

**School of Computer Science
Course 15-391**

Spring 2006

Final Consulting Report

Sustainable Pittsburgh

Kevin Purtell

Sustainable Pittsburgh

Executive Summary

Student Consultant, Kevin Purtell
Community Partner, Amanda Harber

I. Background Information

By funding sustainability-based projects and raising awareness of transportation, equity, land use, and environmental issues, SP hopes to influence policy makers and large businesses to adopt sustainability in their policies and practices. As per SP's mission statement,

Sustainable Pittsburgh emphasizes long term and sustained quality of life for all citizens.

SP's staff and board have vocalized the need for more streamlined processes regarding their technology planning, use, and spending.

Amanda, Community Partner and SP's Executive Administrator, coordinates information sharing between SP members and maintains the website and 3E Links.

II. Consulting Tasks

With the help of staff and a focus group, the consultant focused on improving the format of SP's weekly newsletter, 3E Links. Formatting was poor and difficult to read.

Concurrently, the consultant worked with SP staff to build a technology plan so that SP has a comprehensive document that details technology training, budget, and future technology projects.

III. Outcomes Analysis and Recommendations

SP's newsletter has a greatly improved format. It is easier to scan and read, fits a greater number of screen sizes, and is more compatible with various email clients such as Outlook and web-mail.

Further, Amanda can now work directly with HTML to create the newsletter, resulting in speedier compilations and the capacity to change it to suit SP's purposes.

For sustainability, other staff members should learn what Amanda has learned so that they, too, can work with HTML to build and change the newsletter as they see fit.

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About the Consultant
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Kevin is a sophomore in Information Systems
at Carnegie Mellon University.

Also, SP now has a technology plan to refer to when making technology decisions. SP members are much more aware of how technology can impact their ability to fulfill their mission, and have begun to spend roughly 3 hours per week discussing the tech plan without the consultant.

To be sustainable, the technology plan must be reviewed and updated every 6 to 12 months.

Recommendations:

1. SP should internalize Amanda's new 3E Links knowledge

This is necessary because if Amanda leaves, someone else in house should know how to send the newsletter every week and change formatting if necessary. To internalize this knowledge at SP, Amanda should help both Kim and Joan learn how to compile 3E Links. Further, the Executive Administrator's operations manual should be updated to contain steps that detail how 3E Links is compiled, and new hires for Executive Administrator should know some HTML.

2. Create process by which frequent updates are made to target website pages

SP's current website could be improved both formatting and content-wise. The first step to such improvement is to make sure that the website has additional content that is refreshed and updated at least once every two weeks.

Sustainable Pittsburgh

Final Consulting Report

Student Consultant, Kevin Purtell
Community Partner, Amanda Harber

I. About the Organization

Organization

Sustainable Pittsburgh's (SP) mission is to:

...affect decision-making in the Pittsburgh region so that it integrates economic prosperity, social equity, and environmental quality. Sustainable Pittsburgh emphasizes long term and sustained quality of life for all citizens.

By promoting sustainability-based projects and raising awareness of transportation, equity, land use, and environmental issues, SP hopes to influence policy makers and large businesses to adopt sustainability in their policies and practices.

SP has a budget of roughly \$800,000.00, which is received from grants and from fees for events and conferences. Work at SP is done by five paid employees and one paid intern.

Facilities

SP has a small office in the Regional Enterprise Tower at 425 Sixth Avenue, Suite 1335 (downtown in the old Alcoa building). The central room, Amanda's office, is connected to a conference room and 4 other employee offices. Kim's office is then connected to an additional office, where an intern sometimes works, and the storage room, where they house some supplies and files.

Programs

SP provides these programs to the community:

- **Regional Indicators Reports:** These are reports that were published in 2002 and 2004 which draw sustainability conclusions by examining indicators such as quality of environment, economic well-being, societal statistics (cost of living, poverty, unemployment, etc.) and access to health care.
- **Annual Smart Growth Conferences:** The Annual Smart Growth Conference is held yearly and addresses issues of sustainability that are typically addressed in the Regional Indicators Reports. Presentations are given by keynote speakers, and the conference is open to those who wish to pay a registration fee. Government officials and other policy makers, however, may attend at no cost.
- **Smart Growth Forums:** These are similar to the Smart Growth Conference, but on a smaller scale and roughly five times per year.
- **Great Outdoors Week:** In partnership with Venture Outdoors, SP promotes outdoor activities and provides information about how policy makers and citizens can incorporate natural amenities and access to outdoor recreation activities into their community planning.
- **Sustainable Business Solutions:** SP funded an assessment of a major mall in an attempt to improve sustainability on the local level by examining the use of storm water, energy,

transportation, green building, etc. From this they hope to acquire funding for another similar project and increase exposure.

- **Champions of Sustainability:** Public forums around key issues of sustainability are recorded and then broadcasted over radio by WDUQ 90.5 FM. Online recordings are also made available via podcasting.

Staff

There are five full-time staff members, plus one intern.

- **Amanda Harber, Executive Administrator, CP:** Helps to coordinate information sharing between other staff members. Amanda is responsible for maintaining the website and assisting with necessary day to day operations. She filters phone calls and helps to foster good relations with outside connections. Amanda is comfortable with updating SP's website through FrontPage, she is familiar with Microsoft Office (including querying and manipulation in Access), and she has been introduced to several programming languages. Overall, she is comfortable with both computer software and hardware.
- **Court Gould, Executive Director:** Court is visible to policy makers in that he often gives sustainability-related presentations and represents SP at various decision-making tables. He decides which initiatives should be funded by Sustainable Pittsburgh, be they research-based or education-based. Technology-wise, Court works predominantly with Microsoft Office.
- **Kim Adams, Communications Manager:** Kim helps to maintain outside connections and also predominantly works with equity and amenities issues. "Amenities" broadly covers the promotion of natural environment and outdoor recreation activities. Kim generally shows great interest in both computer software and hardware and is comfortable with a digital environment. She regularly uses Microsoft Office (including Publisher and running Access queries), and she knows how to use FrontPage. She sees great potential for Microsoft Outlook as a networking tool to coordinate meetings and work with distribution lists.
- **Joan Barlow, Assistant Director:** Joan is the land use and technical assistance coordinator. She looks for opportunities on how to improve the way land around Pittsburgh is currently used and ultimately seeks solutions that lead to sustainability. Additionally, Joan is SP's primary graphics person. She is comfortable with Microsoft Office (including querying in Access) and has a good degree of knowledge with various graphics programs (Quark, Photoshop). She also knows how to use FrontPage.
- **David Ginns, Transportation Specialist:** David is responsible for transportation through a partnership with the Surface Transportation Policy Project. External contacts often seek his expertise when it comes to large scale public transportation issues or small scale questions of where a traffic stoplight should be placed. He knows just enough Microsoft Office to format documents, but he would like to learn how to more effectively use SP's database. David has almost no knowledge of computer hardware and is not interested in learning about it.
- **Susheela Nemani, Communications Intern:** Assists with research and provides technical knowledge. Primarily works with Kim.

Technical Environment

SP has the following technical assets:

Equipment

- 6 desktop computers, each of which is roughly 5 years old. Data never backed up.
- 1 laptop computer, used for giving presentations
- 1 color printer in Joan's office
- 1 central B&W printer in central office
- Fax Machine
- Scanner

Software

- Microsoft Office on every PC
- FrontPage on Amanda's computer and Kim's computer
- Quark and Adobe Photoshop on Joan's computer
- Virus Scan software exists but is 3 years out of date

Database and Website

- Access to a server provided by Expedient, an internet hosting company that operates a local office in the Regional Enterprise Tower, the building that holds SP's offices. SP's website and podcasting files are stored on this server, along with a database of 6000 contacts. Automatic backups are done by Expedient, SP's provider.
- Website (<http://www.sustainablepittsburgh.org/>)

Technical Management

Amanda, Kim, and Joan seem to have the most comfort and greatest interest in technology, while Court and David use it as a tool to complete necessary work. For technology problems that cannot be solved, SP members will find Chuck, who works with another non-profit down the hall. This, however, only happens several times a year.

As mentioned above, SP's database is automatically backed up by Expedient, the provider that gives SP access to storage and web hosting.

Besides updating the website and sending SP's newsletter, operational technology tasks are not part of any staff member's duty. As such, software is updated only as needed and critical backups are not made. In some cases, such as virus protection software, needed updates are not made.

Technology Planning

There was no technology plan, except for the mention of SP's website and 3E Links in their 2006 work plan. The work plan outlines such things as goals, strategies, outcomes, and objectives that relate to their website and 3E Links.

The budget contained very little that specifically relates to technology. SP does, however, budget for hosting services provided by Expedient and by consulting firms for specific projects that require the design of an informative website. For example, the interactive 2004 Regional Indicators Report can be found at http://www.sustainablepittsburgh.org/NewFrontPage/2004_Indicators_Report.html. The site has a very different design than the rest of SP's website.

Amanda, Joan, and Kim strongly supported the development of a technology plan, and Court supports development but currently waits for a first draft.

Internal and External Communication

Internal:

Internal communications tend to be rather casual and supported by a combination of e-mail that provides a paper trail, “memory” of what should be done, and through speech.

External:

As for external communications, Sustainable Pittsburgh relies on a variety of mediums that include telephone conversations, conferences & forums, publications on their website, paper publications, and e-mail.

Amanda is completely responsible for updating the website, by the requests of other staff members. The website, created several years ago by a designer with more experience, contains some out-of-date links, is difficult to navigate, and does not appear professional.

3E Links, a mass e-mail sent weekly to those who expressed interested in receiving it, consists of a variety of links to articles that relate to sustainability, land use and transportation. Each staff member compiles a series of sustainability-related links, or “resources.” These are typically links to online news articles. Resources are then sent to Amanda along with a 3-line quotation from each source that describes what it is about.

Additionally, other non-profit organizations can ask to include their event listings in 3E Links.

After everything filters down to Amanda, she applies proper formatting. Court and Kim then edit for content, make cuts if necessary, and send it back to Amanda so that she can send the e-mail out to those listed in the database.

When SP asked a sustainability question of readers for a Christmas edition, they only received 1 reply out of the 2200 people that 3E Links is sent to.

A new format for 3E Links has been developed, and will be put into use after it is presented to staff members Court, Kim, and David.

Information Management

SP’s database contains roughly 6000 contacts, 2200 of which have expressed a desire to receive 3E Links. The database is also used to track members, membership contributions, and event registrations.

SP also has a process for managing bills, which involves keeping track of expenses in an Excel sheet provided by SP’s umbrella organization, the Tides Center. The Tides Center helps smaller non-profit organizations to manage pay rolls (including hours missed), credit cards, and other backroom issues. Data is both sent back to the organization and saved electronically at SP.

Most information between staff members is shared through e-mail.

Currently, Amanda must manually compile e-mail addresses from the database if she wishes to send an e-mail out to a specific group of people. This can be a problem because it takes extra time to contact specific people (those who attend forums, policy makers, etc.).

II. Scope of Work

Task 1. Build a Technology Plan

Description of problem:

SP did not have a technology plan that integrated vision, budgeting, and specifics of implementation. Because of this, technology was acquired on an as-needed basis and was treated as a capital expense.

Though the SP work plan for 2006 contains specifics as to how the website and 3E Links support their mission, there had been no inventory or planning for software, hardware, or technology consulting.

Impact:

The impact upon SP's mission statement was two-fold:

First, SP had no written policy for improving work processes with the help of technology. Unnecessary time was spent working with sub-par software and hardware with insufficient training, and thus work processes settled into trends of doing things in a way that conformed with how things have always been done. Change was discouraged. Concretely, staff sometimes spent too much time fiddling with spreadsheets and graphics programs and not enough time making others aware of sustainability.

Secondly, the lack of a technology plan implies that technology expenses were not provided for in a budget. Vital resources could then be drawn away from sustainability to fund unneeded technology. However, it was most often the case that needed technologies and training were not provided for, leading to the impact mentioned above.

Description of work task:

The consultant worked with Amanda, Joan, and Kim to determine where Sustainable Pittsburgh was in its use of technology, where it should have been, and the specifics of how to get there. The method of creation for the technology plan follows below, adapted from TechSoup's article at <http://www.techsoup.org/howto/articles/techplan/page2720.cfm>.

Implementation of work task:

- Gathered 3 SP staff who wished to devote time to technology plan
- Used Technology Literacy Benchmarks for Non-Profit Organizations, by NPower, to measure SP's use of technology
- Based on above benchmarks and staff input, determined SP's specific needs
- Determined SP's vision of technology and aligned with mission statement
- Built technology plan as a working document, incorporating budgeting
- Designated the Executive Administrator position as responsible for keeping the technology plan current and carrying out projects.
- Revised and edited the technology plan

Task 2. Improve 3E Links Newsletter

Description of problem:

One of SP's primary digital external communications is the weekly newsletter 3E Links.

3E Links is a service to raise awareness of sustainability issues in the news, as described above. However, 3E Links suffered from some formatting and layout problems.

3E Links may not have been reaching SP's target audience because of perceived length and disorganization. As a result, recipients often filed 3E Links away to be read at a later time, and others may have deleted 3E Links newsletters as spam. This is evidenced by the lack of response to the Christmas edition of 3E Links.

Impact:

This directly impacts SP's ability to raise awareness of sustainability because potential subscribers to sustainability are turned away by the seemingly daunting length of 3E Links. In effect, Sustainable Pittsburgh is not reaching as many citizens or policy-makers as it should have the capacity to.

Description of work task:

The 3E Links problem described above was largely speculation on the part of the consultant and staff members of SP, so individuals were gathered to discuss possible layouts and information to include in the body of the text. With knowledge gathered from the discussion, 3E Links formatting was changed.

Implementation of work task:

- Held preliminary discussion of how 3E Links might be changed
- Gathered a group with at least some 3E Links recipients or expertise in news letters
- Consultant led a discussion-based interview of 3E Links effectiveness
- Consultant and Amanda determined improvements to be made to 3E Links
- Consultant and Amanda tested 3E Links compatibility with various e-mail clients

III. Outcomes and Recommendations

Task 1. Build a Technology Plan

Outcomes:

During the course of this project, Amanda, Joan, Kim, and the consultant worked together to determine SP's technology vision statement, its technology needs, and potential solutions for those needs. Needs and solutions were compiled to create a detailed list of projects and goals, which now constitutes the "Sustainable Pittsburgh Technology Plan." The technology plan will soon be integrated into SP's work plan, the yearly document written to plan initiatives and projects. The Executive Administrator is responsible for keeping it up to date.

The outcomes of this project are:

- SP now has a document to refer to when making technology decisions. The plan is five pages long and uses SP's work plan format. It also contains detailed information about SP's technical environment. SP's technology plan is attached in Appendix A.
- The upkeep of this document has been tied to the position of Executive Administrator so that there will always be someone responsible for updating the document every 6 to 12 months as needed.
- The Executive Administrator will approach other staff members about technology issues as planned by the technology plan.
- SP members are now more aware of technology and how it can help them to accomplish their mission. While the consultant was not on site, SP members spent roughly 3 hours per week discussing additions to the tech plan, such as the acquisition of a postage machine for mailing letters or a card scanner for reading the large number of business cards they receive.
- The people at SP are expert planners, and they are now aware that they can use their planning skills to comprehensively assess what should be done with technology to meet their goals. They currently plan to use this new awareness of technology to determine whether or not they should stay with their current internet service provider.
- Time has been allotted for SP members to maintain and update both hardware and software as necessary. Funding will be allocated to do so.
- The plan provides for virus protection, Windows updates, and spending on hardware and software.

Before implementation:

- Work plan items about the website and 3E Links were the extent of SP's tech planning.
- Previously, the Executive Administrator's technology responsibilities were limited to the weekly compilation of 3E Links and updates to the website.
- SP members were not aware of the need to proactively plan for technology.

Capacity not yet reached:

The technology plan has yet to be observed in action. SP members were excited about its creation, and there are now many more technology guidelines and policies, but it remains to be seen if the technology plan will actually be used. There is more technology capacity that can be built in the form of integrating the technology plan into SP practices. Capacity will be greatly expanded when members adopt the plan as a guideline for technology and refer to it for important decisions.

Effect on mission:

Because the technology plan has not yet been implemented, there is currently no visible effect on SP's mission.

Sustainability of outcome:

This outcome can be sustained for these reasons:

- Three out of five SP members helped to create the technology plan, and they all voiced the fact that they believe it to be necessary and important to implement.
- The technology plan is very similar to the work plan that they create every year. As mentioned above, SP members are expert planners, and the tech plan is just another work plan, except it documents technology projects.
- The Executive Administrator is charged with keeping the tech plan up to date and ensuring that the projects within are implemented. Every 6 to 12 months, the Executive Administrator will add new projects or budget information and remove completed projects or outdated information.

The major risk associated with the tech plan, however, is that it by definition implements a completely new set of practices that will require an estimated time commitment from 3-4 staff members of 3 hours per week during initial implementation. SP members are extremely busy, so there is the risk that tech plan projects and updating will be pushed aside in favor of the other commitments.

Vision of technology supporting mission:

Before the creation of the technology plan, SP's work plan contained information about how the website and 3E Links can support their mission. The technology plan, however, has expanded that narrow view into such varied things as the importance of virus protection, the possibility of purchasing a postage machine, or research into replacing or upgrading old computers.

Recommendations:

The current SP tech plan is satisfactory, but it should be regularly reviewed and updated every 6 to 12 months.

Task 2. Improve 3E Links Newsletter**Outcomes:**

Before 3E Links was changed, there was careful exploration of what changes would be made. 3E Links discussions with Amanda and Joan led to the reconsideration of the newsletter's purpose. A discussion with a focus group of six people helped to further determine what, exactly, would be done with 3E Links. It was determined that a more appealing color scheme would be applied and 3E Links would also use HTML tables to format the data. No content has been removed, but a small section for SP news has been added.

The primary outcomes of this project are:

- Creation of a professional-looking newsletter that is viewable on multiple screen resolutions. Text is green and is on a light-tan background, for easy reading and high contrast, and links are a dark blue.
- Leading, or spacing between lines, is slightly larger than font-size, as recommended by Susan Hagan, a Professional Writing professor at Carnegie Mellon University.

- All text is displayed within a table so that different resources and events have obvious breaks between them.
- All content in 3E Links is resized based on the screen size of the person viewing it. As a result, low-resolution readers do not have to scroll while high-resolution readers do not have to squint.
- Amanda is now able to create the newsletter by working with raw HTML. She has done this twice for a full newsletter. It takes her 55 minutes to compile all the text and lines.
- Amanda can edit the layout of the newsletter by adding or removing table rows and columns, and changing font sizes and types.
- Screenshots of before and after versions can be found in Appendix B.

Before implementation:

- 3E Links text used to be green on a white background, resulting in less contrast.
- The newsletter was made completely in Microsoft Word, and was simply a bunch of text from top to bottom separated by line breaks.
- Text was sometimes arbitrarily sized and the number of line breaks between headings was inconsistent.
- Low resolution monitors would display large text and force the user into horizontal scrolling.
- With Microsoft Word, it took Amanda 1 hour and 45 minutes to compile 3E Links.

Capacity not yet reached:

Currently, only Amanda knows how to work with the actual HTML. She plans to work with Joan and Kim during this summer so that, they, too, are able to compile 3E Links by using HTML.

Effect on mission:

There has been no observable effect on SP's mission, because the new format has not been sent to SP's mailing list at this point.

Sustainability of outcome:

This outcome is highly sustainable. 2 SP members agree that the new format is an improvement over the old format, and they want to implement it. It will soon be presented to the other 3 SP members. Amanda has created two entire newsletters from the sample template and she can continue to do so for as long as SP wishes to continue using the new template.

Amanda did not write the code for the initial layout of the newsletter, but she now knows how to change the layout by adding and removing table rows and columns and changing fonts. Unless SP desires a drastic change to 3E Links in the future, Amanda will be able to make any necessary layout changes.

Recommendations:

These should be completed through summer 2006, since SP is traditionally less busy and an effective 3E Links is critically important to SP's ability to raise awareness of sustainability.

1. Evaluate effectiveness of new format with focus group and SurveyMonkey

This should be done to ensure that the new format is preferred by readers because:

- Readers may be more comfortable with the older format.
- Unexpected compatibility issues, such as broken links and unpredictable formatting, may arise due to different email systems.

The first focus group greatly helped SP to understand what readers did with 3E Links and how it was influenced by formatting and content. Initial planning for the new format was to remove summaries, but every focus group member strongly objected.

It also raised some technology compatibility issues, such as the large size of the 3E Links logo on smaller screen resolutions.

Steps for completion:

- Send new 3E Links format to e-mail list once a week for one month.
- During first month, use the center “updates” section to link to SurveyMonkey and request feedback. Ask questions about content, format, readability, and comparisons with old format versus the new format.
- Include at least these questions, for purposes of resolving compatibility issues:
 - What e-mail client do you read 3E’s with?
 - Do the “Back to top” links open in a new window?
 - What resolution is your screen (Less than 800x600, 800x600, 1024x768, Greater than 1024x768)?
 - Please specify any display problems 3E Links has on your computer.
- New format should be tested with Outlook and a variety of web mail clients.
- Ask opinions of friends, family, or contacts. Show them the old and new format and ask which is preferred.
- After the first month, gather another focus group of recipients and ask for reactions and technology-related problems.
- Amanda should make changes to the template if necessary.

Resources:

- <http://www.surveymonkey.com/> to create a survey and link to it from 3E Links. For no cost, SP can create a 10 question survey and gather up to 100 responses. This report suggests 4 questions involving technology. SP can choose 6 more questions involving 3E Links’s purpose and reader preferences.
- <http://www.colorcombo.com/array.html> to test a variety of color options, if SP finds that a color-scheme change is necessary. Internet Explorer should be used and JavaScript should be enabled. Simply move the mouse around the color palette to see every possible color that can be used.
- <http://www.w3schools.com/html/default.asp> for some HTML editing information, if changes to code must be made. This page is published by the World Wide Web Consortium, the organization responsible for developing web standards. It contains detailed tutorials for both beginners and those more knowledgeable.

2. SP should internalize Amanda's new 3E Links knowledge

In the case that Amanda leaves SP, her new knowledge of compiling 3E Links with HTML should stay with the organization so that there continues to be understanding of the code and increased time efficiency.

Steps for completion:

- Determine current level of HTML competency of Kim and Joan
- Assist them in learning HTML as needed for the newsletter
- As time permits, Kim and Joan should each send 3E Links 2-4 times
- Amanda should document how to send 3E Links in the Executive Administrator's manual
- New hires for the Executive Administrator position should be required to know some HTML

Resources:

- <http://www.w3.org/MarkUp/Guide/> for a basic HTML tutorial that Kim or Joan may find useful. This page begins with the very basics of HTML, but if Kim or Joan are already somewhat comfortable with HTML basics, they can skip to an advanced section linked from the same page or visit the resource listed next.
- <http://www.w3schools.com/html/default.asp> for more specific information on HTML tags, as needed. Simply use the navigation bar on the left side of the page to find the desired topic.
- If deemed necessary, web design classes from the Bayer Center for Nonprofit Management may be helpful. See www.rmu.edu/bcnm. Click the "Current Courses" link. Web Design courses are not currently offered, but may become available in another semester.

Additional Recommendation 1. Process to Frequently Update Website

Several pages with old content have been removed by Amanda, but SP needs to have a series of pages that provide content about information specific to different sustainability issues. This effectively allows SP to continue to raise awareness of sustainability via its website.

Steps for completion:

- Create technical structure by adding 3-4 pages to the server and linking to them.
- Determine what issue each page will address.
- Designate 1 staff member to write updates on a biweekly or monthly basis per page.
- These updates should be sent as a Word document to the Executive Administrator on a timely basis so that she can translate them to HTML and add them to the website.

Additional step:

- Consider including links to these pages in the 3E Links news section so that those who subscribe to 3E Links are made aware of SP website updates.

Resources:

- See resource list for 3E Links.

About the Consultant

Kevin Purtell is a sophomore at Carnegie Mellon with a major in Information Systems. He hopes to find a career that combines his interests in communication and in technology. Consulting with

Sustainable Pittsburgh has been an excellent learning experience which brought together those two interests.

SUSTAINABLE PITTSBURGH

TECHNOLOGY PLAN

**DRAFT
MAY 1, 2006**

SUSTAINABLE PITTSBURGH TECHNOLOGY PLAN

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SUSTAINABLE PITTSBURGH TECHNOLOGY PLAN

GOAL:

Acquire technology and adopt management practices that will help create a solid computing infrastructure to:

- Communicate externally more effectively.
- Increase staff performance.
- Increase technology capacity.
- Improve existing computing and network infrastructure.
- Improve data management use.

STRATEGY:

Expand capacity to evaluate internal processes supported by technology and reach and engage new audiences through technology.

OUTCOME:

- Creation of technology plan
- Establishment of formal technology plan budget
- Creation of technology management team
- Creation of policies and procedures
- Improved network server and file security
- Creation of training and documentation plan

ACTIONS: (* indicates further detail under Action Items)

Internal

- Establish most efficient form of inter-workstation connectivity. *
- Establish automated, reliable backups at each workstation.
- Establish an organization-wide anti-virus program such as AVG Antivirus.
- Clean-up computer hard drives and memory by referring to <http://www.tweakguides.com/TGTC.html>.
- Review and update as necessary client tracking database.
- Create a Technology Management Team. *

Organizing and Maintaining Software and Hardware

- Organize technology library of information. *
- Replace old workstations as specified in guidelines (to be established) for equipment purchases.

Training and Documentation

- Develop training plan focused on the areas of most need by individual staff members. *
- Review staff skills regularly.
- Train staff based on training plan.

3 E Links

- Create structure to continually evaluate effectiveness in fulfilling desired purpose. *
- Redesign/streamline to improve layout, readability, and cross-client compatibility.
- Assert policy/process for submitting articles – internal & external.
- Train other staff to compose in interest of sustainability.
- Continue banner ads as marketing tool.

Web Site

- Review and improve website functionality. *
- Improve accountability of web hits to provide valuable market research.
- Conduct formal review of goals and objectives of website as well as the content that is offered to ensure that SP is maximizing use of its website.
- Review of website and content to ensure maximum capacity (cost benefit analysis).

Action Items for Tech Plan Projects

Establish most efficient form of inter-workstation connectivity

To do so, SP will:

- Explore group calendaring and groupware applications.
 - ◇ Explore use of Outlook calendar to efficiently address Marketing.
 - ◇ Schedules/Timelines for accountability on major projects, not everyday activities.
- Explore new internal server and internet options.
 - ◇ List and address problems with Expedient.
 - ◇ Describe usage of internal server, requirements, etc. to staff and assess staff comfort level.
 - ◇ Determine alternatives to Expedient if deemed necessary. Internal server may only be necessary as an efficiency maximization tool, rather than a security/back up measure.
- Explore necessity of implementing a shared folder or file sharing system.
 - ◇ Present options to staff and reassess their comfort level/ability to use system. If system proves inefficient for staff, disengage.

Technology Management Team

- Recommend budgets.
- Establish standards for hardware, software, and training needs.
- Develop technology policies and procedures.
- Periodically review the organization's use of technology to ensure that it coincides with mission.
- Determine if the scale of technology administration requires hiring for a specific role.
- Update technology procedures manual.

Organize technology library of information

- Create system and document for storing all computer related information.
- Warranties, receipts, current software packages, date of purchase, hardware, capabilities/limitations.
- Organize and secure hard copies of software (i.e., cds and documentation).
- Record and secure license keys/serial numbers.
- Record staff skills and training hours/dollars invested in each staff member as a tool for assessing vitality of training. Use for continued development/evolution of staff training plan.

Develop training plan focused on the areas of most need by individual staff members.

- Review recorded staff skills to discover gaps in knowledge.
- Ascertain which gaps can be most quickly fixed for maximized efficiency.
- Utilize peer training by:
 - ◊ Training fellow staff members with currently possessed knowledge.
 - ◊ Send single staff member to necessary trainings with the expectation that they will train fellow staff upon returning.

Create structure to continually evaluate effectiveness in fulfilling desired purpose

- Schedule twice yearly review of 3E Links by utilizing staff discussions and surveys if necessary.
- Utilize opinions of new staff and “Fresh eyes” (outsiders new to 3E links) for insight.
- Evaluate usage trends – i. e., has SP followed its declared purpose when sending 3E links?
- Resolve compatibility issues with e-mail clients when they arise.
- Consider options for distribution (moving beyond MS Word).

Review and improve website functionality

- Schedule twice yearly review of website by utilizing staff discussions and surveys if necessary.
- Utilize opinions of new staff and “Fresh eyes” (outsiders new to 3E links) for insight.
- Evaluate usage trends – i. e., has SP followed its declared purpose when posting on the website?
- Resolve compatibility issues with various browsers and resolutions.
- Evaluate and create updating/posting process.
- Assess current website software.

Inventory of Current Staff Technical Skills

Staff 1

Familiarity with some coding (HTML, Visual Basic, Pascal)

MS Office familiarity, Publisher, Outlook

Telnet

Some knowledge of Adobe Photoshop and .pdf files

Can work with itunes & podcasting

Knows some hardware basics

Does not know much about networking

Would like to learn more about Photoshop and working with .pdf's

Staff 2

Comfortable w/ Outlook, Excel, Word, but sometimes relies on Amanda for formatting

Understands the necessity of good web page design

Not familiar with hardware

Wants to learn to use the Access (currently uses index cards)

Would like to learn how to more easily add contacts to Outlook

Staff 3

Very comfortable with Word (tables, mail merges, etc.), Publisher (flyers, graphics), and PowerPoint

Comfortable with Outlook, Excel (formulas) and FrontPage (enough so to update webpage)

Can work with Access to find forms and add entries

Knows some hardware basics

Would like to learn to use Outlook as a networking tool (calendar, distribution list)

Would like to learn to create .pdf files

Staff 4

Comfortable with MS Office software

Comfortable with Access, but does not manipulate database

Knows Quickbooks

Very familiar with graphics programs (Quarck, Adobe Photoshop)

At most, could learn more about graphics

Staff 5

Uses only Word, Excel, Outlook, PowerPoint

Budgets done in Excel without the use of formulas

Technology Plan Timeline 2006-07

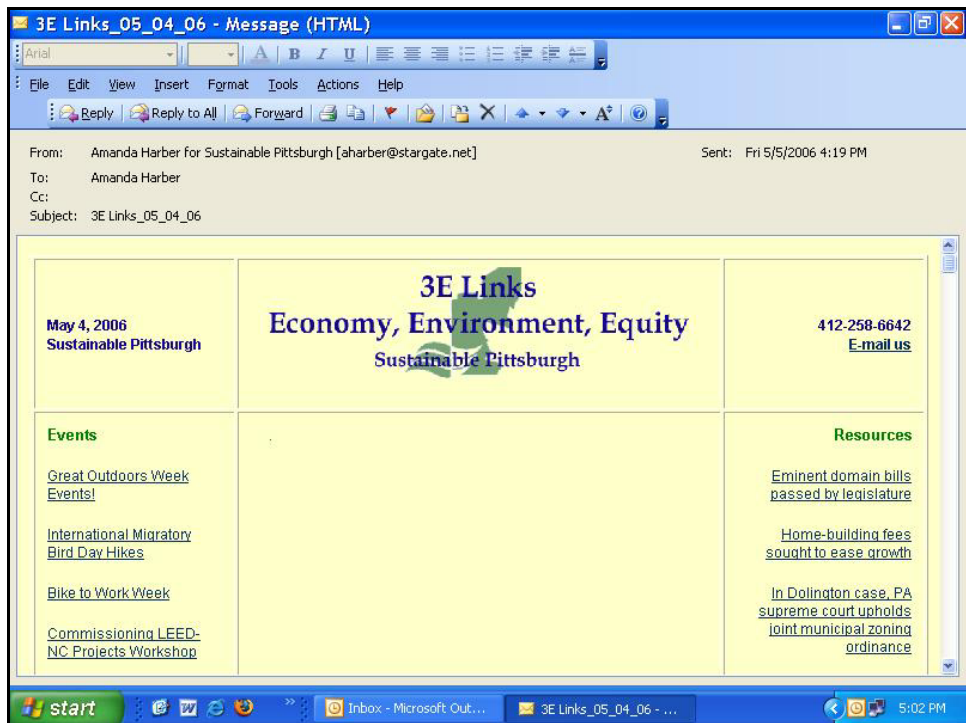
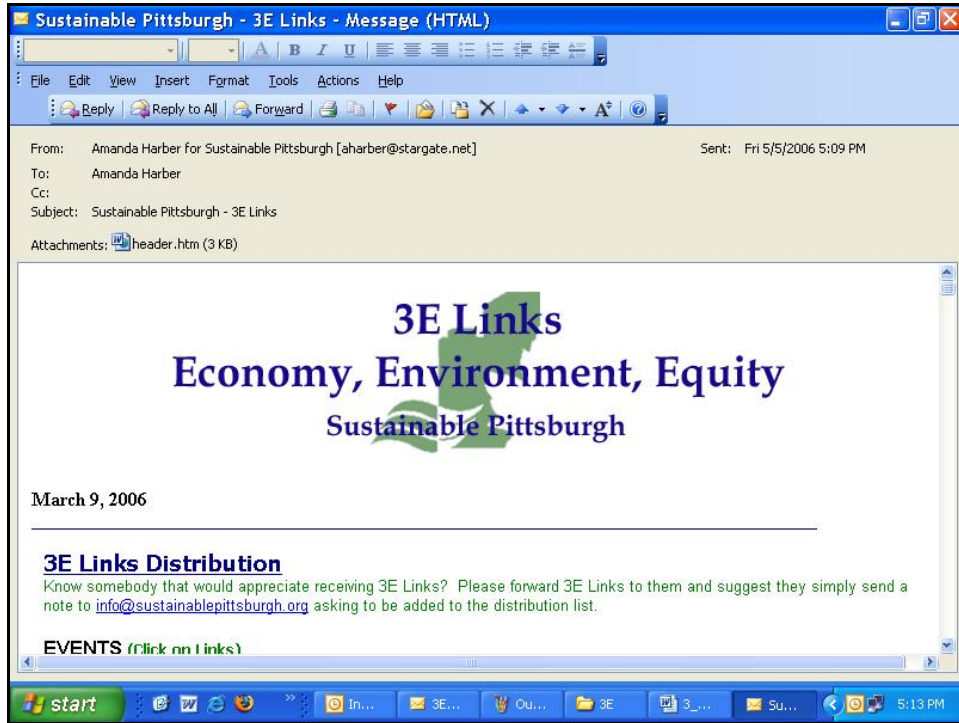
Item	Interval	Oversight
Identify Management Team <ul style="list-style-type: none"> • Training needs • Software needs • Policy/procedures • Budget 	June-July	Amanda, Kim, Board Member
Implement MT Recommendations	July-August	MT
WebPage <ul style="list-style-type: none"> • Assessment • Recommendations • Procedures for change 	July-August	Staff
Implement Web Page recommendations	August Ongoing	MT
3 E Links <ul style="list-style-type: none"> • Create policy for submittals • Implement new format • Create survey instrument 	July-August September	MT
Training	September – August and As needed	MT Staff
Organizing software	September- October As needed	MT

Annual Technology Budgeting

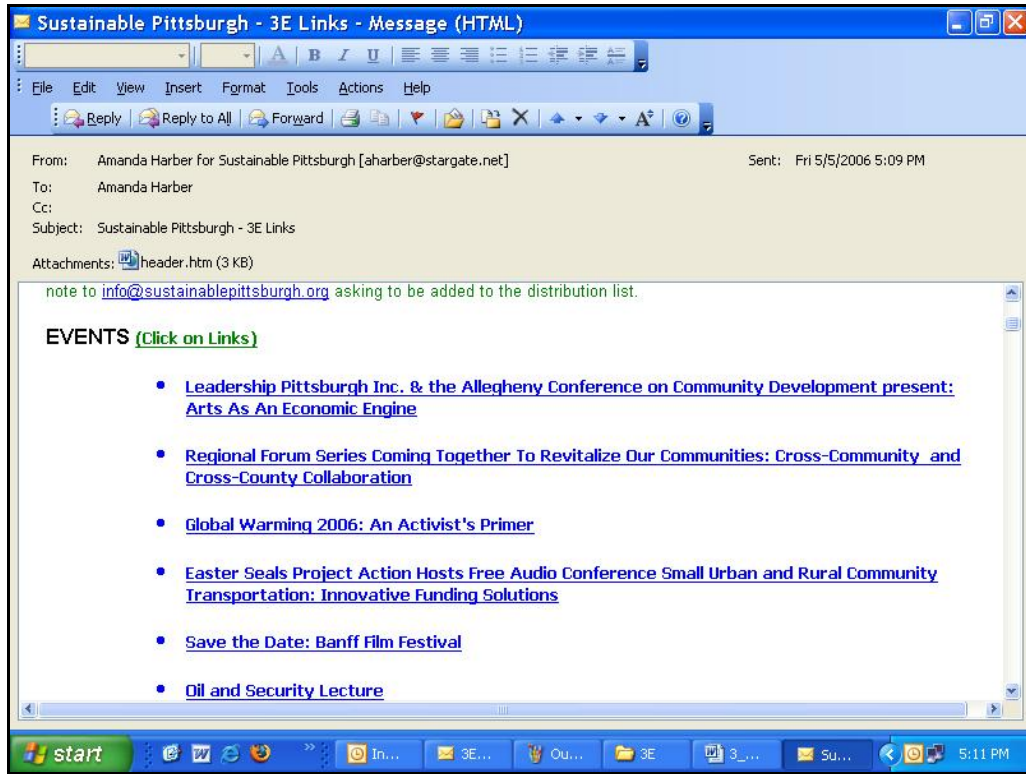
Item	Interval	Est. Cost
Workstations for new users or for replacing old systems	4-5 years	\$500-\$700
Microsoft Windows Upgrade to XP Professional (with Software Assurance)	As needed	\$20 -\$113
Microsoft Office XP Professional for Windows Upgrade (with Software Assurance)	As needed	\$25 -\$75
Virus protection subscriptions (per workstation)	Yearly	\$30 x 5
Web and Email Hosting; Internet connection	Monthly	\$169.95 month = \$2039.94
Special Projects Web Hosting <ul style="list-style-type: none"> - Great Outdoors Week Site. - Sustainable Communities 500 - Regional Indicators 	Yearly	\$1500
Backup equipment	Yearly	\$40
Staff Training	Yearly	At most, \$200
Specialized application upgrades	2-3 Years	See manufacturer
Support services such as network or database consultants.	As needed	

Appendix B. 3E Links Format Comparisons

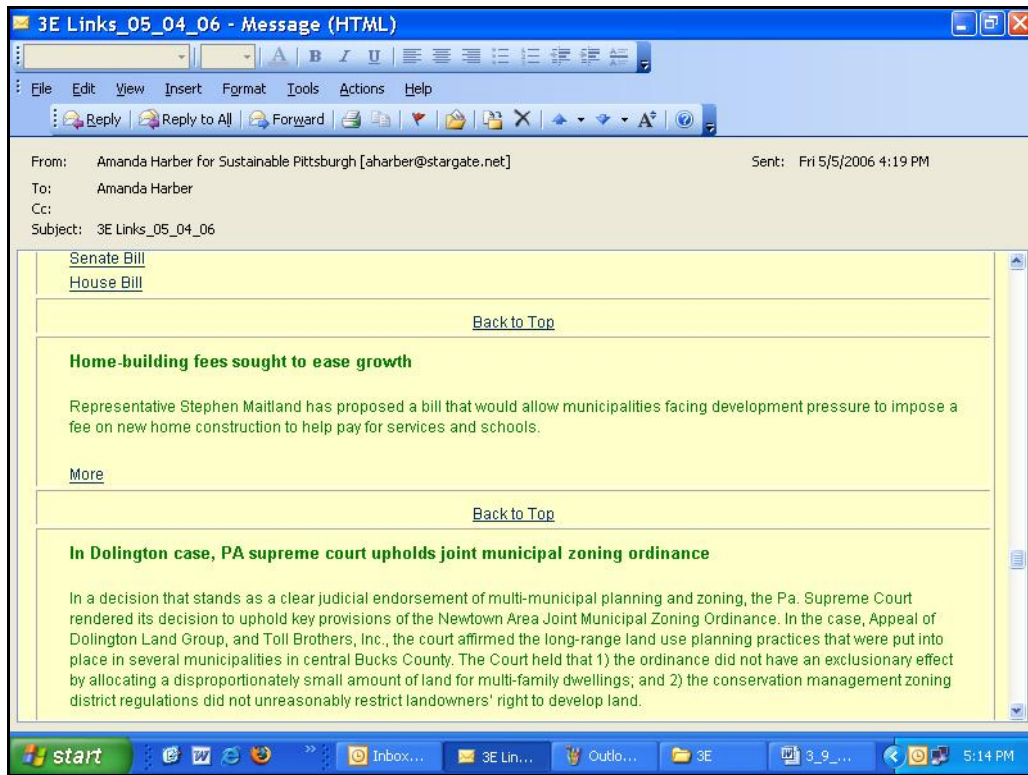
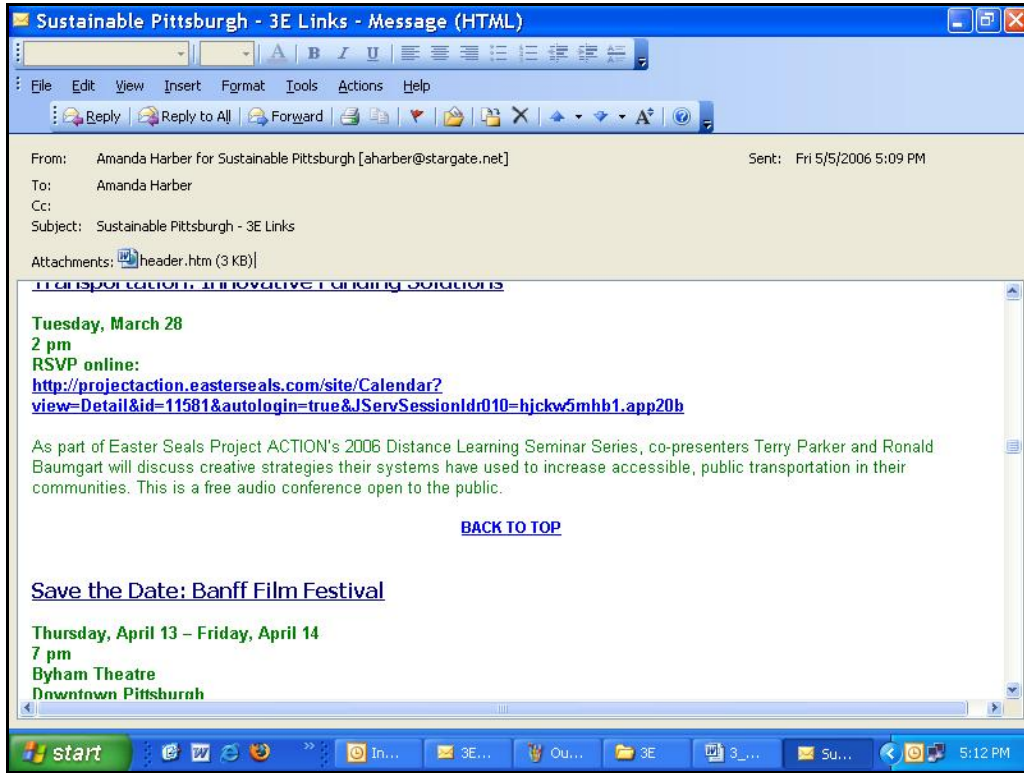
This section contains screenshots at 1024x768 of the old format of 3E Links compared to the new format of 3E Links.



Note the center section. SP can highlight specific news items, such as projects and initiatives.



Links to articles in the old format did not take advantage of the fact that screen size is greater horizontally than it is vertically, forcing the user to scroll down quite a bit to reach them all.



Different articles are now logically separated by table lines, allowing the reader to browse 3E Links more easily.

Past Community Partners

4 Kids Early Learning Centers
Addison Behavioral Care, Inc.
Alafia Cultural Services
Alcoa Collaborative
Allegheny Co. Housing Authority
Allegheny General Hospital Pastoral Staff
American Association of University Women
Animal Friends, Inc.
ASSET, Inc.
ASTEP-Grace Memorial Presbyterian Church
Auberle
Auberle In-Home Services
Bedford Hope Center – Resident Council
Bedford Initiatives
Bethany House Ministry
Bishop Boyle Center
Bloomfield-Garfield Corporation
Borough of Crafton
Boys & Girls of Wilkinsburg
Braddock Carnegie Library & Community Center
Brashear Association, Inc.
Breachmenders
BTC Center
CADA-Citizens to Abolish Domestic Apartheid
Career and Workforce Development Center East
Carnegie Library of Homestead
Carnegie Library of Pittsburgh
Carnegie Science Center – Hill House
Association
CART-Consumer Action Response Team
Center Avenue YMCA
Center Avenue YMCA, Allequippa Terrace
Center for Creative Play
Center for Hearing and Deaf Services, Inc.
Center of Life
Central Academy
Central New Development Corporation
Children Youth Ministry
Children's Museum
Christian Life Skills
Community Day
Community Day School
Community Human Services Corporation
Community Technical Assistance Center
Competitive Employment Opportunities
Conflict Resolution Center International
CONTACT Pittsburgh
CTAC-Community Technical Assistance Center
East End Cooperative Ministries
East End Neighborhood Employment Center
East End Neighborhood Forum
East Liberty Development
East Liberty Presbyterian Church
East Side Community Collaborative
Eastminster Child Care Center
Eastside Neighborhood Employment Center
Education Center
Every Child, Inc.
Fair Housing Partnership
Faison Development & Opportunities Center
FAME
Family Services of Western PA
First Charities/First United Methodist Church
Friendship Development Association
Garfield Jubilee Association, Inc.
Gateway to the Arts
Glen Hazel Family Reading Center
Greater Pittsburgh Community Food Bank
Greater Pittsburgh Literacy Council
Greenfield Senior Center
Gwen's Girls
Hazelwood Senior Center
Hazelwood YMCA
Hill House Association
Hill House Association – After School Program
Hill/Oakland Workforce Collaborative
Hope Academy of Music and the Arts
Hosanna House
Housing Alliance of Pennsylvania
Hunger Services Network
Jane Holmes Residence
Jewish Family & Children's Service
Jewish Residential Services
Joy-Full-Gospel Fellowship After School Program
Just Harvest
Kingsley Association
Lawrenceville Development Corporation
League of Young Voters
Light of Life Family Assistance Program
Madison Elementary School
Manchester Academic Charter School
McKees Rocks Terrace
McKeesport Collaborative
McKelvy Elementary School
Methodist Union of Social Agencies
Miller Elementary School, Principal's Office
Mon Valley Initiative
Mon Valley Providers Council
Mon Valley Resources Unlimited
Mon Valley Unemployment Committee
Mon Yough Community Services
Mount Ararat Community Activities Center
NAACP National Voter Fund
NAMI Southwestern Pennsylvania
National Association of Minority Contractors /
Black Contractors Association
Negro Educational Emergency Drive
New Beginnings Learning Center
New Penley Place
Northside Coalition for Fair Housing
Northside Institutional Children Youth Ministry
Northside Leadership Conference
Northview Heights Family Support Center
OASIS Senior Center
Opera Theater of Pittsburgh
Operation Better Block
Orr Compassionate Care Center
Outreach Teen & Family Services
Parental Stress Center
Pennsylvania Biodiversity Partnership
(This list is continued on the next page...)

Past Community Partners (continued)

Pennsylvania Low Income Housing Coalition	St. James School
People's Oakland	St. Stephen Elementary School
Pittsburgh Action Against Rape	Sustainable Pittsburgh
Pittsburgh Citizens' Police Review Board	The Community House
Pittsburgh Health Corps	The HUB Downtown Street Outreach Center
Pittsburgh Mediation Center	Thomas Merton Center
Pittsburgh Social Venture Partners	Three Rivers Center for Independent Living
Pittsburgh Vision Services	Three Rivers Youth
Pittsburgh Voyager	TLC-USA
POISE Foundation	Turtle Creek Valley Council of Governments
Program for Health Care to Underserved Populations	Tzu Chi Wen Chinese School
Providence Family Support Center	Union Project
Radio Information Service	United Cerebral Palsy
Reading Is Fundamental Pittsburgh	Urban League of Pittsburgh
Regional Coalition of Community Builders	Urban Youth Action
River Valley School	Ursuline Services
Rodef Shalom	Vintage Senior Center
Rodman Street Missionary Baptist Church	Weed & Seed Program, Mayor's Office
Ronald McDonald House Charities of Pittsburgh	Wesley Center
Rosedale Block Cluster	West Pittsburgh Partnership
Rx Council of Western PA	Wireless Neighborhoods
Sacred Heart Elementary School	Women's Enterprise Center
Salvation Army Family Crisis Center	Working Order
Schenley Heights Community Development Center	YMCA McKeesport
Second East Hills Social Services Center	YMCA Senior AIDE Center
Sharry Everett Scholarship Fund	Youth Fair Chance
Southwest Pennsylvania Area Health	YouthBuild
	YWCA Bridge Housing
	YWCA of McKeesport

Community Partner Information FAQ

(continued from back cover)

7. What does it cost to be a Community Partner?

The cost for participating in this experience is your time and your commitment to follow through as agreed. As leaders of community organizations, we know your time is of premium value. Those who have made this investment of time have reaped returns many times over.

8. What does the Community Partner have to offer Carnegie Mellon students?

- Students learn to structure unstructured problems. Community organizations are complex environments with complex problems. Your organization provides excellent environments in which to practice the art of structuring problems.
- Students come from different cultural backgrounds and most have never been in a nonprofit organization. They are practicing how to communicate across cultural differences and across technical knowledge differences. They need to be able to make mistakes and learn from them. Community partners provide a supportive relationship in which students can take risks and learn about how to communicate, how to relate, and how to maintain professionalism.
- Students get the opportunity to practice process consulting. They are learning that expertise is only as valuable as the ability to help others solve authentic problems. You provide a context in which students can practice these skills.
- We've found that Community Partners are very appreciative for the students' assistance. There is nothing more rewarding than to experience your efforts as valuable and rewarding for others. You provide that experience for students.
- Finally, you offer a glimpse into career opportunities in the nonprofit arena. Students learn to appreciate those who work in the nonprofit sector, and they grow to appreciate the role and function of community organizations. We hope this appreciation not only informs the choices they make in life, but also encourages them to care and give back to the community throughout their professional careers.

9. How do I become a Community Partner

Contact an instructor, Joe Mertz or Scott McElfresh. Send your contact information: name, title, name of organization, address, phone, fax, location of organization and your interest in being a Community Partner. You will have a telephone conversation and possibly an on-site visit. All organizations are considered, though preference is given to organizations providing services to a low-income community or a community at risk for falling into the "digital divide."

**Send email to
instructors@tcinc.org
(email preferred)**

**Or call
Joe Mertz: 412.268.2540
Scott McElfresh: 412.268.4859**

10. Caveats

- We do our best to ensure that students who sign-up for the class are committed to completing the class, however, occasionally, a student ends up withdrawing from the class during the semester. Typically, this happens when a student has underestimated the time they need for this class. We do our best to advise students so this does not happen. When it does happen, there is nothing we can do except to invite the Community Partner to participate in the following semester.
- The semester is short and the student has to do a lot of work in a short amount of time. For this reason, it is critical that you keep your scheduled appointments, do the work you agree to do, and maintain communication with the student. The student will need your feedback on reports quickly, often the next day. When we get to the final consulting reports, we will need fast turnaround time from Community Partners because we also need to get the reports published in time for the Community Technology Forum.
- If there is any chance that you think you will not be able to follow through with the requirements of this partnership, please wait until such time as when you are able to do it. Since the Community Partner is the focus for the student's learning, it is essential that the partnership be sustained for the semester.

Community Partner Information FAQ

1. What is the goal of the partnership in this course?

The goal of this class is to expand the capacity of the Community Partner to use, plan for, and manage technology, administratively and programmatically. The student is learning process consulting, project management, communication, relationship management, problem identification, and analysis.

2. As a Community Partner, what can I expect to happen?

Once you match with a student consultant, you will set a meeting schedule that you and the student will keep for the remainder of the semester. The student comes to your location for 3 hours a week. During this time you and the student work together. This is not an internship in which the student merely works on site. Rather, it is a consulting partnership in which you must work together to achieve your technology goals. The student facilitates a process that moves from assessment, to analysis of problems and opportunities, to defining a scope of work, to developing a work plan, to analyzing outcomes and finally presenting that analysis. As the Community Partner, you are the consulting client. You provide information and discuss that information with the student. But you are more than a client; you are also a learner. In process consulting the client "owns the problem" as well as its solution. The consultant facilitates the client in achieving that solution. The consultant doesn't "do for" the client. Rather, the consultant works with the client.

3. What types of activities are typically included in a scope of work?

Each scope of work is unique and depends solely upon the specific needs and opportunities of the individual Community Partner. Partnerships have focused on a wide range of activities, including: personal information management (how to use Windows, organize files, backup files, use various software packages, use time managers, use Palm Pilots and other personal information management tools, e-mail, etc.), developing a plan for how to train staff and how to incorporate knowledge and skill into job description, designing a local area network, implementing Internet connectivity, designing and developing a web site, determining effective data storage methods, analyzing the needs for an information database, designing and implementing a database, solving technical problems, designing a public community technology access center, determining the specifications for computers, developing disaster recovery plans, and more.

4. Who can be a Community Partner?

This course target individuals playing an administrative or programmatic leadership role within a community organization. Typically Community Partners are Executive Directors, Directors, Assistant/Associate Directors, Coordinators, and Managers. But, we make the selection based on the organization and the role that the individual plays within that organization, regardless of title.

5. Why do you focus on organizational leaders?

For an organization to use information technology effectively, its leaders must have a vision for how it can support the organization's mission, they must be comfortable enough to integrate technology into their personal work practices, and they must know enough to budget, staff, and subcontract appropriately. By partnering one-on-one with a student consultant, the leader has a unique opportunity to build that vision, comfort, and knowledge, no matter where they are starting from.

6. What are the requirements for being a Community Partner?

- Hold a leadership role within your organization.
- Have a computer in your office or one you could or do use in your job.
- Reliably meet with the student consultant 3 hours per week, every week, for about the 13 weeks.
- Come to an on-campus gathering 2 times during the semester. Once at the beginning and once at the end.
- Share information about your organization with the student consultant.
- Read project reports prepared by the student and give the student immediate feedback.
- Complete a brief response form after reading each report and return to the instructor.
- Keep a log of consulting sessions and send to instructors twice during the semester.
- Read the final consulting report. Give feedback to the student immediately.
- Make a brief presentation at the end of the semester (with the student) at the Community Technology Forum. (This is the 2nd on-campus gathering you are required to attend.)

(continued inside back cover)