
Hazelwood Senior Center

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Introduction

My name is Matt McHenry, and I am a student at Carnegie Mellon University (CMU). I am a junior majoring in Computer Science. I've worked with novice computer users on more than one previous occasion, and have approximately 8 years experience using and maintaining my own personal computers. During the fall 1998 semester, I worked with Eleanore Robins at the Hazelwood Senior *Interests* senior center (a.k.a. the Car barn) as a community technology consultant as part of the Computer Science in the Community course offered at CMU.

CS in the Community¹ consists of two one-and-a-half hour meetings with Eleanore at the senior center during the week, as well as one one-and-a-half hour class meeting in which we discuss strategies and methods for increasing the technical capacity at the organizations we're working with. For Eleanore and the Hazelwood senior center, the experience is intended to expand technical capacity in a meaningful and lasting way, so that after the end of the semester, our partnership will have produced a permanent increase in computer skills and knowledge. Students enrolled in the course learn effective consulting techniques in addition to gaining insight into how their work as programmers will translate into real-world uses by real-world computer users.

I will begin by providing a profile of the senior center and its technology program. Next, I will provide my analysis of the current situation and discuss possibilities for the future of the program. This will lead into an articulation of the projects that Eleanore and I worked on throughout the semester. Finally, I will discuss the results of our work at the center and examine possibilities and make suggestions for future improvements to the program.

Profile & Background

Citiparks senior centers are operated by the city of Pittsburgh's Department of Parks and Recreation. There are three Supervisors who are each responsible for 5 or 6 individual centers. Each center normally has one full-time and one part-time staff person and is open from nine to five on weekdays. The general goal of the Senior *Interests* program is to meet the wellness, leisure, counseling, and education need of senior citizens.

The Hazelwood center is under Mary Esther Van Shura (Assistant Director) and is supervised by Tim Creshna. Eleanore is the full-time staff person at the center, and Bea King is the part-time staff person.

The center provides lunch to approximately 40 seniors every weekday. During my visits to the center, I have also seen the seniors who gather there involved in activities as varied as bingo, card games, line dancing lessons, and trips to the Farmer's Market. Special events (e.g., a recent Saturday trip to see *A Midsummer Night's Dream*) are also a regular part of the center's offerings.

¹ See <http://outreach.mac.cc.cmu.edu/15-492/>

Physically, the center consists of a large main room with tables and chairs, a pool table, a desk (used by Eleanore and Bea), and two couches; and a smaller back room with 3 built-in desks lining the wall. Eleanore's office is also a separate room. On the second floor are several offices occupied by Citiparks administrators.

The Hazelwood center's computer program started at the beginning of 1997 when they acquired a Compaq computer, a scanner, and a printer² from the Weed and Seed program. There have been some 6-week-long computer classes offered at a community college for a nominal fee, and a few seniors have taken advantage of them. Currently, two seniors at the center are regular users of the computer, mostly for email. In addition, Eleanore uses the computer for email, to prepare monthly reports (for the city) and calendars of events, and miscellaneous word processing and spreadsheets.

The center also has Internet access. They use Hill House to connect over a modem. There is a yearly fee associated with this service, but it is not paid for directly by the center.

The Compaq computer was located in the corner of the room inside of a cabinet at the beginning of the semester. On my first visit, the computer was locked up, and it was not apparent to me that there was even a computer inside the cabinet. On subsequent visits, though, the cabinet was usually opened with the computer turned on when I arrived. It was in this somewhat out-of-the-way position because of the location of the phone jack (a separate line was used only for the Compaq to connect to Hill House).

Near the beginning of November, Eleanore and I moved the Compaq into her office. This has produced a noticeable increase in her use of the computer for administrative tasks (e.g., she now records payments that the seniors make for activities in a spreadsheet rather than on a slip of paper).

In April 1998, a proposal entitled "Bridges of Steel ... A Collaborative Bridging the Seniors and Youth of Hazelwood" was written. A collaborative effort between the center's administrators and St. Stephen's Elementary School, it outlines a plan to create a "wired community" that will enable the students at St. Stephen's to learn about Hazelwood's history and folklore from the seniors while enabling the seniors to gain basic computer and Internet skills. The long-term goal is for the students to be able to produce a publishable document about Hazelwood's history.

As a part of the report, a survey of 50 of the seniors was also taken. It found that only two of the seniors owned a computer, and only one was "able to use a computer without assistance." While seven had some form of computer training, 17 (34%) expressed interest in learning to use a computer.

² The Compaq computer had the following specs when I first began working at the center, in Sep. 1998 (the modem was later removed and an Ethernet card added): Compaq Deskpro 133Mhz; 16 MB RAM; 1.2 GB HDD (285 MB free); 33.6 kbps FaxModem; sound card; CD-ROM; 1.44 MB 3.5"; running Win95; MS Office 97; Print Master; MS Publisher; MS Internet Explorer 4; HP ScanJet 4P (SCSI); HP DeskJet 693C.

As a result of the "Bridges of Steel" proposal, Operation Weed and Seed purchased three computers, two printers, and networking hardware³ for the center. An additional phone line (and 3 phone jacks), to be used by the new computers, was also installed in the back room. However, even though the proposal was made in April, no new computing equipment arrived at the center until November. When it did come, it came piecemeal over the span of more than a month – some \$70 worth of equipment still has not been delivered as of this writing, and Eleanore and I were forced to use money from the center's budget to purchase these items⁴.

There is also \$300 in the center's budget for software costs for the new computers. Eleanore and a few of the other seniors use free, web-based email from Hot Mail. This enables them to have an unlimited number of individual email accounts at no additional cost. Communication with the students at St. Stephen's will also occur via Hot Mail; each senior has been paired with a single student "pen-pal."

There are no staff members at the center who are explicitly responsible for the computers. Rather, this is simply another duty that Eleanore must assume herself. This puts serious constraints on what can be done in the computer lab, because, in order for the seniors to learn to use the computers, they need frequent assistance during their initial encounters with them. Eleanore is certainly capable of providing the guidance that the seniors will need as they explore this new technology, but it remains to be seen whether or not she will have time to provide that guidance.

Another issue, although a relatively minor one, is the physical set up of the back room that is being used for the computer lab. The desks along the walls are certainly not designed for computers, and things are cramped: keyboards barely fit in front of the monitors, and shelves above the desks prevent the monitors from being placed on top of the CPUs. The need for a surge protector was apparently never considered by anyone involved with the ordering of the new computers. Comfortable office chairs are also not available for all of the workstations.

Also integral to the picture is the question of technical support. No computer professional can be expected to be able to solve every problem that might arise, and it is thoroughly unreasonable to expect this lab to operate in a vacuum when it lacks any sort of dedicated staff person, professional or not. One of the questions I asked Eleanore was, "Let's say you came in tomorrow and your computer simply didn't work. Whom would you call?" This eventually led to City Information Services, a place that Eleanore told me she had called before, but was unsatisfied with on the whole. The warranty on the 3 new computers should go a ways in filling this gap, but won't suffice for all problems.

³ These machines have the following specs: Pentium MMX; 32 MB RAM; 2 GB HDD; sound card; 12xCD-ROM; 2 MB video RAM; Ethernet card; 1.44 MB 3.5"; running Win98; MS Office 97; 15" monitor; 3-yr onsite warranty. The printers are LaserJet 6Pxi's; there will also be an eight-port Ethernet hub and 10baseT cabling.

⁴ Please see Appendix A for an approximate chronology of which components arrived when.

Analysis

When I began working at the senior center, the Compaq had been there for approximately 1 and a half years, and only two seniors were actively using it. According to the survey accompanying the "Bridges of Steel" proposal, 37% of the seniors who regularly attend the center are interested in learning about computers. Upon reading the "Bridges of Steel" proposal, I saw this discrepancy as the major issue with technology at the Hazelwood senior center. I think this situation has two major causes.

First is the general attitude toward computers that one finds in all novice users. The seniors at the center are understandably uncomfortable with this new technology because they have lived most of their lives without ever encountering it. Yet interest has already been expressed, and this is by far the hardest part of computing for an instructor to teach. So, as has been recognized by all involved, it is certainly worth the effort of the administrators and staff of the senior center to attempt to meet the expressed desires of the senior citizens of Hazelwood.

Of course, there must be more at work here than simple unfamiliarity with the technology. In essence, it has already been established (by the survey) that this in and of itself is not keeping the seniors from exploring computers.

The other contributing factor has to do with the resources (computer and human) that have been available at the center. Eleanore has certainly found the computer to be useful in her administrative duties (although not nearly as useful as it could be, if the city & county would make efforts to streamline the operation of their senior centers⁵). Combined with the fact that she is pretty clearly the most adept person at the center when it comes to computers, it's not hard to see how the seniors might get the impression that the Compaq was Eleanore's administrative machine and just happened to be out in the main room because her office was too cluttered. The location of the computer along with Eleanore's somewhat protective attitude towards it can only bolster this impression.

This impression is not universal: there are two seniors who have made somewhat regular use of the computer, and more who have taken classes and used it on occasion. But most of the seniors who are interested in computers have obviously not seen the presence of this single machine as providing sufficient opportunity to indulge their interest. The creation of the purely public 3-machine lab, in addition to the designation of one (and only one) computer as the administrative machine, will give the seniors a greater sense of ownership of the computing resources that are being made available to them.

⁵ Please see Appendix B for a short description of more wide-ranging inefficiencies that I observed while at the Hazelwood senior center.

The other thing that will be needed if the seniors are to become familiar with computers is a significant time commitment. Many of the seniors at the center have never used a computer before, and need individual attention, even in addition to classes at the community college. Eleanore is capable of providing the needed attention; it is simply a question of whether or not she can make the time commitment.

Another issue is the attitude that most people take towards computers. Most new users are pretty frightened that they will “break” the computer (in the sense that one might break a VCR) – something that is actually quite hard to do using a keyboard and mouse (without using them as weapons, anyway). There are two consequences of this attitude: a reluctance to explore and try new things, and an overprotective attitude towards public computing facilities.

In reality, what most often renders a computer unusable (or just makes it do annoying things) is software configuration. But the important fact about software configuration is that, if one has a backup copy of a working configuration, restoring it is quite a simple matter. Thus, it makes sense that, rather than be overprotective, one ought to operate on the assumption that things will inevitably get “broken” (in the software configuration sense), but that this is an entirely manageable problem given the right backups. At CMU, public computers are routinely restarted, and are set up so that they completely re-install *all* of their software from “default” copies every morning around 5 am.

Thus, An important part of setting up the lab will be to make it as resilient as possible. There is no doubt that, with Windows 95, software settings will be changed, files will be deleted, etc. It must be recognized that this ought to be an expected and anticipated part of the normal use of any public computer. Recovery from such problems is not only possible, but a part of the day-to-day maintenance that the computers will require. This attitude will be reflected by the seniors in general, allowing them to feel more at home in the lab and worry (a little) less about “breaking” the computers.

The existence of a desire to learn about computers has been established. However, given the past relationship that most of the seniors have had with computers, the need for a friendly, low-pressure environment combined with a good deal of attention is greater than it might otherwise be. If computers can successfully be added to the Hazelwood Senior Center, the other centers throughout the city will have a valuable model to follow.

Project

Given the above analysis, the top priority for the semester that I worked at the senior center was obviously the implementation of the new computer lab. However, the computers did not even begin to arrive until November, so Eleanore and I were severely limited in the time we were able to spend on this.

In the interim, we spent a good deal of time working on a database of the seniors who are registered at the center. This involved using the scanner to import two printed lists of seniors into MS Access⁶ and merge them, as well as creating queries, forms, and reports to (among other

⁶ Again, please see Appendix B for some details of inter-departmental administrative inefficiencies.

things) print mailing labels for fliers to help publicize activities that go on at the center. As of this writing, the database has been finalized and Eleanore is beginning to use it in day-to-day administrative tasks.

Once the computers began to arrive, we first set up the printers (most of the ordering of what we did was dictated by the order of arrival of the various components). We then moved the modem from the Compaq to one of the new computers. After waiting more than a week for the network cables to arrive, we were forced to purchase them on our own. Once we had the network cables, we were able to set up the 3 new computers on a local area network. We also purchased an Ethernet card for the Compaq, so that it could also be added to the network.

As of this writing, there are several things that we had hoped to accomplish that have yet to be completed, simply because the delivery of the computers to the center occurred too late in the semester. Since CD-ROM drives were not part of the original order, while they have been delivered to the center, they have not yet been installed in the computers. The Ethernet card has not yet been installed in the Compaq. Sharing of the modem⁷ has not yet been set up, so that at this point only one of the four computers at the center can access the Internet. The scanner is still hooked up to the Compaq in Eleanore's office rather than to one of the new computers so that it could be used by anyone.

Conclusion

I think that the major accomplishment made during my semester working at the Hazelwood senior center was the establishment of the new public computer lab. This will be a lasting resource for all the senior citizens who use the center, as well as help to enrich the education of students at St. Stephen's.

Another important consequence of my work with Eleanore is that she has become much more familiar with several aspects of computing (perhaps most significantly the basics of networking) and gained knowledge about things like databases, networks, modems, BIOS's and jumper switches. This dramatic increase in technical "know-how" for one person will also translate into a lasting resource for all of the seniors at the center. Eleanore will be able to provide them with instruction and support as they begin to explore the possibilities of computing.

⁷ Using a SOCKS server called VSOCKS Lite

The most significant future need that I see for the center is funding for higher speed access to the Internet. The current situation, at worst, will be one 28.8k modem shared between 4 active Internet users – giving each user performance that would test the patience of the most dedicated computer aficionado, let alone that of a novice user simply wondering “why isn’t it doing anything?” ISDN, ADSL, and a cable modem are three possibilities. It was also mentioned to me that there is a long-term goal of linking all of the senior centers on a high-speed network – originally for administrative purposes, this link could also server as a high-speed Internet connection, and would avoid the additional costs that would arise when installing and replacing an interim high-speed link like ADSL.

In the long term, I also see a need to streamline the administrative information collection that goes on in the senior center on a daily basis⁸. This is definitely a large job, though. It would require detailed analysis of what actually goes on – what information goes where, and how it gets there – combined with cooperation between city and county officials, since the senior centers get funding from (and thus must make reports to) both governments. Indeed, as I was only exposed to one end of one part of this data-collection apparatus, I cannot say with certainty the extent of the inefficiency, only that it certainly exists.

⁸ Please see Appendix B.

Appendix A: Approximate Time Line

There were two factors that contributed to the staggered fashion in which the computer systems ordered by Weed and Seed arrived at the senior center. First, different items were ordered from different suppliers. Second, required items (part of the original proposal) were not ordered initially, while other items of no apparent use were (and were some of the first items to arrive!)

The first components began to arrive early in November. The first things to arrive were the 2 printers and 2 parallel port printer cables, along with a trackball. Within a week, the ethernet hub had also arrived, but with 3 more printer cables rather than the 10baseT cables that would be required to use it. These items came from a supplier called Xerox Connect.

Next, the monitors arrived, followed by the actual computers (including keyboards and mice) within a few days. Up until this point, nothing could be done with the components we had. However, the computers did not have CD-ROM drives, which were part of the original proposal. Apparently, Weed and Seed assumed that CD-ROM drives would be included with the machines, and so did not explicitly specify them – and Miami Computers (the supplier from which this equipment was purchased) thus did not supply the drives.

Once the CPU's had arrived, we were able to set up the individual machines as well as the printers (after a bit of hairiness – the printer drivers were on CD-ROM). After we didn't receive network cables for a week or so more, we purchased them on our own from Office Depot, along with an ethernet card for the Compaq. We also moved the modem to one of the new computers during this time.

At this point we were able to set up the local area network between the three new computers, and did so on Tuesday, November 24. This was the week of thanksgiving, and we had one more week of classes after our break. Thus, we were left with two 1 and a half hour sessions during which to finish the setup of the lab, install the CD-ROM drives, move the scanner, etc. – clearly not enough time.

I am convinced that this time crunch at the end of the semester could have been avoided if (1) the original order for the computers would have gone through in a reasonable amount of time and/or (2) the original order would have been correct.

Appendix B: Administrative Inefficiency

Data collection at the senior center occurs mainly on paper and on Eleanore's computer. This data is then submitted to the city or county in one of several ways: on paper, via fax, over the telephone, or with a bar code reader (each member of the center has a card on file with a bar code on it; each time that member visits the center, her bar code must be read into the machine). There are databases maintained elsewhere in the administration (one of which is certainly tied in with the bar code reader), but which Eleanore cannot access. So, instead of simply copying one of these databases, we were relegated to scanning in a printed out copy of the database – re-digitizing a hard copy of already digital data.

Another important fact is that data is being entered more than once. In an ideal system, any data is only entered once, and simply copied to other places that it might need to be as well. This is not happening at the senior centers.

There is a great opportunity here to create a program to handle administrative tasks such as tracking members who use the center. If all the centers could be networked together, the need to fill out and fax / mail paper forms would vanish, and the need to pointlessly re-copy data in various forms would disappear.