

# Three Rivers Center For Independent Living

Community Partner: Amy Vandyke  
Consultant, Yong-Wood "Andy" Kang

## Introduction

During this semester I have worked for Three River Center For Independent Living (TRCIL) for my 15-399(Computer Science In Community) for spring of 2000 semester. I have mostly worked with Amy, Patti and Betty. Main part of my job during this semester was to help TRCIL to plan their technological environment, especially after they move into a bigger building at the end of this year. TRCIL members are very excited to move into a new building and hoping to have better technological environment that they couldn't afford in the current location. Therefore my tasks during this semester was to fully understand what kinds of work is being done in TRCIL and find out whether they have sufficient technology to work it out or not. After this step is done, I have researched through many different media such as Internet and library to give TRCIL wider varieties of choice they can choose from. Then finally I informed these choices with my recommendation of what suits best for TRCIL. Since my job was mainly focused in planning, there were not many of physical evidences of capacities. However, I firmly believe that with my work done in TRCIL, staff members have a very efficient and creditable technological plan for their organization.

## Situation Description

### **ORGANIZATION:**

Tree Rivers Center for Independent Living (TRCIL) serves the need of people living with disabilities in the city of Pittsburgh and Allegheny County. It was organized as a result of the "Calling on America" campaign sponsored by the National Organization on Disability (NOD). TRCIL is funded through the Department of Education's Rehabilitation Services Administration (RSA). It is located at 7110 Penn Avenue in Pittsburgh, about 15 minutes bus drive from CMU. In order to take care of people with disabilities, this organization provide the following special services.

1. **Advocacy:** Individual and systems advocacy to help remove barriers, raise awareness, and ensure fair and equal treatment for all people with disabilities.
2. **Peer Counseling:** One-on-one and group support for people with disabilities by people with disabilities, providing both a role model and a support system.
3. **Independent Living Skills Training** - Designed to enhance and maximize a person with a disability's ability to live and participate in their community. Training may include adaptive equipment use, budgeting, nutrition and general medical management.
4. **Information and Referral** – Providing clients information about specialized equipments and where they can access them.

There are many other additional services such as a specialized equipment exchange program, Volunteer Service, Resources Library, Deafness Service, Wheel Chair Clinic, and many other to improve lives of people with many kinds of disabilities.

Established in 1992, TRCIL and it has 1,400 members out of 40,000 people living with disabilities around South Western Pennsylvania. TRCIL helped people in need in all kinds of ways to make their lives better and happier. Until now the organization is growing in numbers of members and in the future the organization is hoping to be able to serve everyone who are in need of their help.

Currently there is a database, which keeps records of the meeting with the clients and also demographic information of the every client. Since all records of the clients and meetings are stored in the database, it is important for staff members who need to retrieve and record information to database. Therefore having

sufficient technology upgrade, in order for staff members can easily do this is very a crucial task towards the organization's mission.

### ***FACILITIES and TECHNICAL ENVIRONMENT:***

This organization occupies the two-floor building and one other single floored building attached to it. The main building has actually three floors including the basement floor. This building was not originally built for office but as a large house with about 3 medium sized rooms on each floor. TRCIL currently has 47 staff members, 45 full times and 2 part times. Among these members they have 24 personal computers, 1 server and 1 public computer at the library. Some of the staffs share rooms because there are not many rooms in this building and also TRCIL also uses large hallways as office rooms and a large dining room as a conference room. Single floored building that is attached right next to the building is as big as the first floor of the main building and is being also used for office space for several staff members. Therefore this building is not a very spacious place for 47 staff members and this is the main reason why they are moving into a bigger building at the end of this semester.

As one walk inside the building they would notice that for a small building, it is very well equipped for people living with disabilities. The entrance is an automatic sliding door for people who are on the wheel chairs. There is no stairs in this building except the one inside the building but many inclined planes so that people on wheel chairs and people who have trouble walking can easily access the building. Also there is an elevator next to the receptionist desk. As I first entered this building I was able notice many differences that people living without disabilities would not be able to think normally. Also I was able to realize that technology is a gift, which levels the differences between the people living with disability and people living without disabilities. Therefore I have once felt the importance to show staff members my knowledge of technology that can help their work as improving people lives living with disabilities.

The staff members exclusively use all computers, except one located in library that is opened for public. The range of computer specs differs by their type of users do. Brief list of computers available in TRCIL is attached at the end of this document. (See Attachment #1) All computers except the server, has either MS-Windows 95 or MS-Windows 2000. Most of the computers are used for creating documents and letters. Some of the computers use spreadsheets. There is also a working internal server and staff members use it to record client records. Also some members have Internet connection for work purposes and these people are familiar with emailing and web browsing. Betty who is the computer administrator of the organization maintains all these computers. Most of the minor issues such as retrieving lost files are done by her. However once the problems get more complicated and Betty cannot handle by herself, she asks help from Shiloh Inc. who are the designated computer vendor and consultant.

### ***STAFF:***

Every person is familiar with word processing with MS-Word and Word-Perfect. Few of the staff members are familiar with the MS-Excel. Betty is more familiar with the administrative work such as giving authorization to the users and changing passwords. Few of the staff members do have Internet access through modems by using AOL. These members are comfortable using Yahoo.com to search for information they want. A few members check emails daily basis due to their job requirements or personal interest. Most of the staff members don't check email regular basis. Members who don't have Internet connections are especially anxious to get their Internet connection so they soon can learn Internet technology usages. It is difficult to list all the details of job due to number of staff in this organization, but most of the staff members with computers are responsible of forming documents, storing information into database and using excel for spreadsheet work. One of the things that most of the staff members lack of is file types and general computer handling such as using folders effectively. Since computer work they do is not about MS-Word or Ms-Access. They also have to learn how humans can manipulate the computer so that one can correctly make computer do whatever he or she wants to do. For example, one staff members have worked couple of hours to create a complicated excel file. While creating he or she just saved where the computer saved by default and doesn't know where to find it next day. This may seem not true but this is very likely to happen if one folder that one saves all his or her files into gets

too crowded. Therefore staff member have to learn more about file sorting through hierarchy folders and also learn some new Window functions such as find. Some of these problems often occurring in TRCIL and therefore urgent solution is required.

### ***Technological Management:***

TRCIL is very well equipped with the computers for staff who needs one for their job. As I mentioned they have two databases to record demographic information of the organization's clients. Also they have an internal server where all the information of the database gets stored. TRCIL have gone through many difficulties in order to achieve. I have the detailed list of the computers attached at the end of the report. (*See Appendix 1*) Most of the computers are new and capable of running commonly used applications like word. One of the common facts about these machines is that they are overly paid for useless components. For example all computers are either Intel Pentiums or Athlon KMD. These are very expensive CPU and most of the TRCIL works don't require this kind of powerful CPU. Also all computers have separate video cards and sound cards and capable of good multimedia effect. These kinds of computers are mostly for home usages where balanced capabilities are required. However in general, office computers can disregard the multimedia and multi tasking capabilities and concentrate more on memory and CPU speed. Therefore realizing these facts and implementing them will greatly improve the technological environment of TRCIL.

## **Problems And Opportunities**

After talking to Amy, Betty and Patti I was able to sense following problems and opportunities.

### **1. Giving staff access they need by purchasing or upgrading existing computers**

#### *a. Impact:*

One of the very important missions of the organization is keeping the good records of the client and all the data are all stored in the server. Staff members who needs to retrieve and store information requires sufficient computers, which can run the database software and also fast enough computer to do the calculation required during the process. Therefore method to retrieve and recording these data is crucial to organization's mission.

#### *b. Feasibility:*

This task is very feasible and also will be very immediate. There is enough time to be accomplished since ordering a computer can be done very quickly through many different methods. Also organization was already looking to do this therefore they are ready to carry this out. More complicated issue is the resources required in order to carry this out. Since computers are generally expensive and TRCIL is nonprofit organization with not much of budget for the technology, it is hard to change everything that is needed at once. However, the organization has enough money to purchase few computers that are urgently needed. Therefore some of the replacements will occur while I am working with them, but also I will be concentrating do improve organizations capacity so that they could continue this in the future without any outside help. There is not much of risk in doing this task. Since I have been building my own computers for more than 7 years and update myself regularly with the computer hardware, it would be an easy task for me to do. Therefore we have decided that I would help Betty deciding the hardware specification and we would ask Shiloh Inc. to build the computer with that specification. Another possibilities that we have considered was buying from nation wide companies such as Dell. However, Betty suggested that those big companies are hard to contact when problems occur and also more expensive. Also Shiloh's representative come and fix the problems right away if there is any. Therefore we have decided to ask Shiloh to build the computer.

### **2. Fast Internet Connection for higher easier Internet environment**

*a. Impact:*

This would result in tremendous improvement. Since staff members beginning to use more Internet as part of their job, introducing a faster Internet connection would give them a chance to experience high-speed Internet Surfing and data transactions. One of the jobs that TRCIL is required to do, is notifying information to the state department some information through Internet. Therefore this is directly tied to organization's mission and would improve organization's capabilities and also give more staff members Internet access. Also currently TRCIL has 20 phone lines for modem usage. Due to this task, TRCIL will considerably reduce the amount of money that is needed for Internet usage.

*b. Feasibility*

This task is very feasible to be done. Since there are many different technologies out in the current market which can provide the right service for medium sized business firms. Most of the work will be done in researching about the available technology and expected efficiency and cost of the technology. Also I have already worked with setting up fast connection at my own home and taken a lot of classes that is network related. Therefore this task will be an easy task for me. My partner is very interested in this because the organization will not only have faster Internet connection, but also at the cheaper price. Therefore Amy is very happy with this task and it is very likely that this task will be implemented. One of the risks of this task is that the organization is not going to implement this while I am present. Organization is moving into a bigger building at the end of they year and they would like to implement this when they move. Therefore I will not be in the present of this happening and there might be some unexpected difficulties for the organization to implement this task. We have also considered many different ways of high speed Internet access such as Cable modems and T1. However we have decided that ADSL is most effective and decided to implement this in the future.

### **3. Plan for training staff members**

*a. Impact:*

Staff members would be able to accelerate their rate of work and also improve the quality of work done by getting trained in computer software and hardware. Also there will be less technological malfunctions, which would require outside help resulting TRCIL less independent to costly technological consultant visits. This task would generally improve the organization's capacity and technical environment. Training will be proposed will help staff members to carry out their work more efficiently therefore this is directly tied to the organization's mission.

*b. Feasibility:*

This task is a hard to be done. This task will not provide immediate positive result. In addition, extra money and working time of staff members will be required to make this task happen. Therefore would be hard to convince appropriate staff members the importance of this task and what needs to be done. However, researched information will be provided to give the organization more options in ways of training staff members. Also I have no background in doing this kind of task before. Therefore this would be the one of the hardest tasks for me to do. Even though Amy is interested and wants to make this happen if possible, Amy is not fully convinced about the importance of this issue and may not carry this task. Often nonprofit organization staffs wear many hats for their jobs and have more work than other organization staffs. Therefore spending time for training that would not show immediate result maybe difficult task to be done. Therefore even organization may not have enough resources and interest to carry this task out. However, I will work during this semester so that the organization will realize the importance and eventually they will work this out.

### **4. Research for Future Technical Administrator**

*a. Impact:*

Betty is retiring at the end of this year. Therefore after she is gone, TRCIL will need to find another Technological Assistant. Doing this is a very important task for the organization because by doing this



organization will have a plan after Betty is gone and not having a technological gap in-between. I will research methods that can replace the current technology management so that it can improve organization's technological capacity and also improve general technology management.

*b. Feasibility*

Since this is only the plan, this would require only researches and therefore this task could be done during this semester. Also Amy has explicitly asked me to do this so I have decided to put this task on the top of the list. Since it is a method to replace Betty when she is gone, the organization has enough resources to carry this out. However I am not very familiar with such research and where to look for, this task will remain to be one of the hardest research areas. Since the organization has already has experience in hiring people for this job, they are very capable of carrying this task out. Also if the new methods are implemented, I would make sure that would fit the organization's skills. This task has some risks. First of all, recommending someone or some method to maintain one organization's technology after I am gone is a very dangerous task for me to do. If things are not done correctly and begins to bring problems, the whole organization would have to suffer due to my mistake. Therefore I will try to do my best to recommend what is best for them through very careful considerations.

## Work Plan

The following table is the work I have done up to this point of time.

Week	Date	Work Done
1 <sup>st</sup>	02/04/00	First meeting with Amy. I have talked to Amy to hear her point of the technical situation of the organization and I have walked around the building to see the staff members. I have also set up scanner for Amy.
2 <sup>nd</sup>	02/07/00	I have met with two-computer administrator Betty and Patty. We have talked current technical situation of TRCIL and I have shown to the network and seen how it is working
3 <sup>rd</sup>	02/25/00	I have shown Amy, Betty and Patty my situation draft and got commented about it. Then I have helped Adrian with the new database program to find possible bugs for it.
4 <sup>th</sup>	02/28/00	I have sat down with Amy and negotiated what I am willing to do during the semester. Then I have finished helping Adrian finding possible bugs for the new DB program.
5 <sup>th</sup>	03/06/00	I have talked with Amy, Betty and Patti about my work plan report and presented them new ideas that can be implemented.
6 <sup>th</sup>	03/13/00	Helped Adrian to find bugs of the new database program.
7 <sup>th</sup>	03/20/00	Worked out computer specification for Mike Auer with Betty
8 <sup>th</sup>	Spring Break	
9 <sup>th</sup>	04/07/00	Presented Internet Connection research paper with Amy and discussed the paper
10 <sup>th</sup>	04/14/00	Presented computer specification report with more details of what I chose and why I chose
11 <sup>th</sup>	04/21/00	Informed Betty and Patti about researched information and also gathering their point of view
12 <sup>th</sup>	04/28/00	Presented staff training research report and also future technology administrator plan
13 <sup>th</sup>	05/14/00	Presented final report to Amy, Betty and Patti and talked with Amy about the final presentation.

The following chart shows the plan to attack the problem during this semester.

*W* = To be done definitely

*x* = Can be done or not done depending on the organization's decision and funding.

Task Name	Completed by: Y-Yong-Wook A-Amy B-Betty P-Petty	February				March				April				May
		1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Situation Analysis</b>	Y, A	Ω	Ω											
<b>Internet Connection and Email Set Up Via Different ISP</b>				Ω										
Determine System Requirements	Y, B, P		Ω	Ω										
Research	Y			Ω	Ω	Ω								
Research Paper	Y						Ω	Ω						
Research Paper Presentation (Information Distribution via comparisons and examples)	Y								Ω	Ω				
Follow Up (Confirmation and Hearing Feedback)	Y										Ω	Ω	Ω	
<b>Research for Future Technical Administrator</b>														
Research	Y						Ω	Ω	Ω	Ω				
Research Paper	Y										Ω			
Research Paper Presentation	A, Y											Ω		
Responding To Organization's Need (Finding More Options)	Y												Ω	Ω
<b>Purchasing Computer</b>														
Determine Needs of Center	Y, A, B, P													
Understanding the Need	Y				Ω	Ω								
Research	Y						Ω	Ω						
Research Paper	Y								Ω					
Presenting Report (Describe Reason why I chose what I chose)	Y, A, B, P									Ω	Ω			
Purchase	R, T											x		
Follow Up(Check Usage, Answer Possible Questions)													x	
<b>Plan for Training Members</b>														
Research	Y									Ω	Ω	Ω		
Report	Y											Ω		
Presenting Report (Convincing the need of training)	Y, A, B, P												Ω	
Follow UP (More Questions and Answering)	Y, A, B, P													Ω

## Outcomes

### Task 1: Giving staff access they need by purchasing or upgrading existing computers:

#### *Evidences of Increased Capacity: (See Appendix 2 for reference)*

The computer that we have purchased from Shiloh with my specification is now already set up and Mike who is the user of that computer is satisfied with the computer now he has. It is capable of doing his job sufficiently and also Amy and other staff are happy about the computer because it is the one of the cheapest computer they have purchased. The organization is now preparing to buy few more computers with same specification due to its high performance and low cost.

The organization is now aware of the fact that what is best out there in market is not necessary the best choice for users of CILSWPA. Also Betty, who is the computer administrator at CILSWPA, is now deeply aware of the differences between different computer hardware such as differences between Celeron CPUs and Pentium CPUs. Although she may not possess the most accurate and vast amount of knowledge about the computer hardware, but she now has enough capability to be able to specify what kind of hardware that CILSWPA needs.

#### **Evidence of Sustainability:**

Betty is now able to compare prices through Internet by visiting [www.pricewatch.com](http://www.pricewatch.com) and also view the new hardware profiles at the [www.sharkyextreme.com](http://www.sharkyextreme.com). She has looked up the laser printer for Mike and figured out that the price at Shiloh is not expensive compared to the other vendors. This is extremely important change and also promising improvement because before she was able to do this, she had to rely on others to this job for her. Now that she has learned where to look, the organization is capable of standing alone in purchasing computers hardware and software.

#### **Recommendation:**

World is changing fast and technology is changing exceptionally faster than anything else in this world. For example a 386 computer was considered fast for couple years when it first came out. However, a Pentium 450 computer was able to be the fastest in the market for only couple of months. The expected life of computers are getting shorter every day and there are more and more newer technologies coming out as time passes. Therefore it is very important to realize the expected life of computers are getting shorter every minute and therefore computer upgrading is very crucial.

I recommend putting up an additional back up system for every computer regularly. Even though server is backed up regularly and a few computers have their own back up system, I recommend considering installing back up system for every computers. What is most important are saved in the database but it is also important to save personal data that are saved in each computer. It is up to the organization which computers and files will be backed up according to their importance. These are few ways to back up

some files.

*CD-RW/Scanning:*

One of the problems that CILSWPA is experiencing is having too many documents. There are piles of documents on staff's desk and I suggest using scanners and CD-RW to solve this problem. This only applies to the documents that do not have set up backbone so that putting these documents to the database will not be feasible. So we can scan these images if it typed by typewriters or handwritten and then these scanned images can be saved into CD-RW. Then the papers can be thrown away so that virtually people will not have so many papers on their desks or in the file cabinet. Even though this may be a hard task to start with since staff members are not familiar with the file types and also organizing the files in a desktop. Therefore I recommend one or two staff members to carry out this job by learning extensively file sorting and file types and also how to operate scanners and CD-RWs. Also this will solve the back up system by letting these people backing up staffs' computer once in a while into CD-RWs so that whenever the work is lost, they can be retrieved.

*Hardware Back-Up:*

Other method can be purchasing a hardware back up for computers that needs one. Backup machines are automated therefore it will be easier for the users to back up. However, these machines are more expensive and since they are completely automated, the user will have less control of what to back up and what to not. Doing this would not give you extra benefits like CD-RW can, but would save a lot of time for users.

Also it is a good idea to put frequently used forms into the database. Since the organization does have experience in database, I recommend to do this more often.

One of the back-up tricks is to back up personal preferences files so that when a incident where who hard drive needs to be formatted and reinstall every software, these back up can be used very usefully. For example one can back up preference file for web browsers because they are many preferences options and it is hard to remember where they are once it is gone. Generally people consider that if the software is backed up, it is easy to restore the computer, but this is not true as software these days are developed with more personal options.

There are many other ways to improve the usage of the network. There is a possibility to have some staff members to work at home and access database. However, this is only available when staff members are more familiar with the current network and have some knowledge of remote accessing. Therefore I recommend keeping this idea in mind and being ready to make this happen when time is right. One may find more information about this topic through Internet at, [www.remdata.com](http://www.remdata.com).

The server for the network has to be upgraded or replaced. Since current server is 486-generation computer and it is very slow it is not doing its full job as a server. A server needs to be the fastest computer among the network because every computer in the network is accessing the server at the same time. This matter will be crucial once network

usage grows, because even though users' computers are fast enough to read and write into the server but the server won't be able to give or receive at the enough speed. Therefore I strongly recommend to replacing server soon. Since servers are different from normal desktops, I suggest consulting with Shiloh and find out how it can be done. Basic concepts of servers can be acquired at [www.csstrategies.com](http://www.csstrategies.com).

Once Novell is installed in all computers, I recommend taking most advantage out of this. I recommend posting a daily message to everyone at the beginning of the day so that staffs are aware of the fact that posting messages are available. Doing so will encourage people to use the network more frequently and also significantly reduce the memos and phone calls. I strongly encourage staffs to visit [www.novell.com](http://www.novell.com).

I strongly encourage setting up a networked printer and encouraging staffs to use it. Buying separate printers for every staff members is a money consuming method. Due to the some of the confidential issues of the organization, someone may need private printers. Then one of the solutions can be done is to set up a printer that is used for common printing that are not confidential and other one for confidential print jobs. Since there are many printers available now, some of the staff members who do the more frequent confidential print jobs may have their own printers. Others who does not need private printer can share the networked printer. Doing so will save a lot of money from spending money of the ink cartridges since ink cartridges are less efficient than laser printer cartridges. Also there will be no more need to buy printers for new computers and finally quality of the printed papers will be same for everyone. Also technology administrator will have fewer printers to trouble shoot and since the method of printing is same for every staff members, they will be able to print from any computers.

## **Task 2: Fast Internet Connection for higher easier Internet environment**

### **Evidences of Increased Capacity: *(See Appendix 3 for reference)***

Now Amy, Betty and Patti are all sure of what kind of benefits they can get from having ADSL for their organization. Also they now can surely say that ADSL is their better for their organization then any other fast Internet connections. This is because mainly they are aware of how ADSL works and why it is good for them. Therefore if some

Knowledge about ADSL has direct connection to the better Network usage. Since ADSL requires the internal network, by putting up the ADSL, CILSWPA will definitely take more advantages of their existing network. Also I have recommended to Betty to ask Shilo, the vendor who have installed the internal network, to install Novell in all computers that are hooked up to the network so that they can send internal messages through network. Also I have found some bugs in new database program that they have just purchased from Shiloh and due to that reason the database was fixed quickly and efficiently. Even though the design of the new database program took place before I was there I was able to help CILSWPA at the final stage of debugging. Therefore it is evident that the existing network is running at almost its full potential.

### **Evidence of Sustainability**

What has made this whole task easier was the fact that Amy, Betty, and Patti are all eager to learn new technology and appreciate what it can do for them. Therefore their rate of understanding my work has been really fast and also took the materials seriously. When I have handed in my report to Amy and Betty, they were amazed by this new ADSL technology and showed their interest to install this at the new building that they are moving to, at the end of this year. Also Amy has told me that staff members have discussed about this issue and they are in a process upon deciding whether installing this technology in the new building or not. However, based on the efficiency of the technology at its cost and also interest from people who has read my ADSL report. I believe that the installation of ADSL is almost for sure to happen. Also Betty is has told me that she has been looking to buy few more computers with the given specification and told me that she has been looking for the hardware profiles in the web. Therefore I believe that in the future, Betty is able to take care of the hardware specifications even if newer technology comes out.

After the installation of ADSL, every computer inside the new building will have faster connection than modem lines. With my calculation everyone will enjoy at least 3 times faster than 56Kbs modem and up to 100 times faster. Therefore the users will be extremely happy with the work. Also if every users will be given a email address as [NAME@CILSWPA.COM](mailto:NAME@CILSWPA.COM).

One of the final things that I have done for CILSWPA is the future technical plan for the organization. Meaning that how staff members will be trained for general computer usages and also some specific areas if needed. Amy, Betty and Patti all shared common issue of lack of computer knowledge among the staff members. They have agreed that if the class or methods of learning computer usage is cheap and not greatly time consuming then they are ready to make it happen. Therefore if my technological plan report (see appendix 3) takes place, I believe that there will be a great change of computer usages in CILSWPA. Staff members will not lose their files in the network and even destroying their hard worked documents. Also staff members would have general knowledge of the network and Internet. Also I have suggested for special staff members who need more than general computer knowledge to take some classes available. To sharpen their expertise further and help them to make CILSWPA more technologically improved organization.

Anyone can have better current technologies if they put in some time and effort to do so. However, organization like CILSWPA is less likely to achieve this because of the fact that staff members are busy wearing more than one hat and also they do not have enough funding to let staff members to take classes outside. Therefore I believe that what I have done is to make this possible by suggesting cheaper ways and also fast ways to make this possible. I believe that people that I have worked together this semester all have eager to learn about computers and therefore my work has turned out easy to be accomplished.

### **Recommendation**

Once the Internet is set up, I strongly urge staff members to be able to experience Internet freely. Everyday Internet is becoming more common and therefore there are urgent needs for staff members to be able to use Internet. Also Internet is a great way to start people to be interested in computers such as emailing and games. Once Internet is set up and people begin to use it freely, some works can be done easily such as finding information quickly and sending some documents to others for free. Internet leads itself once people starts to use it therefore I recommend every staff members would be able to connect to Internet even if they don't have a computer. One way to do this would be having a workstation on each floor so that anyone who wishes to use it will be able to log in and use the computer during his or her free time. This will not only increase the staff's interest in computers, but also may help them in the future to finish work faster.

If ADSL is purchased from Bell Atlantic, the free domain name and email addresses are available. Therefore currently existing web pages can be moved to [www.CILSWPA.com](http://www.CILSWPA.com). Also since it was hard to find the website in the Internet, what can be done is to register at popular search engines such as [www.yahoo.com](http://www.yahoo.com). By doing so more people would be able to find CILSWPA web pages and learn about what the organization is doing. Doing this would drastically improve number of people that would realize the existence of CILSWPA.

Another issue that can be improved is the current web page. It is simply not working as a good web page. Web page is should be read by many different people who may share the same interest. It is in a way advertising the organization. However, this web page is not view by many people and no one is taking care of it. The last update it is there now is made one year ago. If the domain name and availability at popular search engines is done like I have proposed then more people would be following information on the web page. Therefore I suggest having some one who updates information regularly and also having a bulletin board to receive the some feedbacks from some surfers. Therefore in the future there will be active readers of web page and feedbacks that maybe beneficial to the organization.

### **Task III: Staff Training: *(See Appendix 4)***

#### **Evidence of Increased Capacity:**

Now that organization has been introduced the importance of the staff training and also given the information how it can be done, the staff members can decide how this can be carried out in the future. Since this report was a plan to train staff, there is not much of hard prove except the report I have written.

#### **Evidence of Sustainability:**

Since the staff members are now aware of the importance of the training, this is definite to happen some day. Also I have linked with the task IV, finding future technical administrator in a way so that both things can be done simultaneously, it is very likely to happen. Patti and Betty are very excited about the fact that importance of staff training is issued. Since Patti and Betty are in charge of the current technology situations of the organization they are very well aware of this fact and glad that it is suggested through me. Even though this task will not show immediate result to the organization, but it will slowly begin to improve organization's capacity.

#### **Recommendation:**

*(See Appendix 4)*



## **Task IV: Future Technical Administrator: *(See Appendix 5)***

### **Evidence of Increased Capacity:**

I have written a handed in report about this issue. I believe that Betty is planning to retire at the end of year and this will leave TRCIL a big gap without a technical administrator for a long time. I have given varieties of choices available but I recommend that instead of just hiring one of these choices, but to give them a period of time to work with Betty and let him or her get used to what it is like in TRCIL. Since Betty had hard time learning about works that were done by previous administrator and still have some question, it would be really beneficial for the new administrator to learn about what has been already done and what needs to be done in the future. Therefore the quality of the work done by the administrator will be more satisfying. Also after Betty is gone, the organization will not be in panic in-order to find someone. Also I have tied this issue with the staff training in order to generally increase the organization's technical capacity with spending least amount of money and time at the same time.

### **Evidence of Sustainability**

Since this task was to provide the plan so that organization will have less hard time, there are no physical things done. Therefore it is very hard to predict how things will turn out after I am gone. Even though this was a hard task to be done, I have tried to connect this task with the staff training so that this task was not only to find a future technical administrator, but planning the future technology implementation of the organization. Therefore I am sure that this task will be considered carefully by the organization and carried out eventually in the future. Once again technology is taking a big place in the organization now and knowing how to use them efficiently will greatly improve the organization's mission of helping people living with disability.

### **Recommendation:**

I also recommend this person to take some time off the work and take some classes outside. Then he or she will teach these skills to staff members whoever need these skills. Therefore not everyone needs take their time off the work and take classes, but it will be more like a private lesson from technical administrator. Therefore people will make less mistakes and have less questions that technical administrator will have to answer.

## **Conclusion**

I enjoyed working with TRCIL during this semester. I was mostly amazed by what could technology can do to help people in their lives. No matter who you are and where you are, you are bound to face technology one day or another. Then during this semester, I was helping to lead people toward the right direction so that they will be more comfortable facing upcoming technology. This was a totally different experience that I was able to get in my regular CS classes. Instead of staying overnight in school cluster, trying to make my program .00001 second faster, I was out in the real world where real people work and make their lives and helping these people to be more friendly with technology. This was a sensational experience to me, because I realized that what I am learning is not only going to make computer's life easier by finding simpler algorithms or methods, but also it can be used to help people who are in need of my help. That is what I have learned during this semester and I want to thank everyone who helped me to realize this fact.

## Technical Environment

FIRST FLOOR								
Type	Name	Location	Modem	Software	Hardware	Usage	Memory	Printer
Optiplex GL5100	Paula	Front Receptionist	None	OS: MS WIN-95 SW: MS Word,	CD-ROM, Floppy Disk, 2GB hard disk	Filling out Forms, writing documents and letters	24MB	DJ855C
Custom Made Full Tower with Pentium-I generation CPU	Donna	P&R Secretary	56k	OS: MS WIN-95 SW: MS Word, Novell	CD-ROM, Floppy Disk, 2.1GB hard disk	Filling out Forms, writing documents and letters	32MB	DJ672C
Compaq Presario 5600i	Nick	CSPPPD Secretary	None	OS: MS DOS 6.0 SW: MS-Office 2000	CD-ROM, Floppy Disk, 8 GB hard disk	Filling out Forms, writing documents, letters	64MB	LJ4L
Custom made mid tower with Pentium-II generation with 333MHZ CPU	Amy	Assist. Exec. Dir	36K	OS: MS Win-98, MS Word, Word Perfect, Novell, AOL, Internet Explorer	CD-ROM, Floppy Disk, 6GB hard disk and Scanner	Filling out Forms, writing documents and letter and connected to Internet for email and web browsing purposes	64MB	DJ722C
Custom made mid tower Pentium-III generation computer	Florence	Housing Counselor	56K	OS: MS WIN-98 SW: MS Word, MS Internet Explorer, AOL and MS Excel	CD-ROM, Floppy Disk, 6.1GB hard disk	Spread Sheet, documentations and internet usage and DB entry	128MB	DJ600C
Compaq Presario 5240	Maureen	Housing/Consumer	None	OS: MS WIN-98 SW: MS Word, Word Perfect, Novell	CD-ROM, Floppy Disk, 7.4GB hard disk	Filling out Forms, writing documents and letters, DB entry	64MB	Canon BJ200E
Compaq Presario 5600i	Jolly	Executive Secretary	56K	OS: MS WIN-98 SW: MS Word, Word Perfect, Novell	CD-ROM, Floppy Disk, 9.2GB hard disk and additional 2.0GB secondary hard disk	Filling out Forms, writing documents and letters	64MB	LJ4L

SECOND FLOOR								
Type	Name	Location	Modem	Software	Hardware	Usage	Memory	Printer
Custom Made Pentium-II generation computer	Adrian	AWC Program Manager Room	56K	OS: MS WIN-98 SW: MS Word,	CD-ROM, Floppy Disk, 3GB hard disk	Filling out Forms, writing documents and letters	32MB	LJ4L
Dell XPSM200S	PC1	AC-Coordinator Room	33.6K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk	Filling out Forms, writing documents and letters and major spread sheet work	64MB	DJ820 CSE
Dell Optiplex5100	PC2	AC-Coordination Room	None	OS: MS WIN-95 SW: MS Office2000	CD-ROM, Floppy Disk, 812MB hard disk	Filling out Forms, writing documents and letters	8MB	DJ855C
Compaq Presario5240	Main PC	CSPPPD Office	56K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 7.4GB hard disk	Most used for Spread Sheet and DB entry	64MB	DJ660C
Compaq Presario5240	Sally	CSPPPD Office	56K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 7.4GB hard disk	Most used for Spread Sheet and DB entry	64MB	DJ600
HP Pavillion 4430	Henrietta	Home PC	None	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 3.2GB hard disk	Filling out Forms, writing documents and letters	32MB	LJ4L
Compaq Desktop 7170	Jean	CSPPPD Office	56K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 1.2GB hard disk	Filling out Forms, writing documents and letters	24MB	BJC4100
Compaq Presario 5240	Jean Ayers	Coordinator Supervision	NONE	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 7.4GB hard disk	Filling out Forms, writing documents and letters and some excel usage	64MB	HPDJ694C
Barebone	Lisa	Personnel Coordinator	NONE	OS: Window-95	Floppy Disk and 2GB hard disk	Writing out documents	20MB	NONE
Barebone	Amy	Civil Rights	56K	OS: Window 95	Floppy Disk and 2GB hard disk	Writing documents	16MB	HPDJ600c

THIRD FLOOR								
Type	Name	Location	Modem	Software	Hardware	Usage	Memory	Printer
C o m p a q Presario 5240	Noreen	CSPPPD	56K	OS: MS WIN-98 SW: MS Word,	CD-ROM, F l o p p y Disk, 3GB hard disk	Filling out Forms, writing documents and letters	32MB	Oki40 0E
Custom made by Shiloh	Patti	CSPPPD	33.6K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, F l o p p y D i s k , 2.3GB hard drive	Filling out Forms, writing documents and letters and major spread sheet work	32MB	LJ4
A S T Advantage62 3		CSPPPD	None	OS: MS WIN-95 SW: MS Office2000	CD-ROM, F l o p p y D i s k , 1.2GBMB hard disk	Filling out Forms, writing documents and letters	24MB	DJ895 CSE
HP Pavillion 7370V	Billing #1	C S P P P D Office	56K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 1.2GB hard disk	Most used for Spread Sheet and DB entry	64MB	LJ6L
SS Midtower PIII	Michelle	SS	56K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 9.5GB hard disk	Most used for Spread Sheet and DB entry	64MB	LJ4P
D e l l Dimension XPSM200	Diane	Data Spec.	56K	O S : M S WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 2GB hard disk	Filling out Forms, writing documents and letters	32MB	LJ5L
SS PIII		Accounting Department	56K	OS: MS WIN-98 SW: MS Office2000	CD-ROM, Floppy Disk and 7.8GB hard disk	Mostly for Spread sheet work	64MB	HPDj8 10C

## Computer Specification For CILSWPA

### Mother Board:

Spec: WB6 w/ 2xAGP Vid & Digital Snd – 810E AGPset - (0) AGP (3) PCI (0) ISA (2) DIMM  
Manufacturer: Abit  
Expected Cost: \$140-\$150

### CPU:

Spec: CELERON 466MHZ PPGA 128KB L2 CACHE PGA370 –Retail  
Manufacturer: Intel  
Expected Cost: \$80-\$90

### Memory:

Spec: PC100 64MB RAM  
Manufacturer: Generic  
Expected Cost: \$80-\$90

### Hard Drive:

Spec: Deskstar 34GXP 13.6gb Ultra DMA/66 EIDE 7200rpm  
Manufacturer: IBM  
Expected Cost: \$150

### Case:

Spec: Any ATX with sufficient power supply  
Manufacturer: Any  
Expected Cost: \$60-\$70

### CD-ROM:

Spec: CDR3000 40X IDE Internal CD-ROM  
Manufacturer: NEC  
Expected Cost: \$60

### Floppy Drive:

Spec: Any  
Manufacturer: Any  
Expected Cost: \$15

### Speaker:

Spec: Any  
Manufacturer: Any  
Expected Cost: \$20

### Keyboard:

Spec: Any  
Manufacturer: Any  
Expected Cost: \$15-\$20

**Mouse:**

Spec: Intellimouse PS/2 With Wheel Button  
Manufacturer: Any  
Expected Cost: \$20

**Monitor:**

Spec: MultiSync E210 CPD-E210 17  
17inch, 16.0 viewable, .24mm dot pitch, 1600 x 1200, 60hz, flat, shortneck, tco92, FLAT  
tube  
Manufacturer: Sony  
Expected Cost: \$400

**Network Card:**

Spec: 3C509TP: 10BT Etherlink-III 3C509TP ISA Ethernet Card  
Manufacturer: 3COM  
Expected Cost: \$20-\$30

**Total Expected Cost:**

With Specification mentioned above: \$1115  
Expected Labor Cost: \$300  
Expected Software Cost: MS Windows 98+MS Office = \$200  
Total: \$1615

**Expected Usage:**

This computer is capable of any type of office work such as MS Access, Word, and even capable of running Windows 2000 with sufficient speed. This computer is not a top of line computer however; it will not concern the user for the speed and performance of his type of work. This system will last more than two-three years and be able to run most of the office applications which user may need.

**Feasibility:**

Shiloh (Computer Vendor) may not agree to follow this specific hardware I have mentioned above. Most of the computer vendors have their designated hardware for sale. In this case I will take a look at what they offer and decide about that specification.

**Descriptions of Parts:**

*Motherboard:* Main reason why I chose this motherboard is the fact that this one does include onboard sound card and video card meaning that there will be no extra purchase needed for separate sound card and video card. Onboard sound card and video cards were not encouraged before 810e chipset from Intel came out couple months ago, because by sacrificing cheaper method to build computer, there were tremendous amount of trade off of speed. Therefore the computer would be cheaper to build but there will be considerably large amount of speed loss due to this. However, 810e chipset has gotten rid most of this problem and therefore even though there maybe some losses of speed, however it is now worth it to lose that amount of speed for the lower cost. Also performance of the whole motherboard is overwhelmingly powerful and it is very capable of running office software such as MS Office and Windows 98. Also Abit is a one of the most reliable motherboard company and they also provide one of the best motherboards in the world. Therefore this motherboard that I am recommending is a very suitable for nongraphical workers such as home users and office users.

*CPU:* I have recommended Intel Celeron instead of Intel Pentium III for few reasons. First of all most of the people in CILSWPA do not realize the difference between the Pentium and Celeron processors. Therefore I will take a few minutes to describe the differences between two processors. First of all the major difference of the two processors are their level 2 cache memory. Cache memory is almost similar to the normal memory that is often called RAM. Also RAM is just same as a normal hard drive however, the difference between these three types of memory is speed of data transferring between the CPU. Cache memory has the fastest transfer rate, then RAM, and finally hard drive the slowest. Therefore when computer is running software such as MS-Word, the program is designed so it needs to save some data into somewhere temporarily and it will first try to access the Cache memory because it is the fastest. However, cache is the most expensive memory out in the market and yes of course it would be great if we could just have cache memory and not RAM or hard drives, but it is very expensive to do so. That is the main reason why we use RAMS and hard drives. So if cache is full while running software, the CPU will automatically send data to RAM and to hard drive if RAM is also full. Therefore yes it is very important to have enough amount of cache memory and Celerons are the cheaper versions of Pentiums with less of expensive cache memory. Since it seems like I am confusing people with complicated technology, I will stop here explaining the difference of the two CPUs technologically. I will just show the benchmark of two computers one with Intel processor and the other one with Celeron processor.

CPU Mark 99	Score
<b>Celeron 533</b>	<b>37.9</b>
Pentium III 450MHz	33.8
Celeron 300A @ 450MHz	37.2
Celeron 300A	24.5

This chart is from [www.sharkyextreme.com](http://www.sharkyextreme.com). This is the test that they have ran with 4 different CPUs but exactly same other parts such as motherboards and RAMS. They have ran several different common software such as MS-Office. As you can see the Celeron 533 has considerably better performed than Pentium III 450. This may not be the definite answer to the is Celeron better than Pentium, but it does prove that it is almost as good as Pentiums. There are many other technological specs why celerons are better than the Pentiums that I wish to say, but since it is getting boring I would like to end this with one thing. Celerons are cheap and capable of various office works and it is much cheaper than Pentiums!!!!!! Say, where can we go wrong with this? This is the reason why I strongly recommend Celeron processors for the new computer.

*General:* First of all, most of the people think that CPU is the biggest part of the computer. Therefore most of the people would just say that they have bought a Pentium 450mhz computer. However, this does not fully tell you what kind of computer that they have just purchased. Yes it is true that CPU is the brain of the computer compared to the human body, however we also have to consider the other parts such of memory and hard disks. I have built computers for friends and myself since I was in Junior High school. Therefore I have a good knowledge of what is best computer for different types of users. Since a lot of the specifications are hard to describe in such a short paper, I would not be able to prove at this moment but to just provide the specifications. The specification that I have proposed is very similar to what I have own at home and I am having a good time with that computers. I also believe that this computer is capable of running the Mike's tasks at good speed and therefore I strongly recommend this specification for new computers in CILSWPA.

### Task Number 1 Report For CILSWPA (Internet Connection and Email Setup)

For future issues of Internet connectivity for CILSWPA, I have done researching about possible ways to accomplish this. This task may not be done during this semester due to the reason that CILSWPA is moving to a different building at the end of year 2000 and therefore the organization may wait for this change. I have taken this into consideration and here are some proposals for Internet connectivity of CILSWPA.

#### 1. Internet connection via modem.

##### a. Specification:

This method would provide everyone 56Kbps(Kilo bits per second) with purchase of 56Kbps modem. 56Kbps for example would take users about ten minutes to send or receive one full floppy disk size data. (This is usual case based on my past experience with 56Kbps modem)

##### b. Cost:

A 56Kbps modem I suggest is,

Brand: 3COM

Product Name: 56K USR D/F/V PCI White Box

Cost: \$74 at <http://www.microx-press.com/>

Picture:



##### c. Advantage:

This method has few advantages. First of all, some of the users are already familiar with the Internet connection with dialing via modem. Therefore a lot of current users would be comfortable and therefore these experience users can help others to get used to this system.

##### d. Disadvantage:

Everyone who needs to use this method requires additional phone line. These additional phone lines would cost up to \$40 per month for each line. Therefore if CILSWPA is anticipating for every computer to be connected to Internet, this method will cost in total,

Modem: 17 computers \* \$74 = \$1258

Phone lines: 28 computers \* \$40 = \$1120 per month + installation fees

Therefore even if we use the free ISP (Internet Service Provider), this method will annually cost about  $\$1120 * 12\text{months} + \$1258 + \text{installation fee} = \$15,000$ , around fifteen thousand dollars. Therefore this method is very expensive and also in the future this method does not seem so bright. This method will only last few years because of the tendency of the technology to the faster connection such as connection through LAN. Therefore I would suggest this method if not many computers would be connected to Internet and expectancy of Internet using is at minimum. Also buying the domain name and finding everyone with same email name such as [NAME@CILSWPA.com](mailto:NAME@CILSWPA.com) is a separate issue. Also if we use the free ISP, the user will be forced to open an advertisement banner, which can be disturbing while using the Internet. Therefore if users do not wish to use free ISP, then we would have to purchase through AOL or different ISP, which costs around \$20 for each users per month.

##### e. Overall:



I strongly do not recommend this method if every staff members of CILSWPA are planning to be connected to Internet. Even though we can modify this plan so that some people would share some phone lines for Internet, this is still very expensive and slow method. Therefore if more then ten people are going to be connected to the Internet, I would suggest using the next method.

## 2. Internet Connection Via LAN (Local Area Network)

### a. Description:

This method is little bit different from the concept of using modems. First of all, the network card will connect the computers inside the organization internally. As some of the computers in CILSWPA are already connected this way, organization is aware of this fact. Therefore what we need to do more is find an ISP provider who provides faster connection for WAN (Wide Area Network). Meaning connection to wider area and this includes the Internet connection. Currently some of the computers are connected internally and speed of the this internal connection, for example would take less than one second to transfer one floppy disk size data. Exact speed of current internal connection is 10Mbps and this about hundred seventy eight times faster than the modem. Therefore it will be beneficial to take advantage of this speed. After this internal connection is done, taking next step to WAN is a very easy task by just finding the right provider and right product.

### b. Specification:

#### 1. Bell Atlantic Info Speed DSL (Digital Subscriber Line)

Download Speed	Up to 640 Kbps	Up to 1.6 Mbps	Up to 7.1 Mbps
Upload Speed	Up to 90 Kbps	Up to 90 Kbps	Up to 680 Kbps
Compared to a 28.8 Modem	Up to 22x faster	Up to 55x faster	Up to 245x faster
Compared to a 56.6 Modem	Up to 11x faster	Up to 28x faster	Up to 125x faster
Web Page Memory	5Mb	5Mb	5Mb
Bell Atlantic .net.slm ISP	Yes	Yes	Yes
Web Page Memory	Yes	Yes	Yes
Six-Mailbox Option <sup>1</sup>	Yes	Yes	Yes
Netscape 4.5 or Latest Release	Yes	Yes	Yes
CPE Installation Included <sup>2</sup>	Yes	Yes	Yes

This is a specific chart from [www.BellAtlantic.com](http://www.BellAtlantic.com).

I recommend **Power Plus** option if everyone will be connected to Internet. 28 computers will share 7.1Mbps connection to outside and even if every computer are using internet at the same time, the connection will be 253Kbps which is about 4.5 times faster than the 56Kbps modems. However, this is ADSL (Asymmetric Digital Subscriber Line) meaning that if you download data from Internet this system will provide the organization 7.1Mbps but if you try to send out data it will be only .68Mbps. This is meaning of uploading speed and downloading speed described in the chart above. This is the main reason why DSL is cheaper than other faster WAN connection for sacrificing the uploading speed. However, this is a very reasonable trade off since much of the usage for organization will be mostly done by downloading and not uploading. Estimate price will be shown below.

### b. Cost:

Bell Atlantic did not specify the price for this system but with my knowledge, the price for **Power Plus** is around \$2000-3000 for a year. This is just for the WAN connection fee. We also need to include installation fee and DSL modem purchasing.

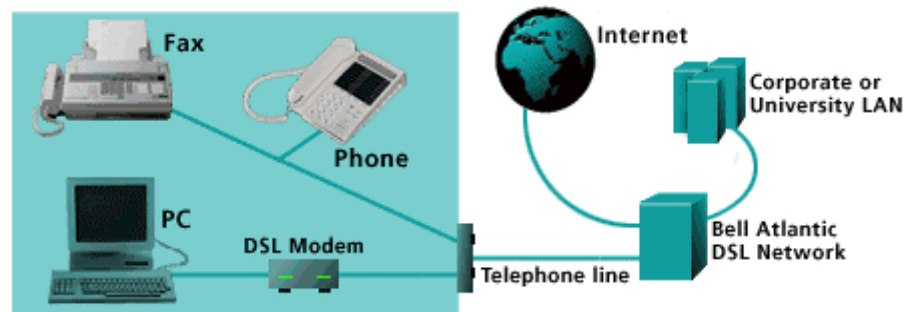
Installation fee is about \$100 and this is similar price for phone line installation. Also DSL modem costs around \$300. Therefore if we use the existing internal network, the annual cost for ADSL for Internet connection would be,

$\$3000 \text{ (Connection Fee)} + \$100 \text{ (Installation Fee)} + \$300 \text{ (DSL modem)} + (\$40 \text{ (Additional IP Address)} * 28 \text{ computers}) = \$4500$

We do need different IP Address for each computer if we are implementing this method. IP address is like a special address for computers just like your own home address. This is required for computers using Internet so that each computer knows which computer is which. Imagine postman trying to deliver mails if we didn't have any specific mailing address! However, purchasing additional IP address is very cheap and can be done easily. Therefore this method is much cheaper than using modems and purchasing additional phone lines.

c. Advantages:

One of the main advantages of ADSL is that even though it is connected through existing phone line, we can use the phone and browse the Internet at the same time. This is a brief explanation about ADSL,



As you can see this is the basic set up ADSL and notice that the phone or fax may be connected to same phone line and both can be used at the same time. For our case, the PC diagram will be nested PCs and can be thought of as LAN of CILSWPA. Therefore the whole system would require just one phone line for the Internet connection for everyone! Another advantage would be the Always-On-Connection. This means that when we used modems before and wanted to check email, we had to dial up through the modem and check email and dial off. However, with ADSL, the connection is always on and therefore you do not have to dial ever again. Therefore Internet usage can be increased drastically and improve performance. The last advantages of using ADSL are of course its speed. If I have mentioned above that if everyone is using the Internet at the same time, the connection would be 4.5 times faster than the 56Kbps modems. However, if say two people or three people are only using at the specific time, then all the unused speed will be granted to the current users. So therefore if one person is using the Internet, the downloading speed will be 125 times faster than the 56kbps modem. Also this service does provide the domain name and email forwarding therefore no extra effort for such thing is necessary if this method is applied.

d. Disadvantages:

There are not much of disadvantages for ADSL. Since this is a newer technology than modem, a lot of existing problems with modem are fixed. I myself own a 1.6Mbps ADSL and also have prior experience with 56Kbps modem. I find ADSL

very useful and easy to use. I have not found any problems with my own ADSL therefore I strongly recommend this method

e. Overall:

This is very suitable for current situation of CILSWPA. Since CILSWPA is moving to a different building, I would suggest connecting every computer to be connected to the internal network and use ADSL Power Plus for Internet connection. This is very effective and cost efficient method.

1. Different ISP for WAN:

Overall:

This method is very similar to ADSL. There are other faster connections such as T1, T3 and optical lines. These are very fast like ADSL but more expensive due to the high uploading speed, which ADSL does lack of. However, according to my point of view, CILSWPA does not require high uploading speeding speed and did not fully research these areas. I have briefly talked about the general difference and price differences for each of these.

T1, T3:

T1 and T3 are fairly old technology than ADSL. These are same concept as ADSL. T1 and T3 are just WAN connections, which connects LAN to Internet. Advantages of T1 and T3 are that they have very fast uploading speed. If the downloading speed is 10Mbps then the uploading speed is also 10Mbps. Therefore universities and big corporate do have this WAN connection for their wide usage of Internet and remote access. However, for smaller businesses and personal usages this specification is not necessary and ADSL is a newer technology, which sacrifices unnecessary uploading speed for cheaper price. The estimate price for 28 existing computers are more than \$20,000 roughly. Therefore this method is not considerable for CILSWPA as much as ADSL.

Cable Modem (Optical Line):

Cable Modem is also WAN connection provider, which uses the existing TV cables for faster Internet connection. Cable modems are cheap and do provide both high uploading and downloading speed (10Mbps), however, this 10Mbps are shared by the region and not by one specific house hold or an organization such as CILSWPA. Since this technology is cheap and easy to be installed, a lot of the personal users who wishes to have faster connection to Internet are changing to this technology. However, due to the speed sharing by the region, the speed is very unstable. Meaning that if a lot of people around your area are using the Internet through cable modem, then virtually the speed of the Internet connection maybe slower than the modem. Sharing speed is same concept as I have mentioned above, but this is sharing speed by region and not by the members of organization. Cable modems costs around \$40 per month for each users. Also one cable modem line only allows 4-6 IP addresses and therefore CILSWPA would require more than one cable modem. Therefore if we choose this method, the expected cost per year would be around \$4000-\$5000. This is similar to the ADSL cost but speed is considerably slower than the ADSL therefore I strongly discourage this method.

These are almost all ways to purchase an Internet connection. I do recommend ADSL for the future purchase of CILSWPA. Also ADSL, cable modem, T1, T3 do provide TCP/IP, meaning that any software such as disability aiding software can be used for using Internet. I will research further into this are later on when I have some time left at the end of semester and describe specifically which software can be implemented.

**Task Number 3 – Staff training**

I. Options:

a. **New Horizon**

i. **Location:** Five Parkway Center, Suite 200 Pittsburgh, PA 15220

ii. **Phone:** 412-920-5100

iii. **Fax:** 412-920-5680

iv. **E-mail:** [sales.Pittsburgh@newhorizons.com](mailto:sales.Pittsburgh@newhorizons.com)

a. **West Branch Technology Center**

i. **Location:**

110 East Bald Eagle Street Lock Haven, PA 17745

ii. **Telephone:**

570-893-4038

iii. **Fax:**

570-748-1598

iv. **Email:** NIL

v. **Website:** [www.wbtc.ciu10.com](http://www.wbtc.ciu10.com)

iv. **Classes offered:**

*Introduction to Keyboarding,*

*Intro to Computing,*

*Internet Navigation,*

*Intermediate Word Processing Using Microsoft® Word,*

*Intermediate Spreadsheet Applications Using Microsoft® Excel,*

*Intermediate Database Design Using Microsoft® Access,*

*Advanced Word Processing Using Microsoft® Word,*

*Advanced Spreadsheet Applications Using Microsoft® Excel*

*And more is described with details in the website.*

v. **Class Schedule:** Not shown in website. Please contact.

vi. **Comment:**

This institute does not offer full amount of courses like newhorizon is offering. Also the location of this place is further than newhorizon. Therefore I am not sure if this institution is the right choice for CILSWPA.

**Task Number 4 – Future Technical Administrator****I. Part time with advanced knowledge**

- a. This was a big failure to search since most of the people who may have qualifying knowledge for this job wants to have full time job that are considerably expensive. Therefore using more qualifying personnel for part time was hard to find and I am not sure if anybody will want to do that. Since most of people with IT background are high paid and demanding in current market.
  - b. I was able to find some of companies that offer technology support and consulting. Therefore, one of these maybe a choice.
    - i. Systems Imaging
      - a. **Email:** info@sysimaging.com
      - b. **Services:** Mostly scanning documents, however they have some installation of training, hardware, software and also training.
      - c. **Comment:** This may not be a biggest company out in the market which may provide these services, however this company is located in Pittsburgh and also they may provide part time work that we are interested in. I believe that contacting them and asking for information about them would be beneficial.
    - ii. ECRC (Electronic Commerce Resource Center)
      - a. Services
- **Technology Development Activity**
    - To address electronic commerce technology problems, the NECRC focuses on providing integrated solutions that assist small businesses and other government suppliers to become agile and responsive to the ever-changing marketplace. In-house capabilities exist to evaluate, demonstrate, and validate a broad range of advanced electronic commerce solutions for transfer throughout the Department of Defense supplier chain. Solutions with broad application are transferred to Regional Electronic Commerce Resource Centers and collaborative partners.
    - **Outreach**--The ECRC reaches out to clients to make them aware of EC, Internet, EDI, and CALS technologies and the benefits they can bring to an enterprise. We participate in trade shows, host workshops and seminars, and give presentations both one-on-one and to groups.
    - **Education and Training**
      - The ECRC provides valuable training in a variety of EC/EDI related subjects as courses in emerging and specialized EC technologies. Courses
    - **Technical Support**
      - The ECRC provides consulting services at the client's location to identify specific problems that can be resolved utilizing EC technologies. Once the baseline is established, specific recommendations can be made. More in-depth analysis and EC technology implementation is accomplished using technical support services. A technical support team may perform a substantial in-plant effort, and will offer a detailed list of potential solutions to the company.

- a.
- b. **Location:** 100 CTC Drive Johnstown, PA 15904
- c. Phone: (800) 231-2772
- d. Fax: (814) 269-2600
- e. Comment: This Company has everything from training staffs with many interesting courses. Also this company mainly provides technical support. Therefore I believe that this company can carry staff training and technology support.

## **II. Full time**

I was considering this choice and soon stopped searching for people's resume due to few reasons. First I am sure that CILSWPA will be more informed than I am about this matter due to their experience with people. Second, finding people in the Internet about this matter is not easy. Therefore I will just recommend which methods can be implement when whomever gets employed. This is list of things that I recommend about the full time technical administrator.

1. Flow catching:  
I believe that a full time person at this position will not have much of technological knowledge. Therefore I recommend he or she working with Betty for a period of time to understand what kind of work is needed in CILSWPA. Therefore he or she will carry out most of the work that Betty is leaving behind and planned. This will be the period of the new technological administrator to catch the flow of CILSWPA.
2. Deepening Knowledge:  
Since this person will not have expertise in technology, I suggest let he or she take classes in institutes I have recommended above while working with Betty at the same time. Therefore when Betty leaves and this person becomes the technological administrator, there will not be a huge gap and also this person will be very qualifying for the job. Since most of the classes are two to three weeks long, there will be more than enough time to be trained in many software and hardware.

When I was researching for this matter, I had a lot of troubles. First of all, it was hard to find companies are people who are suitable for CILSWPA with restriction to location and also cost. When I have looked at the companies, there were no companies, which mainly provides services, which CILSWPA would like to have. Therefore I have just included companies near Pittsburgh, which provides technological support. Therefore I believe that contacting them for information and finding out what they do is a good idea. However, I cannot guarantee that these are the companies that are right for CILSWPA. Then when I was looking for full time, it came to my mind that if he or she is properly trained from the institutes that I have recommended over a period of time like two months that person will be very qualified for this job. Also working with Betty for couple of months to catch flow seemed very nice. Therefore I recommend CILSWPA to invest for a future administrator through methods I have recommended.