Introduction

My name is Adam Kenney and I am a senior Computer Science major and Business Administration minor at Carnegie Mellon University. Through classes and internships I have become quite familiar in the fields of computers and business. At school, I heard about a course, Computer Science in the Community, which provided a real life possibility for me to test all the skills I had learned in the classroom. It was also an opportunity for me to become more familiar with the community of Pittsburgh, something I had hoped to do before leaving after graduation this May. In one of our first class meetings, many community members from non-profit organizations came in and expressed their need for different assistance within the computer sector. It was our responsibility during this class period to listen to each community member and then choose one that best fit our skills and interests. From this day forward we would be considered a Student Community Technology Consultant. It would be our responsibility to meet with the organization, evaluate their current computing environment, and assist them to better understand their current capabilities, as well as help them to progress into the future.

The community organization, which I chose, and which accepted me, was the East End Cooperative Ministry (EECM), and specifically the Children and Youth department within EECM. During the first class meeting they explained that currently they had a huge amount of information, much of which was repetitive and unorganized, and they wished to develop a way, with the help of computers, to organize and share this information amongst the staff members. Initially the goal was to put together an Information System, or online database, that would allow them to organize all of their data in one locality, and share it without redundancy. However, after a few meetings with my contact, Phyllis Nelson, it was evident that given the limited time of my engagement, as well as the enormous amount of data which would need to be normalized it would be impossible to accomplish such a task. Also, the facts that not all computers would be received and the wired network would not be in place caused some difficulties. It was at this point in which I met with Phyllis and Reverend Leonard, the head of Children and Youth, and explained to them the difficulties with our original goals. They were both very understanding, and we agreed that it would be much more beneficial to focus on an evaluation and progress plan than to rush through a poor implementation. At the meeting we developed the following plans:

Perform a business processing/computing capacity audit
- What are the business processing flows (user to user) right now
- How do they currently use the computers they have

Put together a computing solution recommendation
- Are there any non-computer solutions which would increase productivity
- How can the current computer configuration better help them with their business processes
- What expanded computing capacity could help them
  - Advantages
  - Disadvantages
  - Costs
  - Time/process of implementation

Profile of the Technology Program

Background: EECM has just received a fairly large grant for computers. They have two older Macintosh computers, which they have been using to write occasional reports and miscellaneous documents for some time. However, with the arrival of approximately 10 new IBM PC compatible computers, they will be completely switching over to this new environment. It is this new environment that needs the assessment.

Program Offering: Currently, they are using all of their computers to write occasional reports and miscellaneous documents. They also put together forms and permissions slips on the fly. They don't keep things very well, however, and there is a lot of reproduction and misplaced documents that could be shared or reused. They would like to be able to avoid this. They would like all of their standard forms and reports on the computer in a sharable format. They would also like to be able to customize things more effectively

from these templates, and have things organized for future use. They would also like to have a way in which they can compile statistics based on all the forms and reports. They would like to evaluate this data in a number of ways

Program Staff: There are a number of Program Directors within Children and Youth. Each is responsible for a number of different programs and each also "owns", uses and maintains their own computer. There isn't much of a Program Staff. The only control over the computing environment is Reverend Leonard who is in charge of funding. He will okay, or deny all purchases. They are definitely in need of someone who overlooks all computing decisions and standardizations. It could be either a member of the current staff or an entirely new staff member.

Technical Environment:

Hardware:

Current:

- 4 Pentium computers running Win95.

- 13" Acer Monitors

- Computers have CD-ROM Drives, Net Cards for Coax cable, and 10 base T

- 1 Computer has a 5 gig Tape drive

- 1 HP LaserJet Printer

- 1 Mac Performa 5200 CD all in one with 13" monitor

- stylewriter 2400 printer

- modem port

- Mac SE/30

- Mac II

Coming:

- 5-7 new desktop computers with same configuration as Pentiums above

- 2 laptop computers again with the same configuration as Pentiums above (so I am told)

- 1 HP LaserJet Printer

Software:

The primary software package in use is Claris Works on the Macintosh computers, and Microsoft Office on IBM PC's

Needs Assessment/Problem Statement

The bulk of the consulting work has focused on integrating the computing capacity better into the working environment, eliminating overhead and reducing redundancy. It was also important to develop a system in which the data and information being processed would be standardized. This would allow better tracking and evaluation techniques for the Program Directors. It has become quite evident through my meetings with the Program Directors that a lot of time is wasted, which could easily be avoided with some organization and training. I also spent some time determining what additions are needed to the computing capacity to help them work more efficiently. All of this will help them process paper work more

efficiently, as well as assist them in preparing reports which can help them request and receive funding. This all supports their main priority, which is assisting the youth of the community to do well in school and stay out of trouble, and grow in to fine young men and women.

Project

To start the project I surveyed the physical capacity of the computing environment as listed above. Before we could start discussing how the tasks were being accomplished and how they might be better accomplished, it was important to have a solid understanding of what was available. Next I arranged to meet with all of the program directors one at a time, and learn from them their responsibilities to Children and Youth. They explained to me what programs they were responsible for, how they ran their programs, what data and information they needed to process, and how each program might be related to some others. I have summarized each meeting at the end of this report. While meeting with all of the program directors, we helped each other to understand how the computers were being used, and how they could be used more effectively. We also discussed the possibility of coordinating better with other program directors. We discovered that many of the program directors use similar methods to collect and analyze their data. However, they don't coordinate their efforts very effectively, and this has resulted in a large array of similar forms and data processing methods with no consistencies. This makes it impossible to compile the data in a meaningful way for all of Children and Youth. It also means that each program director has been using time to create documents and put together analysis packages that may have already been created. It would be much more time effective, and fit into the organizations goals better if this were organized across Children and Youth. We discussed these possibilities throughout our meetings, and developed a plan to address these issues which is described below.

- ### 2/11/1998
  1. I spent today surveying the site and discussing goals with my contact Phyllis Nelson.
- ### 2/17/1998
  1. Looked over a few areas I hadn't on my previous visit
  2. Started Talking about the specific requirements needed to implement the network and database structures Phyllis is interested in
- ### 3/2/1998
  1. Discussed possible network architectures explaining different choices
     - Will put together final proposals for the Reverend Leonard meeting next time
  2. Decided to share printers from main server, rather than use separate computers as isolated printer servers
  3. Put together specifications for development and decided to purchase a Coax cable for temporary networking in development room until final Net architecture is decided and implemented
  4. Will price and purchase by next meeting
  5. Discussed steps necessary for EECM departments to begin the design phase of software implementation
  6. Phyllis (my contact) and I discussed the best way for her to learn the development software
     - She would like a user friendly manual (I will look for one by our next visit)
  7. It was also decided that we will write an informative manual as we progress so future MIS people can understand the system if necessary
- ### 3/9/1998
  1. Talked to Phyllis about rethinking our goals for the project
     - Explained the need for thorough project planning and evaluation before starting implementation
     - When put in the context of our limited time period it was realized an audit and recommendation would be much more helpful than a half useful system implementation
     - Recognized the need for a shared network ASAP
       - Will implement the network phase upon okay from the church

- 3/18/98
    1. Presented the ideas from 3/9/1998 meeting to Reverend Leonard
        - Successfully received content and cost approval
    2. Went over new timeline and project plans with Phyllis

- 3/31/98
    - Attended a departmental meeting
        1. Explain to all end users the intent of my being there
        2. Explain to users my goals for the project and for EECM
        3. Inform the users that I will need to meet with each of them individually
        4. Set up meeting times
    - Reverend Leonard explained that EECM decided to hold off the networking phase and wants to concentrate on the computing capacity analysis

- 4/8/98
    - Met with program directors and discussed issues listed above (see end of report for details of this meeting).

- 4/9/98
    - Met with program directors and discussed issues listed above (see end of report for details of this meeting)

- 4/22/98
    - Met with program directors and discussed issues listed above (see end of report for details of this meeting).

- 5/6/98
    - Present this report to Phyllis and Reverend Leonard.

Recommendations

After meeting with all of the program directors and discussing our evaluations at length with Reverend Leonard I am making the following recommendations. The first thing Children and Youth needs to address is the organization. There needs to be a meeting with all of the program directors to develop standards for what data will be collected and analyzed, and also how to collect this data. At these meetings, decisions need to be made regarding the actual forms themselves. The forms and documents should be assigned to program directors to keep and maintain. This will ensure that there is one standard form. When a change needs to be made to a form, there should be a process of review by the other directors (could be very informal) before making the change to ensure that it is okay with everyone. Each program director will still keep and maintain their own sets of data, but this too should be standardized. This will allow people to transfer data if needed, as well as use the different data sets to compile organization wide statistics. This will only be possible if care to collect standardized sets of data is maintained. I also think it is important for the program directors to keep their own sets of data, because it is the only way that they alone will control who sees the data. This is important when it comes to sensitivity issues.

Once it has been decided who will be in control of which documents, and what data will be collected on these documents, the program directors will need to actually create them on their computer. Before this can happen though, a few things need to occur. First, the computers which are due to arrive, need to arrive. This obviously gives the program directors the ability to use them. Second, the computers need to be networked. If the computers aren't networked, and program director 'A' needs a form from program director 'B', then it will require them to actually go use program director 'B's computer. This will cause disruptions that should be avoided. It is my understanding that the networking will be completed by EECM on an organization wide basis. Hopefully this will occur in the short future so Children and Youth can continue with their own plans. The last necessary step, which will allow the plans to continue, is the purchasing of the latest versions of Microsoft Office ('97) and training the program directors in its use. This package will allow the program directors to perform all of the tasks they are looking for. Mainly

Microsoft Word could be used to make all the forms and documents, while Microsoft Excel would allow them to perform all the analysis they need. As for the training program, I recommend finding a course offered through a high school or technical school in the area, as these tend to offer the best instruction at a reasonable price. If you cannot find a course that meets your needs in that area, I would look to local colleges for courses. These will be just as instructional, but come at a slightly higher price. I would try and stay away from commercial courses though. Often these are taught strait from a book, not as informative, and well over priced. Which ever course is chosen for the program directors should give them the knowledge they need to thoroughly understand the software they will be using, and it will allow them to use it as best they can. It would also be wise to purchase a set of Microsoft Office book to keep in the office for reference.

The last recommendation I would make is to be careful as you go forward not to lose the standardization that you work for in the beginning. It can sometimes be easy, as you get into the realities of real day to day work, to forget about the details, and standardization necessities.

Meetings:

Phyllis, Lawanda, Nina, and Angela:
Their responsibilities include compiling timesheets, creating letters to send to headquarters throughout the area. They also put together interoffice memos, and compile reports for all of Children and Youth.

Tony:
Tony is in charge of the male intervention outreach program, the job link program, and a leadership group. He needs to maintain information on all of his children as well as evaluate their progress. The data he collects ranges from personal information to classes, grades, and lesson plans. Also, social skills, personal development, and discipline are tracked. For the job link program he also needs to keep information about the companies participating.

Reverend Bruce:
His responsibilities mainly revolve around the recreation clubs for elementary through High school students. He needs to track personal data for the participants, as well as create liability releases, permission slips, flyers, and schedules. He also needs a way to maintain inventories, and perform budget tracking.

Reese:
Reese is in charge of female youth outreach for middle through high school girls. She collects and analyzes much of the same types of data as Tony does, accept she does it for the girls in her program. They are very similar programs though, in the data they collect anyway.

Dalili:
Dalili coordinates the "A Step Closer" program. It is essentially a program that provides mentors for the younger children to help them grow academically and socially as a person. For this program the same data is collected as Tony and Reese, but there is also a much larger emphasis on evaluations. This data needs to be analyzed fairly thoroughly, and tracked over the years.

Reverend Leonard:
My meeting with Reverend Leonard focused on the vision of the computing environment for Children and Youth. He is looking for a system where all of the data is on a shared medium that allows program directors to cross-reference and compare with one another. As well as pass along information as the kids grow up and move on to other programs. He is also interested in standardizing the data collected so that there can be more analysis. With this, he is looking for a system that can be managed and handled by the current staff, something that is flexible and easy to learn and use.

Forms
The forms presented here at the end are offered as examples of the redundancy that now exists.

[NOTE: The extensive set of forms included were omitted from the reproduction of Adam's report.]