Chapter 2: Pacesetters in the new medium

Le XXIe siècle sera peut-être spirituel, il sera sûrement communicant. –
Renaud de La Baume et Jean-Jerome Bertolus, Les nouveaux maîtres du
monde, 1994.

*If there is any lesson from the computer wars, it is that the complacent die
unpleasant deaths.* – Charles H. Ferguson and Charles R. Morris, 'Com-
puter Wars: The Fall of IBM and the Future of Global Technology', 1994.

T he Internet is difficult to conceptualise and then to categorise. Metaphors and
comparisons are helpful – up to a point. Then the metaphors break down
because the 'Internet' changes as one observes it. Many services such as
Netscape Communications, local Internet providers and individual users, post
pointers to their favourite sites. These 'cool sites' help show where the activity is
intense. A hyperlink away lies a wasteland with no traffic.

The majority of Internet sites draw only a small amount of traffic. The most popular
sites attract 300,000 or more 'touches' per day. Accurate tracking is only now
becoming possible; one of the leaders is the American television ratings company,
A.C. Nielsen, which has introduced a set of software tools to monitor the number
of different users who visit a site, what actions they take, and the amount of time
spent within a Web space. Without monitoring tools no one knows if one person is
following ten links, or ten people are following one link.

Howard Anderson, the managing director of the American consultancy, The
Yankee Group, commented: "Its [the Internet's] past coaches revere its quirky
nature and have officially appointed themselves the high priests of cyberspace,
making the Internet a kind of living, breathing religion."' A construct that evokes
almost primitive awe is out of the ordinary in everyday experience even at the
threshold of the millennium.

One way to slip between the imponderables of infinite rapid change and near-
mystical wonder is to examine a small number of Internet applications that appear
to be extending the mundane functions of electronic mail, copying files from one
place to another, and looking up information in a database. The sites are moving
the user to experiences, not just to single functions. Internet offerings that extend
the new medium, or illustrate its potential in an interesting way, *are pacesetters.*

When a 'cool site' appears, the most competitive developers of Internet attractions
try to create something even better. The Internet's rapid innovative and creative

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[I]   Howard Anderson, 'Why the Internet Chews Up Business Models', *Upside,* August 1995, p.26

processes are fuelled by the pacesetters' desire to push the limits of the new medium. The motives vary, but there are some characteristics that accompany the evolutionary and developmental processes:

- *Continuous rapid change.* The content, appearance and interactivity offered to the user evolve. A site programmes change to occur while the user is connected to the site.

- *Event-oriented.* Several of the pacesetter sites focus on activities that are moving in the direction of scheduled 'shows' or 'programmes'. Pacesetter sites lay the groundwork for scheduled programming for users.

- *Multi-object.* The pacesetter sites do not content themselves with text or a casual mix of text and graphics. The direction is toward a rich blend of communication modes, including sound, animated images and digital video. Rapid developments are taking place in audio and live video: for example, CuCme, TrueSpeech and Iwave software.

- *Interactive.* Internet sites are moving toward the type of interactivity associated with CD-ROMs. Because the new medium offers the added benefit of real-time updates, the potential for dynamic, compelling three-dimensional application environments is huge and largely unexplored.

- *Data-based.* Pacesetter sites are constructed upon a multi-layer suite of technologies. One of the cornerstones of this architecture is the data warehouse. Information is organised for easy update and retrieval so the site visitor can manipulate the application in a personalised way.

A profile of a mere handful of sites cannot capture the wellspring of creativity that the Internet has tapped. The numerous technological advancements needed to create the new medium continue on their own trajectories of development. Within the last 18 months, the basic functions of the Internet have been extended. Internet-specific programming languages have been developed to allow designers to control every aspect of the Web page, add audio and video, and provide users with comprehensive applications.

Sun Microsystems' Java programming language and Microsoft's Enhanced Visual Basic, provide toolkits for the interactive future. Symantec, Borland and other software companies have indicated that similar tools will be created and on the market in the near future. Thus, the Web as a medium can support the type of visual pyrotechnics associated with the computer games industry.

Movable type had a similarly profound effect. By the end of the 16th century, the cost of printed books put them within reach of the middle classes. The market widened. A number of developments caromed off Herr Johann Gutenberg's cue ball when he struck type and put ideas into motion. The Internet in general, and the World Wide Web in particular, are having a similar effect with several differences:

- The publishing and creating of technology is becoming vastly more powerful and easier to use

- The hardware, software and systems tools are becoming more robust and flexible by orders of magnitude every few months
- Prices are dropping with many powerful tools such as America Online's NaviPress tool set available for free at http://www.navisoft.com.
- The reach of a new site is global and instantaneous.

It is the purpose of this section to highlight several pacesetter sites in these pivotal areas – indexing, business transactions and consumer services, an admittedly small number in comparison with the millions available at the time of this writing and the 5,000 new ones added each day. The sites have been selected to highlight the characteristics of this new medium.

The indexing revolution

The leaders of the print indexing world have been caught unawares. Companies such as H.W. Wilson, University Microfilms International and others have little presence in the new publishing medium. A number of organisations outside the traditional galaxy of indexing and abstracting superstars have recognised the Internet as something new and different. Two young Stanford University graduate students started the Yahoo service. The site quickly reached two million visits or 'touches' per day. The entrepreneurs, David Filo and James Yi, succumbed to the $1 million in capital offered by a Silicon Valley venture capital firm and have started the first serious advertising-supported Internet directory and index.

The Canadian firm Open Text has built a directory using proprietary agent software and the firm's powerful full-text retrieval tools. The Open Text site has joined such indexing and abstracting sites as Galaxy, Lycos and more than 120 others.

The American Regional Bell Operating Company, NYNEX, uses French software to mount its listing of business organisations in its service region and then allows businesses to purchase enhanced listings. The advertisements usually point to the advertiser's Internet site and the database of listings is a hybrid: neither a replica of the print Yellow Pages nor a complete information environment.

Are these pacesetters in the basic business of indexing the Internet? What are they doing to distance themselves from others attempting the same thing? How much distance conceptually speaking is there from these pacesetters and a company anchored in the print era?

InfoSeek: programming expertise and professionals' needs

Founder Steve Kirsch began talking openly about his Internet indexing and information service in 1993. Few listened. By 1994, Mr. Kirsch, the founder of Framemaker, the powerful desktop publishing tool for long documents, was visiting producers of commercial databases seeking licences for online distribution of the material. Most of the companies balked. Mr. Kirsch was not from the closed world of text-based database publishing. His ideas were at variance with the production systems and access methods associated with traditional indexing and abstracting operations. Nevertheless, he persisted.

The InfoSeek service provides access without charge to a machine-generated index of World Wide Web pages. For a monthly fee of about $70, subscribers can search listings of companies, newswires, USENET newsgroups and other value-added services.

By 1995 when the service became available, traditional database producers and many publishers were ignorant that his site was operational, providing a 30-day free trial, and taking credit card orders for $120 a year accounts. InfoSeek has drawn positive reviews from the Internet press, and the Mr. Kirsch has created a button on the InfoSeek site to allow newcomers to peruse the recent fulsome praise.

What does InfoSeek do? The service has several distinct functions. Users can search a collection of Web home pages that have been pruned by intelligent software to eliminate bad links and sites with salacious material.' A number of commercial information sources are available, including a collection of newswires and extensive USENETarchives.

The customer enters the words or terms for which information is desired. The query may be stated as a string of words, or a sentence in natural language can be entered. The user clicks on buttons to specify the domains of information from which information is desired. The date limits for the search are set by clicking on a

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[1]   The filtering function has not been verified by InfoSeek. Entering search terms for pornography, for example, returns only substantive articles on the subject, not listings of Web pages with image files.

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pull-down list. When the settings have been adjusted, the user clicks on the search button, and the system responds with a listing of pertinent sites or articles.

The list is ordered with the most relevant articles appearing first. The hits are returned in groups of 20. The InfoSeek technology draws upon Mr. Kirsch's own software and heavily modified tools from Harlequin, an Internet software developer in Britain.

A search on the subject of yellow *pages* in the index of World Wide Web pages returned this type of information:

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90 Minute Guide to **yellow** poaes advertising

It'll Save You Money, Dear. Current or Prospective Yellow Pages Advertisers. If you now advertise in the yellow pages or are plonning to in the future, I know you con sove $100s if not $1,000s on your yellow pages advertising.

The first line gives the site name that activates with a mouse click. The second and subsequent lines provide an abstract of the content of the site. The last entry for each citation includes the Internet address and the file size. These records are built by software agents whose output requires little or no human input. Manual indexing and abstracting are not used. This contrasts sharply to the database industry standard practice of paying professionals to index and abstract information. This technique works, but is costly for print. It is impractical for comprehensive Internet materials because of the volume of information published on the Internet and the rapid pace of change.

The InfoSeek site incorporates some interesting and highly suggestive features:

- Users, after a 30-day free trial, must register online by providing a credit card number. The customer receives 100 free 'documents' per month. For additional 'documents' the user pays $0.10. In addition to providing a secure environment, the site employs a subscription fee and variable pricing.

- The database of index pointers and citations to commercial articles may be searched individually or in user-defined clusters like a traditional online reference tool. The user has complete, intuitive control over the particular domain of information the query taps.

- The online response to queries and the document presentation are both satisfactory. At peak times using 28.8 Kb/s dial-up connections, most queries are processed within 15 seconds. Longer delays are unusual. Display of text and hypertext jumps occur within the same time span. Server and system technology have been tuned to provide online response more rapid than that of most proprietary commercial services.

- Users can elect to receive automatic electronic mail notification of new information added to the InfoSeek index. The InfoSeek software filters new material, formulates an electronic mail message, and transmits the information to InfoSeek customers. There is no limit on automatic notification, although a modest fee is charged for this service.

The questions posed at the beginning of this section can be answered briefly. InfoSeek is in the business of indexing the Internet. At this time, the service focuses primarily upon sites in North America and in English. The conceptual distance between a print indexing operation and InfoSeek is significant; many sources can be explored and full-text retrieved from a single citation. InfoSeek has recognised that the Internet contains significant information and uses software to add value. In sharp contrast to most abstracting and indexing operations, InfoSeek does not use manual processes, trading off (some might argue) 'quality' for coverage. Info-Seek's approach demonstrates that an identity can be established in cyberspace just as H.W. Wilson established its identity in the traditional library reference room.

InfoSeek is moving aggressively to create links with high-traffic sites, building revenue from advertising sales and charging of commercial databases such as Hoovers Directory and Newsbytes. These links with other sites are essential in building traffic; this technique is known as 'backlinking'. The backlink from Netscape yields more than half of InfoSeek's traffic.

InfoSeek faces serious competition from many different directions. A well-funded start up doing business as Architext has introduced its Xcite product, a service that has blended features of Lycos, Yahoo and InfoSeek. Xcite has emerged as a major index to Web information since its appearance in late 1995. In addition to providing an index to the Web, the service features machine-generated and hand-tuned abstracts of the most important sites. The service is attracting advertisers such as Netscape as well as small companies. Advertisers pay nothing unless a particular page attracts a specified number of users.

Another challenge comes from a Thomson unit, Information Access. The Cognito service provides natural language access to the full text of many general periodicals, the majority of which are from American publishers. James Outman, who developed the product says: "We anticipate having more than 500,000 full text articles online by the end of 1996". The service will carry a surcharge, but it allows an Internet user to use the Personal Library Software natural language search engine to locate articles from commercial publications. In addition, the University of California, Berkeley has introduced the *Znktomi* service, a powerful search engine. Digital Equipment Corp has created Alta Vista, the first search tool to incorporate 64-bit architecture.'

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[1]   The UHL for Inktomi is http://www.inktomi.berkeley.edu. Alta Vista is at
   http://www.altavista.digital.com.

What is the impact? For users, it is a breath of fresh air in reference. For companies such as Knight-Ridder Information Services, it is a grim reminder that the old order is under direct attack. Ironically, InfoSeek and Architext staff may not even know what a Knight-Ridder Information Service is, or that their services are posing a serious threat to an established online vendor.

Point: an Internet Guide Michelin

Chris Kitze made his reputation and his first million dollars creating multimedia CD-ROMs. His *Audubon's Birds of America* title combined text, full-colour graphics and bird calls almost a decade ago. Today he sees the Internet as "CD-ROM interactivity with the added benefit of real-time updating."

Now in his mid-30s, Mr. Kitze's Point service was listed as a 'Cool Site' more than 24 times in its first two months of operation. The stunning graphics, designed by the artist behind the Microsoft Network, and icon-only interface generate high-volume traffic. The October issue of *Toronto Computes* devoted a full page to the Point service, emphasising that providing an objective rating of the quality of an Internet site is an important value-adding service.

The selectors of cool sites were not alone. Point was purchased by the College
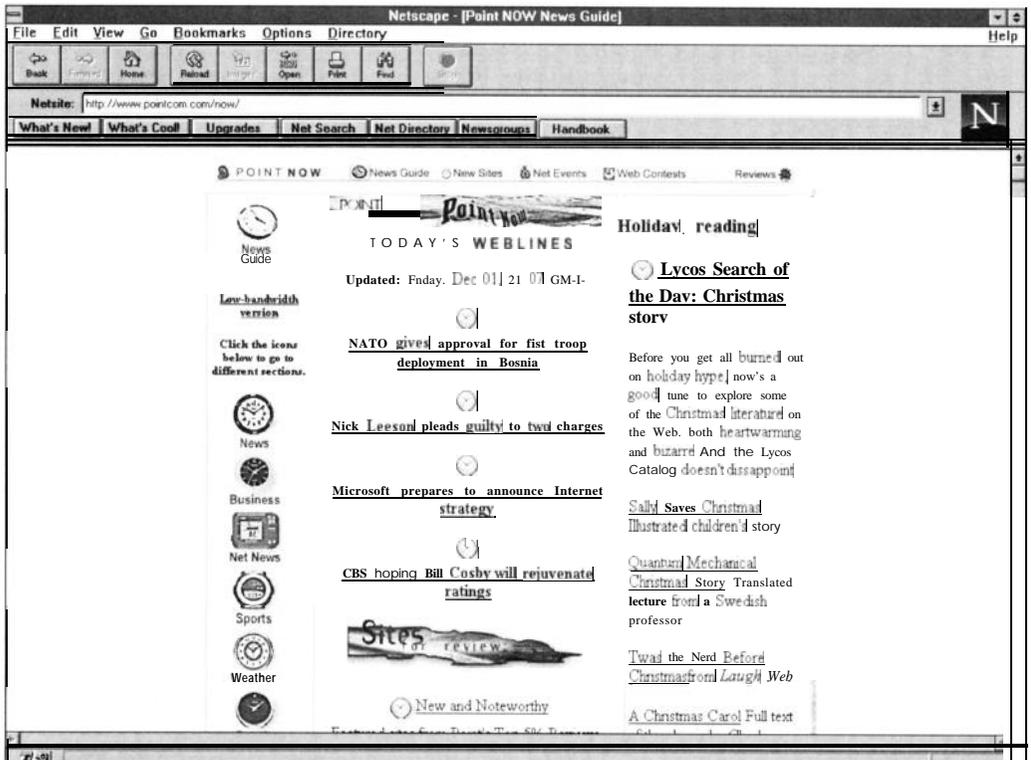
Point, now a unit of Lycos, has added a daily listing of the major events on the Internet. One feature of the service is hot /inks to Web sites that provide information about major world news. The Point's Today's Weblines is the first listing of this type.

Marketing Group for a reported $3 million less than nine months after Point opened for business. Point is now integrated into the Lycos search service, one of the top ten sites in terms of traffic on the Internet.

In sharp contrast to Infoseek, the Point service makes use of human intelligence and software. "Our proprietary production system combines the best of both worlds", says Mr. Kitze. "We have more than 30 professional writers whom we have trained to visit Internet sites, examine them, and prepare a 50 to 100 word review. Each site is rated on a scale from one to 50 for its content, presentation and overall user value. It is a Zagat's or Michelin to the Best of the Internet".

The Internet attractions are grouped under more than 100 headings. The site covers virtually all of the major consumer and business resources of the World Wide Web. Point specifically excludes prurient or inappropriate sites. According to Mr. Kitze: "The Internet user wants to know where to get useful and reliable information on a wide range of subjects. We will let others index the security hacks, the porno-graphy and marginal special interest sites. We are aiming at the serious Internet user who may want to plan a holiday or give his children access to an index that provides meaningful pointers."

Several features of the Point service identify it as a pacesetting site:

- First, there is a feature to allow the customer to submit information. A Point user can add sites, write reviews, or append comments about a reviewed site. For many years, database expert Barbara Quint has asked that the commercial online services offer this type of feature. Errors exist within many of the best-known databases, and there is no way to correct the mistakes or alert unwary users of the existence of bad data. The Point service has been designed to accommodate user-authored content.

- Second, the Point service is supported by advertising. A small sales force has attracted a group of advertisers who sponsor the Point service. A user can jump to an advertiser's interactive advertisement and then return to the Point index.

- Third, Point users can receive electronic mail notification of new sites that match their interests. The service supports either the icon-based hierarchical categories or a text query. Although the service has been free initially, a for-fee service is planned.

Perhaps the most significant innovation at the Point site is the creation of *Point* Now, an event notification service. Point users can learn about specific Internet events – for example, a live video programme or discussion of a particular topic.

Point, like InfoSeek, extends the richness of an Internet index. Point is targeted at the 'consumer' Internet market. Its developers and writers have crafted a visually stunning, literate and entertaining way to learn what to visit. The ratings scale provides a quick, practical way to direct the Internet user to the site that is most likely to be of the greatest benefit to each user.

The Point site extends the concept of an index in dramatic new ways. Not surprisingly, Point has released a CD-ROM version of its Internet site. A book generated from the Point site database was published by Sybex in 1996. The creation of revenue from tangible information products marks the sharpest distinction between the Internet publisher and the traditional abstracting and indexing operation. Point can create a CD-ROM of its site and hard copies of reviews with virtually no additional expense. A traditional indexing operation must invest to turn print into electronic products. Point enjoys certain cost advantages and sharply reduced production time for its spin-offs.

The most important innovation at Point underscores the changing nature of the Internet itself. The Point service provides a real-time listing of events that are playing or running on the Internet. Point does not confine itself to real-time chat groups. The firm lists live conferences with key executives from major companies that are sponsored by America Online and CompuServe. The service provides a television listing of live audio, video and various interactive programmes. Point is one of the first services to recognise that the Internet is a new medium that blends CD-ROM interactivity, television's immediacy, and a database of information in a new way.

Impact

Will Infoseek and Point emerge as the dominant Internet indexing operations? No one knows. There are several observations about these two pacesetters:

- Technology is used to deliver the service, expand features and reduce certain costs.
- The sites provide the user with a greater dimension of service than is possible with print or even traditional print and CD-ROM media.
- Users (customers) can interact with the site and have the site perform some satisfying action. The voice of the customer becomes the will of the customer.

Making deals and moving products: buying and selling on the Internet

The pundits who comment on the disappointing growth of online shopping, focus on catalogue and retail-type operations. The Internet, so the common wisdom says, lacks security. The mass of users, though growing, is too small to generate significant sales. Electronic commerce is a good idea, but the timing is not yet right. The success of one or two florists defines online shopping.

Consider the results of a 1995 study conducted in America, where online shopping has made the most headway. Women, often viewed as the key buyer in a family, make modest use of online services. Their numbers have risen from less than 10% of the Internet user community to almost 40%. Yet their use of shopping services has not changed the dismal performance of the digital malls.

Business-to-business selling is making modest gains despite the fact that only about half of the Fortune 500 have a connection to the Internet. The information super-highway has not yet connected with Main Street, according to a study by the

National Federation of Independent Business. Based on results of a nationwide survey of 4,600 small-business owners, the study found that while virtually all (93%) agreed basic telephone service was central to their operations, more advanced communications services were not widely used. Fewer than half (41%) of small firms have a modem.'

Hyperbole has masked the fact that for the majority of small- and medium-sized businesses, it is unlikely that the global promise of electronic commerce will have a significant impact on sales. However, for a certain segment of small- and medium-sized businesses, the Internet will yield such benefits as:

- Expanding the potential market for certain types of goods and services to areas not easily or economically reached by the organisation's marketing activities.
- Reducing the cost of providing information about costs and services and allowing certain organisations to respond to requests for quotations more rapidly and economically than at present.
- Allowing various types of electronic messaging to be used to speed a transaction.
- Extending, as circumstances dictate, the fixed operating hours observed by many organisations.
- Increasing an organisation's ability to have work done by employees located at different places and in different time zones.

As the Internet moves beyond its initial demographic base of males between the ages of 18 and 35, online commerce will gain momentum. There are indications that the type of electronic commerce will be more feature-rich than today's digital substitutes for printed catalogues and real malls. Pacesetter applications are beginning to emerge, and they provide some clues to the new medium's ability to offer some surprising capabilities.

Trade Points: a virtual global bazaar

In 1993, the United Nations began a series of initiatives that culminated in 1994 with a decision to fund an Internet information service. By 1995, the Trade Points service, operating from Geneva and Bangkok, had tens of thousands of trade-related listings in more than 75 countries.*

The United Nations describes its $500,000 investment in this way:

The UNTPDC [the United Nations Tradepoint Development Centre] offers traders simple, one-stop access to a broad array of databases dealing with trade and investment, including trade information, trade facilitation and

[1]   From the news pages of *Morph's Outpost,* May 1995, p. 11, and the A.C. Nielsen study at http://www.commerce.net:80/information/surveys.
[2]   The URL is http://www.uncc.org.
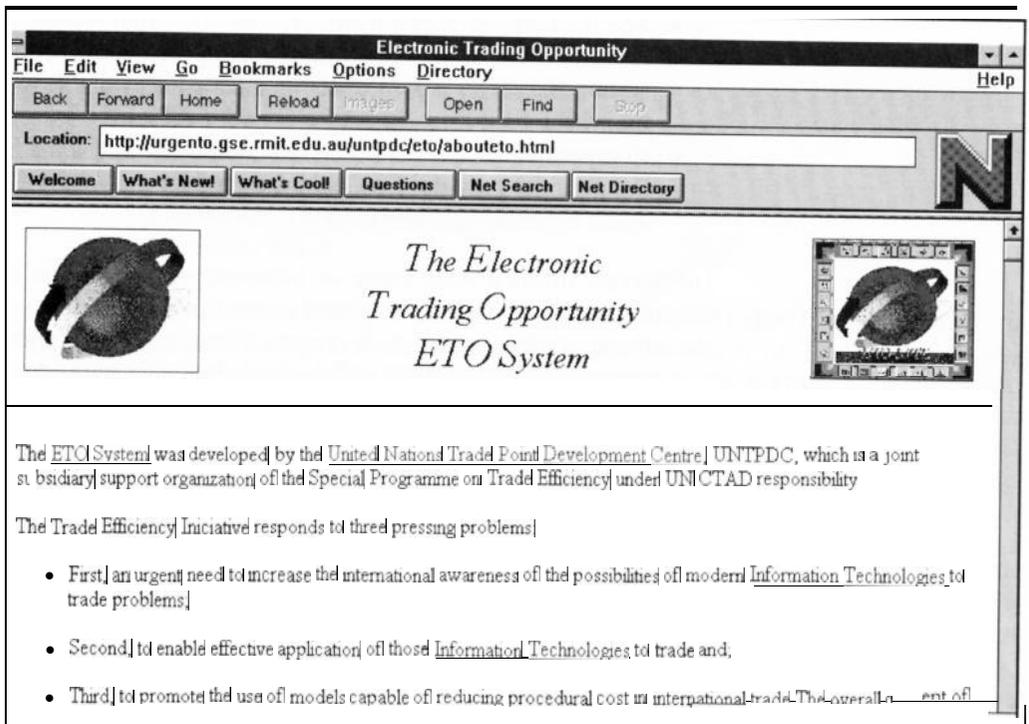
Although many other global trade initiatives are making their appearance on the Internet, the United Nations'site provides a wealth of business contact information. Its product catalogue prototype has been more fully implemented in China at http://www.china.com

trade procedures. Access to the UNTPDC Internet services is free of charge. Trade Points without Internet capabilities are invited to locate their databases and services at the UNTPDC Trade Point Internet Incubator which offers temporary assistance and support to infant Trade Points. It also makes their databases and multimedia catalogues available at the UNTPDC server in Geneva.

A number of commercial and quasi-commercial trade services exist. Universities such as the University of Michigan provide free online access to trade leads collected by the American Department of Commerce. For-fee services are available on CompuServe Information Service. The World Trade Centre Association offers a proprietary online service to its members. Many governments publish trade-related information on the Internet. Facsimile services route information about people who want to sell or buy specific goods and services. Why another service?

The United Nations' rhetoric aside, the reason for Trade Points boils down to three factors:

- United Nations members want to stimulate business in their countries. One way to accomplish this is to provide funding so member nations can provide enterprises with a sanctioned, publicly-accessible, marketing and communications channel.

- The Internet provides a relatively low-cost, high visibility rallying point for electronic marketing opportunities on a global scale. Information loaded on an Internet server regardless of its location is available to users anywhere in the world.
- Competitive services required fees, some low and some high. The Trade Point model provides free listings to buyers and sellers. Internet access is a less expensive online option.

The service offers a wide range of information. In addition to country-specific directories, a wealth of trade-related textual information is available. Users can consult country-by-country trade reports. The core of each report is basic information about the trading climate and the basic business requirements in these countries.

One of the most interesting features of the Trade Points activity is the concept of local franchises. An entrepreneur in a country with Internet access but no online trading service can apply to be a Trade Points centre. The fees range from several hundred dollars to more if the entrepreneur wants to purchase a complete Internet connectivity hardware and software package. Once the centre is in operation, the entrepreneur can develop Web pages – electronic catalogues in the parlance of the United Nations – for free or for a fee. In America, for example, the Trade Points 'franchise' holder is in Columbus, Ohio. An entrepreneur in any American city can purchase a Trade Point franchise and service that city. The vision of the UN is a global network of national, regional and local Internet sites that provide a wealth of trade-related information and services. The UN plan for its Trade Point activity is robust. By 1996, according to Trade Point projections, listings of companies will exceed one million enterprises. Operations will be set up in more than 125 countries, and the yearly flow of trade-related information will exceed one gigabyte of data. If the system achieves its targets, the Trade Points' operation will provide a unique user community of small- and medium-sized businesses that believe the Internet provides a way to generate sales leads and conduct trade-related business.

The second interesting Trade Points development is the wealth of company-specific information currently available. A user can select a country from a menu and then peruse or download company listings in directory format for that country. For France, for example, Trade Points provides information on more than 5,000 companies. The basic record has this format:

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Avon S.A.
Chemin d'Uny
Rontigny, 60290
France
OTHER COMPANY INFORMATION
PHONE: 33/44-73-07-00
YEAR ESTABLISHED: 1964
NO. OF EMPLOYEES; 886
RELATIVE SIZE: Medium
INFORMATION DATE: 10/28/93
TELEX: 140012F
FAX 33/1/44-73-07-00
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PRODUCT INFORMATION
HARMONISED CODE PRODUCT SERVICE DESCRIPTION
3303 Perfumes ond toilet woters
3304 Beauty, moke-up & skin-core prep
3305 Preporations for use on the hoir
3306 Preporations for oral or dental hygiene
3307 Personal toilet etc

Web pages exist for such countries as Mozambique, India, Israel, Hong Kong, China and Portugal. Perhaps the most intriguing aspect of Trade Points is the prototype of interactive catalogues. A company can use a Trade Point electronic catalogue model to publish images and text about its products and services. The Trade Points model, which is in pre-release testing, supports active electronic mail and electronic forms. A user can examine an online catalogue of products and services, send a message to the enterprise, and complete an online order form.

Trade Points has established a relationship with General Electric Information Services Company, a unit of General Electric Corporation. GEIS operates a secure value-added network (VAN) in the form of a private network. The GEISVAN, which has Internet links, carries secure financial transactions for a large number of banks, securities firms, manufacturers and governments. The linkage with Trade Points provides the foundation for a secure financial transaction service to be layered over the standard electronic mail between companies with goods and services to buy and sell.

It is possible that the Trade Points service will offer small- and medium-sized business a full-service online capability. A company can search for goods and services, discuss the deal with the company with the goods and services, and initiate a bank transfer or a letter of credit from the Trade Points Internet site. If the UN carries the nascent Trade Points concept to its logical extensions, certain small- and medium-sized businesses will have a powerful transaction-oriented and research service available at virtually no charge. The scale, vision and scope of the UN service takes fuller advantage of the new medium than the more narrowly defined electronic shopping malls that are proliferating in America. The UN has perceived that the new medium offers a global arena in which enterprises can operate on a number of levels with potentially significant payoffs for comparatively low cost and modest effort. It has spawned a similar service for China's growing commercial sector; a web catalogue of products from 2,500 companies is available. [1]

Can they pay? Commercial credit in the new medium

Dun & Bradstreet assigns a unique identification number to the companies in the firm's database. The D-U-N-S number is hierarchical so that it is possible to retrieve, within the limits of the database, a parent company ands its child compa-

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[1]   The site features a no-cost facsimile messaging service. URL: http://www.china.com

nies. The United Nations flirted with developing a proprietary numbering scheme for its purposes, and it has explored using the Dun & Bradstreet number.

The Trade Point records do not display a unique number at this time. However, a unique number for each enterprise would be useful for electronic commerce. The importance of identifying a particular company, gaining access to information developed specifically for credit and business-to-business transactions, is obvious.

Dun & Bradstreet is one of the world's largest business information companies, and its World Wide Web site has been overlooked by many. D&B's Web site operates on two distinct levels. The first is a Web page with information about the company's operating units. The second, more difficult to reach trial service, provides access to a number of test services. The most interesting of these services allows a user to obtain access to a firm's credit record.

With a bit of mouse clicking on the public Web page, a visitor can explore these trial services. A visitor who clicks on the new products is asked to complete an electronic form. The visitor to the D&B site provides information about business interests, electronic mail and business address, and business name. Once these data have been processed, the visitor is given the Uniform Resource Locator for the D&B new product site. When a visitor reaches the test site, different products are available for examination. D&B encourages visitor feedback about the products. Because the site is used for product tests, its availability varies.'

Among the most interesting products provided for test are those related to company information and credit history. Users can examine sample company and credit reports. At the time of this writing, D&B has tested online ordering of credit reports and user-defined reports for lists of companies that match specific criteria; for example, line of business, revenues, geographic location and other factors useful for enterprise screening.

With D&B's public Internet site, the firm is in a position to obtain feedback from visitors. Is an alliance between the Trade Points' site and D&B likely? There is no evidence to suggest collaboration between the two organisations. However, if the Internet becomes a vehicle for international commerce, it is likely that secure credit and financial transactions will become available to those enterprises using the Internet as a means of marketing, communicating and finalising deals. [2]

The answer rests with the market. The potential revenue resulting from a link between buyers and sellers and financial services can be significant. A linkage between a site listing enterprises with products to sell, and companies with products it wants to buy, and a site with credit, company financial data, and mechanisms for

[1] The Uniform Resource Locators for trial or experimental services can be open for brief periods of time. The main Dun & Bradstreet address is http://dbisna.com. The product test site is http://www.dbisna.com:10001/product/product.html

[2] Intuit, a maker of personal finance software, has declared its intention to launch robust financial services for individuals and small businesses.

payment creates a new type of interactive marketplace. In time, the average consumer volume on the Internet may be significant. For the nearer term, a business-to-business service may be a more rapidly growing business opportunity for certain organisations.

Impact

The interest in leveraging the Internet for trade outside America appears to be high. According to Internet usage statistics, the fastest growing part of the Internet is outside America. The number of companies participating in the new Trade Points programme is growing. However, its real significance is that it has shown the way for many other marketers and agents to publicise products and services for sale. Furthermore, the principal Trade Point sites in a number of major countries – for example, Taiwan and Thailand – appear to have solid government support. Participation by American businesses in TradePoints seems to lag behind the more aggressive Pacific Rim listings.

The commercial opportunities for an organisation with credit and company financial data are significant. Dun & Bradstreet, like many large American companies, may have difficulty penetrating markets outside America. D&B's information is weighted in favour of North American company listings. It is highly probable that a comprehensives service will become available on the Internet that offers one-stop shopping for certain types of goods and services. A successful company could topple D&B from its pinnacle.

Blending electronic brochures and real-time updating of material offer compelling marketing reasons to explore the Internet as a selling medium. However, with the advent of voice communication via the Internet, buyers and sellers can locate one another and establish direct contact. The addition of a financial suite of services makes it possible for a small- or medium-sized business to scour the world for the best prices. A deal can be worked out and payment arranged with a few mouse clicks. A percentage-based transaction fee can mount up rapidly enough to make a number of organisations take notice. Competing with government or quasi-government entities may change the stakes for many competitors. The question becomes: "Can a privately-held enterprise compete with a subsidised trade and financial operation?"

At a time of increasing tension over world trade and open markets, the Internet as a conduit for world trade has the potential for changing the way many companies do business. The proliferation of deal-making services like those supported by IBM and the International Chambers of Commerce suggest that business-to-business transactions are a potentially lucrative business opportunity.

The pot of gold: the consumer market

Companies such as CompuServe Information Services and even Reed-Elsevier's Lexis-Nexis often use the word *consumer* to refer to their growing subscriber lists. The reality, however, is that users of commercial online services are predominantly male, relatively affluent and focused on specific interests, often of a business or professional nature. The *consumer* market is beginning to emerge, but it is small.

What is emerging are more online users who can be segmented into niches of meaningful size.

The companies best positioned to capture a share of this desirable slice of the growing online world come from many different business segments. One of the most publicised sites on the Internet is the Internet Underground Music Association or IUMA Two California college students created a site for bands without recording contracts. The idea was to allow these performers to provide digital clips of their music and information about their band and schedule. The site attracted thousands of users. What began as a hodgepodge service expanded quickly. Within months of opening up access, the developers secured sponsorship from recording studios.

Popular Internet magazines such as CMP's *Net Access* in America and Paragon Publishing's *Internet and Comms Today* in Britain track trendy and unusual sites. The May 1995 issue of *Net Access* featured ways to protect one's credit card number and how to spot celebrity impostors online. More potent evidence of the emergence of services designed to attract traffic from the youthful Internet community ap-peared in *The New York Times* on 23 July 1995. In a full-page advertisement to promote the Internet thriller, *The Net,* Columbia pictures advertised *The New York Times's* World Wide Web site for the film.' Consumer activity appears to be most intense in the entertainment-information arena. Typical of the new sites is Rock-tropolis, which was described by a music manager as "a rock'n'roll city."[2] Although these sites are interesting, pacesetter sites do more than promote a film or allow visitor to buy a ticket to a film.

The pacesetter sites create environments with multiple information points and numerous opportunities to involve visitors in the site and introduce, if warranted, a wide range of for-fee services.

Pathfinder: Time Warner creates a brand for youth

As recent Internet surveys have shown, Internet users are more affluent and better educated than other segments of their cohorts. Larger markets draw entertainment companies to the new medium. For example, Time Warner is one of the largest communication companies in the world. Its properties span motion pictures, music, CD-ROM *edutainment* products and books. The firm's Pathfinder site provides a wide range of information and services designed for Internet users interested in the company's information products and services.[3]

Pathfinder is a new brand for Time Warner. The company has a number of high-profile media properties, ranging from the film *Batman* to the business magazine *Fortune.* The Pathfinder site is designed to embrace the whole range of

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[I]   The URL is http://www.777film.com. The film and ticket order hot line is 777-film.
[2]   The Rocktropolis URL is http://www.undergound.net/rocktropolis
[3]   Pathfinder is located at http://www.pathfinder.com

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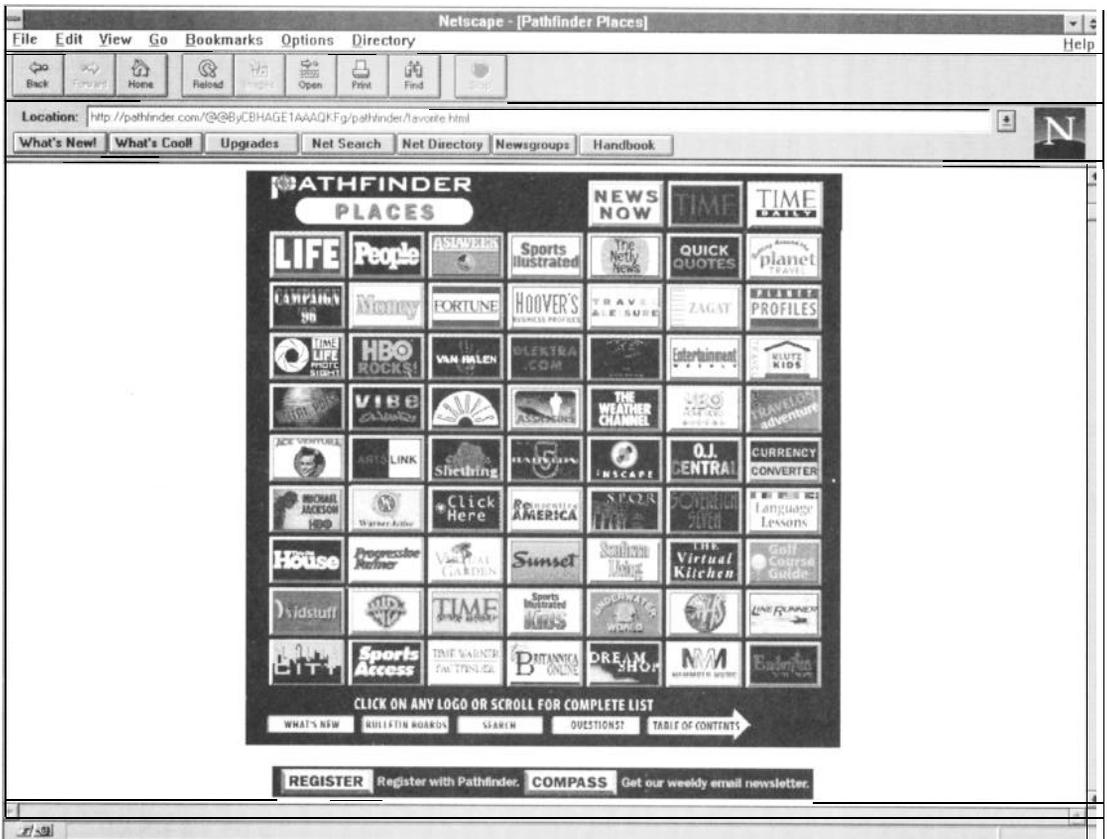
The Time Warner Pathfinder site has been designed to allow point-and-click access to a wide range of information services related to their publishing activities. For example, the site can support access to the text of a small backfile of full-text articles as well as the delivery of real-time digital broadcasts. The presence of Time Warner can be felt in the ESPN. ABC Television and Walt Disney sites.

Time Warner's information offerings. but the emphasis is upon the entertainment offerings.

Pathfinder offers top-flight graphics and original material created for the Internet as a medium. There arc numerous pointers to other sites. The company provides access to a gallery of photographs. Special pages provide information about the company's multimedia products. One of the most popular services was the real-time coverage of the trial of O.J. Simpson. the former American footballer charged with a double murder.

Time Warner properties have a strong product identity; for example. *Money Magazine* for affluent consumers and *Sports Illustrated* for aficionados of various athletic events. The company does not prevent each of these properties from establishing a presence on the Internet. However. the bulk of the firm's Internet development money has been flowing into the Pathfinder site. Time Warner is creating name recognition – a brand name – for the Internet consumer market. The brand gives the firm a way to group and promote its products and services. The

combination of the Pathfinder site and the sites operated by various units give Time Warner a significant Internet presence. [1]

The Pathfinder site is a pacesetter for its brand identity, the wealth of information it gathers for visitors, and the range of information in text and graphical format. What sets the site apart, however, is the structure of the individual services that can support, at some point in time, the direct transfer of a Time Warner album or a Time Warner video directly to the user's personal computer. Pathfinder is a well-designed electronic product delivery system.

The multimedia and interactivity of the site will attract many youthful and young-at-heart Internet users. This segment of the Internet user community represents prime consumers of Time Warner entertainment products. The Internet allows a customer to learn what is new, possibly hear or see a sample of the recording or film, and order it. The Internet becomes the electronic equivalent of the local video rental or record store.

Pathfinder brings one major benefit to its visitors and users: real-time access to the most recent information. In an environment designed for instant gratification and for a market segment keen to have immediate news, Pathfinder represents a new type of delivery mechanism for Time Warner. But it is a delivery channel with one major benefit to the company: there is no middleman between Time Warner and the customer. If Time Warner provides online delivery of its information products, the firm stands to reap considerable financial rewards.

Because Pathfinder allows Time Warner to create content specifically for the Internet, the firm can derive new revenue from the Internet conduit. The site accepts advertising from other firms and provides links to a free trial of online services and even access to such for-fee services as the *Encyclopaedia Britannica.* A link between Disney and ESPN Sportszone, both Time Warner properties, creates a formidable 'supersite' with great consumer appeal.

Can small sites like IUMA compete with giants such as Time Warner? The answer is a qualified "Yes". In the consumer entertainment area, the Internet as a medium is likely to evolve along several different but complementary lines. Small sites can track specific genres or types of entertainment services. However, the giants who control the stars will be able to create high-value products and services because only they have the right to the stars' new material. A similar situation exists for new motion pictures.

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[1]   Late in 1995, Time Warner sold its CD-ROM businesses to focus on the Internet.
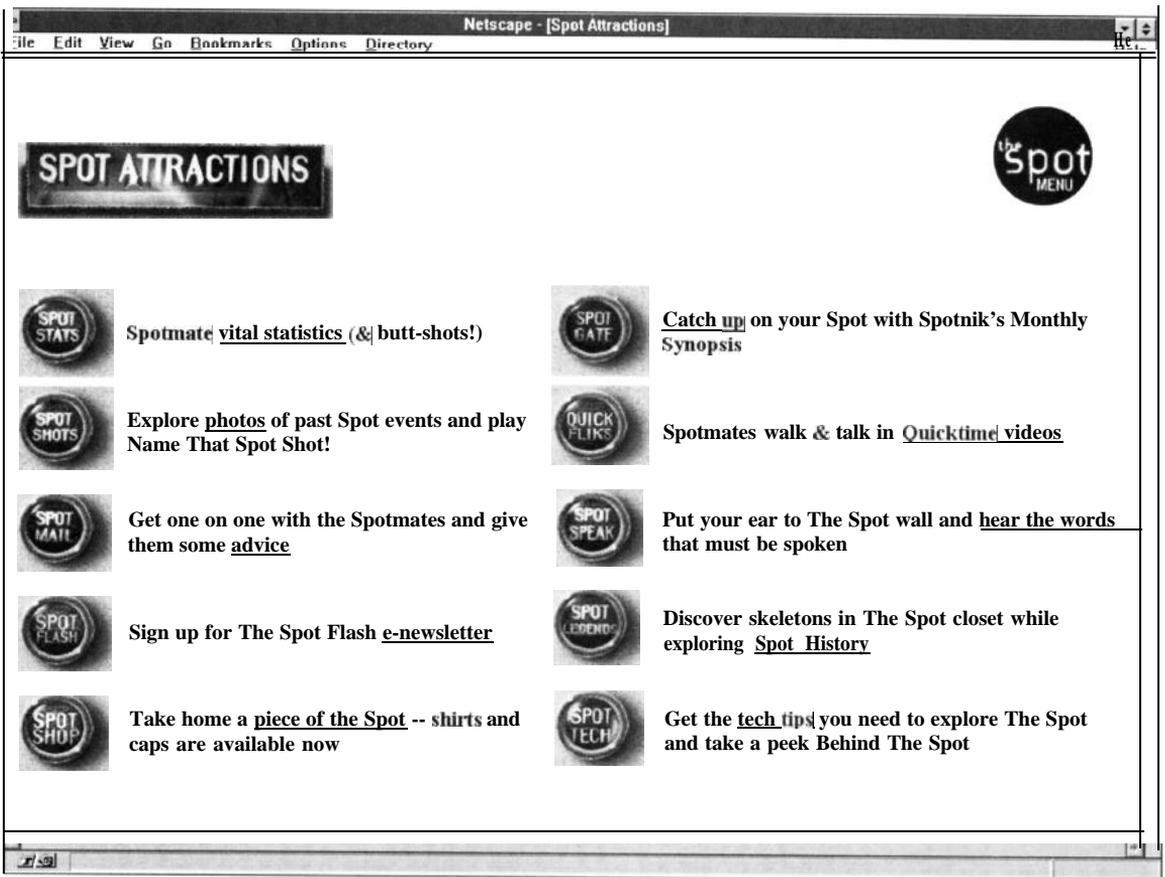
The Spot is the first real-time programming for the Internet. The concept has been expanded by Sony and Visa with their announcement of a site that will feature real-time programming. Both The Spot and Sony Visa activities illustrate how the Internet can absorb and extend another electronic medium. The multimedia PC is the television of the future in the Internet medium. The home page, like Point's, features an image map, not textual hot links.

Games

A two-dimensional page is not the environment for the three-dimensional Web presentations that are becoming more and more common. The VRML or Virtual Reality Modelling Language, and the offspring of Silicon Graphics WebForce tool kits bring online one step closer to interactive, real life environments.

The bandwidth requirement for the 3-D pages on the Internet today is the highest speed connection one can obtain. A T-l connection will do nicely. Three-dimensional graphics point toward an ineptly named *virtual reality*. The connotation of this term is that a user will immerse himself into a digital space that permits walking around, picking up objects and manipulating the environment.

Is this science fiction or 'reality' ? The future can be glimpsed at numerous sites on the Internet. One can watch the beach in Santa Monica, coffee pots in England, and the comer of Hollywood and Vine via Internet video. The most imaginative

demonstrations are sites that showcase the programming talents of people who are experimenting with languages such as Java. A quick visit to Dimension X, Gamelan or Hot Java provides a glimpse of the not-too-distant future.'

The Spot

One site on the Internet that has attracted an estimated 100,000 visitors per day is an Internet soap opera that is evolving towards 'live' animation. Part game, part entertainment, the Spot allows users to follow the daily trials and tribulations of an assortment of characters. The lonely beautiful girl, the handsome man and the scheming wife, interact.

Users can browse the site with a standard PC. With memory and a high-speed communications link, users can listen to the soap opera and watch full motion video of each day's scenes. Users taken with the story can purchase online a Spot hat with a logo for about $17. The potential for further cash transactions is promising.

The environment combines a story-line with user involvement. When fan mail is sent to characters, the characters may alter their behaviour in the next episode. One user wanted a comely young character to appear in front of a refrigerator in a skimpy bathing suit. The next day, the fan's request was honoured – digitally.

The Spot foreshadows the 'televisionisation' of certain Internet applications.[2] The Spot is ripe for advertising sales like many other popular sites. Rabid fans may choose to pay higher fees to read, listen and watch episodes on specific topics with certain characters. Programming advances will make it possible for a user to adopt a character, a digital persona or avatar, and interact in real time with the characters of the soap opera.

How graphic, how real and how far will innovators go with this type of information environment? The popularity of certain news groups and the potential for live audio and animation and video on The Spot and other pages is ample evidence of a market.

The Riddler

The next step beyond a soap opera is game playing for money. The Internet gambling revolution is underway. Sites are operating outside the limits of countries that prohibit gambling. Authorities are struggling with what action to take against various site operators. Virtual Vegas has remained within the United States and the law. It offers a wide range of interactive gaming pages. Other Web pages, particularly those that promise betting by credit card, pose a more serious challenge when operated from Liechtenstein.

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[1]   The URLs for these sites respectively are http//www.dimensionx.com/dnx/java.html – http://www.gamelan.com/gamelan.programming.html – and http://www.javasoft.com.

[2]   The URL is http://www.thespot.com

The Web rhetoric of the pacesetters		
Focus	**Traditional media approach**	**Internet media approach**
Objective	What do we want to tell the reader or user? What is this article, book or CD-ROM about?	What do we want the Internet user to do after interacting with our site?
Design and presentation	How can the information be presented in an optimal way for the selected medium? What kind of media and graphics should we use?	What kind of online interactive experience for our user will let us reach our objective?
Technical focus	What neat graphics or clever tricks can we make for the publication, show or software?	What are the 'cool' experiences the user can have at our site and with our information?
Communication paradigm	Teacher to Student: What can we tell the reader or viewer? How can we impress the reader or viewer?	Conversation between peers: What can we learn from the users? How can the online environment learn and respond to what an individual user does and wants to do?
Content	What information is available that can be re-purposed? How can we demonstrate our intellectual, technical, and graphic skills? What information can we license for new products?	What content will support the experience we have created? How can content be created from other Internet objects? How can our users contribute or create information for this site?

One example of the potential for for-fee gaming is the Web site known as the Riddler. Users do not have to pay to use what is one of the most popular interactive games on the Internet, but registration is required to receive 'play' money.

Users who win can earn prizes. Big winners will receive a real cash payment converted from Riddler money to hard currency. To date, no problems have been reported with the New York authorities. The Riddler could provide a proof of concept for many other for-fee payoff games. [1]

Impact

The idea of real-life digital environments and interactive gaming opens a world of possibilities. True, the technologies can be applied to scientific, medical and literary endeavours. It appears that the broadest application in the near term may be for entertainment and gaming applications.

The irrelevance of distance and server location pose new challenges to those who would enforce standards of behaviour upon Internet users. Enforcement seems to

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[1]   The URL is http://www.riddler.com.

be a near-impossibility. Self-policing has the proper ring but is ultimately dissatis-fying to those who want to censor digital experiences on the global network.

Those who have a thirst for interactive games will be able to develop online applications that push the outer limits of innovation. In Japan, M. Cibaire, a leading Japanese artist, is planning to move his creations from paper and CD-ROM to the Internet. Without belabouring this issue, the Internet is likely to become a torrid environment spawning interactive games, gambling and other types of activities that exploit the promise of a thrill for digital cash.

The directions of change

These pacesetting applications fall into three broad categories. First, there are information services that have their roots in traditional reference and publishing. The pacesetters in this category have moved beyond the boundaries of print and even CD-ROMs by exploiting intelligent software and the real-time, multimedia functions of the Internet into general reference.

Second, there are sites that focus on global commerce. Geographic password control is possible, of course, but for most Internet sites access is global. The Internet brings a range of electronic functions together in one medium. The leveraging of these capabilities can occur locally, regionally, nationally and inter-nationally. The critical mass of users is likely to be a slice of worldwide enterprises. Each will have its own reasons for using the Internet to generate business. The common denominator among these enterprises is the ability to expand markets.

Third, the so-called consumer Internet sites reach segments of the burgeoning In-ternet user community. From a demographic point of view, consumer sites – par-ticularly those aimed at youth markets – will generate revenues from Internet users who have access to the Internet and funds to purchase the products and services marketed. The consumer sites are targeting a world audience, not a local one.

A number of characteristics thread through these pacesetter applications. A site that possesses several of these attributes warrants closer examination:

- *Interactivity.* Pacesetter sites involve the user in a series of linked activities. Although any of these pacesetter sites can be used to locate a specific bit of information, they invite the visitor to explore, play games, trigger automatic events, and so on. Participation builds a more dramatic form of what in direct marketing has evolved to invite the recipient of a mailing piece to punch out a sticker and paste it on an order form. The new medium is inherently interactive.

- *Real time.* Pacesetter sites go to great lengths to provide current information. Virtually all of the pacesetter sites provide dynamic information environments, unlike a CD-ROM which is an historical archive of information. The Internet is organic. Pacesetter sites feed on the user's or visitor's desire to participate in and to influence that environment while online. The knowledge that the information environment is

happening at a particular moment of time exercises powerful appeal when combined with useful and interesting information and services.

- *Scaleable.* Pacesetter sites can add more layers, change and evolve. They are not static. (Contrast any of the profiled sites with a professional or commercial online service dating from the 1980s). The Internet lacks what some critics call "consistency" because of the rapid pace of change. Change, however, must be managed and channelled along the courses cut by user actions. The pacesetter sites can become larger, richer and more comprehensive. The architecture of pacesetter sites exploits the Internet; they are not limited by its technology.

Any of these pacesetter sites can try the boundaries of normal classification. Each of them embodies different Internet functionality in varying ways. The pacesetter sites provide users with an application wrapper or software interface that creates an environment.

Internet publishing becomes a mix of skills just as the sites are a mix of technologies. As a medium, the Internet changes the playing field for many businesses. 'Publishing' becomes more widely available. The type of information that can be published and distributed globally is widened. The technologies provide as much room for the active imagination as any artist's or writer's 'tools'.

Pacesetter sites give this blend of capabilities a digital substance. The new medium invites the extension of reference information into interactive research environments. The concept of making deals expands to embrace a global trading environment where the need for a new type of one-stop service for small- and medium-sized business is obvious.

The consumer sites illustrate that the Internet has the potential to be a powerful new type of entertainment and event platform. The interactivity brings the user closer to the 'star' or the 'celebrity'. The pacesetter sites make evident how short the jump is from reading about a film, examining a digital preview, and ordering online delivery. A similar chain of 'productisation' looms before sports. There are those who will say that sports are for pure pleasure. However, there are millions of Internet users who might seize the opportunity to move upscale on the weekly lottery. Gambling and online information are closely paired. The new medium makes that pairing an obvious product extension of real-time sports information, secure transactions and millions of fans.

The pacesetter sites are in the minority on the undisciplined Internet. They are a conceptual order of magnitude above Web pages of the 'this is my dog' variety.

Several precepts can be extracted from these sites:

- The size of the organisation exploiting the new medium can be as small as one or two people, or as large as thousands. The arbiter of achievement is a good idea, mastery of technology and a willingness to embrace rapid, organic change in the environment of the application itself. Books, motion

pictures and magazines cannot be changed as easily as can products in the new medium.

- The pacesetter sites provide competitors with templates of what to do next and provide good ideas about how to gain an advantage. The one consolation in the new medium is that everyone faces the same forces. Thus, every good Internet site is likely to have its 15 minutes of fame.

- As the technology evolves, the capabilities of the applications created for the new medium become richer. Computer games in the late 1980s were relatively crude. The Internet applications – including those labelled pacesetters – are somewhat uneven. In a few years, the application environments will advance significantly.

What impact will the new medium have upon the established product and service infrastructure? The downsizing and re-engineering activities that have characterised many industries in the 1990s will accelerate. The new medium will provide new ways to accomplish old tasks. The impacts will vary by business sector, country, product line and customer segment. For many established firms, the emergence of Internet publishing will mean opportunities to generate new revenues. For others, network publishing will pose new and escalating challenges to survival.

Once launched, these pacesetter applications ride what can be termed 'vectors of change'. It is largely irrelevant if one or more of these sites shuts down. User demand will create a similar site. Entrepreneurs will listen intently for insights from Internet users who demand more useful application environments. The vectors of change are little more than the enabling technologies and the people who see ways to do something faster, better or cheaper. Like colliding billiard balls, ideas travelling a vector of change move unpredictably and trigger surprising outcomes.