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Z as in Zillman

We are in the process of a true information revolution and ... new web applications as well as [the] ability to identify and harness this information has become the focal point for many, many initiatives. ... We are in truly exciting times ... Marcus Zillman (Canali De Rossi, 2004a).

This is the first in a series of profiles of innovative leaders in the field of information access, organization, and use.

Marcus P. Zillman, MS, AMHA, is a prolific author, keynote speaker, and consultant in the areas of artificial intelligence, information retrieval, intelligent software agents, and knowledge discovery and harvesting (see Plate 1). For more than decade, Zillman has actively created and developed a wide variety of quality web-based resources for the novice and expert (www.linksbymarcus.com).

BotSpot[®]

Among his earliest efforts was the creation of BotSpot[®]: The Spot for all Bots on the Net[®] (www.botspot.com). As defined by hyperdictionary (www.hyperdictionary.com/), a Bot is “[a]ny type of autonomous software that operates as an agent for a user or a program or simulates a human activity. On the internet, the most popular bots are programs (called spiders or crawlers) used for searching.” In its 1997 review, the *Internet Scout Report*, one of the web’s oldest and most respected current awareness services, characterized BotSpot[®] as:

... a large meta-resource for robot and intelligent agent software sites and information. Users can enter via a search or browse gateway to annotated links to bot sites in fourteen subjects including commerce bots, government bots, search

bots, and update bots. There is also a bot of the week, an explanation of bots, and annotated pointers to relevant articles, conferences, FAQ’s, and journals’ (scout.wisc.edu/Archives/SPT-FullRecord.php?ResourceId=2259).

In the first 18 months after its launch in Fall 1996, BotSpot[®] received more 200 awards including the “NetGuide Platinum Award”, the “USA Today HotSite”, the “Scout Report Selection”, “Snap! Best of the Web Winner”, NetGuide’s “Top 10 Internet Sites”, PC Magazine’s “Top 100 Best Web Sites” and PC Review’s “Best Internet Web Site” and was lauded as the definitive resource for bots, intelligent agents and artificial intelligence on the Net (www.botspot.com/newsletter/archives/v1n4.htm). In January 1999, BotSpot[®] was acquired by internet.com Network (www.jupitermedia.com/corporate/releases/99.01.26-botspot.html). Today, BotSpot[®] continues to provide information about a variety of bots and options for downloading and purchase. Among its varied offerings are Search Bots (e.g. “Image Bots”, “Metasearch Bots”, “Newsgroup Bots”), Shopping Bots (e.g. “Auction Bots”, “Shop Bots”, “Stock Bots”), and Tracking Bots (e.g. “E-mail Notification Bots”, “News Bots”, and “Spy Bots”), among many others. After development of BotSpot[®], Zillman developed BotTechnology.com (www.BotTechnology.com), a service similar to BotSpot[®] currently managed by a partner.

Zillman columns

Among the range of value-added services provided by BotSpot[®], then as well as now, are regular newsletters that include profiles of exemplary bots and new additions to the site (www.botspot.com/Newsletter_Archives/).

Since 1996, Zillman has also published regular columns that focus on timely web topics (www.zillmancolumns.com). In 2004, for example, his columns have been dealt with:

- Finding Experts on the Internet (January).
- Finding People Resources and Sites on the Internet (February).
- Privacy Resources and Sites on the Internet (March).
- Survey Resources on the Internet (April).
- E-commerce Resources on the Internet (May).
- Healthcare Resources on the Internet (June).
- Data Mining Resources on the Internet (July).
- Financial Sources on the Internet (August).
- Grid and Distributed Computing Resources on the Internet (September).
- Student Research Resources on the Internet (October).

Columns in the previous year offered a review of Blogs & News Aggregators; Business Intelligence on the Internet; Current Awareness Happenings on the Internet; Listservs[®], Message Boards; Forums on the Internet, and Spam Busters.

His September 2004 column on grid and distributed computing resources on the internet is representative of the format and organization of the column: a PDF file containing an unannotated alphabetical listing of key and quality web sites preceded by a brief introductory paragraph. For select columns, entries are alphabetized within broad categories. For each entry, the title and an associated hotlinked web address are provided (see Figure 1).

Plate 1

Marcus P. Zillman



*Awareness Watch*TM Newsletter

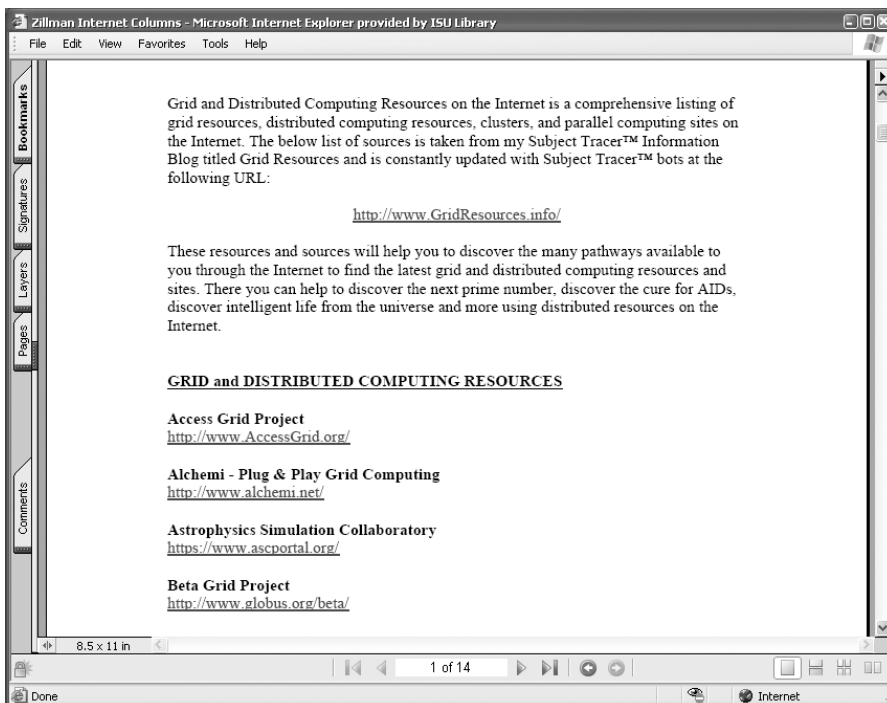
As exemplified by the *Awareness Watch*TM Newsletter (www.awarenesswatch.com), a major theme in the work of Zillman is related to current awareness about quality information web resources. His *Awareness Watch*TM Newsletter is “a free monthly publication that ... highlight[s] the latest resources and sites on the internet that pertain to current awareness happenings, new and reviewed sources

for research and search, knowledge discovery, data mining and related updates and alerts. Each newsletter ... focus[es] on sites specializing in new topical content for specific research sources ... ” Each issue of the *Awareness Watch*TM Newsletter, lists resources in the following categories: “Awareness WatchTM Featured Report”, “Awareness WatchTM Spotters”, “Awareness WatchTM Book Review”, and “Subject TracerTM Updates”. First published in December 2003, issues of this newsletter have profiled a range of web sites and resources that include:

- Anti-Virus, Anti-Hoax, Anti-Myth, Anti-Fraud, Anti-Chain Letter and Anti-Spam sites on the internet.
- Browsers and Information Visualization Tools.
- Business Intelligence Resources.
- Deep Web and the Invisible Web.
- Demographics and Statistics Resources.
- Information Alerts.
- Knowledge Discovery, Knowledge Management and Knowledge Harvesting Sources.

Figure 1

Section of the first page of column about grid and distributed computing resources with an introductory paragraph and initial entries



- Niche Blog Search Engines, Blog Directories, and Web-based News Aggregators.
- Quality Information Resources.
- Subject Directories, Gateways, and Portals.

The newsletter contains unannotated alphabetical listings of key and quality web sites in appropriate categories with their respective and associated hotlinked web address (see Figure 2). The typical newsletter is approximately 20 pages long in PDF format (see also Dillard, 2004).

In addition to providing listings of key topical web resources, the newsletter includes brief book reviews on a variety of internet and web-related topics (e.g. Legal Issues Relating to Free and Open Source Software, Spidering Hacks, Web Dynamics) and a listing of his current Subject TracerTM Information Blogs, a novel publishing initiative that uses bots, blogs, and news aggregators to “create a current information resource through niched subject tracers.”

Subject TracerTM Information Blogs

One of the most innovative publication series developed by Zillman is his Subject TracerTM Information Blogs (www.subjecttracer.com). As described by Zillman, “a subject tracer is a blog created with the help of bots that monitor/collect the latest information on a subject on the Net” and “then update the [Subject TracerTM] blogs after determining the quality and competency of the source and data” (Murali, 2004).

The topics and themes of the Subject TracerTM Information Blogs are varied and cover such broad subjects as:

(1) *Agriculture and the Life Science*

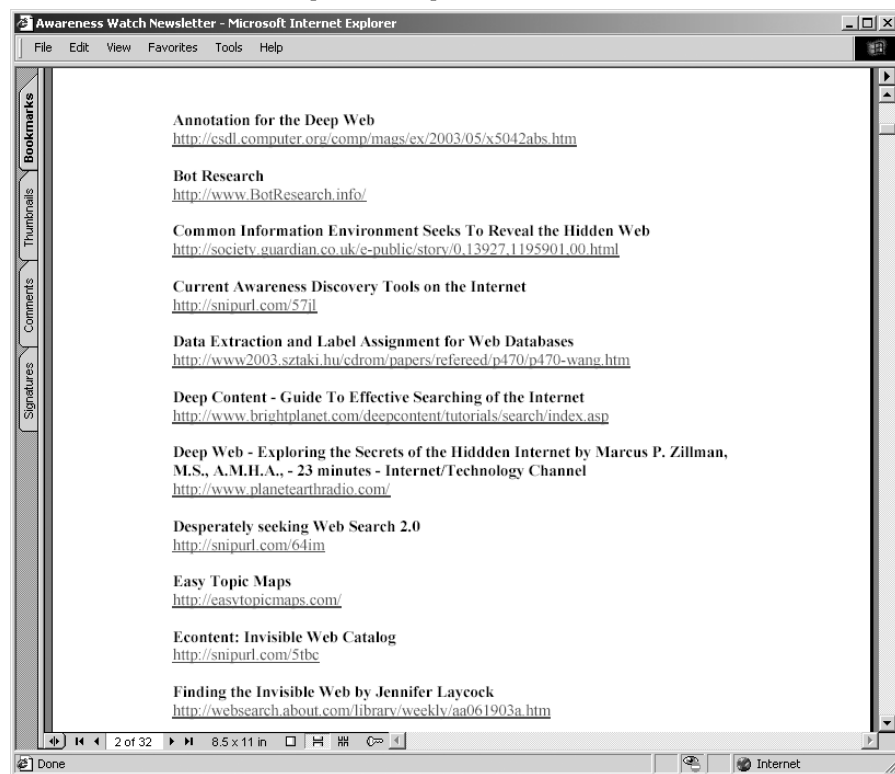
- Agriculture Resources (www.AgricultureResources.info).
- Biological Informatics (www.biologicalinformatics.info).
- Unique Genes (www.UniqueGenes.us).

(2) *Business and Economics*

- Business Intelligence Resources (www.biresources.info).

Figure 2

Select entries in the Awareness Watch™ Featured Report section in the Awareness Watch™ Newsletter developed to Deep Web and Invisible Web resources



- Employment Resources (www.EmploymentResources.info).
- eCommerce Resources (www.eCommerceResources.info).
- Financial Sources (www.FinancialSources.info).
- Information Futures Markets (www.InformationFuturesMarkets.com).
- Outsourcing/Offshoring Information and Resources (www.OutsourcingOffshore.us).

(3) *Computer Science and Internet*

- Artificial Intelligence Resources (www.AIResources.info).
- Bot Research (www.botresearch.info).
- ChatterBots (www.ChatterBots.info).
- Data Mining Resources (www.DataMiningResources.info).
- Deep Web Research (www.deepwebresearch.info).
- Grid Resources (www.GridResources.info).
- Internet Demographics (www.internetdemographics.info).

- Internet Hoaxes (www.internethoaxes.info).
- Knowledge Discovery (www.knowledgediscovery.info).
- ShoppingBots (www.ShoppingBots.info).

(4) *Health and Medicine*

- Healthcare Resources (www.healthcareresources.info).
- RestStress™ (www.RestStress.com).

(5) *Reference*

- Directory Resources (www.DirectoryResources.info).
- Finding People (www.Finding-People.info).
- Genealogy Resources (www.GenealogyResources.info).
- Grant Resources (www.GrantResources.info).
- Information Quality Resources (www.InformationQualityResources.info).
- Internet Alerts (www.internetalerts.info).

- Internet Experts (www.internetexperts.info).
- Reference Resources (www.ReferenceResources.info).
- Research Resources (www.researchresources.info).
- Statistics Resources (www.statisticsresources.info).

(6) *Science and Technology*

- Astronomy Resources (www.AstronomyResources.info).

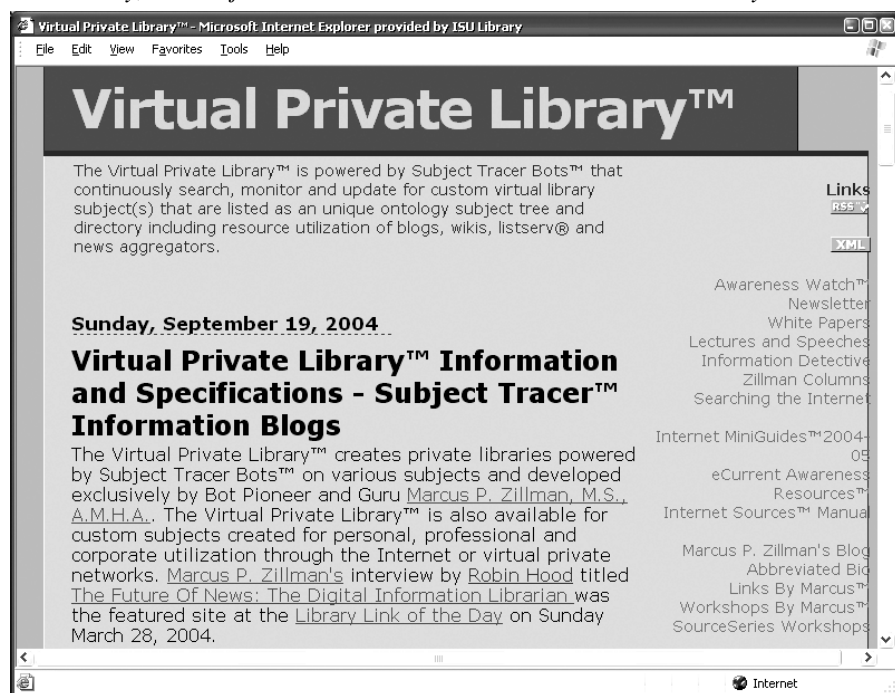
Auction Resources (www.AuctionResources.info), Elder Resources (www.ElderResources.info), Games Resources (www.GamesResources.info), Privacy Resources (www.privacyresources.info), Student Research (www.studentresearch.info), Theology Resources (www.TheologyResources.info), and Tutorial Resources (www.tutorialresources.info) are among the other available subject tracers. The format of a typical Subject Tracer™ Information Blog is similar to that of the other resource compilations prepared by Zillman: an introductory description, followed by a categorized (or uncategorized) listing of resources; for each entry in the listing, the title and an associated hotlinked web address are provided. Collectively, the subject tracers constitute the Virtual Private Library™ (www.virtualprivatelibrary.com) (see Figure 3).

Books

Zillman's publication efforts are not limited to compilations of quality web-based resources. He is also the author of two major books: *Internet Sources™ Manual* and *Mining the Invisible Web. The Internet Sources™ Manual* (www.internetsources.info) is "a 378-page manual listing all the very latest and greatest sources and [web] sites ... that have been compiled over the [course] of the last ten years by surfing, browsing and using ... Subject Tracer Bots™". Of particular note is its coverage of Invisible Web and Hidden Web resources. Its chapters include:

- Advertising, Marketing and Public Relations Sources.
- Articles, Abstracts, Documents, Papers, Reports and Literature Sources.

Figure 3
Collectively, the subject tracers constitute the Virtual Private Library™



- Business Sources.
- Competitive Intelligence Sources.
- Current Awareness Sources.
- Education and Distance Learning Sources.
- Healthcare Sources.
- International Trade Sources.
- Legal Sources.
- Security Sources (<http://ecurrentawareness.blogspot.com/Internet%20Sources%20Book%20TOC.pdf>).

In addition to chapter-specific categories, “Research Sources”, “Reference Sources”, “Search Engine Sources”, and “Directory and Database Sources” are the typical topics found within most chapters.

Coauthored with Sundar Kadayam, *Mining the Invisible Web* (www.miningtheinvisibleweb.com) provides a comprehensive and detailed review of significant hidden web resources and the tools necessary to identify and harvest such resources. Its chapters include:

- What Motivated “Mining the Invisible Web”?
- What is the Invisible Web?
- How to Access the Invisible Web?
- Beyond Access – Mining the Invisible Web.
- General Tools to Mine the Invisible Web.

- Emerging Applications of Mining the Invisible Web.
- Invisible Web Applications for Specific Industries.
- Systems for Mining the Invisible Web.
- Issues with Mining the Invisible Web.
- The Future.

In addition, the book includes an “Appendix” (www.miningtheinvisibleweb.com/appendix.htm) that provides “Case Studies”, “Industry Guide to the Invisible Web” (e.g. advertising/marketing, engineering, pharmaceutical/biotechnology, etc.) as well as a brief bibliography (www.miningtheinvisibleweb.com/appendix.htm), and “Index”.

Internet MiniGuides™

Many of the topics found in Zillman’s web-based compilations are covered more extensively in a “miniguide” series. The current *Internet MiniGuides* (www.internetminiguide.com) include:

- Academic Resources.
- Advertising, Marketing, and Public Relations Resources.
- Business Resources.
- Competitive Intelligence Resources.

- Education and Distance Learning Resources.
- Healthcare Resources.
- International Trade Resources.
- Legal Resources.
- Security Resources.

Each *Internet MiniGuide* contains “... hundreds of the very best links to relevant and competent resources. All links are listed with complete URLs and verified for activation. The various sections of each miniguide have all links listed alphabetically for quickness and ease of use. Each miniguide comes with a section on research resources, reference resources, search engine resources, directory and database resources, and a resource listing targeted at the subject of the miniguide.” The current (2004/2005) editions of these annual guides are of varying pagination ranging from a minimum of 41 pages (advertising, marketing and public relations resources) to a maximum of 70 pages (business resources). Each *Internet MiniGuide* is available as an on-demand purchase in PDF format through DigiBuy (www.digibuy.com) – the “electronic commerce solution for publishers of software, shareware, electronic art, information, and data”, individually or by selecting from a publications list (www.digibuy.com/cgi-bin/order.html?zillmanusa). In addition to the miniguide series, readers can also purchase the *Internet Sources™ Manual* as well as *eCurrent Awareness Resources 2004-2005 Business Intelligence Report*, a 42-page specialized report “listing all the very latest current awareness resources and [web] sites ... that have been compiled over the last ten years by surfing, browsing and using his Subject Tracer Bots™” (www.ecurrentawareness.com).

White papers

To complement or supplement his other resource compilations, Zillman has prepared a variety of brief “White Papers” (www.WhitePapers.us), many of which are routinely updated. As of mid-September 2004, Zillman offered the following white papers:

- Bots, Blogs and News Aggregators.
- Current Awareness Discovery Tools on the Internet.

- Deep Web Research.
- Online Research Tools.
- Online Social Networking.
- Searching the Internet.
- Using the Internet as a Dynamic Resource Tool for Knowledge Discovery.
- Web Data Extractors.

As with his other publications, the White Papers are categorized lists in PDF format of resources with their respective associated web addresses; unlike his other compilations, however, the Zillman White Papers include more extensive commentary as well as embedded screen prints. Zillman also offers White Paper links from within many of his Subject Tracer™ Information Blogs (e.g. Business Intelligence Resources, Finding People, ShoppingBots, etc.).

Current awareness happenings on the internet

In his effort to educate readers and users about quality web resources, Zillman has not limited his compilations to PDF or HTML documents. Since May 2003, he has also offered Current Awareness Happenings on the Internet (<http://listentomarcus.blogspot.com>), audio commentaries on select resource topics (e.g. artificial intelligence, "Finding People Resources and Sites on the Internet", "Web Data Extractors", etc.) as well as select resources (e.g. "RSS(sm): Rich Site Services"). In general, a link to an associated MP3 audio file and associated Zillman resource guide are provided for each feature topic or resource in this series.

Watch Marcus™

For the past few years, Zillman has also produced a variety of web-based video programs. In 1996, he launched a "fast-paced" cable television series titled *Internet 101*, which offered 30-minute introductory presentations on various aspects about the internet and its range of quality resources and sites for "newbies" as well as "seasoned veteran of networks". "Current Awareness Resources" (Program 5), "Internet Virus and Hoax Resources" (Program 31), and "Virtual Libraries" (Program 32) are examples

of the more than 160 programs in the series which concluded in 2000 (www.watchmarcus.com).

More recently Zillman inaugurated a series of video tutorials on the internet and its resources, namely his Information Detective series (zillman.blogspot.com/2004/07/information-detective-free-online.html), in which he talks live and presents spontaneously in front of the camera while relevant graphics fill the background just like we see during a weather forecast. Topics are light (Search engines and how to find information on the internet) but highly useful ones for internet novices and readers interested in understanding more about the online world and how to live in it. The mini-clips are all four-minutes long and can be viewed with dial-up or broadband connections (Canali De Rossi, 2004b).

Current segments of Searching the Internet, the first program in the Information Detective series, include an "Introduction", and discussions about "Search Engines" "Internet Directories", "Intuitive Searching" and "The Invisible Web" (www.informationdetective.com) (see Figure 4). Recently, "Finding People on the Internet", the second "segment" in

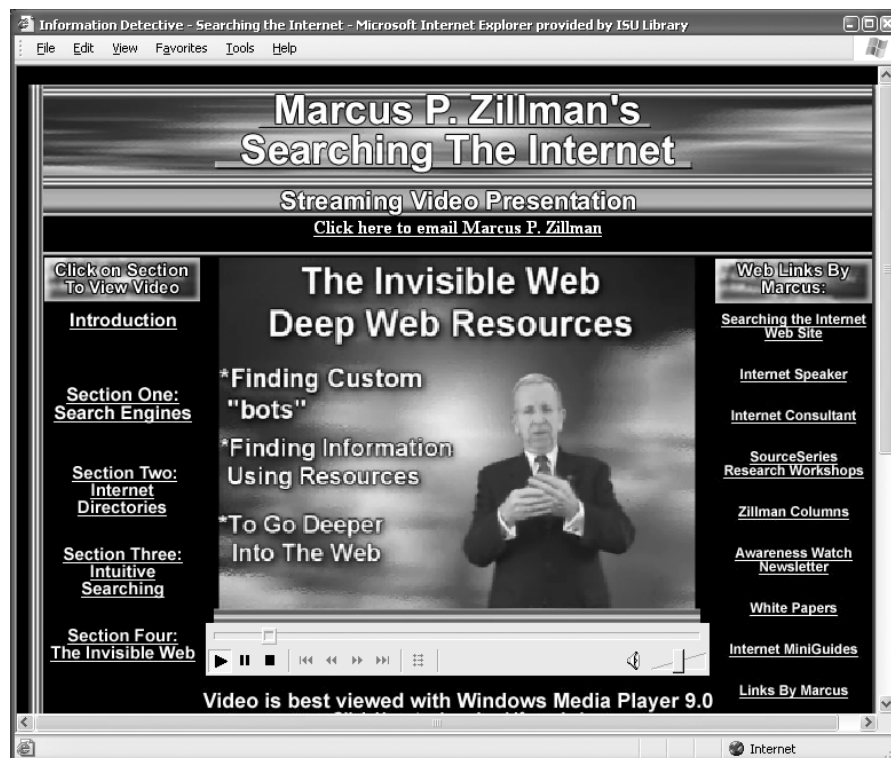
the series was made available (www.in-sightstudios.com/MarcusPZillmanVideoWeb/FindingPeople512.htm), and also embedded within his "Finding People" Subject Tracer Information Blog (www.FindingPeople.info). Future programs in the Information Detective series include :

- Finding Experts on the Internet.
- Healthcare Resources on the Internet Information Quality Resources.
- Netiquette – The Etiquette of the Internet.
- Employment Resources on the Internet.
- Data Mining Resources on the Internet (zillman.blogspot.com/2004/07/information-detective-free-online.html).

In addition to his past and current series, Zillman has made available other streaming presentations, notably his lecture given at Florida Gulf Coast University based on his "Bots, Blogs and News Aggregators" site and white paper (www.BotsBlogs.com), and presentations on ShoppingBots and "Links by Marcus" (www.in-sightstudios.com/marcusPage.htm). The Information Detective series, as well as

Figure 4

Screem print from a section of Zillman video tutorial on Search the Internet



his other video programs and presentations, are best viewed using the Windows Media Player 9.0 (or higher).

Workshops by Marcus™

In addition to his web-based presentations, Zillman has also offered one- and two-day workshops (www.workshopsbymarqus.com). His current workshop series, SourceSeries Internet Research (www.sourceseries.com), is “fast paced, competency based, designed both for the newbie to the Internet as well as the seasoned veteran with ... [many] excellent examples and bookmarks!” Current workshops in the series include:

- Advertising, Marketing and Public Relations Research Sources on the Internet Workshop.
- Academic Research Sources on the Internet Workshop.
- Business Research Sources on the Internet Workshop.
- Competitive Intelligence Research Sources on the Internet Workshop.
- Education and Distance Learning Research Sources on the Internet Workshop.
- Healthcare Research Sources on the Internet Workshop.
- International Trade Research Sources on the Internet Workshop.
- Legal Research Sources on the Internet Workshop.
- Security Research Sources on the Internet Workshop (www.workshopsbymarqus.com).

Personal Blog

Using the Blogger.com system, Zillman also offers a personal blog (www.zillman.us) that provides descriptions of significant internet resources and profiles new additions to his various user aids, with an average of six to eight posts each day. As of late September 2004, more than 2,500 entries have been posted. A sampling of recent posting to the blog, titled Marcus P. Zillman: Internet Happening, Events, and Sources, include:

- AGORA: Access to Global Online Research in Agriculture (www.aginternetwork.org/en/).
- California Digital Library (www.weforum.org).
- LLRX.com, the award-winning Webzine that provides outstanding “legal and technology articles and resources for librarians, lawyers, and law firms.”
- Medline Plus, a “goldmine of good health information from the world’s largest medical library, the National Library of Medicine” (www.medlineplus.gov).
- Subject Pathways from the EnergyFiles (energyfiles.osti.gov).
- Tibetan and Himalayan Digital Library (iris.lib.virginia.edu/tibet/index.html).
- US Federal Government Agencies Directory (www.lib.lsu.edu/gov/fedgov.html).
- Web Based Learning Resources Library (www.knowledgeability.biz/weblearning/).
- World Economic Forum (www.weforum.org).
- Zillman Column (October 2004) (www.zillmancolumns.com).

Many of the items listed in his blog are subsequently in his other information compilations (e.g. Subject Tracer Information Blogs). In addition to his personal blog, Zillman is the editor of the “Search Engineer Channel” for Lockergnome (channels.lockergnome.com/search/) a resource for people who are curious about the world of technology around them,” for which he contributes a half-dozen postings each day. In this channel, as well as his personal blog and other resource compilations, Zillman provides web feeds, XML files which allow readers to subscribe to automatic updates to site content (McKiernan, 2004).

Ten years and counting

For more than a decade, Marcus P. Zillman has been actively involved in identifying, organizing, and promoting the use of quality web resources. Over

this period, he has created numerous integrated resource guides, exploiting the current and emerging technologies of the era to facilitate access and use of information sources by the novice as well as the expert user.

ACKNOWLEDGMENT

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