# Outreach Teen & Family Services
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## Introduction
Within this paper I include my final consulting report as the consultant of Outreach Teen & Family Services working closely with Ken Kaleida, my community partner.  Throughout the spring semester of 2001, I worked with Outreach to improve their use and understanding of technology and, I hope, helped them become much more self-sufficient as to their needs and fulfilling their future wants.  Within this report, I will discuss each problem I approached and solved and, more importantly, the final outcome of the problem I faced.  Appended to the back of the report are some of the tools I used in coming up with the solutions I helped give rise to.

One thing to keep in mind; *every* task I worked on and completed for the organization was performed to promote the company mission, which is:

> "The agency shall continue to develop as a community-supported provider of cost-effective and accessible support, counseling and education services for troubled young people ages 12 to 21 and their families.  We shall continue to provide the general public with education and programming concerning issues related to this age group."

## Analysis of the Situation
Before discussing the problems I encountered at Outreach and the solutions that Ken and I came up with, it is first important to fully realize Outreach's situation.

## Organization
Outreach Teen and Family Services, Inc. is a non-profit community-based counseling service for young teens (ages 12 – 21) and their families.  The organization was originally established in 1974 under the name "Outreach South," servicing only teens in the South Hills area.  It has now grown to serve all of Allegheny County and a couple of contiguous counties.  In addition, they serve hundreds of Washington County youths in grades K-12 in their school-based programs in the Washington, and Bentworth school districts.

Outreach currently has two offices.  The main office, where most of the counseling is done, is located at 91 Central Square in Mt. Lebanon.  Outreach also has an additional secondary, smaller office located in downtown Pittsburgh where counseling also takes place.  It also serves as a location for the screening and educational service of the Outreach Juvenile Firesetters Evaluation and Educational Classes.  The organization consists of a team of professional counselors, psychologists, and social workers, each with a minimum of a master's degree with experience counseling teens and families.

## Facilities
Outreach's main office is located on the second floor of 91 Central Square and consists of roughly 9 rooms not including hallways, closets, and bathrooms.  The front door opens up to the main staircase and hallway of Outreach where informational brochures and pamphlets can be obtained.  On the left are the main counseling offices (6 rooms in total) and on the right is the waiting room and main file keeping offices (3 rooms).  All rooms serve a dual purpose of becoming a counseling room when need be.

Turning right at the top of the staircase leads to the waiting room. The spacious waiting room houses two couches, a few desks, and a closet where visitors can obtain cold refreshments. In the waiting room is a receptionist's desk (without a receptionist) and behind and to the right of the desk is the office housing the server. In the back of *that* office is another door leading to an additional office. Both offices house computers running Windows 98, and the first office (the one directly behind the receptionist's desk) also contain the server running Windows NT. These offices are not very spacious and would only be used as a counseling room when space is very limited and the session is limited to only the counselor and one patient (this has been done on extremely rare occasions).

Turning left at the top of the staircase leads to a corridor. Immediately inside the corridor are two counseling rooms on the right and left side. Each counseling room is roughly 12 ft. x 15 ft. where families/friends can comfortably sit in a group environment on various sofas and chairs. The corridor later opens up into a "node room," where most of the file cabinets are contained. The file cabinets here contain most of the confidential and private information about Outreach's clients and are locked at all times. Only authorized personel have the key. There is also a desk with a computer running Windows 98 in the "node room" for computer-based filing purposes. This node room has 4 doors, two leading to offices, one leading to another counseling room similar in size and manner to the previous two counseling rooms, and the fourth door leading to the restroom facilities. The two offices have a desk and computer for Judy Fleming, the Executive Director, and Ken Kaleida, the Assistant Executive Director. Both of these offices are rather spacious and can comfortably hold about 4-5 people for a counseling session should the rooms be needed. All computers but one are connected to the network via the server.

## Program
As previously stated, Outreach is a counseling service targeting teens aged 12 – 21 and deal with young people who face multiple challenges in their lives including mental health, trouble with the law, or just need a listening ear. Sessions are conducted either one-on-one, with teenagers and parents together, with entire families, or any combination of involved parties, depending on the wants and needs of the individual(s) who need(s) help. The counseling hours are set in accordance with the schedules of teens and parents, and all the locations are easily accessible by public transportation. Through its many community donors and sponsors, ranging from Alcoa to Eat 'n Park, Outreach can keep its services affordable to all who need them.

In addition to the individual counseling, Outreach also sponsors many community events. They hold seminars and conferences on teen related issues as well as on-site school based prevention, intervention, and assessment services. Outreach also consults for local civic, social, ministerial, and community groups and has a speaker's bureau to address local organizations about general teen concerns and the services that their counselors can provide. Outreach has two programs under it, one of which is the Outreach Juvenile Firestarter Program, which screens identified juvenile fire setters and provides needed educational follow-up and referral. Another program under Outreach is Kids At Risk Effort (K.A.R.E.), which is a countywide program for high-risk teens that are involved in the juvenile justice system. KARE is a highly successful collaborative effort between Outreach and Juvenile Court, involving concerned family members and other social service support systems.

Outreach deals with very serious issues where privacy and confidentiality is an important issue. It must be stressed that **all calls, meetings, and psychological profiles are confidential**. Only authorized personnel have the key to the file cabinet and whenever they send out any sort of spreadsheet or evaluation of a candidate to outside sources for statistical information, names and personal data are blocked out. Any reports to even the board of directors must be censored before they are presented in the monthly meeting. To set up an appointment, a client or even a worried friend can call Outreach

confidentially and set up a meeting with one of the counselors to decide what the best course is to help them with their problem. The two meetings are free and afterwards fee is $5 per session for a client and a sliding scale for families.

**Staff**

As mentioned before, the staff is almost solely comprised of part-time workers with the exception of two full-time workers, Marilou Green and Ken Kaleida, the Executive Assistant and Assistant Executive Director, respectively. The part time administrative staff members are Judy Fleming, the Executive Director, Louise England, the Business Manager, Lani Walker, the special events coordinator, and Marshall Gordon, the Development Consultant. Outreach also has many part-time counselors who's number is constantly fluxuating every few months. *All* counselors of Outreach hold a minimum of a master's degree, some which have Ph.D.'s and MD's. Outreach also has 28 Board of Directors which consists of distinguished citizens of Allegheny County that are voted on. Outreach also occasionally receives event volunteers and office volunteers as needed or when they become available.

As far as computer literacy is concerned, it varies from very little to competent. An outside consultant, who has left Outreach, put up their server and network. The network is stable and doesn't run into problems except for the fact that when I came to Outreach backups needed to be done manually. Marilou, Ken, Louise, and Lani all have computers of their own. Judy didn't have a computer when I first came to Outreach, but had access to anybody's computer should it be necessary (which is largely limited to word documents and Email). On the job, Ken, Marilou, and Louise all use Microsoft Word, Outlook Express, Microsoft Access, Microsoft Excel, and Microsoft Publisher. Lani only uses Microsoft Word and Microsoft Access. Both Ken and Marilou have had formal training in web-page building using Netscape Communicator.

**Technical Environment**

The main server is a Dell PowerEdge 2200 Server with a Pentium II Processor running at 333 MHz (it only houses a 300 Mhz., MMX processor) and a 9 GB SCSI hard drive. The server is connected to an HP LaserJet 5-Network printer and is connected to the Internet via a 56.6 modem using the Infobahn ISP. This means that the workload of the entire network is done through the single 56.6 modem on the server for all 5 functioning computers in the main office. The only times any of the workers need to connect to the Internet is for research, Email, and to update the company web page. The 4 other computers are identical Dell Dimension V computers with Intel Celeron processors running at 333 Mhz. I will list the hardware components of the server and the 4 workstations below:

| SERVER | WORKSTATIONS |
|---|---|
| Pentium II MMX Processor, 300 Mhz | Intel Celeron Processor, 333 Mhz |
| 128 MB RAM (1 DIMM) | 64 MB SDRAM |
| 9 GB SCS1 – 3 hard drives | 8.4 GB Ultra ATA Hard Drive |
| Intel Pro 100+ Ethernet Controller | 3COM 10/100 NIC Network Card |
| 14/32x SCSI CD-ROM | 32x variable CD-ROM |
| 1.44 MB Floppy drive | 1.44 Floppy drive |
| 15" Dell 800 F Monitor | 15" 800 F Monitor |
| US Robotics ISA 33.6 FAX/MODEM | |
| Windows SpaceSaver Keyboard | Dell Comfort Keyboard |
| Logitech Mouse | Logitech Mouse + Wheel |

The server runs under MS Windows NT Server 4.0 and each other workstations runs MS Windows 98. All the workstations also come with McAfee Virus Scan Online 3.1 and Microsoft Office 97 (thus they all have Word and Excel). The workstations also have various freeware software d/l into them (ie. Winzip and Netscape).

The server currently has a broken tape backup drive that is under warranty by Dell that we are currently trying to get a replacement for. Consequently, all backups must be performed manually using about 3 floppy disks.

## Technology Management

The in-house technology "expert" is Ken Kaleida, who keeps track of all issues with technology but doesn't know too much beyond common usage of utility software. The entire network was put together and implemented by an outside "consultant" who is no longer in the area. Ken's main function, however, is not taking care of the computers but rather maintaining the duties as the Assistant Executive Director, which entails initial counseling of teens and upholding the company mission statement. He has largely taken over the duty of "technology expert" as he is the most knowledgeable about computers in the company, but has no real formal training of his own.

## Problem 1: Tape Backup

### Problem

Outreach's server lies on a Pentium II 300 Mgz computer with 9 GB of hard drive space running Windows NT. When I had arrived to Outreach to catalog their problems, the tape backup drive was broken. Outreach's server contains all the most important data that all the workers at Outreach work on. Should anything happen to the server, it would take weeks to replace the data, and some of the data may never be regained, which would *seriously* harm Outreach's mission. As the tape drive for backups of the server was broken, backups had to be made manually if at all. The workers at Outreach, however, don't really backup the server documents as they have more important things to take care of. They had been advised that they should backup their data on their own rather than on the server, which averages out to be about 4-5 disks per person. This manual backup, however, is not guaranteed as it is dependent on habit and persistency. This means that there is no real backup of the vital data located on the server.

Previously, the tape drive had been installed by an "outside consultant," but had never gone through the process of making it actually work. In an attempt to fix the tape drive on their own, Outreach hired a professional repair company to analyze it, who stated that it was broken and needed to be replaced. The consultant who installed the server in the first place had purchased the server (with the tape drive) from DELL in the first place, however, he purchased the computer under the name of the company he was working for at the time, Information Solutions Management (ISM). Consequently, Outreach did not have ownership of the tape drive and therefore didn't have the authority replace it although it was still under warranty.

### Opportunities

In discussing the possible solutions to the issues of the tape backup, Ken and I ran through a few possibilities. In summary, they were:

1) Talk to ISM and, with their cooperation, transfer the ownership of all the computers that the previous consultant had purchased for Outreach to Outreach. Thus, will Outreach own all of the warranties of the computers and, consequently, the tape backup drive. Once this is done, Ken should be able to call DELL and have a technician come over to replace the tape backup drive and set it up for us. The technician could also help us fully understand the benefits of the tape backup drive and how to set up all of the software and surrounding tools. The good thing about this approach is that it doesn't cost any money and will allow us to have a DELL technician come, who should be much more knowledgeable about the tape backup than I, and would be able to teach Ken how to properly use the tape backup better than I would. The bad thing about this approach is that it takes approximately one month to transfer ownership, and during this time the server might fail, which would cause *major* problems for the company.

2) Speak with the board members and obtain funding for a new tape backup drive. A zip drive isn't all that expensive (a little under $200 which includes 2 disks) and we would be able to obtain one at any local computer store or online. All the manuals and surrounding documentation would be included in the package. The good thing about this approach is that we would be able to immediately fix the backup problem *and* backups would be performed much faster than before. In addition, should the company need to transfer large files that cannot be zipped onto a single floppy, they now have a company zip drive to use. The bad thing is that it costs money, and although $200 isn't that much for a company, it's still a hefty sum that the company would rather not spend if they don't have to.

3) Contact the original "consultant" who was supposed to have installed the tape drive initially and have him replace it immediately because he was the one originally responsible for the entire thing. The good thing is that if we do this, neither of us has to worry about it any more and it will get done. In addition, it wouldn't cost any money b/c legally, the consultant was already paid and still owes Outreach a great deal of work that he never actually got around to doing. The bad thing is that not only is the original consultant gone and *very* hard to find, but from what I heard from Ken, he was rather irresponsible too, and might not get the job done.

In the end, Ken and I chose the first option. We chose this approach because making a server-side backup isn't a time-dependent task and Ken would rather wait and get the backup tape drive replaced for free than to have it replaced immediately for money. I am teaching Ken how to do everything at EVERY stage (even while I'm learning how to do these things myself) so that Ken will know more about the process and hopefully be able to replace these things himself should I not be around. Should anything else in the office break and be under DELL's warranty, Ken will be better prepared to solve the problem because he's dealt with something like it before.

Notice that *none* of our options involved checking out the tape backup first and trying to fix it. This is because a professional computer repair company was already hired to fix the backup by Outreach, and they claimed that the tape backup was already damaged. As I don't consider myself to be better than a professional computer repair company, I had decided to accept their diagnosis and didn't think to examine the tape backup at the time.

**Analysis of Outcomes**

Although the tape backup drive was broken, it was also under warranty and so could be replaced by DELL as soon as we proved that it was ours and that it was broken. The first problem to address for the tape backup drive was that Outreach didn't technically have ownership of its computers. The previous consultant who had purchased the computers for the company did not give Outreach ownership; he purchased the computers through another company, Information Management Solutions. Ken and I spoke to the present owner of Information Management Solutions, explaining the situation, and he was more than happy to agree to transfer the ownership of all the computers and hardware. Filling out a form, we sent it to DELL and waited for it to return.

Unfortunately, DELL had misplaced the transfer of ownership form and the transfer didn't go through. We immediately renewed the transfer of ownership, but we didn't wish to wait *another* month before replacing the tape backup, and so Ken and I discussed another solution. I was going to remove the tape backup drive, and we were going to talk to Information Systems Management again, allowing THEM to get the replacement tape backup drive and simply give it back to us. This would circumvent the process of transfer of ownership (while we had resubmitted the transfer of ownership, the computers are still under Information Solutions Management until a month later). While examining the tape backup as I was opening the computer, however, I noticed that it *seemed* to work, that is, the power supply was properly connected and the computer was registering *something* in the computer.

Further examination revealed that despite the initial diagnosis by the computer company that Ken took the tape backup to, it was not, in fact, broken at all. The drive simply had outdated firmware, drivers, and software running it, rendering it useless in the Windows NT 4.0 environment that it was running in. After downloading the proper software and installing it on the computer (teaching Ken the whole way what exactly I was doing), I "fixed" the tape backup drive and it now presently works automatically. Ken learned two important things, (1) how to troubleshoot such a problem and find out how to fix it, and (2) how to set up the tape backup drive and change its settings as needed so that he could set it all up himself should something happen after I'm gone.

In regards to troubleshooting the problem, Ken now knows how to solve a problem better. Before he would type in a few words in the help menu, and if that didn't help him, he would randomly try a few things that didn't seem very harmful to see if it worked. Now he knows that in order to effectively use the help menu it sometimes helps to use synonyms and other phrases to make it work better for him. He is also unafraid to simply *call* a company like DELL and ask for their help. He just needs to let them know what he "does" know, and what he "doesn't" know, and let them guide him through the process. He now understands that he can just pick up the phone and a technical support personnel can help him.

In regards to setting up the tape backup drive, it was simply going through the entire process once on the computer, then going over it a few times with Ken at the wheel, showing me that he knew how to do everything that I showed him. After a few trial runs, Ken was able to set up an automatic backup process, format a tape drive, and check errors through the help menu rather easily. Ken is also a great deal more confident in the entire "troubleshooting" process and would be able to solve a like problem on his own if need be.

The solution is very sustainable. The tape backup is rather old, and chances are that the device driver and firmware that I downloaded were the last version upgrade. Not only that, but Ken now knows how to go to DELL for help should the problem arise again. Also, Ken knows how to use and configure the software on the computer to make tape backups and have overseen his usage of the software. Ken has been cleaning the backup drive weekly and has been checking up on the system under my supervision, and I'm now confident that he knows what he's doing. In addition, the transfer of ownership of all computers in Outreach is being processed and should anything else in the office break, Ken will be able to replace it through DELL, AND knows how to approach DELL regarding any problems.

The only issue with this is that if Ken should leave the organization, he will need to train somebody before he leaves. This is extremely difficult as the level of overall computer expertise among the other main employees of Outreach is somewhat low, and I somewhat doubt they would be able to learn all that I've taught Ken in these last few months. He might be able to teach others in the organization basically how to maintain the tape backups, but in order to "teach" how to set up the tape backup process itself, he would probably need to resort to a list of detailed instructions.

## Recommendations

One possible recommendation I could make is to extend the tape backups to include all the computers in Outreach. The Webramp connected to the server can access all of the computers in the office via the network. It is theoretically possible to extend the backups to include all of the data on all computers should the necessary data be shared by the other computers. This is important because there might be residual data on the outside computers that haven't been stored on the server. The server houses all the most important data in the office, and all workers in the office *should*, in fact, be housing the important documents on the server, but some documents, like Emails and the like, must be saved on the other computers. Some of these Emails contain important information that is rather irreplaceable. Having this information also backed up on a tape could prove to be very useful.

I have already informed the staff that they really need to place their most important documents on the server in case of system failure. The staff of the organization need to comprehend the disaster that can happen without adequate backup. Once understood, the appropriate backup strategy needs to be adopted. Since a file server exists, the best strategy would be for the staff to put their files, at least their important files, on the server. Most of the workers in the office house almost every document, access sheet, and other important data in their "My Documents" folder in a large mass of "things that they work on," not organizing them in any particular fashion or order of importance. There are a few of these documents that would cause the Outreach workers to backtrack a great deal should they be destroyed. The "important documents" should be housed on the server, which has a great deal of space and is completely backed up every week. If the workers simply move these documents to the server and access and update these documents through the network, then the documents will always be secure. Once this is made, not only will the backup of the system work, but it will be a *complete* backup of Outreach's computer data

## Problem 2: Web Page

### Problem

Communication is an important aspect of Outreach Teen & Family Services, as their whole organization is based on getting problems out into the open and helping clients solve them. One of the biggest problems facing Outreach are teens who have problems but are afraid of approaching the organization for fear that others will find out. Although it is stressed and rather well known that all calls and sessions are completely confidential, it is still hard for teens to muster up the courage to approach Outreach with a problem. Still yet, are the teens that believe "this is only a small problem, I don't need to go to such a big organization for a small thing."

As more and more teens get connected to the world wide web and use it for information in their daily lives, the next logical step to pamphlets and word of mouth is the creation of an Outreach website.

When I first came to Outreach, the Outreach web page was non-formalized and non-functional. The few pages on the site were created in a spur-of-the-moment 2-hour training session by two of the employees at Outreach and have broken links on almost every page. Only two people in the office really know anything remotely about publishing web pages, and their knowledge came from that one training session.

Creation of the website would help Outreach's mission *tremendously* as it would get word out to many teens that might otherwise not approach Outreach. Not only that, but both teens and parents would have a digital information resource about Outreach whereas before they needed to physically pick up pamphlets from the main office in Mt. Lebanon or some other source. With the creation of a website, all anyone needs to find more about Outreach is a computer and access to the internet.

### Opportunities

The decision to create the website was already decided long before I had come to Outreach. The only decision we had to make as a group was how to actually go about creating the website. The first obvious solution would have been to have me create the website myself and then teach the workers at Outreach a few maintenance things so that he would be able to maintain the website. While this might have created a quality site in a short amount of time (especially considering my past experience with building websites), they would not have been able to easily add content as well without themselves constructing the pages. The next solution was to teach the Outreach workers how to create a site and to walk him through the steps, from genesis to completion. After some rudimentary questions, we decided that it would be a bit too complex for them to learn HTML code, and since two of the workers had

already obtained some rudimentary instruction in Netscape Communicator, we might be able to use that utility as a tool.

There is, however, much more to creation of a website than simple utility navigation and tool usage. There is a *great* deal of careful planning, especially if you wish to do it right. So Ken decided that we should schedule a meeting with top board members and staff members to approach website construction and discuss how it was going to come about. This would not only involve more people in the process, but would end up creating an outline for success, and would set wheels in motion.

## Analysis of Outcomes

Marilou and Ken have been taught how to set up Netscape Communicator on their computers so that they can work on a copy of the website on their own computers and can just push a button to sync their website with the live one. I have also made sure that they know how to set this up and can do this setup without my presence. Ken and the other coworkers have been given a list of website addresses of non-profit organizations much like Outreach so that they get a better feel for what they want on their website.

In discussing and creating the plans for the up and coming website, Ken and I attended a meeting with key players in Outreach. We discussed the three most important aspects of webpage development, which are **Content**, **Appearance**, and **Publicity**. The main content was discussed and main categories were created during the meeting and are largely going to be created by Ken and I. We have created pages for the website and attempt to put as much about Outreach as publicly accessible as we can. The appearance of the site will be targeted towards troubled teens and their parents, so the colors and organization needs to reflect that. The board of directors has access to web-specialized PR designers, which Ken will be handing each web page off to once the main content is completed. From that point on, the web page will undergo changes by both the PR designers and Ken until the page is acceptable by both parties. Publicity of the website will be done mainly through word of mouth, but also by mailing out their existing pamphlets with the website on them and an advertisement on local television. Also, we will add "metacontent" to each of the pages to make them searchable by search engines, especially those of community-based websites. All of these decisions were made as a group during our meeting.

Outreach has also recently purchased its own domain name, called [www.outreachteen.com](www.outreachteen.com), which will soon be linked to the community site that their current site is hosted at.

The project is very sustainable now that a definite plan of action has been decided upon. All involved parties have been informed, new pamphlets and brochures will be printed out within a few months which will have the new featured website URL where contact information is. Not only are the employees creating the site under my supervision, but I am pretty confident that should either of them leave, they would be able to train a replacement in Netscape Communicator due to its largely user-friendly nature. Netscape Communicator is much more user friendly than entering HTML tags manually. The PR designers have also been informed and await transfer of web page content for redesign.

## Recommendations

One recommendation is that the website could be used as an "online forum" for troubled teens to access. Teens can anonymously post problems they might be having in school or at home that they wouldn't be comfortable voicing in person. Counselors can then review these problems, and post responses to them online for all to see. Other fellow teens and community members might also be able to respond, with the requirement that a counselor at Outreach must approve the response before being posted to the site. After all, there are plenty of people out there who give bad advice, which is why Outreach has trained counselors and not random public servants. Separate forums could be created for different

problems that teens encounter, and FAQs could be created for the most common problems and ways to deal with them.  Posting these problems will also show teens that, "they're not alone."

It might be a bit difficult to create this bulletin-board, however, as they do not currently have the technology to do so.  In order to complete such a bulletin-board, Outreach would need to house their website on a server that interfaces with some sort of database for storage, and would need to acquire the know-how to interface with this database via the webpage.  A simpler solution would be a link to other "troubled teens bulletin boards" could be placed on the site where teens could discuss their problems with counselors and/or other teens.  In either case, it would also show troubled teens that they are not alone in their problems, which would prod them into talking to others about their problems instead of letting them stew internally.

Examples of web pages that currently have such online forums:
www.dailyconfession.com
www.parentsplace.com
http://www.allworld.net/awteens/board/wwwboard.html

An Online tutorial on how to set up your own Online Bulletin Board:
http://www.calstatela.edu/ats/desktop/websupport/bbs1.htm


## Problem 3: Document Security

### Problem
Outreach deals with a great deal of sensitive documents and Emails to and from clients which should definitely *not* be accessible to the outside world.  Anyone with physical access to any of the computers at Outreach could enter any of their computers by hitting the "cancel" button when Windows asks the user for a password, and gain access to these sensitive documents.  Should Outreach's private information be made public knowledge, it would lose credibility and many of its clients.  Outreach would lose many customers and would find it harder to find new ones based on the history of leaking private information.  Providing document security will prevent this from occurring and harming the Outreach mission.  As a result of tightening up security, they can operate with greater confidence that their client information is not vulnerable to publication and can ensure to clients that their information is private.  They can also indicate to funders that they have security installed to prevent misuse of client information.

### Opportunities
The first option of password security was thought to be the simple Windows Networking Password that pops up on the screen every time Windows begins.  This password, however, doesn't protect the computer from intruder usage in any of the Windows '9x versions, which is what all the computers except for the server run.  All this does is prevent intruders from using the network and automatic passwords in some Microsoft applications.

The second option of password security was to lock all important documents in certain shared folders on the server that were password protected using the shared-user password option.  Outreach would then need to require all of its employees to store all sensitive digital data in these folders instead of on their computers so that nobody would be able to access them maliciously.  While solving the problem of important database files and documents, this still doesn't prevent access to Emails, which are saved in outlook as simple text files.  We could also create a second password-lock on the outlook files, however, this would add another level of complexity, as there would be *two* passwords to remember instead of just

*one*.  In addition, this would require an Outreach worker to type in the password *every* time they accessed a folder or *every* time they opened Outlook.

The last option considered was an extremely low-level system password in the BIOS.  This isn't within Windows or any hard drive operating system, but the BIOS.  This will completely lock the computer every time a person turns it off, and the only way to circumvent the protection once the computer is off is to physically remove the battery from the BIOS and wait until its power runs down and it resets itself.  This approach *does*, however, have the disadvantage of not protecting the computer if the user walks away for a second.  The workers of Outreach, however, rarely if ever walk away from the computers and this isn't a very large danger.

## Analysis of Outcomes
Discussing various password options with the coworkers, it was found that the easiest and most complete solution to the problem was to lock down the entire computer whenever a worker left his/her computer for extended periods of time.  This means shutting down the computer entirely, and password-protecting the computer at the BIOS level.  This means that anyone who turns on the computer *must* turn on the computer and *immediately* enter a password before anything loads.  The only way for anyone to circumvent this protection is to either physically remove the hard drive, or manually reset the BIOS on the motherboard of the computer.

Creating a BIOS password is an extremely easy thing to teach and once its created, the worker never has to worry about creation of the password ever again.  The worker simply needs to enter his/her password whenever logging into his/her computer.

## Recommendations
While the danger of a person using the computer to read private data while an Outreach worker is not very viable, it is still possible.  In order to completely secure data, a second password along with a strict regimen can be issued.  Windows screensavers also have the ability to password-protect the computer and cannot be circumvented without rebooting the computer.  If a second password were to be added to the computer, and a strict rule were enforced in the company to turn on the screensaver *whenever* a company member leaves his/her computer, this would guarantee computer security.  Should somebody attempt to use the computer while an Outreach employee is gone, he/she would encounter the screensaver password.  The only way to circumvent this password is to either guess it or to reboot the computer.  Rebooting the computer would introduce the intruder to the BIOS password.  The probability of guessing either password or manually removing the BIOS battery is very small, and thus the security of documents on the computer is rather secure.  The only disadvantage to this recommendation is that it requires the users to memorize a second password (unless they choose to make both passwords the same) and it only works if the user follows the rule of turning on the screensaver whenever they leave the computer.


## Problem 4: Internet Connectivity

## Problem
The downtown office and Judy Fleming's computer (Judy Fleming is the Executive Director of Outreach) both connect to the Internet using the Infobahn ISP.  It has been discovered that while the Webramp connects reliably, dial-up networking occasionally "taps out" and disconnects within approximately 15-30 minutes of connection time.  This means that anyone using these computers to connect to the internet can really only use the computer to send and receive Email by manually

connecting whenever they want to check it (unlike automatically like normal).  This hampers the real-time ability of Outreach workers to respond promptly to Email.

## Opportunities
There were only three different causes of the problem that Ken and I could determine:
1) The Infobahn ISP is faulty and Ken should change to a different internet service provider. This would add a complication as not only is the main office using Infobahn, but all the administrative employees have Infobahn Email addresses and would be forced to chance their Email addresses if they changed to a different service provider.
2) The phone line has too much line noise and that is interfering with the signal
3) The modem is not set up correctly and needs to be "tweaked" a little in order to work properly.

Since the first solution, to chance to a different Internet Service Provider, is rather time-consuming and possibly costly, Ken and I chose to attack the problem in reverse order, attempting to find the ultimate solution to the problem at hand.  So first we would find out how to best set up the modem, and if that didn't work, we would get rid of the background noise the phone line creates.  If that didn't work, we'd finally resort to switching Internet Service Providers.

## Analysis of Outcomes
After talking with Infobahn numerous times, with failure to improve Internet connectivity, Ken and I decided that one last-ditch effort would be used on Infobahn.  We would call Infobahn and allow them one last chance to fix the Internet connectivity, at which point either they would fix their problem, or we would change service providers.  (We found that the problem is *not* hardware related as AOL can and will hold a connection for hours, it's only Infobahn that will fail)  I have already given Ken a list of other service providers and he can change their provider whenever he wishes.

A plan of action has been created and initiated, and Ken will change providers as needed until he finds a provider that will hold the Internet connection indefinitely.  If worse comes to worse, the company can even use AOL to connect to the Internet, as that has been proven to hold an Internet connection for hours.

Websites of Internet Service Providers:
www.earthlink.com
www.aol.com
www.highstream.net
www.exceptional.net

## Recommendations
Once this problem is solved, it shouldn't creep up anymore and no improvements can be made short of obtaining a DSL.  Ken has already stressed that at present, the company has no need for DSL.

## Problem 5: Database Synchronization

**Problem**
  Different copies of databases exist on the computer in the main Outreach office and the downtown office. When changes in one database are made, the database needs to be physically copied onto a disk, and then taken to the other office where fields are "copied" from one database to another. Needless to say, physical copying of fields is not only time consuming, but prone to error. Should either of the databases be corrupted, this could affect the reliability of data on the databases.

**Opportunities**
  Not many opportunities other than solving the problem at hand.

**Analysis of Outcomes**
  I looked under the Access help menu for information on database synchronization and found out how to create a "master copy" of the database on disk. Then, all other databases can be "linked" to the master copy and become "slave copies." Any time any changes are made to any database, Ken can simply hit a "synchronize" button which will update changes to the database or inform Ken of a conflict (conflicts are created when both databases have changed the same field since the last synchronization). I also showed Ken how to use the help option to find the information like I did.

  Ken now synchronizes the databases on a regular basis and will be able to ensure data integrity as a result. Additionally, Ken searches the help function on keywords to find answers to questions and to resolve problems. He is using the tools available to him which suggests that he will be able to sustain this function.

**Recommendations**
  Once this problem was solved, and Ken knew how to perform the task on his own, there was no need to any more recommendations. It is completely sustainable.

## Problem 6: Database query access

**Problem**
  Outreach has many different databases that it stores on its clients; whose numbers reach hundreds of people. These databases store a great deal of data on the various clients, parents of clients, psychologists, outside community members who donate to outreach, etc. This data is harvested through different query methods, which match data on certain key terms like name, area, last name, etc. There are times, however, where the data harvesting method is rather inefficient.

  One example is in the creation of a mailing list. In one situation, Marilou harvests all the potential donors from one table, event participants from another tables, and families in the geographic area. In some situations, she has duplicates of the same person. She doesn't want to print out duplicates, for that would send the same newsletter to the same person twice; however, in order to search out duplicates manually would take HOURS, especially sorting through lists of thousands of people (one such query resulted in a list of over 3000 individuals). Access isn't structured to handle this particular case, where one would need to query each table separately, then cross-reference 5 different fields of each table with different names, and *then* remove duplicates all in one query.

  This is an extremely time-consuming task. If done in one sitting, it would consume perhaps 3 hours or even more depending on the size of the tables being cross-referenced. While not directly relating

to the mission statement, the time of the employees of Outreach could be better spent elsewhere performing the specific tasks they were hired for. They were *not* hired to do grunt-work, but to do more useful things.

**Opportunities**

The first solution to these types of problems that Ken and Marilou were doing before was a very tedious process. First they would query each individual database, and then create a new database for all the final data to be sored in. They would import one query result, and then change the fields in the other query results to match the corresponding fields in the first query result. Next, they would append the resulting tables into the new database, and finally search and eliminate any duplicate items in the matching parts. This entire process actually takes quite a bit of time.

Another solution was to "merge" the tables into one large table temporarily. This, however, would require entering each database and changing the names of certain fields to coincide with each other for that purpose. With approximately 20 different tables running with very different names, this was rather difficult to do. Especially since this would require recreating each and every query that was created before as they wouldn't work anymore with the new fields. This would, however, bring about a solid naming convention that they would be able to universally use between all tables. This is a long-term solution that may or may not be performed later on when Ken or Marilou have the time to rename all the fields of their tables into one solid naming convention to temporarily merge different tables. Once the naming convention is complete, then a query could be run on the individual tables, followed by a grand-merge query, followed by a remove-duplicates query, which would create the final mailing list.

A "quick fix" temporary solution for Outreach to use until it has time to create a better naming convention is to use the cut and paste feature of Access in a better manner. With cut and paste, entries can be manually transferred from one table to another without the restriction of having the same name. Thus, once queries are run on all the tables, Ken or Marilou could create a "dummy" table and cut and paste multiple entries instead of each entry individually. Once this was done, they would be able to run an eliminate-duplication query. This would only take about 5-10 minutes including the creation of the new queries.

**Analysis of Outcomes**

In working out the solutions with each other, we had solved a major time-consuming task. Not only have Ken and Marilou found a new technique that should help them in many of their database harvests that simple queries were unable to do, but they have also hopefully learned a new way of thinking about problem solving. In order to figure out the solution to the problem, I, who had no experience with Access databases (although I've had limited experience with SQL databases), was forced to use the help menus to ask many different questions as to the nature of different queries. After it was absolutely certain that queries didn't act in the specific way that Ken and Marilou wanted it to, I started trying to play with different ways that I could still use the different tools separately to perform one task. Although splitting a task into several pieces is a rather intuitive thought in real life, doing so on the computer is somewhat a different thought process, especially when you're not completely sure *what* the computer is exactly capable of, and need to search for it in the help menus.

**Recommendations**

Once this is taught, it is fully sustainable and I can't see any room for improvement.

## Technology Management Benchmarks for Outreach Teen & Family Services
*Taken from a document produced by the National Strategy for NonProfit Technology*

**Definition:**

The technology management benchmarks represent current standards for appropriate, efficient and sustainable technology use in nonprofit organizations. Collectively, these benchmarks provide an example of how technologically literate nonprofit organizations integrate technology into their organization's work.

These benchmarks should be used as a guide to nonprofit organizations as they integrate technology into their organization's mission and daily work. Not all nonprofit organizations, however, need to meet every individual benchmark to be considered technologically literate - some benchmarks will not be applicable to a particular nonprofit sector (e.g., environmental agencies, human service providers, etc.); others may not be necessary for an individual organization.

These benchmarks were developed based upon the experience and research of individuals working to help nonprofit organizations leverage technology in support of their missions. The benchmarks represent the current knowledge and experience in this area and will be evaluated and updated as new information and experience necessitates.

**Use of Benchmarks:**
4) Provide minimum standards of technology use in nonprofit organizations.
5) Provide a guide to nonprofit organizations in assessing their use of technology - highlighting areas of strength and areas for improvement.
6) Provide a standardized guide, and associated tools, to assist nonprofit technology assistance providers in their work with the nonprofit community.
7) Provide standards by which the effectiveness of technology assistance services can be measured.

**Strategic Technology Planning**
1. Organization has a 2 to 3 year technology plan that is integrated into the overall strategic plan and mission of the organization and is approved by the board.
2. Organization involves individuals with both technology and program expertise in the technology planning process.
3. Organization has a mechanism through which it keeps current on "best practice" use of technology in the nonprofit sector and incorporates this knowledge into the technology planning process.
4. Organization has an adequate budget to implement its technology plan (or organization has a fund development strategy to secure needed funding.)
5. Organization understands and plans for organizational change implications of technology.

6. Organization has primary individual or working group accountable and responsible for implementing the technology plan. This person should report to the organization director or management team.

**Technology Use - Staff Level**
1. All staff have access to the appropriate automated, personal productivity tools needed to efficiently do their jobs (e.g. word processing, spreadsheets, database applications, desktop publishing software, GIS software, etc.)
2. All staff use compatible automated personal productivity tools, enabling sharing of files and documents among organization staff. These personal productivity tools are kept current (within three years) with industry standards.
3. Staff members who require access to on-line resources have the software and hardware needed to connect to them.
4. Minimum technology competency requirements are defined for every organization staff position. Staff members receive appropriate technology training that allows them to achieve these minimum technology competency levels.
5. Staff members are evaluated against minimum technology competency levels as part of their regular performance review process.
6. The Organization has, and incorporates, technology use policies as part of its regular policy and procedures manual.

**Technology Use - Organization Business Systems**
1. Organization has automated accounting and financial systems that are adequate to meet current and long-term organizational needs. (Or uses an outside, automated system.)
2. Organization uses a database or appropriate software to keep track of "lists or groups" of people such as: organization's members, donors, volunteers, clients, board members, staff, advocates, etc.
3. Organization's databases can be used to create mass mailings via both traditional mail merge and using Internet e-mail.

Technology Use - Organization Business Systems, continued

4. Organization's business systems (listed above) can electronically exchange common information when needed (information is not manually duplicated in Organization's automated systems.)
6. Organization has adequate technical support and documentation for its automated business systems.
7. Appropriate organizational staff members are trained in how to operate Organization's automated business systems.

**Technology Use - Organization Networks & Internal Communications**
1. Agencies with more than 5 staff members have the ability to share information electronically as well as the ability to share computer resources among themselves.
2. Agencies with more than 10 staff in one location have a computer network with a dedicated server.
3. Agencies have mechanisms in place to prevent data loss of automated business systems, staff PCs and any Network Servers.
4. Agencies with a computer network have mechanisms in place to ensure data security.
5. Agencies with a computer network use virus protection software to protect against network wide viruses.
6. Agencies with more than 5 staff members have electronic mail capabilities.

**Technology Use - External Communications**
1. Every organization should have the capacity to access the Web, use Internet e-mail, and subscribe to appropriate listserves, bulletin boards and other online services.
2. The organization maintains a web site on the Internet that is part of its overall communication strategy and regularly updates it.
3. The organization collects and tracks e-mail addresses of its members, donors, funders, clients, in the same way it tracks other contact information.

**Technology Sustainability**
1. The organization has adequate, ongoing technical support.
2. The organization keeps an updated inventory of all computer hardware and software.
3. The organization budgets for technology and associated staff training as a regular part of its annual budgeting process.
4. The organization budgets for technology upgrades every 2 to 3 years.