

Garfield Jubilee Association, Inc.

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Introduction

Recent years have seen an overwhelming change in the way organizations and individuals use technology in their everyday activities. Businesses have moved towards the 'paperless office', families can now stay in touch via E-mail, and it seems that almost everyone knows what the 'Y2K bug' is and why they should be wary of it. In response to these trends, there is a growing pressure from both educators and employers for the average citizen to achieve some level of computer literacy. It is because of this that non-profit organizations such as the Garfield Jubilee Association have it in their beneficiaries' best interests, as well as their own, to promote increased learning and use of computers along with communications technology. While limitations in several resources may make this task a difficult one, the GJA has proven that a combination of hard work and determination can allow such efforts to pay off well.

Situational Analysis

Organization

The Garfield Jubilee Association, centered in a small office facility on Penn Avenue, is a Christian-based, non-profit, community development organization. Its purpose is to develop programs and activities that benefit and stabilize the welfare of low-income families, along with the Garfield community as a whole. Formed in 1983, it is the product of a united effort between the local East End Clergy and many concerned city residents, with support from the Pittsburgh Leadership Foundation and the Alcoa Foundation.

The goals of the Garfield Jubilee Association are stated as follows:

1. To reverse the negative housing trends in Garfield
2. To increase the supply of decent housing for lower-income families
3. To promote home ownership and self determination
4. To coordinate and support the services necessary for a healthier Garfield

The importance of these goals can be clearly seen when the demographic trends in Garfield are examined more closely. Over the last two decades, the poverty and unemployment rates in Garfield have steadily risen. During the last census in 1989, these rates reached 37% and 17% respectively, while the corresponding city means were 21% and 9%. The minority population in Garfield has also been on the rise. In 1970, 36 percent of the population was black; in 1980, it was 60 percent; and 76 percent in 1990. This organization clearly has a difficult, ongoing task.

Facilities

The Garfield Jubilee's primary office actually consists of three separate but neighboring offices spaces. Two offices, consisting each of a few small rooms at street level and a two-room basement, lie just 2 doors apart on the 5100 block of Penn Ave. A third, two-room office lies in the same building as the first, but with its own street level entrance, leading up a flight of stairs to the second floor. The office on the ground floor nearest the intersection serves as a primary reception area for the facility, as well as housing the office of the Executive Director and a conference room. It is the nerve center of the organization.

The upstairs office houses two of the organizations senior staff and nothing else.

The second street-level office is the site of another 4 personal offices and, in the basement, houses the facilities newest addition, the computer center. While the rest of the rooms in this office and the others show small but definite signs of age and wear, the computer center boasts new carpeting, wallpaper, furniture and computer equipment. A recent renovation, this room has the potential to provide local residents with a clean, modern center of technology and learning that they would almost certainly not know otherwise. The room consists of five fully-loaded PC's on tables laid along 3 of the walls, a large desk near the fourth, and a large cabinet containing a television and video equipment. Comfortable desk chairs sit in front of each computer, a flatbed scanner takes up the end of one table, and a laser printer sits on a small island in the middle.

Program

The Garfield Jubilee currently focuses much of its efforts in community programs on the local youth. The most elaborate and successful program to date involves allowing school children in vocational programs, under supervision of their instructors, to rehabilitate housing and property acquired by GJA. While this, and other programs, such as educating residents on home buying, gives the association a fair amount of experience in providing services to the community, they have just begun to tap their new technological resources in this respect. The current set of computer center programs, include basic services, such as: public access to the internet and self-paced typing instruction. They would like to do much more.

Current targets involve hands on teaching of basic computer skills to students, more advanced use of the internet, and just about anything else they think can be done with their current resources. While all this is floating around in the planning stages, there still remains a fair amount of work to be done first. GJA realized that they could use the services of a consultant to fill in the gaps, and improve upon the technological resources they have. The computers in the lab still need to be networked together, the printers need to be made more reliable, and a more accurate assessment of what is and is not feasible needs to be done.

Staff

The staff of these offices consists of barely more than a dozen employees and volunteers. Joann Monroe, the Executive Director, who in turn is overseen by a board of directors, heads the operations of the center. Carol and Jonathan, both part-time interns, are currently the only two staff members with computer training and the time to spend managing the computer center and its activities. The other office workers are full-time, and carry out all of the other duties accomplished by the Garfield Jubilee. They tend to computers to assist in their daily work, but for the most part this is limited to the use of a few select applications, and skills beyond general computer literacy have not been required. Undoubtedly, there are several among these non-technical staff who have the skill and the potential to someday run the computer center themselves, but they all show signs of a perpetually busy schedule and no entirely convenient opportunities for training. Ideally, some of these full-time employees could learn the basics of operation for the computer center bit-by-bit if they can find a little time each week to spend with the current caretakers. Simply increasing the number of people with this knowledge can help reduce the strain on the interns limited time, help the staff to better utilize this technology, and provide a safety net should the interns move on to another job.

Technical Environment

Excepting the computer center, there is approximately one computer for each office employee. Most of these are older machines. Compaq 'Prolinea' systems with Intel 486 processors and Windows 3.1 make up the bulk of the workforce, with one or two Pentium systems running Windows 95 topping off the bill. Some of these systems do seem slow and outdated at first glance, but they are primarily used for word processing and other similar applications. Thus, they are fit for the jobs they are required for.

The computer center consists of five Gateway Pentium II systems that are nicely loaded and accessorized. Their complete features are:

Gateway 166MHz Pentium II based PC

- 128 Megs RAM
- Gateway VX900 19" Monitor
- NVIDIA RIVA TNT 32 bit graphics card
- US Robotics Internal 56k Modem
- Toshiba 20x CD-ROM
- Intel 8255 Ethernet Card
- Soundblaster AudioPCI 64 bit Audio Card
- Cambridge Soundworks external speakers
- Running Windows 98

Along with the computers, the computer center also has one HP LaserJet 2100 laser printer, one HP DeskJet 870Cse laser printer, one HP ScanJet 4200C color flatbed scanner, and one external ZIP drive. There are also several other printers scattered throughout the offices.

Initially, the computers in the primary office were networked together, but this was not the case with any of the others. Here, the addition of a network between the computer center computers, and those in the office above, would allow for easier transfer of general files, the ability to print to any printer in the office with ease, and a general increase of productivity among office personnel as frequently shared files could be more readily accessed.

Technology Management

Currently, the management of the computer center at the Garfield Jubilee is handled exclusively by the two part-time interns. The teaching of the classes, maintenance and troubleshooting, and other projects requiring high-technology all falls under their jurisdiction. Unfortunately this does present the rather large limitation that the computer center must go under-utilized whenever the interns are not present.

Managing the office workers' personal computers is left mostly up to the individuals. Naturally, if an intern is available when something goes wrong, they may be the first to be asked for help. However, if this is not the case, each office worker has become adept enough with their machines that they can usually troubleshoot the simple problems themselves. In the event of a severe problem, or an emergency, an outside source is contracted to fix the problem.

For the most part, the above organization works fairly well. I believe that the general idea to improve on the situation would be to increase the general awareness and technical skills of the office staff so as to reduce the dependency and burden on any one person. Also, if more people come to fully understand and appreciate the resources at hand, more will be qualified to lend a hand towards actively managing them.

Problems and Opportunities

The Garfield Jubilee Association has a great range of possibilities for directions to take to further their goals of improving the standard of living for the citizens of Garfield. Their greatest opportunities lie with their new computer lab, in which they already assist residents with resume writing, job finding, and other skills. The desire to better harness these resources and expand the level of community service is clearly present, but there are a few distinct challenges awaiting the organization.

Computer Center Equipped, but Not Networked

The computers in the computer center are adequate for their job, but they do suffer from one limitation that becomes quite burdensome. Currently, the only method for moving a file between two computers is to put it on a diskette, or a Zip disk. Diskettes are slow and have a small capacity. Zip disks are faster, and can hold up to 100 megabytes, but there is only one external zip drive available.

Attaching, detaching, and moving this drive from computer to computer is very inefficient and annoying after a time. Since students frequently change computers from day to day, and graphic files frequently are worked with on a computer that is not attached to a color printer, this limitation puts a great deal of strain on one of the organizations limited resources; time.

More time wasted on such labors results in less time that can be devoted to worthwhile activities such as teaching and learning. My proposal here is a simple one: set up a basic peer-to-peer network between the computer lab computers so that they can conveniently share files between them. This would naturally alleviate the inconveniences mentioned here. It would also have the advantage over other forms of networks that it would be very easy to maintain. The only hardware requirements here are a few ethernet cables, an ethernet hub, and the computers' already-installed ethernet adapter cards. Since there is no server to worry about, most kinds of problems that could occur would affect one of the computers, but leave the network between the remaining machines functional. As a side note, one may be interested to know that the other proposed solution to this problem was to purchase a zip drive for each of the computer center computers. This idea was rejected fairly quickly, however, because though the Zip drives may be easier to install and configure than a network, they were deemed ultimately less convenient and would have cost at least twice as much. The cost was definitely a relevant issue as the GJA has a very limited budget with which to purchase equipment.

Completing this network as suggested would help the GJA in the following ways:

- Added convenience for staff would result in more time to devote towards more meaningful activities.
- Adding the same convenience for the students could prevent them from becoming aggravated or losing interest in their attempts to learn at the center.
- As a whole, the organization would be better utilizing the resources it has, and maintaining a more technologically advanced environment. Good for the ego if nothing else.
- Having a local network in the computer center would allow students and staff alike to better advance their computer literacy, especially if instruction is given in the basic operations and ideas of the network.

The feasibility of completing such a project was considered from the beginning. It was decided that setting up such a relatively simple network was easily and attainable goal within the time period (one semester). Networking is not my strong suit by any means, but again the relative simplicity allowed my modern operating systems seemed to indicate that this would not be a problem either. One of the interns has come to show a great interest in PC networking, so the offer of additional man-hours and research made the goal that much more within reach. This also had the added benefit of increasing the sustainability of the project once I had left. The intern should understand most everything involved after completion, and thus a staff member with these skills would be retained by GJA, something necessary to maintain assurance of continued support and administration. The only real difficulty arose when it became apparent that this entire project needed to be carried out with essentially no budget. This problem soon too seemed to disappear when Ms. Monroe mentioned that a member of the Carnegie-Science center had offered to donate an old Ethernet hub, thus alleviating much of the project cost.

Outcomes & Recommendations

In the end, not everything came to pass exactly as planned. Some plans had to be adjusted, or even scrapped, as new information and limitations came to light. However, the primary goals of this consultancy were met, in one form or another, and if Garfield Jubilee Association carries on with its desire to help the members of its community it should have a bright future ahead.

Networking the Computer Center

The difficulties of moving files from machine to machine in the computer center was solved as planned; by constructing a simple local network over Ethernet that allows file sharing between computers. Almost immediately after the first two computers were configured and ready, an intern at GJA got to benefit from the setup. The intern needed to move a large graphics file from one computer to the next. The only difficulty here was that the first computer could not use the Zip drive at the moment due to some serious problems with its drivers. Instead of being bogged down by this, the intern was able to move the file with a few clicks a few seconds wait.

Beyond plain usefulness, the project allowed the other staff members to gain knowledge and experience with the field of networking. Before design phase, one intern took it upon herself to find a book on general networking introduction. Without any help from myself or any prior knowledge on the subject, she was then able to decide on the best type of network for our situation and drew out a general layout for the components. Clearly this shows a quick and compelling step in the right direction by the staff. Not surprising, the same intern lent a very secure feeling of sustainability by later demonstrating the ability to restore any necessary network drivers should a computer crash or otherwise need restoration.

One important step still remains to get the full desired functionality from this new network. We were unable to schedule a visit from the building maintenance man to drill a hole through the ceiling to allow for one last computer in the above office to be added to the network. This machine would be significant as it is the one hooked up the only available color printer in the office, thus fulfilling the original need for more convenient transport of files to be printed from that source. Fortunately, as the computer in question is of the exact same type and configuration as the computers in the computer center, it should be easy for one of the interns to set it up themselves when the time comes.

My one true concern about the success of this project is that of long-term stability once I leave. While it is true that I believe that interns can carry on successfully without me, there is the question of whether they will continue working at GJA once their academic term is ended. The danger here is very real, for it appears that while the interns are managing the computing resources of the GJA well, they are also the only ones familiar enough with the machinery, the networking, and the classes that they teach to manage independently. To ward against this, my suggestion is to attempt to 'train in' a full time staff member (preferably one that doesn't show any signs of leaving anytime soon) and show them everything from networking basics, to general troubleshooting techniques for common problems, and anything else they've learned to be a survival skill in this line of work. To aid in the process, as the interns have far too few hours a week to do this comfortably, I'm including references to both appropriate books and web sites that can be used as a reference or training material for networking fundamentals. If this advice is ignored, and the interns do leave unexpectedly, I see no way that the current set of programs and computer access could be maintained afterward. These programs clearly benefit the community and thus are in line with association's mission statement. To let them dissolve would be both a let-down to the people who benefit and a waste of some excellent resources.

Networking References

Absolute Beginner's Guide to Networking, Gibbs & Brown (1994) - Seriously, this one is great for people just starting out, and can make a handy reference for just about anyone.

Advanced Networking Concepts, Palmer & Sinclair (1996) - A good complement to the last book, though I must admit this may not be entirely necessary for the relatively simple setup at GJA.

Introduction to Networking Protocols, Hendrick (1994) - A little more in-depth than most non-geeks may care for, but very interesting if you actually care to know what's going on underneath.

My one important recommendation to the organization as a whole is to do whatever it takes to prevent the current programs that are serving the community so well from disappearing when/if the technically proficient interns leave. The best way to deal with this would be to get at least one full-time staff member to learn as much as they can about the computers and their use while the interns are there to teach and keep things running smoothly. Beyond this, perhaps simple guidelines for the classes they teach should be recorded so as to help prevent any disorder or loss of acquired experience upon a changeover. The real difficulty here, I imagine, would be that with limited hours and a limited long-term commitment, this entire process would be difficult. If possible, hiring them on for more hours or for a longer time period may be beneficial. If funds for another full-time employee are scarce, I've included pointers to resources on the web that contain information on fund raising for non-profit organizations at the end of this document.

Fund-Raising Resources

<http://www.libertynet.org> Not exactly a fund-raising site, but they do provide advertising space for non-profit organizations to post the computer component needs in search of a donor. Could help save on any additional equipment needed for future project.

<http://www.library.wisc.edu/libraries/Memorial/grants/nonprof.htm>

Resources and links to other sites for non-profit organizations in search of funding.