

Hill House Association
Student Consultant, John Steggles
Community Partner, Ed Jackson

I. Context Analysis

Organization

The Hill House Association (HHA) is a multi-purpose social service agency whose mission is to provide constructive programs and services to the residents of the Hill District community. Through its offerings the HHA is able to assist in areas of health care, child care, housing, and unemployment, as well as many others.

Because of its central location at 1835 Centre Avenue, the HHA is easily accessible to the Hill District residents. It's not uncommon to see its classrooms and computer labs filled with children, the administrative offices buzzing with things to do, or even preparations for weddings or concerts being made in its auditorium. The HHA is the *heart* of the Hill District.

The HHA has been in existence for over 35 years and was originally created by the merger of three formerly separate agencies providing services to Hill District residents since the early 1900s. The organization operates on a budget in excess of \$4.3 million annually. Much of this funding comes from the United Way, as well as from independent grants and donations.

The HHA is fully aware of the potential of computer technology, and has made an active effort to incorporate it in as many of its programs as possible. There are five computer labs available to the community, with a sixth currently under construction. Stocked with new machines, these labs are intended as a means to enhance computer literacy, as well as supplement the HHA's educational programs. Computers can be found in nearly all of the staff offices as well. Ed Jackson, the Technology Coordinator at the HHA and Community Partner (CP) for this consultation, is responsible for managing all of this computer technology.

Facilities

The facilities of the HHA are spread across a campus of three buildings: the Department of Education and Support Services (DESS) building, the Blakey Program Center, and the Kaufmann Auditorium and Canteen. There is also a fourth building, the Senior Citizen Services building, located nearby on Bedford Avenue. The buildings themselves are kept polished and up to date, and provide varying functionality. Though each building serves a unique intent and purpose, at least one computer lab can be found in each. Additionally, the buildings are all interconnected via fiber optic cabling, which provides data and communications connectivity. It is in the Blakey Program Center that the office of the Technology Coordinator can be found.

Programs

The HHA offers a comprehensive set of human service programs to the Hill District community. Though each program varies in its offerings, they all strive to make the Hill District a better place. A short summary for each program is provided in [Appendix A](#).) Though the programs themselves vary dramatically, nearly all of them make extensive use of computers as a means of information tracking, a teaching aide, or some other purpose.

Staff

Approximately 45 part-time and 75 full-time employees work at the HHA, including counselors, service providers, and clerical and administrative staff, just to name a few. Nearly all of the staff members use computers as part of their daily job functions. Though the HHA does not offer any technical training programs for the staff, the Technology Coordinator has mandated that everyone be capable of at least e-mail and Internet use. To that end, technical problems are generally forwarded to the Technology Coordinator.

Technical Environment

The first thing to note about the HHA is that it has lots of computers—in the hundreds. All of the computers are PC-based, at least of Pentium standing, and are fully networked. Most of the machines are manufactured by Dell, and the Technology Coordinator indicates that the majority of machines purchased in the future will also be Dells.

The operating system on most of the machines was recently upgraded from Microsoft Windows 98/2000 to Microsoft Windows XP. Each machine also includes a copy of Microsoft Office 2000, and a host of other applications specific to that computer's use. That is to say, in the children's computer labs software such as *The Magic School Bus* is installed, and in the adult computer labs GED preparation software is installed.

Across the entire organization all of the computers are interconnected via a single peer-to-peer network, which connects to the Internet via a 10 Megabit satellite connection. The network is shared with other agencies leasing office space from the HHA, and because of its peer-based design all of the machines on the network are transparent to each other. (A full listing of these agencies can be found in [Appendix B](#).) The Technology Coordinator is currently addressing this problem by attempting to transition to a client-server network. The client-server network would also allow the HHA to serve applications and remotely administrate their computers.

Technology Management

Acquiring new computers is not so much of an issue at the HHA as the actual management of what they currently possess. Ed Jackson is in charge of technology management at the HHA. In addition to introducing and implementing new technology schemes, he is also responsible for installing, maintaining, and troubleshooting the systems currently in place. He also provides technical assistance to staff and community members experiencing computer difficulties. In sum, he's a busy man.

Internal & External Communications

Internal communication at the HHA consists of telephone, fax, e-mail, Instant Messenger, and face-to-face contact—with e-mail and telephone as the most predominant forms of communication. As an example, when a staff or community member has a computer problem they usually send Ed Jackson an e-mail or otherwise give him a call. Responding to these technical support inquiries consumes about half of Ed Jackson's daily activities.

Everyone at the HHA, as well as the entire world, has access to the HHA's website located at <http://www.hillhouse.org>. The website provides a wealth of detailed information about the HHA; including the programs and services offered, contact information, and more. ([Appendix C](#) includes a screenshot of the HHA's home page.)

II. Consulting Objectives

Consulting Objective: Reduce Burden on Ed Jackson (Technical Support System)

Objective: To achieve a 5 to 10 hour per week reduction in the amount of time spent by Ed Jackson responding to common, recurring technical support inquiries—accomplished by the end of the semester.

The HHA makes extensive use of computers in its efforts to provide programs and services to the Hill District community. In charge of these computers is Ed Jackson, the Technology Coordinator. Because he must respond to a high volume of technical support inquiries, of which many are similar in nature, he cannot push forward new technology initiatives.

Therefore, the consulting task was to reduce the volume of technical support inquiries to Ed Jackson, thereby reducing the amount of time necessary to respond to them, and increasing the time he has to spend on new technology initiatives.

After a thorough contextual analysis, the CP and the consultant determined a technical support system would be the best remedy for the situation. The system would include simple, illustrative technical solutions that would initially address the ten most common inquiries. Furthermore, it would be accessible from any computer with Internet access via an online website. The website would allow its users, the staff and community members of the HHA, to search and print it. It would also have administrative functionality, allowing Ed Jackson to add, edit, and delete technical solutions as he desired. Staff and community members would be asked to refer to the system prior to contacting Ed Jackson. This approach was expected to be financially attainable and eventually lead to a reduction in the technical support inquiries made to Ed Jackson. (A detailed work plan can be found in [Appendix D](#).)

By the end of the semester, the CP and the consultant expected to observe the following impacts:

Staff

- + A reduction of 5 to 10 hours per week in time spent by Ed Jackson responding to technical support inquiries.
- + An increase in productivity of staff members. That is, the staff can quickly resolve their problem by using the system instead of trying to contact Ed Jackson for help, and as a result devote more time to their work. This productivity increase was to be assessed qualitatively.

Technical Environment

- + An increase in time to spend on the peer-to-peer to client-server network transition.
- _ The permanent loss of 1 computer to host the technical support system. Though the technical support system could be integrated with the HHA's current web server, it was decided to avoid this because they are transitioning to a new one.

Technology Management

- + An increase in time to manage more pressing technology issues at the HHA, as well as time to develop new technology schemes.
- + A system for tracking and responding to technical support inquiries.

Internal & External Communications

- + A decrease in the volume of e-mails and telephone calls to Ed Jackson regarding technical support.

III. Outcomes and Recommendations

Objective Outcome: Burden on Ed Jackson [Partially] Reduced

Because of time constraints, the entire consulting objective was not met. Essentially, one half of the technical support system was developed and deployed—the administrative side of the system. To realize a full development and deployed of the system (that is, to the staff and community members) would require more time—something both the CP and the consultant were short on. It is recommended to future consultants doing a similar project that they carefully analyze their scope of work and determine whether each step is fully attainable within the allotted time period. Also, the consultant should sacrifice quality in the face of deliverability.

The development of the technical support system has, however, resulted in the following outcome:

Outcome: Technology Coordinator can track technology problems and develop solutions

The Technology Coordinator now has a system in place that allows him to track technical support inquiries at the HHA. With each technical support inquiry he receives, he can now log the problem into the system and develop its solution (see [Appendix E](#)), which can be easily summoned for its re-use at a later date (see [Appendix F](#)). This is in contrast to the former process of simply receiving and responding to technical support inquiries.

This outcome expands the capacity at the HHA by allowing for better management of its current technology resources. That is, the Technology Coordinator can see where the bulk of the problems are coming from and perhaps address that area. Also, the technical support system provides the Technology Coordinator with a knowledge database, so he does not have to spend time developing new solutions to old problems.

The outcome is sustainable because the technical support system is sustainable. That is, the entire system has been developed so that it requires little technical knowledge to keep it alive. An easy to use interface allows its administrator, the Technology Coordinator, to manage all of its aspects—including the adding, editing, and deleting of technical support entries in the system. Also, any hardware difficulties are manageable through the expertise of the Technology Coordinator. The system itself has been provided with technical support documentation that the Technology Coordinator can refer to should he have any additional difficulties.

The outcome has resulted in a new vision of how technology can be used at the HHA. In essence, the technical support system creates a more formal system of problem logging and response at the HHA. Because the Technology Coordinator can better manage the HHA's computer resources, he now has more time to expand upon them.

Recommendation: Complete staff and community members' side of the system

To fully realize all of the consulting objectives it is recommended that the development of the technical support system be completed. In this recommendation, the staff and community members' side of the system should be developed and deployed in the organization. As a result, it is expected that the volume of technical support inquiries to Ed Jackson will decrease, staff members will be more productive in their work, and ultimately there will be more time for Ed Jackson to put forth new technology initiatives.

Because the consultant has a vested interest in seeing the technical support system fully completed, he recommends the following steps to achieve this outcome:

- The CP and the consultant should maintain their current partnership throughout the month of December and into the following year.
- Meet on a weekly basis to review progress and provide each other with feedback.
- Complete development of the staff and community members' side of the system.
- Deploy the system organization-wide and monitor its usage with the staff and community members.
- Finally, address any bugs or functionality issues in the system.

This recommendation requires very little in terms of resources. Essentially, the CP and the consultant must be willing to devote additional time to realize the full completion of the system [both of which have acquiesced].

IV. Additional Recommendations

The following are additional recommendations to the HHA—they were not attended to because they were outside the scope of the consulting work:

Additional Recommendation 1: Write a Formal Technology Plan

The source of this recommendation is from the *Technology Literacy Benchmarks for Nonprofit Organizations*. This publication is an industry-standard document representing the best practices for appropriate, efficient and sustainable technology use in nonprofit organizations. An excerpt from page 10 reads: (A screenshot of the excerpt and link to the document can be found in [Appendix G](#).)

“Your organization should have a two- or three-year written technology plan that is integrated into your organization’s overall strategic plan and/or annual program plan.”

Currently, no formal technology plan exists at the HHA. Without a technology plan, the HHA suffers from indecisiveness and lack of schedule-keeping. Lofty goals, such as transitioning from their peer-to-peer network to a client-server network, are difficult to achieve in a timely manner.

The HHA often finds itself reacting to problems or rolling-out new technology schemes on an *ad hoc* basis. A technology plan would allow the HHA to take a proactive approach to their use of computer technology. By developing a technology plan, the HHA would be better able to control its current computer resources, as well as define a strategy for implementing additional resources.

In implementing this recommendation it would first be important to declare a *champion* of the technology plan. The champion is a high-level project sponsor who supports the project by providing time and resources, and helps to communicate the plan’s importance to other organizational decision makers. This role might best be filled by the Technology Coordinator, Ed Jackson. In preparing the technology plan the HHA should consult several outside resources, so as to obtain expert assistance and an objective perspective. One such resource is the Executive Services Corp, which provides low-cost strategic assistance for non-profit organizations in the Pittsburgh area. They can be contacted by e-mailing one of its members, Charles J. Pfeifer [cjpfeifer@adelphia.net]. The plan itself would detail the technology goals of the HHA for the next 2 to 3 years, a strategy for achieving them, and other elements such as budgetary and resource constraints.

This recommendation can only begin when the HHA makes an active effort to devote the necessary resources to the development of the technology plan. A project champion must be declared. Knowledge must be acquired from outside resources. And time must be set aside by all key stakeholders to review and implement the technology plan.

Additional Recommendation 2: Update and Clarify Website

The source of this recommendation is again the *Technology Literacy Benchmarks for Nonprofit Organizations*. Excerpts from pages 31 and 32 together read: (Screenshots of these excerpts can be found in [Appendix H](#).)

“Your organization should have a simple website that acts as an online brochure...with interactive opportunities... integrated into your overall communications strategy...and should be updated regularly.”

Offering a website of their organization to the residents of the Hill District and the Pittsburgh area allows the HHA to provide more complete and accessible information to the community. Currently, their website includes descriptive information about the HHA’s mission, its programs and services, as well as contact information (see [Appendix C](#)). Though the information provided is comprehensive, it is structured poorly and in some cases out of date. A clearer and updated website would better represent the HHA, and perhaps elicit a greater response from the community to use its services.

According to both staff and community members, the inadequacy of the current website results in the following problems: a) It is difficult for the website’s users to access the necessary information. As a result, they are turned off from or even completely unaware of the services the HHA has to offer. b) The disorganized look and feel of the website fails to represent how comprehensive and resourceful the HHA truly is. This, in turn, gives its users a bad impression of the organization.

Because the HHA is a rather large organization, a broader online communications strategy should be developed. The strategy should ask: a) What message or information are they trying to convey? b) What and who is the website expected to bring back to the HHA? c) How can they use the website to advance their mission? The development of this communications strategy should act as a catalyst and a guide for starting work on a new website.

Before starting work on a new website, the HHA should try to create a website development plan. Much like a technology plan, the website development plan would be useful in defining a clear set of goals, a strategy for achieving them, as well as consideration for time and budget constraints. It would then be a good idea to consult a website designer to assist in deciding on the website’s layout, graphics, colors, and fonts [one might be found at <http://www.techsoup.org>]. Once the website has been constructed, the HHA should identify someone who can maintain it and provide it with regular updates.

About the Consultant

John Steggle is an undergraduate student at Carnegie Mellon University pursuing majors in Information Systems and Economics and minors in Computer Science and Business Administration. In addition to his coursework, he teaches several introductory computing classes to other Carnegie Mellon students. Recently, John has incorporated a student-run pick-up and delivery laundry service, though that bears no relation on his future plans to become a leading technology specialist on Wall Street.

Programs at the HHA:

Youth Education and Support Services (YESS)

YESS is a program designed to address the problem of teenage pregnancy. It was created to provide GED and vocational training, career exploration, job placement assistance, and support services to teenage parents 17 to 25 years of age. The support services are child care, housing assistance, stipend allowance, health and medical services, socialization/recreation, parenting, counseling, and so forth. The program offers educational and employment opportunities and support services to the teenage parent, the child at risk, and the grandparent.

New Opportunities for the Aging (NOFA)

NOFA was chartered in 1971 to provide innovative and quality support services for older citizens of the Hill District. For three decades, NOFA has served as a viable alternative to loneliness, isolation, and institutionalization for 2,500 persons 60 years of age or older. NOFA responds to the needs of the older population who live in the Hill District, Oakland, Polish Hill, the Bluff, Downtown, and lower Lawrenceville.

Family Self-Sufficiency

The Family Self-Sufficiency program is designated to those recipients who are already on Section 8 Housing. The recipients volunteer to participate in the program so as to become entirely “system-free”. In the program each participant establishes an Action Plan formulating his/her goals and objectives. This Action Plan enables the HHA to assess and determine the participant's needs, such as child care assistance, job training, going back to school, clothing for newborns, transportation service, letters for referrals and resume, and so forth.

Child Care

The HHA's Child Care program provides instruction, support, and guidance to children ages 2 1/2 to 5. The program provides basic educational skills and computer exposure, preparing children to excel in kindergarten. Children are nurtured through a variety of field trips, arts and crafts programs, story telling, and play periods.

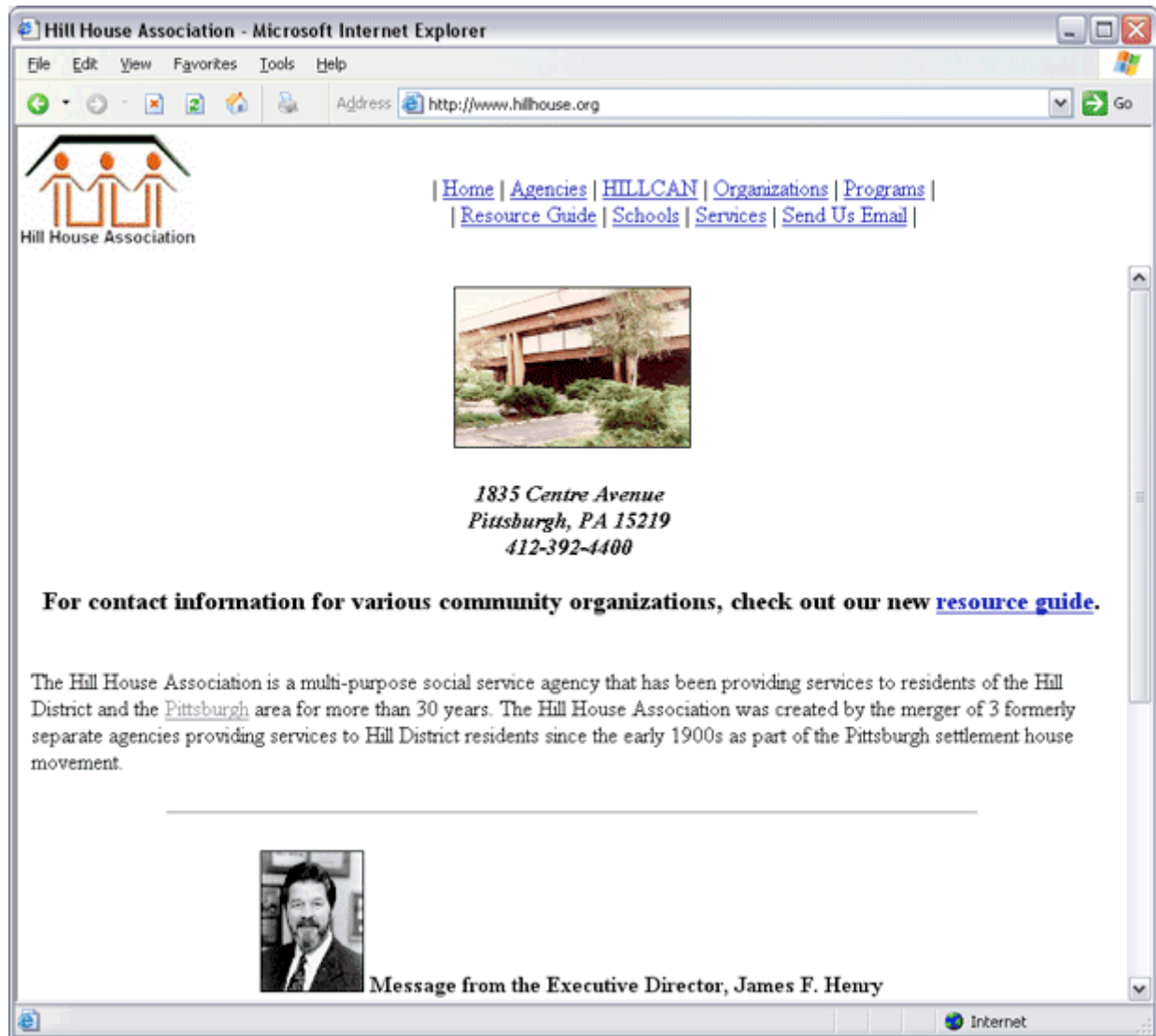
Neighborhood Development

The Neighborhood Development program focuses on providing an opportunity for Hill District residents to participate in establishing the direction of their community, improving their environment, and improving the services benefiting them. By emphasizing resident participation through block clubs, area councils, and special groups, the Neighborhood Development program services 17 block clubs consisting of approximately 345 members. One of the benefits of block clubs and other groups is the discovery and development of potential community leadership.

Agencies at the HHA:

- Allegheny County Health Department
- Dental Services
- Women Infants & Children Program
- Allegheny Housing Rehabilitation Corporation (AHRCO)
- Alzheimer's Outreach Center
- Central Furniture
- Healthy Start
- Hill District Community Collaborative
- HilPAC
- Magee Women's Hospital
- Mercy Primary Care Unit
- Metropolitan Tenants Organization (MTO)
- Pittsburgh Community Services (PSCI)
- Pittsburgh Housing Relocation
- Right Start

HHA's Home Page



Appendix D

Work Plan Developed by CP and Consultant

Activity	Who?	How long?	Target Date	W1	W2	W3	W4	W5	W6	W7	W8	W9	Resources needed
				10/3	10/10	10/17	10/24	10/31	11/7	11/14	11/21	11/28	
Project: Develop Technical Support System													
<i>Interview prospective stakeholders</i>													
Meet with CP and tech. staff	CP	1W	10/3	X									Tape recorder & notepad
Meet with non-tech. staff	Staff	2W	10/10	X	X								
Meet with community members	Com.	1W	10/10		X								
<i>Define solution set</i>													
Compile list of most common technical issues from interviews		1W	10/17			X							
Narrow down list to top ten		1W	10/17			X							
<i>Complete solution set</i>													
Document solutions to top ten issues		2W	10/24			X	X						
Test/review solution set with CP	CP	1W	10/24				X						
Test/review solution set with other staff and community members	Staff Com.	1W	10/24				X						
<i>Initial steps towards publishing solution set on web</i>													
Plan/analyze layout of website		1W	10/31					X					Graph paper
Identify/verify necessary hardware requirements		1W	10/31					X					
<i>Complete web publishing of solution set</i>													
Code underlying architecture of website		1W	10/31					X					Dream-weaver & Internet connection
Code solution set into online format		2W	11/7					X	X				
Code other elements of the website		2W	11/7					X	X				
Test website with CP and end-users	CP Users	1W	11/14							X			JAD environ
<i>Wrap-up</i>													
Roll-out final website to organization—verifying accessibility		1W	11/21								X		
Initiate awareness campaign of new website to staff, etc.	HR	1W	11/21								X		Flyers

Educate CP on administering the website	CP	2W	11/28								X	X	
Provide CP with necessary documentation	CP	1W	11/28									X	3-ring binder


Appendix E (1 of 2)

Technical Support System – ‘Add Entry’ Functionality

Hill House Association | Technology Support Center - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.hillhouse.org/help.php> Go



Hill House Association
Technology Support Center

Welcome Administrator! December 5, 2002

Home	Search	Help	Logout
Add Entry	Edit Entry	Delete Entry	

Add Entry

Add a new entry to the system by filling in and selecting from the fields below:

Title for Entry

Technology Problem

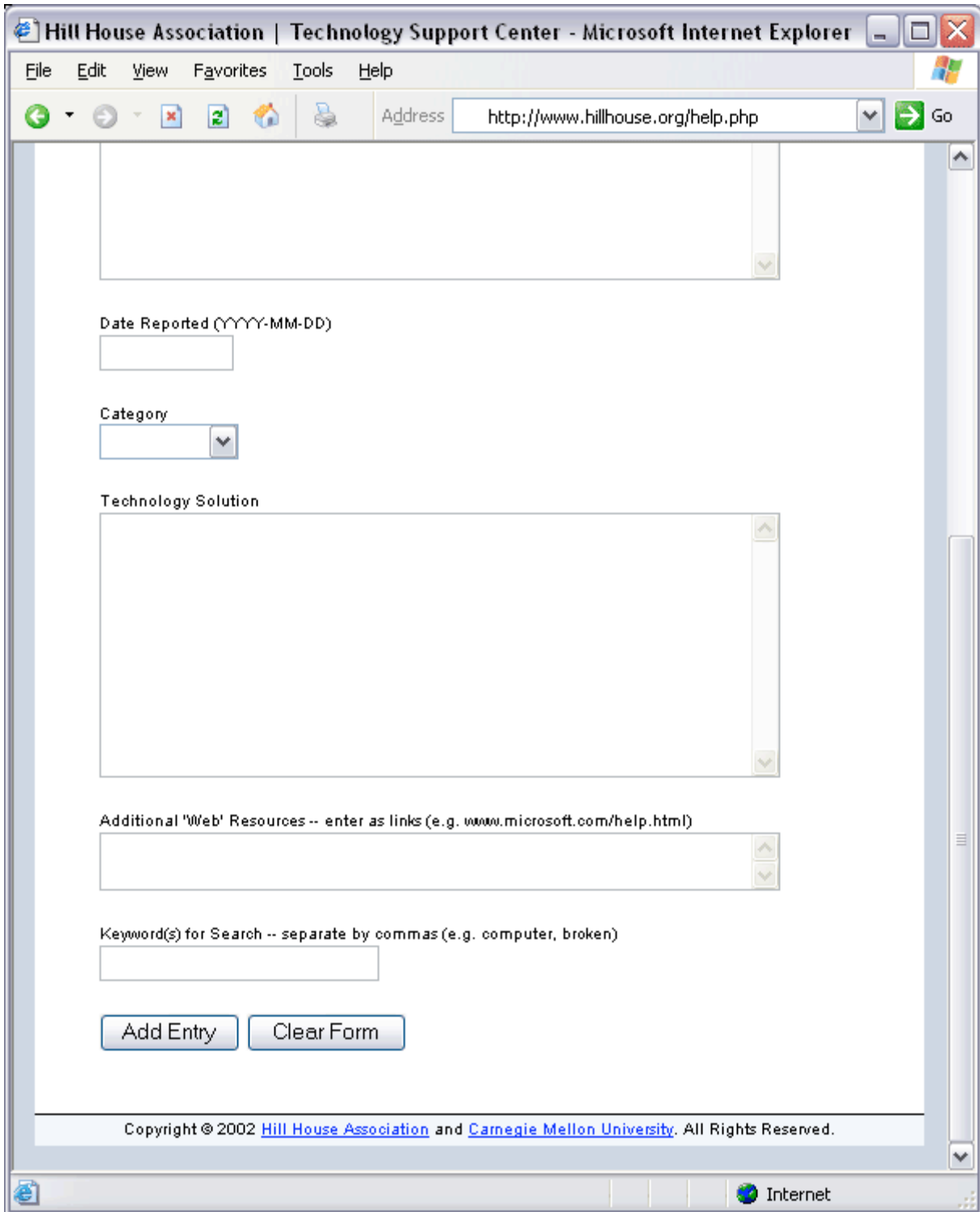
Date Reported (YYYY-MM-DD)

Category

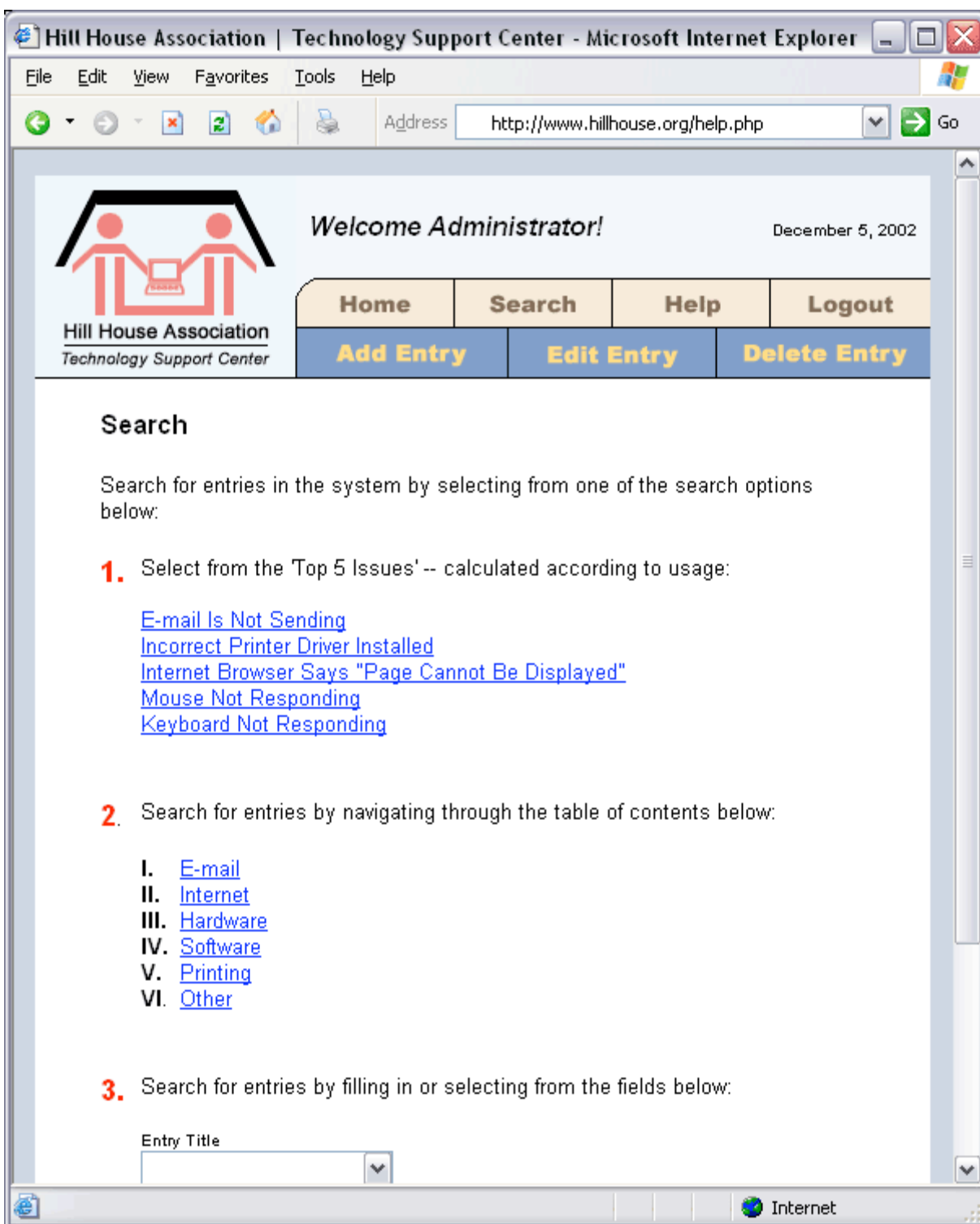
Technology Solution

Internet

Technical Support System – ‘Add Entry’ Functionality




Technical Support System – ‘Search’ Functionality



Hill House Association | Technology Support Center - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.hillhouse.org/help.php> Go

 **Welcome Administrator!** December 5, 2002

Home **Search** **Help** **Logout**

Add Entry **Edit Entry** **Delete Entry**

Search

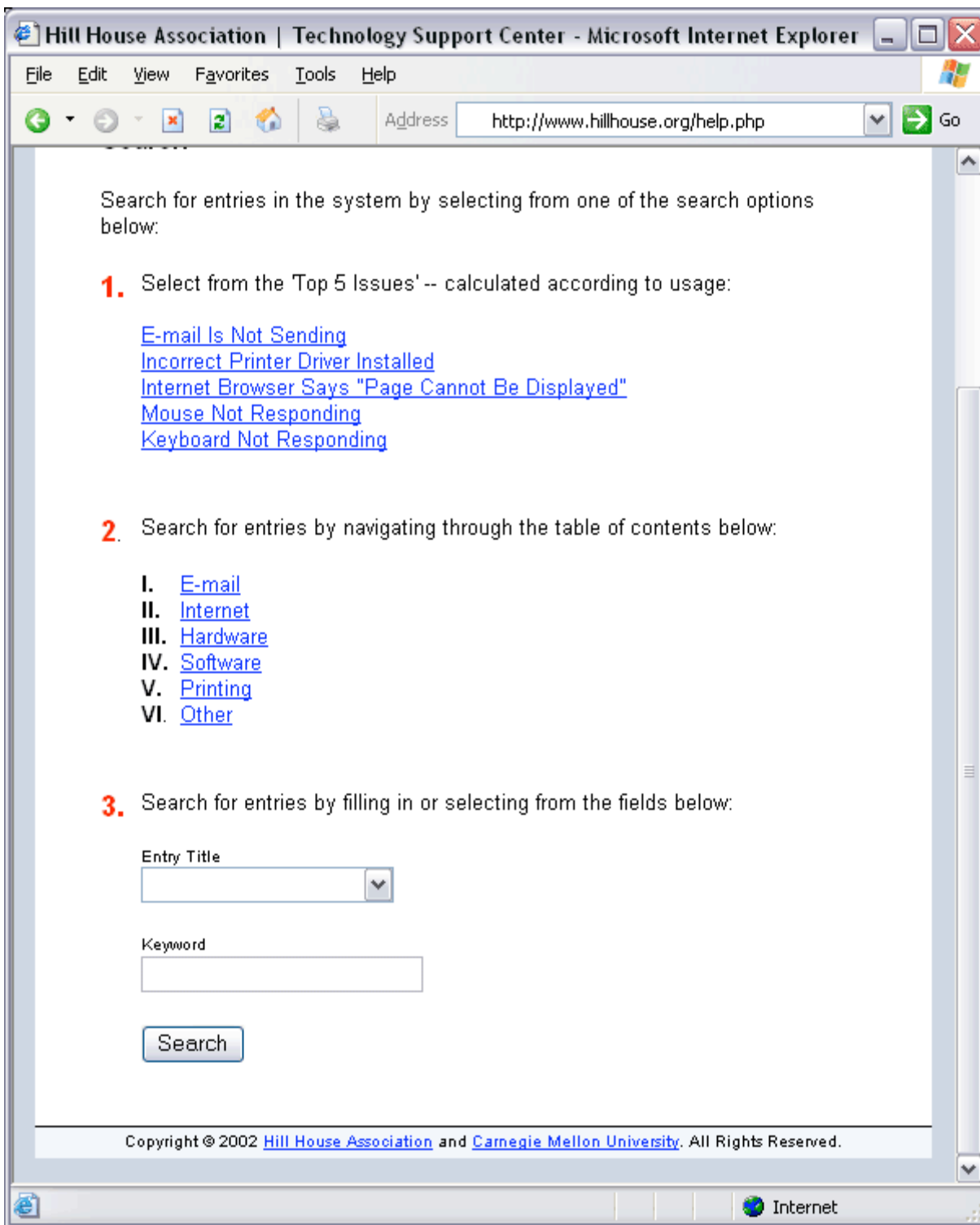
Search for entries in the system by selecting from one of the search options below:

1. Select from the 'Top 5 Issues' -- calculated according to usage:
 - [E-mail Is Not Sending](#)
 - [Incorrect Printer Driver Installed](#)
 - [Internet Browser Says "Page Cannot Be Displayed"](#)
 - [Mouse Not Responding](#)
 - [Keyboard Not Responding](#)
2. Search for entries by navigating through the table of contents below:
 - I. [E-mail](#)
 - II. [Internet](#)
 - III. [Hardware](#)
 - IV. [Software](#)
 - V. [Printing](#)
 - VI. [Other](#)
3. Search for entries by filling in or selecting from the fields below:

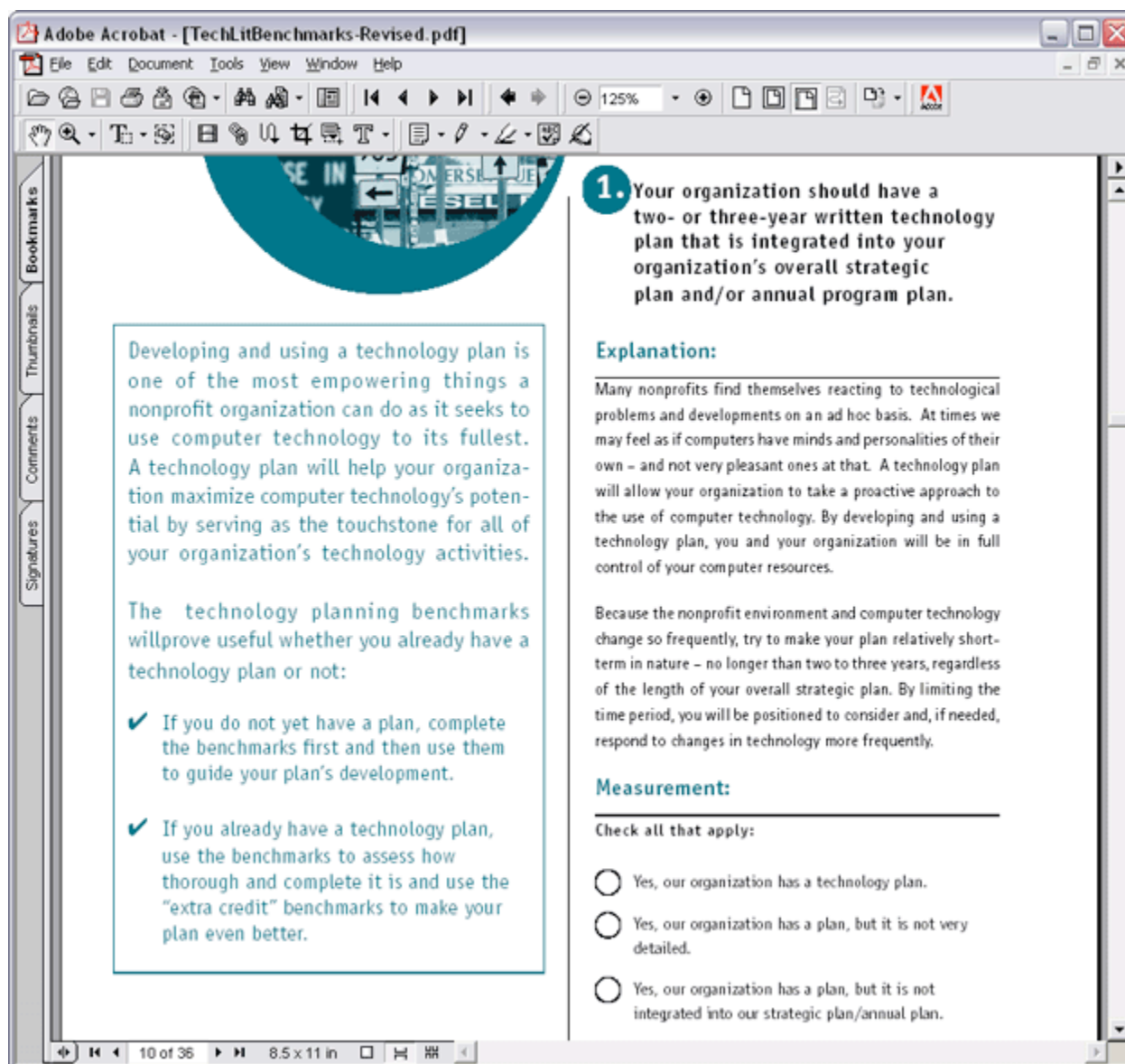
Entry Title

Internet

Technical Support System – ‘Search’ Functionality

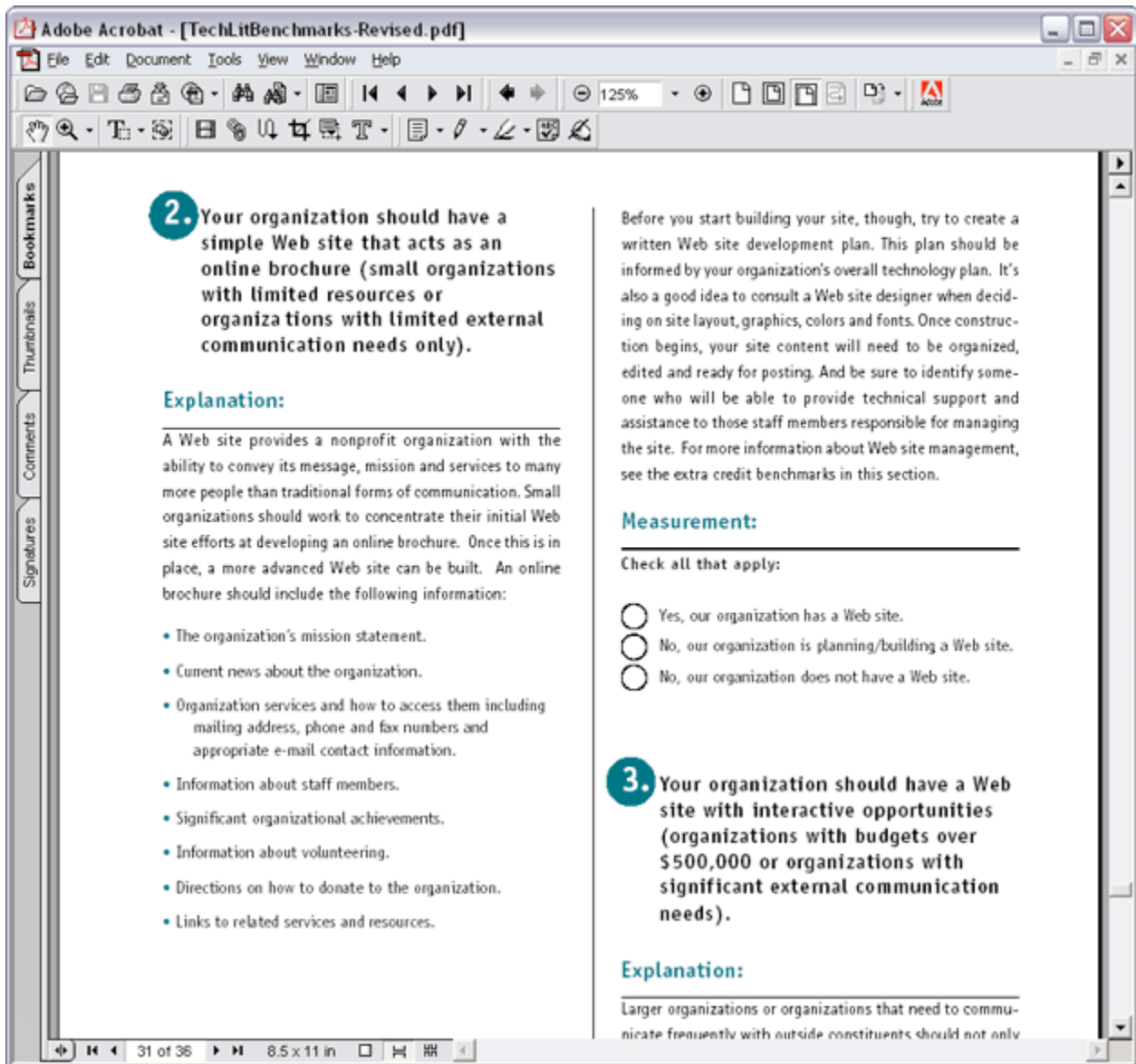


Technology Literacy Benchmarks – Page 10



Link: <http://www.benton.org/Library/Stratcom/TechLit.pdf>

Technology Literacy Benchmarks – Page 31



Technology Literacy Benchmarks – Page 32

