School of Computer Science
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Final Consulting Report

CONTACT Pittsburgh

Khalil Snell

CONTACT Pittsburgh
Student Consultant, Khalil Snell
Community Partner, Charleen Welch

Executive Summary

The consultant, Khalil Snell, worked with community partner, Charleen Welch, at CONTACT Pittsburgh (CPGH). Charleen is the Program Director for the Crisis and Suicide Hotline; her email is cwelch@contactpgh.org. One can reach CPGH at (412) 820-0100. The CPGH website, www.contactpgh.org, provides more contact information.

CPGH's mission is to provide counseling and support to people of all ages who may be suicidal, in emotional distress, or in need of reassurance, information or referral services. They offer a variety of programs such as 24 Hour Crisis / Suicide Prevention Line, Student and Young Adult Line, KidsLine Phone Pals, Anti-Hate Hotline, Reassurance for Seniors, and Public Inquiry Line.

The scope of work included creation of an information system capable of handling the input of call log data and call shift sign-up online. The scope of work also included the creation of a technology planning committee, to formally address CPGH's technical needs. The additions and updates made for call logs and to the shift schedule would have been stored in a central database on the server which hosts their website. This information system was meant to lessen the multiple paper copies and reduce if not eliminate the time taken to synchronize multiple changing copies of the same document.

Unfortunately, the information system could only be half implemented. Due to time, complexity of the system, and security concerns, the call log portion of the system could not be completed. In spite of that failure, increased capacity can still be reached through the use of the shift scheduling portion of the system. The use of multiple paper copies of the shift schedule is planned to be eliminated by July 1st after testing of the system which will begin June 1st. While CPGH will need to find a new consultant to finish the other half of the system, with the technology planning committee in place, that may be less of a stretch of imagination than in previous years.

CPGH capacity for finding, budgeting, and implementing technologies that they may need has increased with the formation of the technology planning committee. This committee is comprised of a technology lead and a representative from the administration and volunteer base. Meetings are meant to provide a forum for ideas, questions, and concerns about the state of technology in CPGH. These meetings are also meant to brainstorm and think about the problems that face CPGH (i.e. low amount of new volunteers) and see if they could be partially if not fully alleviated with the use of technology. The committee has met once on April 24th and plan to meet again May 21st. They have already budgeted and planned to replace the two old and dying computers in the North Hills and South Hills offices with machine donations from a volunteer with purchased software upgrades.

Part I. The Consulting Situation

About CONTACT Pittsburgh

Organization

Founded in 1971, CONTACT Pittsburgh offers immediate emotional support by telephone volunteers trained to help people of all ages who may be suicidal, in emotional distress, or in need of reassurance, information or referral services.[1] Their mission is to provide counseling and support to those who call in requesting such. CPGH has improved as an organization in financial and technical organization by leaps and bounds in a matter of four years. They are in a position currently to make further technical advancements that can increase their productivity and esteem amongst CONTACT affiliated and other crisis management organizations. Even though the call center received upwards of 20,000 phone calls last year, the Executive Director found it difficult to get funding since big disasters (like Katrina and 9/11) receive so much publicity and support. Further information can be found at http://www.contactpgh.org.

Facilities

CPGH's Office of Administration is located in the North Hills. The administration operates out of one building with 10 cubicle offices, 2 of which are devoted to the phone lines. Each staff member cubicle is outfitted with a relatively new Dell computer and the monitors and accessories are a mix of brands. There is a closet near the kitchen which holds the servers and phone lines. The closet is normally locked with a key given to the Executive Director and the whole facility has two layers of protection each being a keypad locked door. In case of burglary or break in the facility also has an alarm system which calls the police first and then the Executive Director.

Programs

CPGH has a good number of phone lines available to those who need counseling: 24 Hour Crisis / Suicide Prevention Line, Student and Young Adult Line, KidsLine Phone Pals, Anti-Hate Hotline, Reassurance for Seniors, Public Inquiry Line. The existence of these programs is heavily dependant on the continuous and reliable help of volunteers. Volunteers pay a nominal fee in order to be trained in the counseling techniques needed to take crisis calls.

Staff

[1] www.contactpgh.org

The site staff consists of 6 members. Everyone on the administrative staff can utilize and has access on their personal computer to basic computer functions, Microsoft Office programs (Word, Outlook, Outlook Express, Excel), and the Internet. Although each staff member has their own unique responsibilities but a good amount of the work completed in the office is divided amongst the five and can be completed by any one of them or in teams.

1. Jan Glick is the Executive Director. She is primarily the one who writes grants and requests monies from philanthropists and other contributors. Jan spends a majority of her time overseeing all the programs offered by CPGH. She works with Word and Outlook Express quite frequently and can use Access applications (as an incomplete application was designed to obtain statistical data for CPGH).

2. Sharon Southlea is the Financial Director. She manages CPGH monetary transactions and budget with QuickBooks. She also utilizes Word for flyer and circular creation in addition to word processing.

3. Charleen Welch is the Program Director for the Crisis and Suicide Hotline. She is in charge of recruitment and training of volunteers for the Crisis and Suicide Hotline. That entails reaching out to potential volunteers, managing volunteer training lesson plan, and making sure the phones are manned. Charleen is probably the most technically able member since she has worked with information systems in the healthcare industry. She utilizes Word also for flyer creation in addition to changing CPGH policy documentation.

4. Megan McKinnley is the Program Director of the Youth and Senior Services. She has duties similar to Charleen since she manages training and call shifts for the Student and Young Adult Line, KidsLine Phone Pals, and Reassurance for Seniors Line. She uses Word, Excel, and Outlook to provide that service.

5. Christy Stuber is the Outreach Coordinator. Her job is to provide outreach to schools and disseminate information about the risks of teen suicide and CPGH. She uses Word, Excel, and Outlook to provide that service.

6. Judy Carnahan is the Secretary. She is responsible for answering calls that come into the CPGH administrative office, scheduling call shifts for volunteers, and helping the rest of the administrative staff, especially the Executive Director, abreast of their many time commitments. Judy is proficient in Word and Outlook as they are her main software tools.

Technical Environment

Hardware:	CPGH Administrative Office: 8 computers, Internet capable South Hills Location: 2 computers, 1 Internet capable
Internet Connection:	Cable
Software programs:	Microsoft Office, Quickbooks, Microsoft Access, Microsoft Outlook, Microsoft Outlook Express, and LifeLine
OS:	CPGH Administrative Office: 7 computers run Microsoft Windows XP, 1 computer runs Microsoft Windows 2000 South Hills Location: 1 computer runs Microsoft Windows 98 and the other is inoperable.

There is a computer at each phone for the volunteer's convenience, but currently it only serves as a distraction (volunteers playing games, looking around on the internet), not really serving CPGH's mission.

Technology Planning

Basically all of the technology planning for this non-profit came by way of a volunteer consultant (Mark). His ideas are sound as they are detailed and basically take the form of a five point plan:

- Making computers and operating systems uniform (or comparable).
- Establishing an asset management system
- Implementing long/short term budget plan
- Bring email and web hosting "in-house"
- Implement site redesign and volunteer web functionalities.

He made this plan two years ago, but it is currently not implemented and the volunteer consultant is nowhere to be found. This volunteer consultant leaving was a great loss for CONTACT Pittsburgh mainly because they cannot afford to truly replace him and he left so many good technological improvements unfinished that would make the non-profit quite efficient. CPGH is not directionless since they have good ideas to work from in the volunteer consultant's plan, the staff just needs direction in how to make the plan better reflect CPGH's current technological direction and needs.

Technology Management

The volunteer consultant (Mark) was supposed to handle this also but in his absence CONTACT hired a professional IT worker in order to take care of server malfunctions, setting up spam filters and the like. He seems to be quite reliable, but is paid on the visit. His services are helpful, but his visits could be put to better use if CONTACT Pittsburgh had a less reactionary stance on technology use. If the staff cannot figure something out on their own then they call him. Mark was trying to put in place a catalog of all hardware/software, updates, and replacements. Really there is no logging of problems, but between the IT volunteer (Nicholas) and the paid IT worker fixing problems and the ISP handles small site updates, CPGH's technological management needs are satisfactorily met. The Executive Director handles backing up the existing database of call log information daily by saving a copy of the database onto her computer at home. The paid IT worker currently handles software and virus definition updates doing them every once in a while.

Internal & External Communications

CPGH Administration communicates internally quite effectively since the space in which they work is suitable for a 6 person team. When staff members are not in on certain days or when communicating with the call shift scheduler, all of the administrators and some volunteers are available by phone. The Executive Director says that CPGH has no problem reaching the philanthropists, potential volunteers, and CONTACT affiliated organizations they need. Everyone on the staff has an email account and checks it regularly. The IT volunteer (Nicholas) handles making quick changes to static information on the website. Contact information is managed on each computer; there is no single listing of all contact information. Some of the staff uses Microsoft Outlook and others use Microsoft Outlook Express. The next step for this organization according to the technology plan is to setup Microsoft Exchange on the server in order to cut out ISM (company who currently manages email and web hosting) and have everyone use Microsoft Outlook in order to use the shared phonebook feature. However, the first of this step of the old plan that will not be followed since it is cheaper to outsource hosting and email services than bring them in-house.

Information Management

Currently most information concerning volunteer hours, call logs, frequent caller data, and volunteer scheduling are entered and computed/managed by data entry workers either the Secretary or a Data Entry volunteer. CPGH uses a combination of an Access database, Excel files, paper sign up sheets, and call-in sign ups in order to manage volunteer information and call shift scheduling. To make matters more confusing, different people are in charge of updating each medium to store the non-profit's information which means a high level of internal coordination (phone calls, emails, back-

checking) is needed just to keep up with the influx of information. Even with all of this work being poured into managing CPGH's information, the staff feels as though the data extrapolated from the manual entries cannot be trusted fully. Although the numbers are slightly skewed, CPGH still must report their findings to the national office and potential funders.

Part II. Consulting Outcomes

Major Consulting Task 1: Shift Scheduler / Call Log Information System

Opportunity Addressed
As stated before the shift schedule, time and call logs, and basic volunteer information are kept in a myriad of places and different formats and requiring a lot of staff time and energy to coordinate that information. So this problem is one of managing various copies of what is supposed to be the same information. Instead of spending time updating each copy for congruence, one copy of this information must be accessible to all parties that currently have their own copy. For example, there are three copies of the schedule which shows which volunteer signs up for a particular shift: one for the Executive Director, Secretary, and Shift Scheduling Volunteer. It is advantageous for these copies to exist to give volunteers a number of ways to sign up for shifts: calling the Executive Director or Shift Scheduling Volunteer and personally signing up on the Secretary's copy.

Approach
With this solution all call log, time sheet, and volunteer general information will be stored in a central location in an Access database from which reports and paper schedules can be made. The database will be managed by the staff using a web interface and all call logs and time sheet information will be entered via computer. Most all of the staff and volunteers have experience filling out forms on the web, so the tools provided would not be foreign to them. Through the following process the system was going to be completed.

1. Explain generally how the system would work while taking questions from staff
2. Through interviews with staff members find out the kind of requirements for the Shift Scheduling / Call Log system.
3. Create an ER Diagram and list the potential use cases.
4. Create mock ups of use cases and discuss them with the staff to find inadequacies in the system design.
5. Create the tables for the database.
6. Implement the system functionalities by use case.
7. Show progress to Community Partner.
8. Repeat steps 6 and 7 until all use cases are complete.
9. Provide documentation for basic use and a technical manual.

How this opportunity would support the mission
If the staff is spending time making sure all copies of the schedule are correct or shuffling through paper call logs to track caller behavior then they are not spending time recruiting volunteers or revising volunteer call protocol. The staff can better achieve their mission if freed from inefficiencies of inputting paper call logs into the current call log database and coordinating schedules.

Feasibility of the work
Partner's Response
In one of the first meetings with the administrative staff, the excitement for the development of this system was very high. They were enthused when the benefits in time and reliability of statistics were discussed. Their enthusiasm got them through the long interviews when looking for system requirements.

Relevance to consultant's skills
The student consultant has experience in two IS courses where he has been responsible for implementing similar functionalities designed for the web in a couple different server-side scripting languages. Consultant also has knowledge of phased implementation practices and documentation.

Work sustainability
The work completed by the student consultant should be sustainable, maintained by the CONTACT Pittsburgh staff using database management tools with a web interface Through the information given by the CPGH staff in the interviews the system requirements should not change to much to render the completed project useless. In more than 25 years of service, the service provided is simple and yields the same information so the student consultant predicted that design changes would be rare at best.

Risks
In the event that major design changes must be made to the system, there was to be a technology planning committee in place to requisition the technical services needed to affect the desired change. It would be the committee's responsibility to hire a new consultant or find technical talent within the organization. With the technical skills of the CPGH staff this risk is more of an inevitability, since they simply do not have the time to acquire the depth of IS knowledge required to make system design changes themselves.

Consulting Task 2: CONTACT Pittsburgh Technology Planning

Opportunity Adressed
The CP had no real idea of what direction the non-profit needs to go in terms of technology. Although CPGH's success as a crisis phone line is not directly dependant on having the latest technology, there is currently no means for formally handling big issues

with the technology they currently use or expanding their use of technology to help further their mission. In the past, the volunteer consultant (Mark) took on the responsibility of creating a plan for CPGH, but without him the organization has been somewhat stagnant in regard to technology.

Without a plan, it would have been very difficult to present a case to philanthropists and foundations for why CPGH needs the money for hardware/software and hard to work out how to allocate those funds. Without this plan and the formal means by which to see it through, the technical problems that are not quick fixes that currently plague CPGH will continue. There is a need for better filtering of email, a problem of reception of multiple duplicate emails, replacement of an inoperable computer at the South Hills site, replacement of an old computer at the North Hills site which is used to house and update the current call log database information, and implementing the new web site design just to name a few technical problems CPGH is having.

Approach

There is a plan penned by Mark which needs a good bit of revision in order to serve as the CPGH's technology plan. In addition to the plan itself a committee must be formed which will serve to implement the plan. The committee should be comprised of an appointed technology lead, an executive representative of the organization, and a volunteer representative.

When this project is completed there would be a staff member appointed to keep track of the technology plan (document), through the committee decisions there will be people responsible within the administration for following through with the plan, and if the administration lacks the skills needed to implement parts of the plan, they would be able to find the technical services they need elsewhere. The main outcome of the project would be new protocols for CPGH to follow that would have resulted in a document as plan and steps to identifying and following a clear course of action in the realm of technology. These are the steps that needed to be taken to reach that point.

1. Discuss what a technology plan is and the responsibilities of the planning committee while assessing the level of need for a plan and committee.
2. Assess the current state of technology (hardware/software) and create a catalog
3. Take an introspective look at what the organization is missing or could use in relation to technology and use those needs as a starting point for a plan.
4. Nominate committee members and set a time for the first meeting.
5. Come to consensus as a committee on which are the opportunities that should be seized and brainstorm solutions for those problems.
6. Decide on a course of action and put that course of action into writing in the technology plan.
7. Delegate the responsibility to write and keep track of the technology planning document.
8. Set a consistent meeting time to review and update the plan.

How this opportunity would support the mission
It has been stated before that technology is not the driving force behind CPGH. However, CPGH still uses technical tools in order to do their service to the community. The administrative staff is in constant communication through email and all call logs are entered into an Access database to gather call statistics. Since software and hardware needs to be updated and replaced to continue to be useful to the organization, a plan to keep those technologies working is needed to ensure their use in supporting CPGH's mission.

Feasability of the work
Time Management
There is certainly enough time to prep the staff and take stock of current technologies. To create the plan is just a matter of revising the volunteer consultant's (Mark) work and adding tasks that build upon CPGH's current technology needs.

Partner's Response
CPGH is not as enthused about this project as the last one, but they do realize its importance. The job of diagnosing technical problems and creating a plan to deal with them is obviously not in the current staff's skill set, but the administrative skills needed in order to update and maintain the plan and outsource the technical work is definitely in the staff's skill set.

Work sustainability
The plan is obviously sustained through the committee. The strength of the committee lies in the commitment of its members. The administrative staff is very diligent its efforts to provide counseling to those in crisis and taking a serious and formal approach technology planning is seen as an extension of their current responsibilities.

Risks
One risk would be staff turnover. Those who currently make up the technology planning committee could leave the organization. However, a way to mitigate that risk would be to instill the committee and the plan into the regular operation of the organization and include attending the meeting into the orientation of new workers.

I. Results of Consulting Work

A. Call Log/Call Shift Scheduling System

This information system was meant to lessen the organizational inefficiencies faced by CPGH in daily operation and bring volunteers and staff in better communication with each other by using Internet tools that replicate the actions of current paper forms and spreadsheets. Only the call shift scheduling half of the system was fully realized. Although the Call Log system as designed would have clearly reduced paper work for Volunteers, the Shift Scheduler, and the Program Director, time concerns prevented the system from being completely implemented.

a. Online Call Shift Scheduling

i. This is an addition to the website that allows volunteers and staff to sign up for call shifts. Login and password are required to access this part of the site that only a member of CPGH would have. Once inside the user would see the option to sign up for a shift or log out. The main screen for the shift schedule looks like a calendar with the days in red with open shifts (the shifts listed at the bottom of the day) and the days with all shifts filled in green. When a user clicks on a day they can view who has taken a particular shift for that day and click to sign up for an open shift or be a partner on a shift taken by one person. Shift takers may need a partner in the cases of a married couple who volunteer together or a new volunteer who does their first shift under the supervision of an experienced volunteer. After selecting a shift the user receives a confirmation page saying if the shift has been taken. Volunteers can be added to the system and their information stored in the database can be edited with functionality available only to administrative staff. These pages are simply Internet forms that submit information to the database and show a confirmation page on successful addition or update of volunteer information. There is also an option to print the list of volunteers in the system (and if volunteers are added as they should be all the volunteers in the organization) sorted by the field of the staff member's choosing. This functionality currently creates a new web page with the sorted information to print from, but will soon export this information to excel files.

ii. The process of shift selection online is faster and requires less organizational resources than calling in a shift. By organizational resources I mean staff time and effort spent using the phone to answer a call from a volunteer scheduling a shift and coordinating different paper schedules. Currently if a volunteer calls in to schedule a shift it takes on average 5 minutes to complete the scheduling. When the Program Director used the system with some instruction it took less than a minute. The time it takes to coordinate schedules is eliminated since there is essentially only one copy schedule accessible to everyone.

iii. With the information system in place a staff member is not needed for a volunteer to sign up for a shift. The volunteer's time is also saved since they can see the full schedule at a glance and make a decision on a shift with a couple mouse clicks. The positive impact of this outcome on capacity has yet to be seen in practice since the implementation phase ran over time and a completed first version has not been tested by volunteers. The

iv. Time is a very valuable commodity anywhere and it is apparent that time wasted at CPGH is a problem. The online scheduling system addresses a part of that larger issue, turning it into an opportunity to get more mission specific work done.

v. This outcome can be sustained only if the volunteers utilize the system. The Community Partner plans on making announcements about shift scheduling online and ingraining its use into new volunteers. In this way CPGH can sustain this increase in capacity through use.
vi. Before most of the administrative staff had the perception that increased use of the website was merely inevitable, but this system helps put the increased use into context. The perception has changed from one of slight dread of the increasing importance of technology to that of excitement for the possibilities of applying those technologies to improve CPGH's work.

b. System Complexity

i. One undesirable outcome of this work is that CPGH now has a fairly complex information system on its hands. Being built with ColdFusion and utilizing an Access database places maintenance outside of the technical skill set of all administrative staff.
ii. Before both signing up for a shift and scheduling a shift only required being able to use a phone and paper and pencil. Now basic knowledge of computer and Internet use is required for administrative staff to schedule a shift.
iii. The few design problems that have surfaced in this system are being addressed and as expected CPGH has not made any new business rules or changed any rules regarding call shifts. If there are any drastic changes to how call shifts operate, the new system demands understanding of ColdFusion and Access databases for maintenance and fixes.
iv. The complexity of the system lends CPGH the power to save time and focus on mission critical issues. However, many resources would be spent repairing or changing the system because of that complexity.
v. Although everyone at CPGH is computer literate, no one has the skills to provide support. One volunteer has the skills needed to maintain the system and CPGH has the ability to find the appropriate help outside its volunteers if need be, so the system itself in all likelihood could be sustained. There is general documentation or basic use and understanding how the system works for CPGH staff and a technical manual for those who need to make fixes to the scheduling system.

c. Robustness and Redundancy

i. Another outcome would be providing an additional means by which volunteers can sign up for shifts and having one central location for call shift information.
ii. One day during a meeting at CPGH the shift scheduler quit. No replacements could be found so that meant there was no way for volunteers to call in. The administrative staff absorbed the shift scheduler's duty because they had to, but doing so permitted them from completing their own work. The online system would take some of the burden off of the administrative staff in this sort of situation.

iii. While the system has not reached the final round of testing (being used within CPGH for scheduling real shifts) the fact remains that it would be a viable means for scheduling for computer literate volunteers and reduce the workload of the Executive Director, Secretary, and Shift Scheduling Volunteer.
iv. With the call shift scheduling system in place, the sudden absence of the shift scheduler would probably not have been so crippling. Working in conjunction with the current system of calling in a shift change expands how volunteers can take shifts. The increased capacity to CPGH would be some redundancy in the greater system of volunteers taking shifts.
v. This outcome is sustained when both calling in a shift and using the online system are available.

B. Technology Planning Committee

This committee was to be put in place in order to pick up work on the technology plan left by one of CPGH's former volunteers. The plan would be made by taking the best and still relevant ideas from the original plan and combining those with new needs that face CPGH today. With this committee in place there will be a formalized method for budget spending on and acquisition of desired technologies.

a. Planning Committee

i. The main outcome of this would be the committee itself. This does not refer to the assemblage of people, but more so the institutions put in place to manage and implement the technology plan. The Community Partner and student consultant chose the committee members based on how well they fit the specific roles in the committee. The committee is comprised of an appointed technology lead (Program Director), an executive representative of the organization (Executive Director), and a volunteer representative (Richard Penson). Everyone present on-site are welcome to join the meeting and provide their perspectives and insights. Below the committee positions and justifications for current member selections are provided.

Technology Lead
The technology lead must have an interest and experience using various types of technologies. The responsibilities of the lead during meetings are to keep the meetings on topic per the agenda, schedule meetings, and notify committee members of meetings. The Program Director fits this role because of her experience with technology in the healthcare industry and her interest evident by her initiative in learning Dreamweaver.

Executive Representative
This position requires a member of CPGH with a good deal of experience in the organization and working knowledge of all its programs and

administrative operations. This member should question whether the solutions proposed truly support CPGH's mission and do not break any organization policies. This member should also take detailed meeting minutes. The Executive Director is in this position because of her knowledge of the whole organization and ability to get to the heart of a matter and assess its impact on the organization.

Volunteer Representative
This committee member is there to represent the needs of the volunteers in regards to new technological solutions and decisions proposed. An example of the usefulness of this perspective was in the development of the call shift scheduling site. The original design was a calendar with days linking to shifts for that day. Richard said that would be just like calling in, the volunteer still cannot view the schedule themselves (only after a great deal of clicking). The design now supports viewing the schedule at a glance reducing the time needed to sign up for a shift online. Although he is a relatively new volunteer, Richard brings additional technological and consultant experience which helps immensely in identifying technical opportunities and brainstorming solutions.

The committee has met once April 24th and as a committee agreed on the list of opportunities generated by the student consultant and the Program Director. In that meeting they have taken steps to solve one of the problems listed previously (replacing disabled and old computers) and budgeted for the software needed for those machines. They have also set the date (May 21st) and agenda for the next meeting.

ii. Before, donations of computers fell into CPGH's lap and some donations that should have been turned away were accepted. There were no protocols on how to handle technology needs, so the needs more or less handled themselves. Recently the committee has addressed the issue of old and unusable computers by seeking out a volunteer with machines less than 5 years old and budgeting ($90 per computer) for the software needed on them.

iii. Luckily in CPGH's recent past, the organization has been supplied with free and up to date computers and software. But this came by uncoordinated effort on CPGH's part, mostly by chance. There is no hard evidence that the committee will create a plan. However, they have met once and instituted a plan to acquire two new computers for the office and set an agenda for the next meeting.

iv. Now, the organization has the people in place in order to actually address technical needs in a bi-monthly forum as opposed to reacting to whatever comes along. This committee increases technical capacity by providing a formal way of requesting and obtaining the technical supplies and expertise that CPGH may need in the future.

v. This outcome is self sustaining since the institutions that govern addressing need also govern management of the committee. Although the committee is in its infancy, they have already scheduled the next meeting for May 21st and have an agenda for that meeting. The more the committee meets the more it will be engrained into CPGH operations.

vi. The very act of having a meeting whose purpose is to address technical issues in the organization has completely changed CPGH's outlook on technology. The Program Director told me that as an organization they were stagnant in this area. To go from stagnation to continual reassessment is a huge step.

II. Recommendations

1. Expand web site functionality to include an online call log entry system

a. This system was originally planned to be delivered with the call shift scheduling but student consultant work on it was discontinued. The call log system would allow the entry of call log data by volunteers and/or data entry persons directly into the call log database without any knowledge of Microsoft Access. Users would be required to be familiar with filling out online forms and, in the case of volunteers, be able to perform their duty to counsel callers while entering information.

b. This opportunity, if taken advantage of, can decrease the amount of time and effort spent entering written call logs into the call log database. While this new functionality will not replace the use of written logs, it provides volunteers more comfortable with computers the option of typing in call log data. By providing ease of use to those working with call log data, volunteers especially, users of this system will be more focused on the call rather than worrying about scrawling down data on the paper call logs.

c. The issue in building this system is finding the appropriate developer(s) to design and implement the system. There is currently a volunteer proficient in ColdFusion and Access who could possibly provide maintenance, but he does not have the time to develop a system for CPGH. Follow the subsequent steps as a guide in finding the right person(s).

   i. The job description for building this system includes:
      - *Experience designing and implementing online form based systems* – this is essentially what they will be doing.
      - *Working knowledge of ColdFusion* – currently CPGH's ISP (ISM) stores all of their website information on one server. This server has ColdFusion/Access installed on it. As to not incur any extra costs or invite confusion with two domains, the system should be continued in ColdFusion.
      - *Knowledge of database design* – this knowledge of how the call log information can be best represented by and stored in the new call log database.
      - *Experience with Microsoft Access* – CPGH is provided with Access database services by ISM and it would be cost effective to continue to use that service in conjunction with ColdFusion as opposed to paying for an additional service.

   ii. Contact the companies that specialize in building web-based applications. Have a meeting with them in order to discuss the system requirements, which should include the types of information that a call

log consists of and specifically why the call logs should be recorded. An explanation of how call logs are currently handled would also be quite helpful.

iii. Once the representative understands the kind of custom system you are looking for, ask for a time estimate and quote for the implementation of the system.

iv. Price is surely CPGH's primary limiting factor. Make sure the representative knows that and be sure to ask about other reputable ISPs, development teams, and/or freelance developers that may be able to help.

d. Below are a few resources that can be looked into when trying to find the professional services needed to build the call log entry system.

i. http://www.rentacoder.com/
This is an online service which matches software buyers with programmers. The buyers post a project that they need completed and the programmers bid on the project by posting their desired compensation.

ii. http://www.elance.com
This is another bidding service for software and application development. You can pick the best proposal you find, again maximizing value for CPGH monies.

iii. http://www.isminternet.com/
CPGH's very own ISP (Internet Service Provider) offers the services needed to make the call log entry system a reality. Based in Oakmont, PA, their proximity and existing relationship with the company make them a prime candidate for hire.

iv. http://www.onlinecorp.com/
Online is an ISP that operates out of Milford, PA. Their application development staff has the ability to build this system. The advantage of using Online is that they have experience picking up the work left behind by other programmers.

2. Acquire Dreamweaver skills for CPGH staff to make web site updates

a. Consumed with the development of the call shift scheduling system, attention was not paid to the simple updates that must be made to the static pages of the CPGH website. Currently handled by a gracious volunteer, the required updates would cease in his absence. To remedy that situation,

a more permanent member of the administrative staff should learn the skills necessary to make the necessary site updates.

b. As stated before, one good reason for having an administrative staff member able to make site updates would be in case the volunteer was unable to share his talents. Also, the staff member could be in communication with the rest of the staff, devote time specifically to updates, and be held accountable for the updates more easily than a volunteer.

c. The best approach to learning a new technology is to take a course tailored specifically to suit the needs of the student.

d. Here are some websites that may assist in finding a suitable course for web site basics in the Pittsburgh area and online.

   i. http://www.macromedia.com/support/dreamweaver/
   The Macromedia site is a great reference for those learning Dreamweaver with up to date and correct tutorials.

   ii. Macromedia Dreamweaver 8: Training from the Source
   For $30, which is about the going price for a Dreamweaver 8 tutorial, Macromedia puts everything one needs to know about Dreamweaver into this book.

   iii. www.rmu.edu/bcnm
   There are courses available through Robert Morris University that focus on non-profit technical issues. A Dreamweaver course is not currently available but may be offered if you contact them.

   Center for Adult and Continuing Education
   Fourth Floor
   718 Fifth Avenue
   Pittsburgh, PA 15219-3099

   Phone: 412-227-6814

   iv. http://www.pghcyberconxion.com/
   One could contact this Squirrel Hill based company and inquire about the next Web Site Design course which includes training in HTML and Dreamweaver.

Appendix A. Shift Scheduling System Technical Manual

System Overview and Purpose

Introduction

The Shift Scheduling system is a web-based software application that facilitates the processes essential to manage volunteer call shift sign up. The system handles: online shift sign up for individual volunteers and partners, addition of volunteers to the volunteer database, updating of volunteer information in the database, and creation of sorted volunteer rosters.

System Users

This is a quick overview of the users that this online system was designed for.

First and foremost this system caters to Volunteers. They are added to the system by an administrative staff member who provides them with login (code number) and password (code name). Once logged into the site the volunteer may access the shift scheduling calendar to begin the process of signing up for a shift.

Administrators are members of the administrative staff who oversee the Shift Scheduling System and have the power to add volunteers and edit their information. Administrators can also view sorted volunteer rosters.

More detailed information concerning which user can access which use cases can be found in the next section.

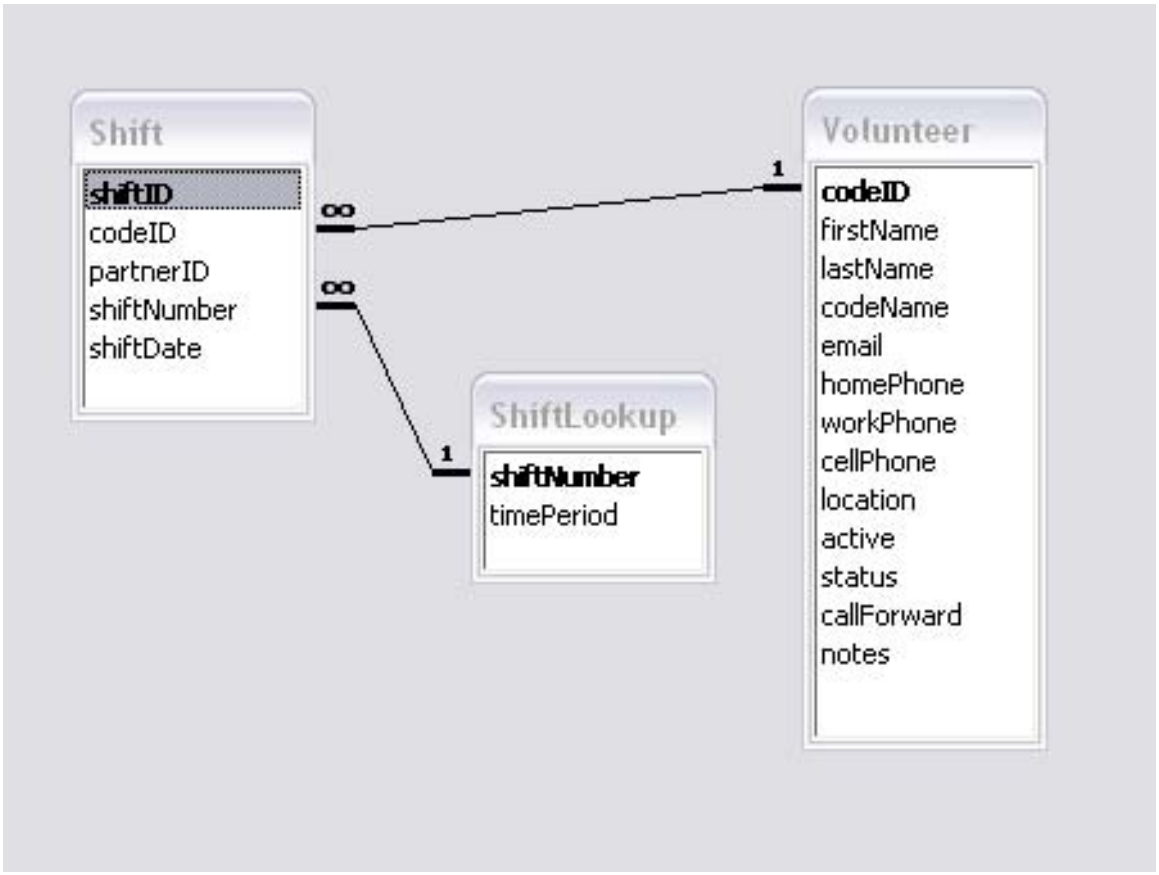
System Installation

In order to install the Senior Olympics System on to another server Macromedia ColdFusion 5+ and Microsoft Access 2003+ must also be installed. In addition to the software installed above, a transfer of data must occur involving the database that the system currently runs on.

Use Cases

Name	Actors	Description
Add Volunteer	Administrator	The administrator will be able to insert a new volunteer into the database.
Edit Volunteer	Administrator	The administrator will be able to edit volunteer information.
Phone Shift Sign-up	Administrator, Volunteer	The administrator will be able to add up to two volunteers of their choosing to a particular call shift. Volunteers are only able to add themselves to a shift as the primary volunteer on duty or as a partner to shifts with only volunteer currently on duty.
View Volunteer Lists	Administrator	The administrator will be able to view volunteer rosters sorted by whatever field in the database they specify.

Data Model


Shift
shiftID
codeID
partnerID
shiftNumber
shiftDate
Volunteer
codeID
firstName
lastName
codeName
email
homePhone
workPhone
cellPhone
location
active
status
callForward
notes
ShiftLookup
shiftNumber
timePeriod
1
∞
1
∞

Data Dictionary

Shift

Field Name	Keys	Type	Length	Description
shiftID	PK	AutoNumber	Long Integer	This is the unique identifier for a particular shift.
codeID	FK	Text	5	This is the unique identifier for a particular user.
partnerID	(FK)	Text	5	This is the unique identifier for a particular user.
shiftNumber	FK	AutoNumber	Long Integer	This is the unique identifier for a particular shift type.
shiftDate		Text	Date/Time	This is the date of the shift given by [mm/dd/yyyy].

ShiftLookup

Field Name	Keys	Type	Length	Description
shiftNumber	PK	AutoNumber	Long Integer	This is the unique identifier for a particular shift type
timePeriod		Text	20	This is the times that the type of shift in question starts and stops (i.e. 2:45 – 6:45).

Volunteer

Field Name	Keys	Type	Length	Description
codeID	PK	Text	5	This is the unique identifier for a particular user.
firstName		Text	50	
lastName		Text	50	
codename		Text	50	The alias the user goes by on duty.
email		Text	50	
homePhone		Text	18	
workPhone		Text	18	
cellPhone		Text	18	
location		Text	2	Where the user normally works (i.e. NH North Hills; SH South Hills).
active		Text	3	This indicates if a user is active within the organization.
status		Text	50	This indicates the system status of the user (i.e. volunteer, administrator).
callForwarding		Text	3	This indicates if the user does call forwarding.
notes		Text	50	

Non-Functional Requirements

Security

Users have different levels of access based on user type (Volunteer or Administrator) which is determined by the login functionality.

Hardware/Software Requirements

Client Side Requirements: the hardware/software requirements for all users are minimal (a computer with internet access) as the system is designed to work with most modern browsers.

Server Side Requirements: the server will need to have Macromedia ColdFusion 5+ and Microsoft Access 2003+.

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