

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

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Final Consulting Report

Center for Creative Play

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Center for Creative Play

Executive Summary

Student Consultant, Amanda Bradford
Community Partner, Marie Swallop

I. Background Information

Center for Creative Play (CFCP) is a nonprofit organization serving the children of Allegheny County. CFCP and its mission is to provide a welcoming, safe and fun play space for all children to grow, to provide education and networking support to families and those who support them and promote inclusive communities. All children have the same opportunities at CFCP, regardless of ability or background, have unlimited opportunities to grow up knowing they are important and unique individuals with confidence in their abilities, identities, and sense of connectedness in the world and that their families feel informed, educated and confident to support them in the challenge.

CFCP was started by five families who had children with disabilities. They wanted to create an inclusive environment where all children are welcomed. Five social service agencies joined in to help:

- Louise Child Care
- Early Learning Institute
- UCP of Pittsburgh
- Allegheny Intermediate Unit Head Start
- Council of Three Rivers American Indian Center Head Start

CFCP's vision is that "All children and their families have universally accessible and developmentally appropriate environments that encourage creative and interactive play". Their mission is to "ensure that all people understand the importance of play through education, the operation of a model play environment, and support to other communities".

CFCP made a major software investment around December of 2005, purchasing a database driven donor management system that could be expanded to hold employees, volunteers, as well as families. Once the main part of the system was in place and implemented, two additional modules were going to be purchased; one to replace their existing Point-Of-Sales (POS) system, and a financial module to facilitate payroll and handling donations. However, there were some errors switching from their previous donor database to this new one, and some of the data was corrupted requiring a data entry person to fix it before the system could be used.

II. Consulting Tasks

During the ten week consulting period, I organized technology meetings and documented outcomes. A major consulting task was the creation of a technology plan. To get information for the technology plan, we held meetings discussing several issues that had not been properly dealt with regarding the relationship between Center for Creative Play and its existing technology.

Raiser's Edge used constituency codes, used to label a person as a 'donor', 'volunteer', 'member', etc, and the codes were created by a former CFCP Staff member. There were over 30 possible codes for a person, adding confusion to the process of adding a contact to the database. In a technology meeting, CFCP staff members and I came up with 14 new constituency codes to replace the 30 older ones. This decision will make the Raiser's Edge system easier to understand as well as reduce the number of queries needed to find a specific person.

Another issue discussed was the website and how it should serve CFCP. Different suggestions were made, including adding functionality for dynamic sign-up for programs, an electronic birthday party deposit, and a volunteer sign-up. However, with the budget constraint as well as the resistance to change entire business processes, it was decided that the website should remain as solely an informational resource. Plans to add information as well as update the website regularly are currently in effect.

During these meetings, it became apparent that there was no central guide or plan for technology, rather all the ideas were remaining in someone's head. Other staff members in the organization were unaware of many future technology goals, and many did not even know how to use Raiser's Edge which was planned to be the backbone of CFCP. Thus, I came to the conclusion that a technology plan could serve as a "central" document that could be updated yearly with the budget, where technology decisions and goals could be documented.

While sorting out what exactly should be changed within the current organization, two key staff members left, adding excess workload to all CFCP staff. This made it difficult to find time to actually implement any of the changes recommended by the technology plan, such as creating a new sitemap for the website and implementing the new constituency codes for Raiser's Edge. However, the technology plan remains as a guide for CFCP to strive towards.

III. Outcomes Analysis and Recommendations

Overall, a technology plan has been produced and CFCP employees now have increased awareness of their technology environment. Staff members are better informed and a technology team has been created to analyze current and future technology needs. There are now documented goals to improve the layout of the website, to implement code changes to Raiser's Edge, and to train staff members on Raiser's Edge.

There are some issues that are yet to be resolved that could be a potential threat to sustainability. There is still a technical problem with assigning constituency codes to Raiser's Edge, as there is no way to force a constituency code to have an attribute. After scouring the web, and user manuals, and calling the Raiser's Edge support service, the only solution to this problem is to make sure staff are trained to assign a member a constituency code as well as a matching attribute, for certain constituents. Organizational policies are risky as there is no certain way to enforce them within the application, so inconsistent data could be entered into the database.

Another issue is incorporating the technology plan into the organizational policy. Right now there is no documented plan to re-visit the technology plan every 'X' months, and this could mean that the

company is not depending on this plan to guide them yearly. It is hoped that the technology plan can be re-visited every year with the budget.

As there are only two people very familiar with Raiser's Edge, there is a risk that this knowledge will leave if the employees leave. There is currently no documented or spoken plan to hold Raiser's Edge training for new employers or enforce that they complete the free online trainings. It is hoped that familiarity Raiser's Edge will be incorporated into new employee training, and that the training recommended in the technology plan will be adhered to.

Lastly, finding time to focus on technology is a significant risk. CFCP is understaffed and everyone is very busy. While the technology meetings are helpful, they may not be held if nobody feels they provide benefit to CFCP. However, as expanded on above, many misunderstandings were cleared up through these meetings, so it is possible that the meetings will be viewed as essential for all technical planning and decisions.

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I. About the Organization

Organization

Center for Creative Play (CFCP) is a nonprofit organization serving the children of Allegheny County. CFCP is located near Edgewood/Swissvale and its mission is to provide a welcoming, safe and fun play space for all children to grow, to provide education and networking support to families and those who support them and promote inclusive communities. All children have the same opportunities at CFCP, regardless of ability or background, have unlimited opportunities to grow up knowing they are important and unique individuals with confidence in their abilities, identities, and sense of connectedness in the world and that their families feel informed, educated and confident to support them in the challenge.

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CFCP opened in October 1995 in downtown Pittsburgh. There they grew from 1,000 visitors to 16,000. In October 2001, the Center moved to its current location and tripled the play floor space to 15,000 square feet. In the first year at the current site, CFCP had over 51,000 visitors.

CFCP has an annual budget of \$1.1 million, where 50% comes from revenue, 40% comes from grants, and 10% comes from private donations or fund-raising activities.

Facilities

A brief description of the facilities of the organization. CFCP is located on 1400 South Braddock Ave in the Edgewood/Swissvale section of Pittsburgh. CFCP is one of the few non-profits that actually own their building, and they rent a room out on the main floor to a dance school, and they rent rooms downstairs to a daycare, a gym, an insurance company, and a yoga place. This is an additional source of revenue for CFCP.

The building is huge and allows all full-time staff to have his/her own moderately sized office with a personal computer. The upstairs of CFCP is primarily dedicated to the children's play area, with a small office for Darrell, the Assistant Program manager, Gina, the volunteer coordinator, and another for the birthday party coordinator, Sandy. The rest of the staff upstairs is part-time or volunteer and their duties are dedicated to the children—the receptionist checks the children and their family in, the volunteers play with the children, and 'creative players' ensure the CFCP is functioning properly.

The downstairs of CFCP is where the rest of the full-time offices are located. The offices for the Development Director, Communication Manager, Marketing Manager, Chief Executive Officer and Founding Parent, Chief Financial Officer, and Vice President of Play Environment reside here.

There is an upstairs attic-area for storage, and downstairs there is a server room and a storage room. On the main floor there is an equipment room, a birthday party room, and a dance studio that CFCP can use for meetings (if it is available).

The actual play space is very large as well, with a room for computers, a giant-sized play-house, and other rooms especially designed for visual stimulation, auditory stimulation, and simply reading. They also have a horizontal climbing wall along with a broken bowling machine in the back room.

Programs

In addition to providing memberships and daily passes to access their play area, CFCP also sponsors several programs for their community. Some programs are for children and their parents, some just for the parents, and some just for the children. Many are directed toward parents of children with special needs.

The special programs are advertised with fliers and through the paper, but are limited electronically. There is no electronic archive for these programs, whoever is in charge of the program is the one who knows how to plan and organize it. Computers are used to make the graphics, but many of the old graphics are locked into PDF files and cannot be altered. Many of the staff cannot replicate the graphics because they are not adept at Photoshop.

Staff

Employee turnover is at a high at this point in time. Gina, the volunteer coordinator, has resigned, as well as Sandy, the birthday party coordinator and Dianne, Marie's former boss, all within a month. These employees all had integral knowledge and know-how that others in the organization don't have as of right now. This is a cause for concern.

The staff's activities are pretty disjoint from each other. Most workstations are using Windows XP operating systems, except for two or three workstations. The current staff is proficient with MS Office applications, but no one uses Access or Excel very much. Marie is in charge of Marketing, but finds that most of her time has been spent dealing with Operation type of activities. She and her former boss, Diane are the only people trained to use the newly bought CRM-type software, Raiser's Edge. This database software is intended as a donation system that can handle multiple other operations. The staff all has database experience as they used to use 'Donor Perfect', another database software application.

In terms of IT staff, CFPC does have an IT consultant that they call, but he has his own company and other clients. Also, the CFO has an MIS degree, but does not have time to look into the technical problems.

Technical Environment

Internet Connection: DSL

2 Servers

Firewall (sonic wall)

7 desktop computers

2 laptop computers

3 printers (1 color)

1 fax machine

1 shredder

1 photocopying machine

1 projector (mounted)

1 projector (portable)

3 digital cameras

1 TV/VCR

Windows XP and 98 Operating Systems

Raiser's Edge software to keep membership information

QuickBooks used for financial record keeping.

Staff can login to the system from home using a VPN client.

Marie and Diane are the only ones who have Raiser's Edge installed on their computer. Marie, however, can only access it through the internet as when she tries to edit the data directly from her PC, it crashes. This is because her computer does not have enough memory.

The front desk receptionist uses the POS web-based system to check people in. That is not linked with the Raiser's Edge system used downstairs, but she does have access to it. Now that Diane has left CFPC, the only people who have more than read-only/basic data entry access to Raiser's Edge is Marie and Bob.

All computers are networked to a server; there is a separate email server and an application server. They do have a daily backup system, but no-one takes it out of the building so it's not being utilized properly. The website was outsourced to a web-designer 5 years ago with only a few sections updateable. The IT consultant helps set up their networks and fix them when it is in trouble. Often, the Ethernet cord falls out of the server and the entire system goes down until someone goes to the office to plug it back in. The server room is also quite messy, with cords everywhere.

An interesting note is that there are over 10 old computers stored in the attic that are considered to be too old to use.

Technology Management

The technical environment is managed a little bit by everyone, but mostly the external IT consultant that comes in about bimonthly. If anyone has a complaint or problem, they can call the IT consultant. There is no means of logging problems or archive of old problems. The consultant is looked to for guidance and troubleshooting CFCP's IT environment.

Technology Planning

The budget for technology depends on the stipulations of the grants they receive and how many private donations they receive. Most grants are not stipulated to go towards operations, which is what IT is considered. Therefore they must use money given by private donations for operations expenses, which includes salaries, computer updates, and software applications.

A grant from an anonymous foundation will allow them to upgrade their computers this summer. Marie's boss, Diane, had provided some technical recommendations regarding their IT infrastructure. Bob also helps, as he has an MIS degree. There is no technology committee, and often the IT decisions are somewhat haphazard. When deciding which software application to purchase, the COO and CFO interviewed 3-4 different companies before deciding on Raiser's Edge. It was not an organization-wide decision.

Many staff members have their own ideas and opinions about what should be done but the person who (formerly) had to approve everything is Diane, the COO, who worked from Connecticut and therefore did not have a good grasp of the daily operations of CFCP.

Internal and External Communication

CFCP has an average level of internal communication. Since around half of the full time operations staff resides upstairs, they are very dependent on their email and phone systems. The computers are networked so files can be put on the shared drive. In terms of security, CFCP uses a VPN client to ensure encryption. There is a firewall in place and all databases are password protected. All staff have email accounts setup on Outlook, which has a global calendar feature to help when booking events. Though this feature is in place, it is not utilized properly and double booking has and continues to occur.

External communication is primarily paper based. Advertising consists of flyers, word-of-mouth, and free passes. Coupons are passed out at various Pittsburgh events to incite people to come for a visit. The website is very rarely updated and is a significant in terms of marketing or communication. This is because it is difficult to update, hard to navigate, and only certain sections are dynamic. This makes it hard to use the website as a tool for external communication.

While CFCP does collect parent's email addresses, only rarely are email notifications sent regarding upcoming programs or wishing their children a happy birthday, even though this could lead to an increase in revenue generating birthday events. The telephone is used to communicate with members regarding any membership questions and birthday party booking.

The website does have an online form for making a donation which is linked to their Raiser's Edge system. This form goes to Bob, the CFO. They also have an online form that is simply for requesting information on any topic. Once someone submits that request for information, Marie must go online and login to be able to check these information requests. This is a nuisance as it would be much easier if they came to her email account. The website could be a lot more interactive, such as having pictures of current children, listing children's birthdays, and advertising for an upcoming program or event instead of just listing them all. A more dynamic website would entice more people to visit the website more than once, as well as contain more accurate information.

Information Management

Critical information for CFCP includes the membership information. Each membership can hold three children and three adults, and the children and parent information is crucial to CFCP. CFCP likes to know if there are special conditions with the children that they should know about. Information that is also helpful is the parent's employers, as often they are a source of donations. Other information that is necessary but not considered critical is the volunteer information. That information is held by the volunteer coordinator in two different notebooks as well as the Outlook calendar, but not everyone can access it and often the Outlook calendar is not updated. As she is resigning soon, Marie would like to see this information stored electronically so it is more accessible. Donor information is also stored in Raiser's Edge, but right now there is conflicting opinions about whether to store non-donating vendors with donating vendors. Right now only donating-vendors are stored. Vendor information is critical because it is part of the operating process and they need this information to re-order supplies.

Donor membership information is currently being migrated from Donor Perfect to Raiser's Edge. Everyone has access to Raiser's Edge, but only 4 people at a time can be 'logged on'. Only Marie and Diane can edit any information. Raiser's Edge is a powerful system, and could really help this organization if aligned properly with the business functions and understood fully by all staff. The large amount of data you can store on one person is helpful; it also keeps track of relationships between people. This is useful for fund-raising, but also when the purpose of CFCP is to get to know the families so they can help them grow. Getting the most out of Raiser's edge could help both internal and external communications.

CFCP's main program is charging admission for children and families to use the play space. One membership is good for three people. Children and their parents check in with their card and a barcode scanner is used to check them in. This system, called the POS system, doesn't interact with the regular membership database. When a new member comes, their application must be typed into the system twice, once for the POS system and once for the regular membership database used downstairs.

Supply management is non-existent. Right now, there is no way to track how many supplies are left or how many are ordered. Marie must look at the inventory first and then guess how much she will need. The supplies come in boxes with bar-codes, and Raiser's Edge has a barcode module that they could buy, so this could solve their supply chain management complexities. Marie said it would be nice to know when she is running low on supplies so she can order more without having to go check how many are left.

Membership information is entered twice. Once at the receptionist desk for the POS system and once in the Raiser's Edge system. The staff can also access the web-based version of Raiser's Edge, but only Marie and Diane can access the desktop application, as it has yet to be installed on everyone's computer. The flow of information is not a clean path, much of it is in paper and what is not in paper form is in a database that not everyone knows how to access.

Financial information is handled solely by Bob through QuickBooks. No one else knows how to do this, and no one else has access to it. Everyone must go through Bob to get any financial information about CFCB. Mara, the COO, has limited access to this financial information.

Outlook is the email client everyone uses, but not everyone knows its full capabilities and often the global contact list and/or calendars don't work right, which has led to errors like CFCP accidentally double-booking birthday parties.

II. Scope of Work

Task 1. Creation of a Technology Plan

Description

Center for Creative Play has no technology plan in place and depends on the ad hoc recommendations from senior level employees. For example, the CFCP is receiving new computers this summer, but there is no documentation as to what type of computers they are getting, when exactly they are being shipped, or what type of computers are coming (e.g desktop or laptop). Another issue is their data back-up plan. While they have purchased back-up hardware that stores information on tapes, they have no mandates on when the back-ups should occur and who should bring the back-up tapes home nightly. Computer hardware and software problems are not logged and are handed over to the IT consultant, who is off-site and often cannot respond quickly. There are over ten old computers stored in the attic of CFCP with useable parts, which are just taking up space. The current computers are old and low in memory, and as of right now there is only one computer with enough memory to handle the processing of Raiser's Edge, their database system, with other computers only being able to access it via the web. With only four licenses for Raiser's Edge, the entire staff cannot work with the system and right now, only two people are trained to interact with the database that is the backbone of the company information.

In terms of budgeting, there is no specific budget for technology needs. Due to the specificity of most grants, CFCP depends on private donations from companies or individuals to support their operating expenses, which technology falls under.

Technical training is non-existent. Employees are expected to pick up things on the job, or another employee will show how to do certain tasks. Due to this lack of knowledge, many staff members are not utilizing the features of Outlook that could ease communication and facilitate information retrieval. A technology plan that broaches the subject of employee training would help future hires be able to quickly understand what technology they must use daily and be able to use it efficiently.

Center for Creative Play would benefit greatly from having a technology plan that would spell out the current situation and what plans they have for the future. Marie has said they are thinking of buying other modules to bolt on to their existing Raiser's Edge. Documenting these 'plans' for additional technology, having a timeline and an estimated budget would help the CFCP employees realize what direction they are heading and what is and isn't feasible. Also implementing a certain period of analysis before making technology related situations could make sure everyone is involved in the process and that ensure that all options are considered before making a technology purchase or decision.

The spotted technological problems arising in different parts of CFCP shows us that the management of their technical infrastructure is lacking. This impacts the organization because these problems, however small, create inefficiencies in daily processes that result in taking time away from tasks that are more mission oriented, such as fundraising and gaining new members. A technology plan could bring more organization and structure to their infrastructure, allowing everyone to be informed on these short and long-term technology goals and strategy and use these plans to base future decisions off of.

As a consultant, my task would be to organize a group of key employees that would meet consistently solely about technology strategy. In addition to this, I would work with Marie to understand the technology problems and possible solutions to these problems. While they may not all be able to be fixed in the current time frame, it is necessary to help her keep log of these future solutions so that they can eventually be implemented.

Approach

- Create a better understanding of what a technology plan is and why it is important (expected result: Marie can 'sell' the technology plan to other staff members)
- Establish leadership and support: identify key management and staff that would be interested in being part of a technology-task force and have some IT knowledge. This will ensure management and staff buy-in. (expected result: a bi-weekly/monthly meeting is scheduled for this with key CFCP employees)
- Assess existing resources to understand what CFCP has in place and if it is meeting their needs (expected result: a document detailing the current technical situation)
- Define CFCP's needs: Why do they need technology? What will it help them do/solve that they can't do already? (expected result: a document explaining why CFCP needs technology X)
- Explore Solutions: Research existing technology options and present them to the task-force, decide on ones that meet your needs and budget. (expected result: a document containing the summary results of research and pros/cons to different options and solutions)
- Write the plan: document the resources, needs, solutions, as well as the budget. (expected result: a technology plan that addresses the things mentioned above)
- Get funding: If funding is needed, use the plan to present to the CEO as a tool to get funding for current and future needs. (expected result: funding is granted or budgeting is altered to allow a certain portion to go to technology)
- Implement the plan: set a timeline, assign responsibilities and evaluate your progress at consistent intervals to ensure that the plan gets off the ground. (expected result: a timeline, task list, and an evaluation template)

Expected Outcomes

The end result of coming up with a technology plan would be an official document that holds weight within the organization and is respected by everyone. This means that what is written down is the official guide, and any changes to technical plans and strategy must be reflected in this technology plan document. Another measure would be that all employees, after either being part of the task force or simply reading through the technology plan, are better versed on what the technology strategy and short and long term goals of CFCP are and can use this information as a framework to make other decisions regarding their job duties. Furthermore, technology strategy meetings should continue regularly and key employees should know how to research technology solutions and be able to come up with new strategies and solutions as a group for future needs.

Other Impacts

The only negative impact of a technology plan will be the time it will take away from other activities. Staff may be unwilling to move their schedules to accommodate yet another meeting, and many may not see this as a dire need.

A technology plan will positively impact the Technology Planning and Management of CFCP. Having a document to guide employees in technology decisions helps ensure sustainability, especially with the high turnover rate many non-profits see. Management of technology will have a more concrete way to analyze if the technology is meeting the needs and be able to use the evaluation template as an indicator of progress.

In terms of Internal Communications, having a plan that is widely available to everyone causes staff to be more united in their understanding of CFCP's short and long-term goals, which will ultimately allow CFCP to run smoother.

III. Outcomes and Recommendations

Task 1. Creation of a Technology Plan

Analyzing the current use of technology and forming a technology plan

In an effort to better utilize and understand the current technology Center for Creative play has in place, as well as document future plans and goals regarding technology, a renewed focus on technology was initiated by holding technology-focused meetings. To supplement these meetings, the creation of a technology plan document was agreed upon to aid in the technology analysis process.

Outcomes

Establishment of Meetings

Three technology meetings have been held that have brought to light many technical issues and have also cleared up many misunderstandings. The first meeting was held on March 6, 2006 and included Bob Rak, CFO; Marie Swallop, Chief Marketing Director, and Mara Kaplan, CEO and Founding parent. The second meeting was held on April 5, 2006 and was the attendees were just Bob Rak, Marie Swallop and I. Another meeting to establish constituency codes was held on March 12, 2006. The last meeting was with Heather Schriver, Communications Manager and Al Mercer of Pittsburgh Accelerator. These meetings themselves are considerable outcomes as Center for Creative Play has never held meetings whose focus has been on technology.

Resolved Misunderstandings

Many misunderstandings have been cleared up due to these meetings. In the first meeting the initial database setup of CFCP's Raiser's Edge software was reviewed. Since currently the corrupted data was in the midst of being fixed, the four of us decided that the constituency codes that defined a person in the database should be changed before the data cleanup continued. To determine what the constituency codes would be, another meeting was scheduled so that the core CFCP users of Raiser's Edge could come to a consensus on defining the types of 'constituents' and their given attributes, so that the data cleanup could resume using these new codes.

Synchronizing CFCP's email client, Outlook with Raiser's Edge was a vague plan that was not implemented due to time constraints and lack of knowledge. However, interest was renewed in doing this and I have found a document that outlines the steps in synchronizing these two data portals, for future use.

In a second meeting, Bob, Marie and I discussed plans for the future of the CFCP website and Bob explained to us that, contrary to what Marie had believed, the current website is updateable, but only Bob knew how to do it. This erased the previous mindset of the organization that only a few areas of it were updateable. The content on the website was outdated as was the site layout, and the reason it hadn't been changed is that there has never been a meeting to decide on what needs to be changed and no-one has come up with a new site map or layout that everyone agrees on.

As the National Advisory Practices has become a significant part of CFCP's revenue stream, it was also agreed that more detailed information on this service should be provided via the website, perhaps even as a child site linked to the main CFCP website, but with its own navigation and specific content.

Decisions

The last meeting was held with Heather Schriver, Communications Manager and Al Mercer of Pittsburgh Accelerator to assess what was wrong with the current website, how it could be fixed, come up with a new site map, and decide if they should keep this site and update it themselves, or contract a new website development company.

During the meeting, we discussed outsourcing a brand new website. However, since the previous website cost between \$60 – 70, 000, and right now CFCP only had \$5,000 - \$15,000 to put toward the website, we decided that it would be best if we would change the sitemap and navigation of the current website so that it is more intuitive and less confusing for users. While additional functionalities were addressed, in order to keep the site in-house and costing less than \$15,000, these functionalities are not priorities for the website at a time. Some of the functionalities that the website would ideally have could be birthday party reservation deposits, donations, membership renewals, ordering Time To Sing CDs, Volunteer sign-up, Our Time and Kids VIP programs. Also, the decision of whether to integrate these functionality with Raiser's Edge 'Net Solutions' is another consideration that was taken into account and decided against. Overall, the role of the website currently will stay as a marketing and information resource tool instead of as an organizational tool.

The constituency code meeting narrowed down the current list of constituents from about 35 to 14. This reduction of codes will greatly facilitate record keeping as well as organize database contacts better.

The questions these meetings have raised and the solutions that have been made during the meetings have forced the CFCP staff to look closer at their current technology strategy and assess what is working and what isn't. It has also forced them to realize they haven't been utilizing their current technology effectively. These meetings can be considered outcomes, and, while not exactly concrete, they have forced CFCP employees to realize that they must devote time to technology planning and analysis, as its role in the organization grows with time.

Differences

Before the technology meetings, staff members were not knowledgeable about what their technology goals were or what was planned for the future. Raiser's Edge existed but with corrupted data, and wasn't being utilized whatsoever. A diverse set of problems existed, however none were documented and no one had much time to solve them. The website hadn't been touched in months, nor did anyone have any outspoken plans for the future of it. The plans to purchase additional modules to their Raiser's Edge database software had been mentioned, but no concrete plans or budget existed to depict this plan. Plans for new computers were also vaguely addressed, but the number, type, and amount was not documented anywhere.

Risks

There are some issues that are yet to be resolved that could be a potential threat to sustainability. There is still a technical problem with assigning constituency codes to Raiser's Edge, as there is no way to force a constituency code to have an attribute. After scouring the web, and user manuals, and calling the Raiser's Edge support service, the only solution to this problem is to make sure staff are trained to assign a member a constituency code as well as a matching attribute, for certain constituents. Organizational policies are risky as there is no certain way to enforce them within the application, so inconsistent data could be entered into the database.

Another issue is incorporating the technology plan into the organizational policy. Right now there is no documented plan to re-visit the technology plan every 'X' months, and this could mean that the company is not depending on this plan to guide them yearly. It is hoped that the technology plan can be re-visited every year with the budget.

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Lastly, finding time to focus on technology is a significant risk. CFCP is understaffed and everyone is very busy. While the technology meetings are helpful, they may not be held if nobody feels they provide benefit to CFCP. However, as expanded on above, many misunderstandings were cleared up through these meetings, so it is possible that the meetings will be viewed as essential for all technical planning and decisions.

Impact

By formulating a strategy to effectively plan for, develop, and utilize their existing technology structure, CFCP will be able to better communicate their message to all members of the community with their website. As technology is the backbone for CFCP's communication network, better utilizing their contact tools, such as their website, Outlook, and Raiser's Edge will ensure that people understand the importance of play through education, the operation of a model play environment, and support to other communities.

As there have only been four meetings regarding technology, the direct impact of these meetings can not be seen to date. However, with more meetings and if the recommendations in this consulting report and/or technology plan are implemented, evidence will be seen in the staff's knowledge of their technical environment, an increase in technical skills and a regularly updated website, as well as being able to reference documentation regarding what their technology goals are and what's in store for the future.

Sustainability

This outcome will only be sustained with widespread adoption and regular updates of the technology plan. There is a risk that the technology meetings will not continue to be held consistently.

Long-term impact

I think CFCP staff has begun to see that technology can support CFCP's mission, and actually helps them better serve the community as evidenced by their desire to hold meetings. There has definitely been renewed interest in solving problems and inefficiencies with technology. Many of the staff members, when forced to analyze and talk about their technology strategies and policies, are now more aware and fully understand the technology goals of CFCP and its existing architecture. Marie, for example, now knows the types of computers being purchased and the quantity, whereas before the initial meetings no-one but Bob knew any of the details. By deciding on the constituency codes, they can now utilize their Raiser's Edge database more effectively by fixing the corrupted data and using the database to have closer relationships with their donors. By utilizing their technology effectively, they will be able to interact more efficiently and effectively with donors, members, volunteers, and potential advisory services, and their mission is heard by more people. While there is no evidence of this yet, once the data is fixed and the new website sitemap is completed, evidence can be measured by the amount of donors and donations as well as the number of visitors to the website; two issues that were resolved by these technology meetings.

Recommendations

1. Create training plan¹

CFCP has over 6 full-time employees and sees a high turnover rate. These employees can work most efficiently if they are properly trained to use commonly used applications such as Microsoft Excel, Word, Outlook, QuickBooks, Photoshop, Publisher, and Raiser's Edge. This need is obvious when a staff member is sick or on vacation and someone else has to cover for them. For instance, when Bob is on vacation, Marie has to run reports for him but she does not know how to use QuickBooks. She instead uses her own system, which creates inconsistencies in Bob's annual reports and other documents. If everyone on staff was trained on how to use the important and frequently used applications, backing up staff members would be significantly easier and a more efficient process.

Specific applications will need extra training, such as Raiser's Edge. The Raiser's Edge database software was purchased with the intention of being the backbone of all of *CFCP* operations. To attain this goal, everyone on staff will have to be very familiar with the software, and feel comfortable and confident querying the database and editing records and using the GUI in order to be efficient using the database to complete their job duties.

Recommendation

- *CFCP* should undertake a staff skills inventory to assess the level of computer-related skills its employees have.

Resources

- TechAtlas: TechAtlas has tools to assist an Organization with evaluating the level of training that is required for each staff member through its survey tools.
<http://www.techatlas.CFCP>
- Another sample assessment to measure staff competency with technology can be found here: <http://staffdevelop.org/sd3.html>
- *CFCP* should also identify ways in which existing software products such as Microsoft Outlook or Raiser's Edge could be applied to increase productivity if additional, more specialized training were given to some individuals. For example, utilizing Outlook's Calendar and meeting scheduler effectively could reduce the number of emails sent and received, as well as the process of finding time to meet when everyone is free. If this is identified as an inefficiency, a plan to fully implement and train everyone should be created.
- *CFCP* should budget an average amount per employee for training. This will ensure that both new hires and existing employees have access to training when needed. Some employees will need more training than others.
- Encourage peer training, especially with Raiser's Edge as many people may not be familiar with the interface. Since Marie was trained by the Raiser's Edge consultant, she knows the application better and should make time to share her knowledge with colleagues. This can be an inexpensive way to deliver training.

Resources

¹ This section adapted from Section 3.2.6 "Create Training Plan", Tech Soup Sample Technology Plan <http://www.techsoup.org/howto/worksheets/techplan/page2055.cfm>, pg. 23

- A case study regarding how to implement in-house training at the Third Sector New England can be found at TechSoup:
<http://www.techsoup.org/howto/articles/training/page3403.cfm>
- Training on the Organizations common procedures should also be considered in addition to standard training on software applications.

Other Resources

- TechSoup: “Technology Training: The Nonprofit Viewpoint” article discusses the need and value of training and common challenges at a non-profit.
<http://www.techsoup.CFCP/articlepage.cfm?ArticleId=414&cg=searchterms&sg=training>

Training and Documentation²

Software Documentation

Most software comes only with electronic documentation. While software help systems are useful to those who know what they want, they can be daunting to new or inexperienced users. Therefore, purchasing third-party reference books on software applications and making them easily accessible to all staff can help assure that your Organization maximizes the use of its technology. When new materials are acquired by your Organization, communicate to everyone where to find them. New-hires should be made aware of any documentation during any new-hire orientation.

Peer Training

It is crucial that an Organization not become overly dependent on one person’s skills, so I recommend that more than one staff person be given training in basic computer maintenance. Additionally, other less technically savvy staff members will benefit greatly from basic computer usage training. Sharing this knowledge will not necessarily require that all staff attend classes. Staff members that have received formal training may be able to pass their new knowledge along to others.

There are many ways to facilitate training. In general, it is found that peer-conducted training works best in a one-on-one or small group setting.³ This is a good approach for training staff in Microsoft Word or Windows basics.

Another way to increase the technological capacity of staff is through non-tech position hiring. When hiring staff for non-technical positions, it is a good idea to ask for particular application knowledge or technology skills that the current staff does not possess.

Budgeting for Training

Training and documentation is the one of an agency’s most worthwhile long-term technology investments. I recommend that a typical Organization set aside a minimum of 3% of their total yearly budget for technology training. I recommend that an Organization budget \$1000 per

² This section taken verbatim from Section 3.2.6 “Create Training Plan”, Tech Soup Sample Technology Plan <http://www.techsoup.org/howto/worksheets/techplan/page2055.cfm>, pg. 23

³ Weitzel-O’Neill, P. “How Adults Learn: A Changing Paradigm.” Elderhostel 2000 Conference. March 2000.

computer user as a starting point, although not everyone will need training and not all trainings will cost \$1000⁴.

Maintain a Staff Training Plan

As part of a comprehensive technology management plan, it is recommended that you develop a training plan focused on the areas of most need by individual staff members. Staff skills should be reviewed regularly to ensure adequate training is provided for work they are doing.

Raiser's Edge Specific Training

The Raiser's Edge database software was purchased with the future intention of being the backbone of all of CFCP operations. To help eventually attain this goal, everyone on staff will have to be familiar with the software, and feel comfortable and confident querying and editing certain aspects in order to be efficient using the database to complete their job duties.

Currently, only two full-time members have Raiser's Edge experience and others have only had brief encounters with it. To ensure that all staff members are somewhat adequate with this system, online training should be encouraged, especially with brand new employees. It is hoped that in the next 2-3 years, all aspects of CFCP will be running from the Raiser's Edge database, so even part-time receptionists will be interacting with the Raiser's Edge interface when members come through the door.

To operate at peak efficiency, it is imperative that all employees can use Raiser's Edge confidently. Training will allow everyone to share knowledge about Raiser's Edge and creates an open environment where Raiser's Edge can be discussed. It also prevents having only one person as the "keeper of the keys" of Raiser's Edge knowledge. Peer training, as mentioned above, is highly encouraged. Free Raiser's Edge online training exists for all software purchasers, available at: <http://www.blackbaud.com/files/training/wbt/ell/index.aspx>. This online training walks through all different types of tasks that a user might want to do. It is shown in a video/slideshow format, so the user can go as fast or as slow as needed. This training is highly recommended so that when Raiser's Edge is fully integrated into CFCP, transition will be as seamless as possible.

Depending on the employee's job duties, different training lessons should be identified and assigned to the employee to complete in a given period of time. The user should produce a brief write-up after the training summarizing what they learned to do. The executive director will need to monitor and support the training plan and agree to the milestones, dates, and deliverables.

For new employees, this training should be mandatory during their first few weeks. Again, the types of training should depend on the position of the employee and the daily tasks they will be expected to do.

Evaluations

A training plan should also include evaluation of training undertaken by staff. By keeping a record of the training your staff have tried and its effectiveness you'll be able to better target future training. Evaluations are often best completed several weeks after a training to measure what the

⁴ "Budgeting for Growth in Youth-Serving Organizations". Krasne, Alexandra. August 19, 2005. Available at <http://www.techsoup.org/howto/articles/techplan/page2239.cfm>.

trainee has retained. When asking about effectiveness remember to focus on the way training helps the person to do their job; not just whether they now know more about a subject.

Resources

- TechSoup -- Techsoup.CFCP has a training section that has articles devoted to making technology training work for nonprofits. There are pieces on different training mechanisms and links to other training resources.
See
(http://www.techsoup.CFCP/articles.cfm?topicid=9&topic=Training&cg=nav&sg=content_topic9) or
(<http://www.techsoup.org/howto/articles/ctc/page3525.cfm?cg=searchterms&sg=training>)
- Skillsoft online training for Excel – Online training can be obtained from Skillsoft through DiscountTech for Microsoft Excel.
See
(http://www.techsoup.CFCP/DiscountTech/Category.asp?catalog_name=TechSoupMain&category_name=Training&Page=1)
- Compasspoint – Compasspoint offers training on a variety of computer usage related topics. The specific course below may be helpful to some staff members.

The Accidental Techie course

Because most small non-profits are very heavily focused on meeting their Organizational mission, they don't generally have the resources to hire technical staff. In recognition of the common and unofficial technical role found in many non-profits, a company called CompassPoint offers an "accidental techie" course designed to train those people without a technical background in computer support skills. They are also an excellent resource for training in most office applications. You can find out more about their classes and workshops at: <http://www.compasspoint.org>

2. Review and improve website functionality.⁵

CFCP has expressed a need to be able to expand information offered on its website (www.cfcf.org) and to be able to accept online donations. A properly implemented website with current content can be helpful in communicating to clients, funders, volunteers, and staff. Some website functionality may also serve to benefit the efficiency of the Organization if there are opportunities to electronically serve constituents utilizing less time and overhead of the Organization.

Currently, the Center for Creative Play relies on one person to make content changes to the website. The web site graphics, layout, and site hierarchy have not been updated since the creation of the site, nor does anyone have the Photoshop skills necessary to alter the graphics being used. An updated and current website allows the Center for Creative Play to better utilize their website as a

⁵ This section adapted from Section 3.5.2 "Review and improve website functionality", Tech Soup Sample Technology Plan <http://www.techsoup.org/howto/worksheets/techplan/page2055.cfm>, pg. 43

marketing and advertising tool, which would result in an increase in memberships, higher registration numbers for events, more birthday party reservations and online donations. Keeping information current and complete would also result in fewer phone calls, giving CFCP employees more time to focus on their work instead of answering questions.

Idealistically, a part-time employee with web development and Photoshop skills could maintain the website and update and add new pages as needed. If the part-time employee had networking skills, he/she could even serve the dual purpose of webmaster and technology support. However, as an employee with this skill set is rare and highly sought after, it is necessary to offer a more practical solution, which is teaching the current CFCP employees how to update certain pages.

Sections of the website that need to remain current should be identified and assigned to specific people based on their job duties. For instance, the responsibility of announcing upcoming events on the website should be given to the event coordinator. New events dealing with donations should be given to the donations coordinator. Pages that do not fall under a specific category should be assigned to employees best suited to update them.

Bob Rak, being the only CFCP employee with html experience, should show these employees how to update and maintain these time-sensitive pages so the employees can fully incorporate it into their job duties without spending a lot of time on the task.

Another solution to facilitating the update process would be to purchase a content management system that significantly eases the process of updating a web page. The user does not need to know html and can simply make text edits and the content manager makes the updates for the user. This may be the easiest solution, but also requires further investigation and planning to make sure it is implemented effectively.

Recommendation

- I recommend *CFCP* investigate the offerings of several web developers
- *CFCP* should undertake at monthly formal reviews of goals and objectives of its website as well as the content that is offered to ensure that it is maximizing its use of its website.
- Look into Macromedia Contribute (works with Dreamweaver), as well as other content management systems to simplify this process.

Implementation Tasks – The following steps are required for implementing this recommendation.

1. Evaluate website designers.(5 hrs)
2. Review website goals, requirements, and content with appropriate staff representative of the Organization.(20 hrs)
3. Website design and implementation: Implementation is for updating web content (10 hrs)

Resources

Some resources to aid in CFCP employees understanding of basic html are to go to the many tutorial websites that teach HTML. These include, but are not limited to:

- <http://www.w3.org/MarkUp/Guide/>
- <http://www.htmlgoodies.com/primers/html/>

- <http://www.mcli.dist.maricopa.edu/tut/lessons.html>

These recommendations explain very clearly the concept of HTML and basic html coding structure. As the CFCP employees will not be creating pages from scratch, a broad overview of HTML will help them understand what they are doing when they add/remove certain tags.

Since the site most likely makes use of cascading style sheets to control all formatting, a quick overview of CSS will help staff understand why things are working the way they are. A quick explanation of the concept of CSS can be found here: <http://builder.com.com/5100-31-5074860.html>

Overall, teaching the CFCP employees how to update certain pages will not be difficult as long as they understand the concept. However, an understanding of the basic structure of table tags and link tags will ease confusion. It is to be noted that if the site is ever re-designed and re-created, a site that is W3C compatible with the total use of CSS style sheets will dramatically ease the process of updating the website.

Considering content management systems, further research is needed. Information about the concept behind content management systems can be found at : http://en.wikipedia.org/wiki/Content_management_system). Information regarding how to evaluate different vendors is available at (http://www.steptwo.com.au/papers/kmc_evaluate/)

3. Implement an Organization-wide backup system⁶.

Backup systems are a staple of most disaster preparedness plans. Without an Organization-wide back up plan, *CFCP* is at risk of losing important documents and programs which can prevent or slow its service delivery. In addition to ensuring that all users' data files are properly backed-up, *CFCP* should also plan to store a copy of its backups at an offsite location.

Recommendation

I recommend that *CFCP* better utilize its back up hardware and software to ensure quality backups are occurring. It has adequate hardware and software to properly back up its data.

A DAT tape drive is attached to the server and data is backed-up using Veritas Backup Exec 8.5. Workstation data is not backed-up, data files are not all stored centrally on the server, and it a tape rotation system is employed. I recommend that data files be centralized onto the file server, a daily tape rotation system be implemented, and the backup process is automated.

Backup Management Responsibility

I recommend that the Organization designate a staff member as the backup manager to periodically test the restorability of backups, review tape backup logs for errors, track tape age, and ensure that tape rotation and offsite storage practices are followed by the administrators at each location. The backup manager should also ensure proper documentation and cross-training is provided. Ideally, the backup manager is someone who is already administering backups at a location and is familiar with the technologies involved.

Media Rotation

Media rotation is critical, since tapes wear out through constant use, and it is a good practice to have a backup that you can restore from that might be a couple of weeks old, prior to a virus or version of a document that was saved without the data. If it is essential to backup files that are more than a week or two old, adding additional tapes can give an Organization a longer history from which to recover files from, but at a greater expense.

I recommend that *CFCP* create two or three media sets that are rotated each week. One set which is currently in use, one recent set on site, and one set in an offsite location (usually at someone's house, or in a safety deposit box) Each set would should be between two-four tapes, though this will depend on exactly how much data there is to backup. If tapes are to be stored offsite, data confidentiality should be considered. If data is confidential, systems such as encryption should be used to ensure that confidential data stays confidential.

Testing

Monitoring your backups to make sure they're working properly is an essential part of any backup routine. Each day, an administrator should take a few minutes to launch Backup Exec and check the reports to see if it encountered any significant errors in its last backup. Once a month it's a good idea to perform test restores to make sure that you can restore data properly.

⁶ This section taken verbatim from Section 3.3.3 "Implement an organization-wide backup system", Tech Soup Sample Technology Plan <http://www.techsoup.org/howto/worksheets/techplan/page2055.cfm>, pg. 25

Implementation Tasks – The following steps are required for implementing this recommendation.

1. Centralize data file storage (3 hrs)
2. Purchase 2 DAT Tapes (\$30 ea)
3. Designate a backup manager. (1 hr)
4. Setup, schedule, and test backup (4 hrs)
5. Train administrators and backup manager (1 hr).
6. Document backup procedures (1 hr)

4. Create IT Management Team⁷

CFCP does not have a formal technology management team. However, an informal group was organized during the 10 weeks that I was consulting that consisted of Marie Swallop, Heather Schriver, Mara Kaplan, and Bob Rak. Given the size of *CFCP*'s computing environment, I recommend *CFCP* establish this informal group as the Information Technology Management Team. This team can drive the overall direction of technology and information systems. This is known to be the most sustainable and cost effective way to manage the technology projects and systems that *CFCP* will be developing. This team can be comprised of existing staff through a reallocation of their time depending the existing staff skill set, interest and budget considerations. It is essential that a member of the staff with input into the budgetary and strategic planning processes is included, as well as staff that represent programmatic and administrative aspects of the Organization

Benefits

Allows all staff to begin discussing needs, ideas and directions for technology.

Provides a realistic technology budget that takes into account the Organization's technology plans.

Becomes a focal point for future technology planning, and specific technology projects such as web site construction or database planning.

The diverse membership of the tech team can help ensure that such policy is useful for all members of an Organization.

Recommendation

- *CFCP* should develop an Information Technology Management Team pooled from its existing staff.
- The team works to set technical priorities, assist in decisions in technology plan implementation and advocates for technology in the budgeting process.
- The team is made up of a representative cross-section of the Organization. This will be increasingly important as *CFCP*'s technological capacity grows and the needs of its users become more diverse.
- The tech team ensures continuity for planning that outlasts the tenure of any one individual. The tech team should ensure that members also share training opportunities.

Implementation Tasks – The following steps are required for implementing this recommendation.

1. Identify technology team members.

⁷ This section taken verbatim Section 5.5 "IT Management Team Organization", Tech Soup Sample Technology Plan <http://www.techsoup.org/howto/worksheets/techplan/page2055.cfm>, pg. 74.

2. Establish a regularly schedule meeting time to review current technology needs and to assess future needs.
3. Communicate to all users how technology will be supported including expectations of response times, support capabilities, and escalation paths.

How to Organize an IT Management Team

By establishing a formalized technology management team CFCP can proactively match technology needs to its mission, identify and resolve ongoing problems, prioritize projects, and ensure that your Organization is gaining the maximum benefit from its technology and staff. A formalized technology team process, even for small Organizations, allows all staff to begin discussing needs, ideas and directions for technology.

Membership

The team should have representation from senior management, technology administrators, program areas, and users; and it may change with staff turnover and/or new hires. A good mix of these backgrounds will provide the most holistic perspective. A technology team that only has technology staff will not adequately represent the priorities of the Organization as a whole; while a team that is absent of any technology background may not adequately find solutions to issues. The team only needs to be large enough to accomplish the tasks and to provide people who can follow up on issues or lead new initiatives.

Responsibilities

In order to properly manage the technology at your Organization, I recommend that the following responsibilities be taken up by a technology management team:

- Provides oversight of technology problems and user-related issues.
- Recommends budgets.
- Establishes standards for hardware, software, and training needs.
- Develop technology policies and procedures.
- Periodically reviews the Organization's technology plan to ensure that it coincides with the Organization's mission.
- Periodically reviews the technology-related roles of staff members to ensure primary responsibilities are not being overtaken by technology-related ones.
- Determines if the scale of technology administration requires hiring for a specific role.
- Leads technology related initiatives.
- Communicates to the Organization technology support expectations, capabilities, and escalation paths.
- Leads ongoing technology planning.

Process

Meetings. Ideally the technology team meets at a regular interval to discuss both tactical and strategic issues. This meeting interval may vary depending on the number of projects or issues that your Organization may be facing. A once a week meeting might be necessary if your Organization has a great number of daily operational issues. A meeting once a month may only be required if your Organization has a stable infrastructure and is not engaged in many technology-related projects. Meeting less frequently than once a month probably is not enough to ensure that recurring operational issues are resolved in a timely manner.

Resolving Tactical Issues. A portion of the meeting should be set aside to review problems that users are encountering with computers, networks, or software. CompuMentor suggests that a record be kept of user problems to be reviewed at these meetings. This provides a feedback mechanism to know how well your Organization is able to use its technology investment. If issues are reoccurring action should be taken to identify the root of the problem and get resolution to eliminate further productivity loss and user frustration.

Strategic Planning. A portion of the meeting should be set aside to discuss how the Organization is using its technology and how technology could be better utilized in service delivery. Care must be taken that technology is not seen as a cure-all; but only as an additional tool to enhance your mission.

Establishing IT Roles

As the technology resources grow at an Organization, so does the need for administration and upkeep. If you have very many computers, software applications, databases, etc, it is likely that your Organization is already spending significant staff time working on these various administration roles, and more of this time can be reclaimed for regular program work through the formal establishment of these IT roles and hiring appropriately. Some roles include, but are not limited to: Technology Strategist (Chief Information Officer), Database Manager, and Network and User Support Staff.

The Technology strategist would be responsible for budgeting, approving, funding, and working with staff to create technology plans, policies, and strategies. He or she is not responsible for the down and dirty work of hardware upgrades, software installation, documenting networks, or troubleshooting users' computers, but instead needs to be able to make final decisions about software and hardware choices and purchasing, and about all IS projects such as database design and development. The CIO is also responsible for designing IS policy.

The Database Manager should be proficient in using the Raiser's Edge database and would be able to provide training/troubleshooting database usability issues with staff. This position requires that the staff person be involved in the database planning effort, and will continue in a part-time capacity through the database implementation/staff training phase. His or her responsibilities would be to document the existing databases and other data lists, working with staff on data clean-up and data importing into the new system, database development, and maintenance and administration. This would include database software support, help desk duties, staff training on database software issues and maintaining vendor contracts and relations.

The Network and User Support Staff member would be accountable to the CIO (if exists) and is responsible for maintaining system and network documentation, identifying IT problems, managing upgrades, and managing IS projects such as database design and development. The Network Administrator is responsible for implementing the organization's technology plans and policies, and keeping systems operational. This may done with the assistance of other staff if need be. They must have specific knowledge of computer systems and networks and is expected to consult with the CIO regarding IS plans and policies. He or she is expected to be able to solve user problems, system problems and network errors independently.

5. Document Policies & Procedures⁸

In order to most productively manage the technology usage at *CFCP* it is important for the Organization to document common computer procedures and computer usage policies and to train staff members on these policies and procedures.

Recommendation

- The series of training materials should be summarized and given to all staff members.
- Computer usage policies should be drafted and posted in a visible area.

Implementation Tasks – The following steps are required for implementing this recommendation.

1. The technology team should review which procedures are the most common which, if documented, could reduce administrator time and increase employee satisfaction. (4 hrs)
2. The technology team needs to review which computer usage policies should be drafted.(4 hours)
3. Documentation for policies and procedures should be finalized. (40 hrs)
4. Documentation and any required training should be deployed.(10 hrs)

⁸ This section taken and slightly modified from Section 3.2.2 “Annual Technology Budgeting”, Tech Soup Sample Technology Plan <http://www.techsoup.org/howto/worksheets/techplan/page2055.cfm>, pg. 20

6. Establish a formal technology budget.⁹

CFCP presently does not do any detailed technology budgeting. Not forecasting technology needs can easily create a situation where workers are not providing service as productively as possible and can lead to unexpected spikes in spending as large numbers of systems need replacing or repairing.

Recommendation

Due to the amount of hardware, software licenses, and required supplies and services that *CFCP* has, I recommend that *CFCP* establish a comprehensive technology budget that will allow *CFCP* to maintain a viable set of technologies over an extended period of time. Planning for regular computer replacements and upgrades will give the Organization a better way to forecast technology-related expenditures. By establishing a comprehensive budget it can spread the cost of maintaining up-to-date computer systems over time.

Implementation Tasks – The following steps are required for implementing this recommendation.

1. Create initial technology budget (10 hrs)

Resources

- TechSoup: “Technology Budgeting Basics” article discusses how to budget for technology. <http://www.techsoup.CFCP/articlepage.cfm?ArticleId=197&cg=searchterms&sg=budget>

Annual Technology Budgeting

In order to properly manage its technology, an Organization should draft a technology budget that estimates the annual cost for maintenance of technology equipment and supplies, and includes line items for staff training and support.

Hardware Upgrades

Historically, the useful lifetime of a computer workstation is between 2 and 3 years. In the past, the processing power and capacity requirements of newer and faster operating systems and software applications quickly made computer hardware obsolete. However, in recent years the performance and reliability of computers has dramatically increased, extending the useful lifetime of most computers to about five years. Nowadays, the average PC or Macintosh has so much processing power that hardware upgrades offer little marginal value to the average computer user.

Software Upgrades

The most common software applications are operating systems, office productivity applications such as Microsoft Office (Excel, Word, Outlook, and so forth), web browsers and email clients. These applications often require upgrades to keep up with new features or remain compatible with other new software. Other applications, such as anti-virus software, may not require upgrades but may be attached to a subscription service that requires an annual renewal fee.

With the arrival of Windows 2000, Microsoft completed their transition to a product line that provides a reliable, fast, and relatively secure operating system. Therefore, computers running Windows 2000 or the more recent Windows XP will not require an operating system upgrade any

⁹ This section taken verbatim from Section 5.3 “Annual Technology Budgeting”, Tech Soup Sample Technology Plan <http://www.techsoup.org/howto/worksheets/techplan/page2055.cfm>, pg. 78

time soon. Users of Windows 95, 98, or ME operating systems would probably benefit from an upgrade to XP due to its much improved reliability and feature set.

Estimated Yearly Budget Items

Below is a sample of items to budget for. Remember to enumerate costs on a per workstation basis so that the budget includes appropriate costs for things such as virus protection updates for all computers. All costs below are average estimated costs that may be used as a guideline in your own budgeting. Costs for services may vary dramatically depending on what kind of services your Organization is using.

Item	Interval	Est. Cost
Windows-compatible PC Workstations for new users or for replacing old systems	4-5 years	\$800
Macintosh Workstations for new users or for replacing old systems	4-5 years	\$1200
Microsoft Windows Upgrade to XP Professional (with Software Assurance)	As needed	\$20 via DiscountTech \$113 via Charity Reseller
Microsoft Office XP Professional for Windows Upgrade (with Software Assurance)	As needed	\$25 via DiscountTech \$70 via Charity Reseller
Apple Macintosh OS X Upgrade	As needed	\$150
Virus protection subscriptions (per workstation) <i>*May be available for less via DiscounTech or through multiple license purchases</i>	Yearly	\$30
Web and Email Hosting	Monthly	\$20-\$30
Internet Connection (Average DSL Connection)	Monthly	\$65
Domain name registration/renewal	Yearly	\$25
Printer Supplies (toner, inkjet inks)	Varied	Consider all printers.
Backup media (tapes, CDs, etc).	6 months	\$20-\$100 depending on data volume and media type.
Staff Training <i>*Cost estimated based upon industry recommendations</i>	Yearly	\$1000/staff member
Accounting software upgrade (QuickBooks, etc.)	1-2 Years	\$200
Specialized application upgrades <i>*In some cases it may be more economical to purchase new licenses through DiscounTech or other non-profit resources.</i>	2-3 Years	See manufacturer
Support services such as network or database consultants.	As needed	

About the Consultant

Amanda Bradford is a junior in Information Systems with a minor in Business at Carnegie Mellon University. She will be interning at Credit Suisse Investment Bank this summer in New York City. She will return in the fall to finish her senior year and plans to graduate with University honors in December 2006.

Appendix A.

Technology Plan

The following document is not a full blown technology plan but rather targets the most important aspects and problems with Center for Creative Play's technical environment. This document is to serve as a central guide for employees to refer to for help as well as to document technology plans and purchases.

Documentation

The following should be updated regularly and be placed on the central server and be easily accessible by all employees. This document should be reviewed monthly if possible, but minimally it should be reviewed and updated yearly with the budget.

1. How – To Document

This section should contain information on how to perform certain job duties and should include all full-time employees and job duties. It should be updated monthly. While tasks involving technology are stressed, other frequently occurring tasks are encouraged to be explained here as well. If desired, this section could become a separate stand-alone document.

Example: How to use Blackbaud's Online Training

Step 1: go to <http://www.blackbaud.com>

Step 2: Log in with username and password below.

User Name: marie@cfc.org

Password: 22258

Step 3: Click the training bar at the top of the web page

Step 4: Click 'online training'

Step 5: Click 'e-learning library'

Step 6: On the right-hand side of the webpage, there will be a heading that says 'eLearning Library for the Raiser's Edge'. Click the 'subscriber login' link underneath this heading

Step 7: Click 'by task' to find the task similar to what you want to accomplish. Click the task.

Step 8: A flash movie will begin to play in your browser. You can pause or rewind if you miss something.

Please be sure to document tasks integral to your daily job duties, so that another employee can easily back you up if you are sick or on vacation. Some other suggested tasks would be "How to take birthday party reservations", "How to run financial reports using QuickBooks", or "How to update the events page on the Website".

2. Current Plan for Website

The current plan for the website is to remain in its current format, but with some significant updates to the site map, layout of pages, and navigational elements. The main horizontal navigational buttons spanning the website should remain as the primary navigation, but the categories on the buttons should be changed to more intuitive titles, and a secondary navigation menu should be shown when the user rolls over the primary navigation with their mouse. The picture of the child inside the shape as a navigational tool should be eliminated, as well as the two secondary navigation bars on either side of the website. These secondary navigation tools should be replaced by a simple drop down that occurs when the user scrolls over a button.

As CFCP needs to spend \$5,000 from ATP prior to August, I recommend that they hire someone to make these changes, as they are not very complex but could significantly take away from Bob's time if he were to commit to updating the website. This means an RFP will need to be written.

A concrete sitemap needs to be created and agreed upon before a website developer is contracted. Whether or not to make a child-site for the Advisory Services Practices is an issue to be considered. Decisions regarding what content should be displayed on the website need to be made, as the site has an excess of information that is not easy to find.

A stable plan for updating the website to keep it current needs to be made. Pages that pertain to certain job duties should be assigned to those employees. Bob should write in the How-To template instructions on updating certain pages of the website, and a list of what pages staff is responsible for should be decided on and posted here.

3. Future Goals for Website

While not a high priority now, the website could aim to offer more functionality to both users and employees in the future. Some functionality that could be considered is (in order of feasibility/usefulness):

1.) Birthday Party Reservation Deposits (Net Solutions)

Rather than having parents send checks through the mail, a secure credit card and/or Paypal system could shorten the time it takes to reserve a birthday party by shortening the waiting period.

2.) Donations linked to Raiser's Edge (Net Solutions)

Right now the donations are being handled through eShop. Switching this functionality to use Raiser's Edge NetSolutions would mean that any online donations would be automatically entered into the database with no need for human interaction.

3.) Membership Renewals (Net Solutions)

This could save both parents and staff members time, since this is a frequent and simple transaction. Handling it with Raiser's Edge could eliminate the need for human contact and automatically update the membership information.

A web-based membership signup could also be considered to reduce data entry.

Volunteer Sign-Up Times (Access database)

If an entirely new website is created, this could be a helpful tool to include. It wouldn't have to be connected to Raiser's Edge since it would be used as a scheduling tool and would just help to organize when volunteers are coming and what job they would do. A login would be needed to access this page. More detailed specifications would be needed before hiring someone to add this functionality.

4.) Our Time, Kids VIP program sign-up, other programs also (Access database)

This signup could benefit both staff and members by allowing members to sign up for different programs via the website. A login would be needed to ensure that the user is a registered and active member.

5.) Birthday Party Reservation System (Net Solutions)

There will need to be an assessment of whether the role of the website should stay as a marketing and information resource tool or become more of an organizational tool. If in the future it is deemed beneficial to have the website take a more active role in organizing business processes, then the entire birthday party registration could take place via the website. Members could see which rooms are available for certain days, as well as what times are available and choose certain menu items to server. This could cut down many hours of phone and emailing parents.

4. Raiser's Edge Roll-Out Plan

May 2006: Fix corrupted data. Update all constituency codes so the new ones are in use.

June 2006: Assign attributes to each member depending on their constituency code.

July 2006 – September 2006: Full implementation of Raiser's Edge, at an organization-wide level. More licenses may need to be purchased so all of staff can use the system. The front desk attendant should be entering new members in both the POS and Raiser's Edge systems once the member's application is complete. All updates to membership information would need to be made on both systems.

October 2006: Dependent on the successful implementation above, the POS module should be purchased. This will replace the current POS system. Planning, through analysis, and new business processes should be decided on before the system is purchased. Investigate whether eShop purchases can be tied to this system to eliminate extra data entry.

January 2007: An evaluation of the Raiser's Edge systems in place and a meeting should be held to determine if The financial Edge should be purchased and how it will be implemented. Full understanding of how the system will be integrated with the existing Raiser's Edge system and how much time and money will be needed to fully install this software and have it work successfully. If it is decided that this purchase will benefit CFCP, then purchase.

February 2007: All systems should be working together and fully integrated. If this is not occurring, a Blackbaud consultant should be hired.

5. Future Hardware Updates/Purchases

2 <<brand>> laptops and 8 <<brand>> desktops will be leased for 3 years and are planned to arrive sometime before August 2006. Other plans, however vague, should be documented here so all employees understand the future technology goals of CFCP.

6. Future Software Updates/Purchases

- 1.) Additional POS module from Blackbaud (\$X)
- 2.) The Financial Edge accounting software (\$X)
- 3.) 10 new licenses of Windows XP for the new computers (\$X)

7. Backup Plan

The current plan should be documented here. See recommendation on page 12. The backup Details and Tape Rotation tables can be used weekly to log details of the backup.

HARDWARE

Item	Description
Tape Drive	Unknown brand Travan 8GB Tape Drive
Auto Loader	None
Driver Version	
Updated/From	

SOFTWARE

Item	Description
Backup Software	
Version	
Responsibilities	
Backed-up Paths	
Database Backup Method	
Day	Backup Details
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	
Sunday	

TAPE ROTATION

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

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)