken Little p.r. tactic that has no basis in fact” as described by *eBay* attorney Jay Monahan.<sup>193</sup> Given the varying positions on this issue, it is helpful to briefly readdress the holding of *eBay*. On its face, the *eBay* holding is rather narrow, prohibiting Bidder’s Edge “from using any automated query program, robot, web crawler or other similar device, without written authorization, to access *eBay*’s computer systems or networks, for the purpose of copying any part of *eBay*’s auction database.”<sup>194</sup> According to *eBay* representatives, the order does not prevent anyone from searching *eBay* listings.<sup>195</sup> The professors’ brief counters, arguing that “the [district] court’s trespass theory reaches far more broadly than its injunction, and cannot plausibly be limited to cases in which a spider is used.”<sup>196</sup>

The professors’ argument is convincing because as previously mentioned, the court explicitly prohibited “any automated query program, robot, web crawler or other similar device. . .”<sup>197</sup> The court appears to prohibit all agents, since its holding is not limited to spiders. One could argue that the court’s expansive language regarding querying programs was simply meant to keep Bidder’s Edge alone from using a different type of technology to accomplish the same task. This argument is unpersuasive, however, given the court’s concern over a multiplicity of aggregators.<sup>198</sup> The court clearly wanted to prohibit all agents, regardless of the operator.

Despite the claim by *eBay* representatives that the court’s

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Supporting Reversal at 8, *eBay* (No. 00-15995); Bick, *supra* note 84; Ferri, *supra* note 122; Marc Davis, *Court Fight over Search Engine Could Change the Way You Buy Items on the Internet*, THE VIRGINIAN-PILOT, Oct. 2, 2000, at D1.

192. See Bick, *supra* note 84; Streitfeld, *supra* note 143; Jonathan Bick & Steve R. Kamen, *The Internet Is No Place for Trespass*, 161 N.J. L.J. 557 (2000); Louise Kehoe, *Trespass Ruling Adds Tangles to the Web*, FINANCIAL TIMES, May 31, 2000.

193. See Kaplan, *supra* note 182.

194. *eBay*, 100 F. Supp. 2d at 1073.

195. See Kaplan, *supra* note 182.

196. See Brief of Amici Curiae in Support of Bidder’s Edge, Inc., Appellant, Supporting Reversal at 10 n.9, *eBay* (No. 00-15995).

197. See *eBay*, 100 F. Supp. 2d at 1073.

198. See *id.* at 1066 n.12.

order was narrow,<sup>199</sup> a number of questions remain unanswered. Most significantly, it is unclear at what point the activities of a spider become illegal. If the *eBay* decision applies to all spidering activity, then obviously, its impact could be enormous. Given this danger, courts will not mechanically apply *eBay* to a future case involving unwanted agents. To help illustrate this point, imagine a lawsuit between an online retailer (Retailer) and another company (Spiderer) that spiders the contents of the retailer's website. Assume that it comes to the attention of Retailer that Spiderer's activities are harming Retailer's computer systems and Retailer responds with a lawsuit, claiming trespass to chattels as a cause of action.

A court is likely to distinguish *eBay* from the hypothetical above on the ground that, unlike the facts of *eBay*, the Retailer never notified Spiderer and requested that the spidering cease. Since spidering is approved of by the vast majority of website providers, a spidering company would not assume that its activities are unwelcome unless it was brought to their attention. Accordingly, future courts should find that website publishers give tacit consent to have their sites spidered.<sup>200</sup>

Admittedly, this scenario also leaves several questions unanswered. What constitutes notice? What if the owner of the spider cannot be contacted or is unknown? Does the plaintiff have to show a likelihood of harm or is it enough that the spidering is simply unwelcome? Most significantly, absent a showing of actual harm, does not the open nature of the Internet permit spidering? In short, should a company that relies upon the Internet be able to force others to follow their rules, even if those rules contradict Internet norms? The following section will address concerns over the ability to "opt out" of segments of the Internet.

#### A. OPENNESS ON THE INTERNET

The Internet, and the Web in particular, was founded on a principle of openness.<sup>201</sup> One of the most basic characteristics of the Internet is the ability of one Web site to link to another, and users' ability to follow those links.<sup>202</sup> This principle is

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199. See *supra* text accompanying note 196.

200. See *supra* Part IV.A.

201. See Press release from Bidder's Edge, The Open Search Issue (on file with author).

202. See Brief of Amici Curiae in Support of Bidder's Edge, Inc., Appellant,

arguably the underlying reason that the Web has developed into the information, entertainment and commerce resource we know today.<sup>203</sup> As the Internet grew, it became clear that tools for locating these sites were needed.<sup>204</sup> Search engines such as Yahoo!, Lycos, and Alta Vista were developed in response to this need.<sup>205</sup> “Web site hosts were not asked for permission by these search engines, as the openness of the web became its de facto operating principle.”<sup>206</sup>

Given the millions of links harvested by modern search engines,<sup>207</sup> it would be a logistical nightmare to request and receive permission to spider. Requiring permission to link also has dire implications for free speech as well as electronic commerce.<sup>208</sup> Despite the openness of the Internet, some mechanisms allow individuals to restrict access.<sup>209</sup> As noted above in Part I, web sites can employ numerous techniques to restrict spidering.<sup>210</sup>

## V. BEYOND SPIDERS: THE RIGHT TO EXCLUDE AND FUTURE SOFTWARE AGENTS

Despite the claim that *eBay* and similar decisions “threatens the very foundations of the Web,”<sup>211</sup> the analysis above has demonstrated that the *eBay* decision is unlikely to have a considerable impact on the Internet today. While *eBay* itself may do little to alter present technology such as spiders, search engines, and aggregators, the arguments and policy considerations surrounding this controversy require analysis

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Supporting Reversal at 9, *eBay* (No. 00-15995).

203. See Press release from Bidder’s Edge, The Open Search Issue (on file with author).

204. See *id.*

205. See *id.*

206. *Id.*

207. AltaVista claims that it has indexed 250 million items. See *altavista, Highlights* (visited Nov. 20, 2000) <[http://doc.altavista.com/company\\_info/about\\_av/highlights.html](http://doc.altavista.com/company_info/about_av/highlights.html)>.

208. See Brief of Amici Curiae in Support of Bidder’s Edge, Inc., Appellant, Supporting Reversal at 10, *eBay* (No. 00-15995) (arguing that “[p]arodied sites might sue suck.com for unauthorized linking because they don’t like the content of the linking page.”).

209. See Press release from Bidder’s Edge, The Open Search Issue (on file with author).

210. See *supra* text accompanying notes 17-26.

211. Brief of Amici Curiae in support of Bidder’s Edge, Inc., Appellant, Supporting Reversal at 19, *eBay* (No. 00-15995).



and debate because technological innovation will soon allow individuals to build and use their own aggregators and other bots. The next sections will examine eBay's motive for filing suit against Bidder's Edge.

#### A. eBAY'S ACTUAL CONCERN

eBay was undoubtedly concerned with the effects of robots on their computer systems. I propose that this concern is not over the spidering of companies such as Bidder's Edge though. Rather, eBay's greatest fear is that individual users will use their own personal "desktop agents" to search eBay's listings in the future.

The first sign that eBay is not concerned with aggregators stems from eBay's failure to use a robot.txt file that restricts spiders. According to Danny Sullivan, a leading search engine consultant:

The lack of such a file shows little concern about being crawled. It's a fundamental mechanism the company should have in place. Moreover, eBay is well known to me not only to be listed on major search engines but also to have employed several search engine optimization firms to promote itself on search engines. This demonstrates no real concern that visitors should only come into the site via its home page, nor that its internal content should be protected from spiders.<sup>212</sup>

These comments suggest that eBay is trying to have the best of both worlds by being able to choose its visitors. One Internet scholar believes that eBay is trying to reap the benefits of the Internet's openness without having to endure the costs that come along with being a public website.<sup>213</sup> It would appear that spiders that benefit eBay by producing more traffic and users are tolerated, even encouraged, while spiders that could threaten eBay's business are prohibited. For example, eBay's licensing deal with aggregator AuctionRover indicates that eBay will authorize spidering as long as it conforms to eBay's rules.<sup>214</sup> Although the terms of the eBay-AuctionRover deal are not public, some information is

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212. *Id.*

213. Interview with Dan L. Burk, Professor of Law, University of Minnesota Law School, in Minneapolis, Minn. (Nov. 8, 2000).

214. The eBay position could be compared to that of an author who sells a book on the condition that readers not criticize it.

available.<sup>215</sup> AuctionWatch's chief executive Rodrigo Sales, who rejected eBay's proposal, reported that AuctionRover must display eBay listings on a unique page with eBay's logo at the top, inhibiting users from viewing comprehensive listings from all the auction sites in one page.<sup>216</sup> By separating eBay's listings from other auctions, AuctionRover can hardly claim that it is an aggregator with respect to eBay. Instead, AuctionRover acts as a second eBay. From eBay's perspective, the licensing deal is quite beneficial since eBay gains traffic and potential users without having to include its auctions with those from other online auction sites. Not surprisingly, this licensing agreement has caused some to question its value.<sup>217</sup> Like eBay's failure to employ a robot.txt file, the eBay-AuctionRover deal suggests that eBay is not opposed to spidering as long as it does not promote competition.

#### B. SHOULD eBAY BE CONCERNED ABOUT BOTS AND OTHER INTELLIGENT AGENTS?

Although most agents are still in a primitive state, a number of commercial products exist. Already, software exists that allows individual users to create their own spiders.<sup>218</sup> Additionally, Apple has introduced a program that allows users to build and run their own customized queries against eBay's database.<sup>219</sup> Even though intelligent agents are just beginning to emerge commercially, it is possible to predict the impact desktop agents and other intelligent agents will have as they become more pervasive

While the *eBay* court was concerned with 30 to 40

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215. See Stefanie Olsen, *eBay Inks Deal with Auction Search Site* (visited Dec. 1, 1999) <<http://news.cnet.com/news/0-1007-200-1475546.html>>.

216. See *id.*

217. According to Rodrigo Sales, AuctionWatch's chief executive, "[t]his kind of layout is not in the best interest of the user." *Id.*

218. The following pieces of commercial software all provide spidering capabilities: BlackWidow ([www.softbytelabs.com/BlackWidow](http://www.softbytelabs.com/BlackWidow)), URL Spider Pro ([innerprise.net](http://innerprise.net)), SuperHTTP ([www.midnightblue.com/SuperHTTP](http://www.midnightblue.com/SuperHTTP)), JOC Webspider ([www.josoft.com](http://www.josoft.com)).

219. Apple's Sherlock 2 allows users to search multiple auctions with a single search. The software returns a description of the item, its price, the amount of time left in the auction, and the site hosting the auction. The software is customizable, allowing users to create their own meta-search engines. Interview with Sam Rufer, William Mitchell College of Law, in St. Paul, Minn. (March. 1, 2001).

companies following the eBay business model,<sup>220</sup> personal agents would allow for thousands, perhaps millions of spiders to access eBay's servers. Undoubtedly a concern by eBay, the following example illustrates the substantial effect agents can have if used by the masses. If only 10 percent of eBay's currently registered users used a personal spider and conducted only one search a day with it, their combined efforts would create a load almost 19 times greater than that caused by Bidder's Edge. While this increase may seem large, it is the result of very conservative figures. A number of factors indicate that the widespread use of personal aggregators would be able to produce more than a billion requests each day to eBay's servers.<sup>221</sup> If 100,000 requests per day represent 1.11% of the total data transferred by eBay, the widespread use of personal agents could clearly drain, if not immobilize, eBay's computers.

## VI. DESKTOP AGENTS: FRIEND OR FOE?

As the provisional hypothesis above demonstrates, eBay's concern over personal agents is understandable. This section will outline other advantages and disadvantages of intelligent agents. While agents may initially appear to present an intolerable load on Internet resources, many of their shortcomings can be reduced or eliminated. Additionally, the numerous benefits that agents can and will provide greatly overshadow their weaknesses.

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220. See *eBay*, 100 F.Supp.2d at 1071 n.12.

221. First, eBay will likely gain more users as its auctions continue to grow in popularity. Second, more Internet users will be accessing the Internet through a connection that is always on. With a permanent connection, a user will likely configure their agent to constantly monitor eBay auctions. It is likely that desktop agents will run constantly, like a clock in the corner of a computer screen or a program that monitors stock prices or new email. Direct connections will make it easier to receive updates because unlike analog modems that require a telephone connection before the Internet can be accessed, direct Internet connections are always on. In addition to providing increased transfer rates, direct Internet connections eliminate the time needed to connect to the Internet. Third, users will want continuous updates to ensure that they have the most accurate information since auctions are time sensitive. These factors will result in more eBay users, more searches per user, and more time spent searching per user. If half of all current eBay users used a program that searched eBay once every minute for 3 hours a day, over 1.7 billion requests would result – 17,000 times as much activity as that caused by Bidder's Edge.

## A. OTHER DISADVANTAGES OF AGENTS

If customers use bots to find lower prices, it is only natural that sellers will also use bots to set their prices. Amy R. Greenwald and Jeffrey O. Kephart claim that while a large community of pricing agents may result in lower prices, bots could cause a number of problems.<sup>222</sup> First, bots could create gridlock on the Internet. According to Greenwald and Kephart, with a multitude of agents collecting information on the Internet, the company with the most up-to-date information on competitors' pricing reaps the greatest profits.<sup>223</sup> Companies would therefore be highly motivated to program their bots to scan competing sites and databases constantly.<sup>224</sup> This would result in Web sites being overwhelmed by price queries from competitors' pricebots.<sup>225</sup> Second, bots could cause self-destructive price wars.<sup>226</sup> Backed by complex computer simulations, Greenwald and Kephart contend that the success of bots will largely be dependent on the programming of the bot; specifically, the economic model that bots follows.<sup>227</sup>

While these concerns are understandable, Greenwald and Kephart state that these problems can be avoided. Congestion could be avoided if agents are charged for price information.<sup>228</sup> Price wars can be prevented if agents employ predictive

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222. See Jeffrey O. Kephart & Amy R. Greenwald, *When Bots Collide*, HARV. BUS. REV., July-Aug. 2000, at 17.

223. See *id.*

224. See *id.*

225. See *id.*

226. See *id.* An example by Professor Greenwald illustrates this point. Imagine two different sets of bots. See *id.* The first group of bots sets the price of a commodity by using trial and error to raise or lower prices incrementally in an effort to maximize profits. See *id.* The second set of bots is more complex and makes pricing decision based on detailed information about competitor's prices and buyers' price sensitivity, and other characteristics. See *id.* If all bots rely on the trial-and-error strategy, their collective behavior will evolve toward tacit collusion in which they each maintain high prices and healthy profits. See *id.* If one of the bots considers factors other than price alone, it will garner higher profits at the expense of the trial-and-error agents. See *id.* If the other bots adopt the more complex strategy, a price war will ensue as each agents attempt to undercut each other. See *id.* The bots continually undercut one another until the price reaches a certain lower limit, at which point they reestablish a higher price, touching off a new round of undercutting. See *id.*

227. See *id.*

228. See *id.*

algorithms to consider long-term profits.<sup>229</sup> According to Greenwald, agents will refrain from excessive undercutting if they can anticipate retaliation.<sup>230</sup> Additionally, congestion will be avoided because capacity will continue to outgrow demand. Experts have predicted for years that congestion will crush the Internet for years.<sup>231</sup> For example, high quality video and audio transmissions were calculated to produce more traffic than the Internet could handle.<sup>232</sup> This doomsday prediction, along with countless others, have been inaccurate since the Internet has been able to grow in response to our need for faster transmissions.<sup>233</sup> Given the continuous improvement of the Internet's infrastructure, congestion does not appear to be a likely problem.<sup>234</sup> Like congestion, price wars are avoidable. While it would be foolish to maintain that problems will not arise in the future, steps can be taken to curtail the negative effects of agents.

#### B. THE BENEFITS OF AGENTS: PERFECT COMPETITION

Perfect competition is a market concept characterized by homogenous products, perfectly informed buyers and sellers, no barriers to market entry and exit and no transaction costs.<sup>235</sup> Agents bring Internet commerce toward perfect competition because they reduce transaction costs and make information more accessible.<sup>236</sup> Agents such as shop bots and aggregators are valuable to both buyers and sellers because they reduce

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229. *See id.*

230. *See id.*

231. *See* Lynn Voedisch, *Internet Overload; Some Users are Convinced a Wipeout Lurks Just Ahead*, CHI. SUN-TIMES, August 25, 1996, at 45 (discussing the possibility of Internet overload in 1997).

232. *See* Antonio Tedesco, *Catching your Company's Network Napstering: Napster.com and Other Music File-Sharing Sites have Network Managers Concerned*, COMPUTER WORLD CAN., May 5, 2000, at 1, 4.

233. *See* Vincent Ryan, *Bandwidth, Bandwidth Everywhere* (visited Feb. 26, 2001) <<http://www.telecomclick.com/magazinearticle.asp?magazineid=78&releaseid=5534&magazinearticleid=64366>> (stating that while demand is growing, supply is growing more rapidly).

234. *See e.g.* *Conexant Crosspoint Switch Quadruples Volume of Networking Traffic a Single Chip*, BUSINESS WIRE, Jan. 15, 2001, available at LEXIS, News Library, BWIRE File (describing a new device enabling throughput of 449 Gbps and 1.8 terabits per second of input/output performance).

235. *See* O'Rourke, *supra* note 162, at 1967-68.

236. *See id.* at 1969.

transportation costs, menu costs (the costs to firms of evaluating, updating, and advertising prices), and search costs (the costs to consumers of seeking out optimal price and quality).<sup>237</sup> “Shopbots outperform humans by providing extensive product coverage in just a few seconds, far more than a patient, determined human shopper could achieve after hours of manual search.”<sup>238</sup> In short, agents provide incredible amounts of information that would be prohibitively time consuming for humans to compile. The economic consequences of agents are great because as a general rule, an increase in information promotes market efficiency by reducing economic friction.<sup>239</sup>

The promise of more efficient markets has caused many to predict that agents will revolutionize the way we buy and sell.<sup>240</sup> Already, it appears that the Internet is shifting from an information and entertainment based medium into a commerce based medium.<sup>241</sup> One research group has predicted that Internet revenues will exceed \$1.1 trillion by 2002.<sup>242</sup> As e-commerce continues to grow, developments in shopping bots and aggregators emerge almost daily.<sup>243</sup> More recent shop bots are capable of evaluating factors such as warranty, delivery time and return policy in addition to price.<sup>244</sup> Some even predict that shop bots will eventually evolve into cyber negotiators that will actually haggle with other agents to get the best deal.<sup>245</sup>

While intelligent agents are not perfect, their shortcomings are eclipsed by the unmatched advances in commerce and productivity that intelligent agents can provide. Part VII outlines a number of solutions eBay and other Internet companies can take to adjust to, and in some cases prosper

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237. See Jeffrey O. Kephart & Amy R. Greenwald, *Shopbot Economics* 2 (visited Feb. 26, 2001) <<http://www.research.ibm.com/infoecon/paps/aama00.pdf>>.

238. *Id.*

239. *See id.*

240. The online retailer Buy.com, for example, is reportedly using price-comparison software that automatically adjusts its prices to undercut competitors' prices. See Kephart & Greenwald, *supra* note 223.

241. See Ira P. Schneiderman, *E-commerce Efficiencies Could Drive Prices Substantially Lower*, DAILY NEWS REC., June 23, 1999, at 16.

242. *See id.*

243. See Botspot (visited April 13, 2001) <<http://www.botspot.com/bot/description.html>> (providing an extensive list of bots).

244. *See* Schneiderman, *supra* note 241.

245. *See id.*

from, the proliferation of intelligent agents.

## VII. Solutions

Agents have the potential to transform the way we receive information on the Internet. Still in their infancy, experts indicate that personal agents will quickly become the method of choice for receiving information on the Internet.<sup>246</sup> As agents become widespread, we must either reject or embrace the technology. If personal agents become the tool of choice for online buyers, how will business answer? Using eBay as an example, this section will outline and evaluate several approaches Internet companies could follow.

### A. LEGAL ACTION

Although eBay could respond with lawsuits, it is a losing battle. While eBay could sue the makers of personal agents for damages, eBay would not be able to stop individuals from using the agents.<sup>247</sup> One of the main benefits of agents over other technology such as a search engine is that it does not require another party to function. Since an agent resides on the user's

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246. See Stuart Henshall, *The COMsumer Manifest: Empowering Communities of Consumers Through the Internet*, 5 FIRST MONDAY 5, (May 1, 2000) <[http://firstmonday.org/issues/issue5\\_5/henshall/index.html](http://firstmonday.org/issues/issue5_5/henshall/index.html)> (predicting that in the future information will be consolidated by data market aggregators); J. Bradford DeLong & A. Michael Froomkin, *Speculative Microeconomics for Tomorrow's Economy*, 5 FIRST MONDAY 2, (Feb. 7, 2000) <[http://www.firstmonday.dk/issues/issue5\\_2/delong/](http://www.firstmonday.dk/issues/issue5_2/delong/)>; Ira P. Schneiderman, *E-Commerce Efficiencies Could Drive Prices Substantially Lower*, DAILY NEWS REC., June 23, 1999; Péter Jacsó, *Shopbots: Shopping Robots for Electronic Commerce*, ONLINE, July 1998 ("Users have started to spend serious money on the Web. Part of this boom is due to the attractive navigation and search tools cropping up on the Web and to smart personal shopping agents called 'shopbots'"). At present, a few companies have already begun to offer software that allows users to create their own customizable search tools. Thunderstone's Webinator software lets a user create a customized metasearch engine that will query and aggregate results from the big five search engines and major online databases. See Michael Stutz, *The Webinator: Judgment Day*, WIRED NEWS (Oct. 30, 1998) <<http://www.wirednews.com/news/technology/0,1282,15928,00.html>>. Tryllian's Gossip software allows users to create their own search agents. See Tryllian, *About Gossip* (visited Nov. 20, 2000) <[http://www.tryllian.com/sub\\_produ/aboutgossip.shtml](http://www.tryllian.com/sub_produ/aboutgossip.shtml)>. Once deployed, the agents are capable of searching even after the user has turned off their computer. See *id.*

247. Since personal agents are inherently autonomous, the companies that create them will have no control over them.

computer, it is always available. It would also be counterproductive for eBay to try to sue individual users. First, it would be difficult to track down individual users. Second, the costs of pursuing individual violators would almost certainly dwarf any monetary return that eBay could expect to receive.

## B. BUSINESS SOLUTIONS

### 1. Contracts

eBay could rely on its current user agreement that prohibits the use of “any robot, spider, other automatic device, or manual process to monitor or copy our web pages or the content contained herein without [our] prior expressed written permission.”<sup>248</sup> However, this prohibition will not deter users. In the event that eBay could detect an agent and link it to a particular user, it would probably terminate that user’s account. But there is nothing that would prevent a banned user from creating a new account and resuming their activities. It is unrealistic to think that eBay would wish to become involved in such a cat-and-mouse game. Like lawsuits against individual users, a contract with members prohibiting agents will be ineffective because policing and recovery would be too difficult.

### 2. Increased Prices

As any student of economics could tell you, one guaranteed way to decrease demand is to raise the price. eBay’s service is currently free to individuals wishing to bid on items. eBay charges a small fee to sellers based upon the type of listing and opening value.<sup>249</sup> If eBay included a buyer’s fee or raised selling fees, demand would drop because eBay’s service is an elastic good. Individuals not wanting to pay eBay’s prices could use other online auctions such as Amazon or Yahoo! for example. eBay could adjust its prices until demand reached a satisfactory level. While most auction sites could not significantly raise their prices and remain competitive, eBay’s

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248. See eBay, *eBay User Agreement* (visited Nov. 20, 2000) <<http://pages.ebay.com/help/community/png-user.html>>.

249. See eBay, *eBay User Agreement* (visited Nov. 20, 2000) <<http://pages.ebay.com/help/sellerguide/selling-fees.html>> (providing a complete listing of eBay’s fee schedule).



unique position as the Internet's premiere auction site allows it to adopt measures that other companies could not.

### 3. Cooperation and Development

Another solution would include collaboration between eBay and agent developers. Up to this point, I have argued that an explosion of personal agents would generate an unprecedented load on eBay's computer systems as thousands or millions of agents access eBay's servers. This prediction is based on the belief that as a market for personal agents emerges, numerous companies, hoping to cash in on the new technology, will race to develop their own desktop agents. With companies competing for recognition and market share, there will not be a lot of cooperation. The lack of cooperation between search engines illustrates this point. Of the hundreds of search engines on the Internet, most do not share the information they have gathered.<sup>250</sup> This lack of collaboration results in a needless duplication of resource and bandwidth intensive operations.<sup>251</sup> While cooperation should not necessarily be expected between search engines since they are competing for advertisers and users, this example illustrates that competition breeds repetition.

Some experts predict that personal agents will overcome this shortcoming through the sharing of knowledge bases.<sup>252</sup> Additionally, communication and cooperation may reduce network traffic. While cooperation among agents is technologically possible, it is unlikely that developers will be eager to pool resources if they are in direct competition with one another. However, if eBay were to take the lead in the

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250. See Bjorn Hermans, *Intelligent Software Agents on the Internet*, 2 FIRST MONDAY 3, (Mar. 3, 1997), <[http://www.firstmonday.dk/issues/issue2\\_3/ch\\_123/index.html](http://www.firstmonday.dk/issues/issue2_3/ch_123/index.html)>.

251. Some estimate that as much as one-third of all site traffic is by spiders. See Alexis D. Gutzman, *Analyzing Traffic on Your E-Commerce Site*, ECOMMERCE-GUIDE.COM (Aug. 30, 1999), <[http://ecommerce.internet.com/solutions/tech\\_advisor/article/0,1467,9561\\_186011,00.html](http://ecommerce.internet.com/solutions/tech_advisor/article/0,1467,9561_186011,00.html)>.

252. Individual user agents can create their own knowledge base about available information sources on the Internet, which is updated and expanded after every search. See Hermans, *supra* note 250. Furthermore, in the future agents will be able to communicate and cooperate with other agents. See *id.* This will enable them to perform tasks, such as information searches, quicker and more efficient by reducing network traffic. See *id.* They will also be able to perform tasks directly at the source/service, leading to a further decrease of network traffic. See *id.*

development of personal agents, it would have a distinct advantage over competing agents. This is because no one understands the structure and arrangement of eBay better than eBay itself. Additionally, eBay would be able to advertise the product alongside its auctions. With these two advantages, it is likely that eBay would become the dominant agent and have the ability to bargain with others.

### C. TECHNOLOGICAL SOLUTIONS

#### 1. Passwords

Some have suggested that had eBay password protected its site, its dispute with Bidder's Edge never would have arisen.<sup>253</sup> While passwords are effective for blocking off portions of the Internet from unwanted visitors, passwords would be unable to fend off personal agents since the individuals using them would presumably have access the site. Consequently, passwords are not a viable solution to eBay's problems.

#### 2. Dynamic Data

Dynamic data is content that is based on and delivered by a database.<sup>254</sup> Rather than remaining static and constant, dynamic data changes depending on who uses it, how it is used or where it is being created.<sup>255</sup> An example of dynamic data is a Web site that presents specific content relevant to a unique user profile. While dynamic data can make a user's Web experience more personable, it also makes spidering difficult. Created "on the fly," dynamic Web pages do not have fixed Web addresses. Most spiders are capable of only harvesting links with fixed web addresses. Consequently, sites with dynamic Web pages typically are not included in search engines.<sup>256</sup>

While dynamic data may make it more difficult for Bidder's Edge to spider eBay, it is only a short-term solution. Technological innovations are making it possible for spiders to

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253. See Bick, *supra* note 84.

254. See Digital Matter Corporation, *Dynamic Content* (visited Nov. 20, 2000) <<http://www.dmatter.com/productsindex.htm>>.

255. See *id.*

256. See Aui Rappaport, *Robots & Spiders & Crawlers* (visited Oct. 1999) <<http://www.inktomi.com/products/search/support/docs/wp-spider/spider01.htm>>.

harvest dynamic data.<sup>257</sup> At present, search leader Inktomi claims that its Ultraseek Server is able to index pages generated by databases or automated systems.<sup>258</sup> If eBay were to implement dynamic hyperlinks, their advantage would be temporary, as aggregators are sure to employ the latest innovations in data harvesting.

### 3. Overprovisioning

A business can adjust to increased demand by overprovisioning. Generally used within the context of network traffic engineering, overprovisioning means maintaining sufficient network capacity to support the peak demands without noticeable service degradation.<sup>259</sup> In eBay's case, this would simply amount to eBay purchasing more servers and bandwidth. Although overprovisioning may seem rash given the costs eBay would incur, in the short term, it is not unprecedented. For example, many Internet service providers overprovision to meet the rising demands for their services. Instead of limiting access or allowing the quality of service to diminish, ISPs have found that it is easiest, and arguably most cost efficient in the long run to overprovision.<sup>260</sup>

Overprovisioning is an effective solution for eBay because the majority of changes are hardware related. Unlike price increases, design changes to a website, or new contractual agreements, there is little chance of alienating new or existing customers through overprovisioning since the changes are largely undetectable.

## CONCLUSION

Although the Internet is an incomprehensible, enormous, and chaotic collection of information, spiders and search engines have helped make the Internet navigable. Without spiders and search engines, the Internet would lose much of its

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257. *See id.*

258. *See id.*

259. *See* Daniel O. Awduche et. al., *A Framework for Intent Traffic Engineering*, Internet Engineering Task Force, (July 2000) (Internet draft) <<http://www.awduche.com/papers/papers2000/draft-ietf-tewg-framework-02.txt>>.

260. *See* Dr. Jerry Lucas, *The Internet: Chapter Three*, BILLING WORLD, Dec. 1999.

value as a provider of information. Ultimately, current tools such as spiders and search engines will not be able to handle the Internet's growth. To keep pace with the Internet's expansion and to avoid the presently looming hazard of information overload, smarter technology needs to be developed. If we are to reap maximum value from the Internet, members of the Internet community cannot publish material for public use and then determine who can and cannot access the material. Additionally, the public will suffer if businesses can regulate the means of accessing publicly available information. Additionally, the public will suffer if businesses can regulate the means of accessing publicly available information. Before we transfer legal concepts from the physical world to a virtual one, courts must first be certain that the underlying policies of our current laws are applicable to a world without boundaries. If courts rely on rigid legal doctrines such as trespass to chattels without considering the policies reflected in these laws, the development of the Internet will be hindered. It would be unfortunate if the potential value of the Internet is not realized because courts choose to haphazardly apply ill-suited legal doctrine to developing Internet technology.

