Joy-Full Gospel Fellowship
Student Consultant, Hsin-Ee Chia
Community Partners , Debbie Beswarick and Bobbie Sayers

I. Consulting Situation

A. The Organization
Joy-Full-Gospel Fellowship is a small, warm, family-oriented church located at 1030 Jefferson Road in Penn Hills. The building occupies a small portion of the 5 acres of land owned by the church, which is situated in a residential area.

The mission statement of Joy-Full-Gospel Fellowship is *to provide an entrance into the Lord's Presence through worship, ministry and the Word of God, that all would know the fullness of Jesus Christ, and together, bring the reality of His love joy and peace into the world.* Their main focus is to provide warm, sincere fellowship for the congregation of 80-100 individuals that come from Penn Hills, Apollo, Plum, Monroeville and other far-reaching areas of Pittsburgh. In addition, the church strives to reach out and serve both the Christian and non-Christian community in Penn Hills and beyond.

The church has two program areas: The main activities of the church revolve around its members; The church also carries out outreach programs and the biggest ongoing project is the Helping Hands After school Educational Support Program. All of the programs that the church is involved in are open to members of the public; both Christians and non-Christians are welcomed to join the congregation.

Programs
Member-Focused Programs
- Services are held on Sunday mornings along with Sunday school programs for both adults and children. Sunday services are recorded on cassette tape and distributed freely.
- The ministries at the church are a youth church for those grades 6 and up, the Men's Fellowship Group, the Joy-Full Women's group, and the HomeBuilders Marriage Enrichment for married couples.
- The church also supports foreign missions and carries out a Vacation Bible School program (held in summer) and summer enrichment programs.

Outreach Programs
- The Helping Hands program was started in September 2001 with the aim of tutoring children from grades 1-5 who need academic help in the specific areas of math and reading. Homework assistance, artwork and educational games are also provided during after-school hours in a non-classroom environment. A yellow wooden sign placed beneath the church signage at the main road promotes Helping Hands as a free program that is open to all. The church had informed schools in the district about Helping Hands. When the program first started, there were 5 children enrolled; for this academic year, the number has more than tripled to 15, with 4 more students on the waiting list.
- A new ministry that the church is initializing is Heuer House, an outreach program that hopes to provide shelter and support to homeless women recovering from alcohol and drug addiction.

Staffing
The church is headed by the senior pastor, Reverend Bill Logsdon, who conducts the Sunday services, leads Sunday school, supervises staff and volunteers, oversees all ministries of the church and networks with other pastors. He is also on the board of directors, which consists of 4 other individuals, including Pastor John Hester. The latter is the youth pastor who is in charge of the youth ministry for members from grades one through twelve and the young adult ministry for members who are of college-age. The church

is also led by two elders. Debbie Beswarick, a volunteer staff member, is the church administrator and the current Women's Ministry Director. Her duties include:

- Taking charge of the membership database
- Keeping accounts of the church finances
- Helping Pastor Logdson to develop new ministry programs
- Helping to write, print and send out the church newsletter.

 Volunteers from the congregation head the various programs at Joy-Full-Gospel Fellowship. There are roles defined for directing the family ministries, church maintenance, men's ministry, ministry teams, nursery, Sunday school, worship and music, youth activities and the women's ministry. In addition, Bobbie Sayers directs the Helping Hands after school program.

Finances
The financial support for the church comes from the weekly tithes and offerings made by the congregation. The monetary contributions are channeled into various charitable causes, missions, church ministries and programs, staff wages and church maintenance.

B. Technology Situation, Problems and Opportunities
Joy-Full-Gospel Fellowship has 3 functional computers -- 2 are found in the church office shared by Pastor Logdson and Ms. Beswarick and 1 is used by Pastor Hester in his basement office. Each staff member is mainly in charge of the computer that he/she is using. See Table 2 in the appendix to see the current set up of the staff computers.

1. **Internet Access:**
   Ms. Beswarick's computer is the only one that has access to the Internet through a 56K dial-up service with a dedicated phone line. There is only one email address for the church and all electronic correspondence is directed there. Ms. Beswarick handles all incoming and outgoing emails, receiving an average of about 10 emails daily. The church also subscribes to a number of Christian online mailing lists and newsletters. Any church staff member who wants to surf the web or send email will have to use Ms. Beswarick's computer do so. Pastor Hester, who does work online for the seminars that he hosts, is a frequent user of her computer.

   Increasingly, the staff members are finding effective uses of the Internet. In addition, the church desires to add Internet accessibility to the Helping Hands program as it grows in size. Thus, the church is faced with the problem of obtaining high bandwidth Internet access at low cost to all the computers in the organization.

2. **Database:**
   Servant Keeper is a software program that runs on Ms. Beswarick's computer. It is specialized for church functions
   - create family profiles and mailing lists of members
   - measure number of visits and activities attended by members, establish groups (example, for the youth group)
   - handle the finances of the church (keeping accounts of the weekly tithes and offerings collected from the congregation, recording the ministry that each offering was used for, and generating deposit slips and tax information for tax deduction purposes)
   Ms. Beswarick, the church administrator, is the only one who has complete access to the database information.

3. **Data sharing and Peripherals**

Pastor Logdson, Pastor Hester and Ms. Beswarick write articles for the newsletter separately. These articles are collated and arranged into one newsletter by Ms. Beswarick. As the computers are not networked, Pastor Logdson and Pastor Hester transfer their work on floppy disks for Ms. Beswarick to complete the final layout on her computer before printing it. There is a photocopying machine in the office as well, on which the printed newsletter is copied and then sent out to members and those on their mailing list. Each computer is linked to 1 of 3 separate printers. The printers are also not networked, hence printing on whichever printer involves transferring information to the computer that is linked to the required printer.

The staff have become more proficient with their use of computers and are finding an increasing need to share data from computer to computer, and to print documents to either of the printers in the office from any computer. The current technical set up does not allow these tasks to be performed efficiently and hence, the church hopes to network the three computers and the printers used by the staff team on a local area network to overcome the inconvenience they face now.

4. **Donated Equipment**

Donated computers and peripherals are stored in the basement area where Ms. Sayers conducts Helping Hands. The donated items consist of 7 15" VGA monitors (of which 2 were non functional), 6 keyboards, 4 desktop units and 1 tower unit, some serial and PS/2 mouse and numerous cables. All the systems are 486s, are at least 8 years old (see Appendix for specifications of donated systems).

The church wants to set up these computers into a cluster that can be used as teaching tools in Helping Hands and to teach the women to be enrolled in the Heuer House program computer usage, simple word processing, resume writing and medical coding. The donated computers were left unused because the staff lacked the technical expertise to ascertain the usability of these systems and set them up for use.

5. **Technical Management**

Due to the small number of computers and technical duties that are currently carried out, no one has been officially appointed to manage the technological resources of the church. The role is also not clearly defined amongst the full-time staff members. Pastor Logdson, Pastor Hester and Ms. Beswarick are each responsible for the maintenance of their own computers. Ms. Beswarick manages the database, email correspondence and financial accounting of the church. Technical issues are managed on an ad hoc basis: Mrs Beswarick and Pastor Hester handle the software issues they run into. Mrs Beswarick also seeks the assistance of 1 of the 3 systems analysts in the church congregation when dealing with individual hardware issues.

There is no defined role within the staff team to plan for and manage the technical issues that the church faces. The church has tentative plans to further the use of technology both in Helping Hands and in Joy-Full –Gospel Fellowship as a whole, and would like to solve technical problems that arise in their current technical environment more effectively. In order to do so, they would need to increase their technical knowledge, create a technology management team and develop a technology plan for the church.

6. **Organizational Web Site**

The community partners hope to set up a website for the church that can be used as a way to increase public awareness of the church's programs and to place electronic versions of the newsletters online.

7. Technology in Worship Services

The community partners would like to be able to use technology in their services – purchasing an overhead projector through which worship songs can be projected, keeping a simple database of the songs used, and perhaps even record the service on video and beaming them live via web casting!

C. The Consulting Partnership

The community partners working in this consulting project are **Debbie Beswarick**, the church administrator, and **Bobbie Sayers**, the director of the Helping Hands program. They are both volunteer staff members and are part of the church congregation.

Ms. Beswarick is responsible for the daily operations of the church. She has her own computer in the church office where she handles the church's email correspondence, updates the database, does the weekly accounts and prepares the newsletters and other church pamphlets or readings. She works closely with Mrs Sayers to decide ways to implement technology usage in the Helping Hands program.

Ms. Sayers's main role is to teach the children enrolled in the program. She is the only full time volunteer teacher in Helping Hands.
- She comes in every school day to plan and carry out the daily classes in reading and math.
- She ensures that the program is on par with the current Penn Hills school district's syllabus
- She keeps track of individual students' performance
- She develops new sub-programs in Helping Hands to improve the students' learning experience

She has very little experience working with computers and does much of her data management, scheduling and recording on paper. Her computer use is limited to infrequent word processing. Although she has computers at home that belong to her family members, she does not use them.

D. Consulting Partnership's Focus

The community partners and the consultant decided to focus on expanding the capacity and size of the Helping Hands program. Though volunteers do come on a once-a-weekly basis to help out, Ms. Sayers is the only full time teacher and she can effectively handle only a maximum of 16 students at once. The current intake had to be limited and thus the number of children who can benefit from this program was also restricted.

We decided to set up the donated 486 computers as teaching tools. After ascertaining the system specifications and functionality of each computer, 3 were found to be non-functional and 2 more computers were donated to increase the total number of computers to 4.
- The systems were setup by connecting the separate components, formatting hard drives and reinstalling operating systems.
- Educational freeware, shareware and low cost licensed software was downloaded or purchased from the Internet and installed onto the set up computers. (See Appendix Table 3 for the current set up of the technical environment). Ms. Beswarick and Ms. Sayers became familiar with software issues like software licensing, software downloads and installation, system requirements of different software as they researched on the kinds of educational software available for use.
- During the consulting period, Ms. Sayers mastered basic computer usage, simple word-processing skills, usage of Microsoft Excel and the Internet.
- By working with the old donated computers, Ms. Beswarick learned to determine if computers were functional and to estimate the time and cost it would take to set up an old system.

These computers were then used as a test bed for the community partners' proposed incorporation of computers into the learning environment. The students' response was monitored and feedback was

collected. Visits were made to organizations carrying out similar programs to learn from their experiences. Different resources like the local public libraries, grant foundations and the school district technology programs were also mapped out through visits scheduled after the computers were set up.

Benefits expected
The greatest benefits of this approach were the increase in the knowledge base and technical experiences of the community partners.

- By setting up a small pilot system , the community partners could survey the problems that might arise when more computers are incorporated into the classroom. Ms. Sayers could then come up with a unique teaching plan that anticipated these issues and integrated technology more efficiently. This should better prepare her for the new classroom settings and can serve as a base for new teaching programs that used these computers in creative ways.

    - The scheduled onsite visits helped the church to expand its own resource base through links made to the local library, the school district, other organizations involved in using technology for children, and to grant foundations. Understanding the technology programs implemented by the Penn Hills school district could enable the community partners to design compatible programs in Helping Hands. By actively understanding what grant foundations look to sponsor, the community partners should then be able to tailor the Helping Hands program in a way that best serves the community.

    - Ms. Beswarick and Ms. Sayers will understand better the challenges, technical requirements and strategies needed to expand Helping Hands. They will be able to widen their vision of how technology will work in Helping Hands and create a full-fledged plan that will have greater success in getting the program off the ground.

    - The importance of good technology management had become apparent through the work process and the community partners had a better understanding of the roles of a technology manager. They were also able to consider all possible repercussions that might arise during the implementation of a plan so that measures could be set up beforehand to handle them.

Finally, the success of the pilot computer usage will allow further use of technology in the Helping Hands program as planned. The church will be able to increase the intake of students so that more children can be reached. These students will have a more dynamic learning environment and also gain technical expertise in computer usage.

II. Outcomes and Recommendations from the Consulting Work

Consulting task 1: Pilot Use of Donated Computers
This task is discussed in two parts: 1) Setup computer cluster hardware, and 2) setup educational software in cluster

1. Setup computer cluster Hardware for Helping Hands Program
The Helping Hands program now has computers that can be used as teaching tools and all this was accomplished at no extra monetary cost**.** Through working independently to set up the computers, the community partners achieved a comfort level and demonstrated with handling technology. Debbie and the rest of the staff participated in courses on the Internet and on computer hardware on their own initiative. Through these, the church began to seek out low cost

Internet access and made plans to obtain newer and more powerful computers to further expand the Helping Hands program.

Recommendation: Add more donated computers to the Helping Hands Program
The program has become increasingly popular and more children are likely to be enrolled with each subsequent school year. As the size of Helping Hands increases, more computer systems will be needed. Ms. Beswarick's also aims to extend the use of these computers to other outreach programs like teaching CCAC courses and to teach medical coding in the Heuer House program. This will enable the church to reach out and serve a wider community. As they build the program, they need to add more current technology, replacing the old computers with newer models that can run more current software.

a) Develop guidelines for addition of more donated computers
   The community partners should spend time to understand the kind of computers required to meet the program's objectives. This can be facilitated by first working out a technology plan of the future direction of the program (see Other Recommendations below) and creating a (hardcopy) list of the minimum system requirements the community partners are willing to accept from donors. This will avoid the accepting of any donated system that may not be functioning properly, or that may incur greater costs to set up for use

   Resources:
   - CompuMentor's Tips For Acquiring a Donated Computer: http://www.compumentor.org/about/news/recycling_npo.html to learn more about the process of obtaining donations
   - Evaluate cost of accepting donations http://www.siia.net/divisions/education/donatecomp.asp: provides a questionnaire that aids in determining whether to accept or not accept a donated computer that is offered

b) Connect with computer recycling programs to get needed technology
   These programs will enable the church to get donated systems at lower or no cost.

   Resources:
   - Share the Technology: http://www.sharetechnology.org/ is a non-profit corporation that links computer donors and recipients. The church can sign up to receive donations at their website.
   - Reuse Collaborative: http://www.libertynet.org/~ntr/history.htm, based in Philadelphia, is a national association of organizations coordinated by Nonprofit Technology Resource (NTR) to help efficiently recirculate many hundreds of computers that would otherwise be discarded or unused. Contact Dave Butler, Leora Oliver or Stan Pokras. Tel: (215) 564-6686 Email: dbut@voicenet.com
   - CMU Computer Recycling Center: http://www.cmu.edu/acs/hardweb/Recycling.html partners with Goodwill Industries: http://www.goodwill.org/index_gii.cfm/536/ to provide surplus and scrap computer and electronic equipment for reuse and. CMU's Center for University Outreach places a variety of functional computers in non-profit, charitable educational and community service organizations throughout the Pittsburgh area. Contact CMU's Center for University Outreach at 268-7801 or contact Goodwill Industries, 2600 E. Carson St. in Pittsburgh's south side at 412-481-9005.

- These are some of the possible organizations in the region that can be contacted and full listing is found at Techsoup.org's website: http://www.techsoup.org/resourcelist.cfm?resourcelistid=10&order=region

c) Recycle old computers as they are replaced
Disposing of old systems when new donated systems have arrived prevents an accumulation of hardware at the church and also ensures that these resources can benefit other organizations. This can be done by donating them to the list of organizations as listed above, and most conveniently, to Goodwill Industries

d) Reallocate space
Ms. Sayers has obtained donations of desks, chairs and shelves, which can be used for Helping Hands. The room used by the program is currently shared with other activities of the church. In order to maximize usage of the room, existing furniture may have to be shifted, old fixtures that are no longer used disposed of, and layout of the computers and new furniture designed to create an environment conducive to learning and, also, that does not affect the other programs that use the room.

e) Documenting current systems set up and future expansions
An inventory that records the system configurations of the current setup with changes made (in number of computers, types of peripherals, source of donations, etc) will help in monitoring the progress of Helping Hands and in keeping a list of resources that can be tapped again in the future. This documentation will also be useful for trouble shooting procedures, budgeting for other purchases, compiling a new list of computer requirements for donations, and planning for further expansions.

2. Setup educational software on cluster computers

Accomplishments:
- Evaluated software from through the Internet for cost, system compatibility, size
- Purchased/downloaded software that was applicable for use with the students enrolled in the program, and installed these onto the set-up systems
Software for games, reading, math, telling time and counting money was purchased from a company linked from a non-profit organization's website (Educational Software Cooperative-www.edu-soft.org). The community partners tested these by using them on their own to ensure that they ran smoothly on the system and appeal to the interest of the students This software helped Ms. Sayers to target the academic issues that the students had problems with.

Recommendation 1: Inventory and organize current software
The CPs need to document and physically organize the software media obtained. The software has also should be backed up. This will minimize the amount of time may be lost in searching for warranty/support information, or reinstalling software if technical problems arise. Documentation also helps to keep track of resources from which software was obtained, and aid in budgeting for future purchases

Resources:
Time has to be spent taking an inventory of software purchased or downloaded:
- Record source (place of purchase), cost, warranties, support information and extent of use (which computers)

- Allocate space in the Helping Hands room/ the staff office for storage of installation media and paperwork that came along with the software

Recommendation 2: Create a budget for adding more software programs
It is advisable for the community partners to set aside a budget for software purchase that is dependent on the needs of the Helping Hands program. This budget is essential as the church itself operates on a limited budget and will allow for future purchases, which will be of greater cost and volume, to be justified.

Resources:
- The budget should also include allocations for the purchase of school licenses for software as the number of computers owned increases
- A good resource to help in budgeting and future purchasing decisions could be The Complete Sourcebook on Children's Interactive Media which is described as "…*this 600+ page volume is packed with concise, easy-to read reviews, all expertly written by the acclaimed educators at Children's Software & New Media Revue. The 2002, Volume 10 edition contains hand picked TOP 100 software lists for each grade, from preschool through middle school, and covers 23 subjects like art, geography, algebra, spelling and typing. Book ownership includes one year, exclusive access to the Children's Software Finder™ database... the largest online collection of software information in the world...*"
  It can be ordered at http://www.childrenssoftware.com/sbookpage.html for $69.95

Consulting task 2: Increase technology knowledge base of the Community Partners

Accomplishments: Ms. Sayers learned
- to use Microsoft Word, Microsoft Excel and Internet Explorer
- how to store and transfer data on diskettes, and install and run software from cd-roms
- how the individual computer components (monitors, units, keyboards, mice) are put together
- how to use email and to browse the Internet

Ms. Sayers had previously not been comfortable using personal computers and was most familiar with an old Atari system she had at home. She now uses Excel to generate tables as "good behavior", attendance and work-tracking charts that she prints on colored paper to put up in the Helping Hands classroom. She also uses Word to print sticker labels that the students could work with for their in-class worksheets. She is able to do these personal projects at home or in the church and transfer her documents (which she organizes in folders) from one place to another.

Ms. Sayers also set up an internet email account for herself on www.hotmail.com which enabled her to correspond daily with, and digital pictures from, her daughter who lives in another state. Ms. Sayers also emails the consultant on a weekly basis with updates of her personal progress with computers. In addition, she now has a new avenue to communicate with her son who will be moving out of her home to another town for a new job. Ms. Sayers is thinking of purchasing a laptop that will enable her to be more mobile. Her increased knowledge and confidence are helping her to make bold plans for the future course of the Helping Hands program.

There is still a large amount of technological knowledge for Ms. Sayers to learn and practice! She will have to be directed to these resources initially until continual self-learning becomes natural to her and technology becomes an integrated part of her life.

Recommendation 1: Establish a "technical" partner to help Ms. Sayers to progress
Ms. Beswarick or any other members of the church or Ms. Sayers's family can serve as an
"accountability partner" for her. This person should be more technically experienced than Ms.
Sayers and encourage/help her to use computers in Helping Hands and in her personal life. Ms.
Sayers can carry out a weekly (or daily) correspondence (by phone or face to face meetings) with
this partner to demonstrate her accomplishments with technology for the past time period and
share any challenges that she faces. The partner can be a model in his/her own usage of
technology.

1. **Taking courses**
   Ms. Sayers can also sign up for courses organized by non-profit organizations that teach basic
   computer usage , use of the Internet and use of specific software packages.

   Resources:
   - A list of organizations that offer online courses are available at
     http://techsoup.com/resourcelist.cfm?resourcelistid=28&showall=1
     (this also adds on to her use of the Internet!)
   - Time in summer, when students are having school vacations, can be spent taking
     courses at the Carnegie Library of Pittsburgh, which offers free classes in summer.
     More information at http://www.clpgh.org/clp/tlclab/

2. **Develop library of technology books**
   Books can be used as a resource for problems Ms. Sayers encounters or for self-learning.

   Resources:
   - PCs for Dummies (PC'S for Dummies 8th Ed) by Dan Gookin can be purchased at a
     used price of $8.50 from www.amazon.com.
   - The Country Bookstore near the church is also a good place to purchase books

3. **Get internet connection for personal use at home**
   Once Ms. Sayers has a computer for personal use in her home, she can also connect to the
   Internet and use it from home for email communication. Other internet resources can also be
   tapped, like finding recipes[www.recipe.com], purchasing of various products at cheap
   prices[www.ebay.com, www.amazon.com] or ordering delivery of flowers/gifts to family
   members in other states during special occasions and conducting information searches for
   solutions to technical problems or when carrying out research for issues of interest
   [www.google.com].
   Ms. Sayers can also add more people to her mailing list. She can then purchase her
   own digital camera to capture, manipulate, save and send images of special places/
   events that she would like to remember or share with others on her mailing list.
   She can also seek an electronic pen pal in another country to encourage e-
   communication across geography; the consultant can fill this role when she graduates
   and returns to home to Singapore at the end of this semester.

   Accomplishments: Ms. Beswarick
   Through setting up the computers, Ms. Beswarick realized the need to become more tech-
   savvy to enable more efficient usage of computers. She has greater awareness of technology
   usage and its implications. As a result,
   - she has a mental list of minimum system requirements for donated computers

- the staff attended courses on the Internet (infrastructure, security issues, access) and also on computer hardware and architecture
- she initiated the church to look into getting a DSL line, applying for grants for the Helping Hands program and reviving a shelved website project
- she is now looking into getting better and more computers for the Helping Hands program, the church staff and the upcoming Heuer House program.

Recommendation: Decentralize technology coordination
As Joy-Full-Gospel Fellowship increases in size, and with the development of new outreach programs like Heuer House (in addition to expanding Helping Hands), it will be increasingly difficult for Ms. Beswarick to split her time and energy between her role as the church administrator and as an initiator and co-overseer (with Pastor Logdson) of the technological developments of the church.

It is hence recommended that the key role of coordinating technology be distributed amongst the staff, see Additional Recommendations (a) below.

III. Additional Recommendations

Recommendation 1: Establish a technology management team
During the course of the consulting work, the following initiatives were made to manage technology:
- Mr Hugh Shaw, a member of the congregation who is also a computer analyst, now serves as a technical consultant for the church. His role involves trouble-shooting technical difficulties encountered in the Helping Hands program or with the staff computers; designing a new logo for the church; and creating the church's website that will soon be hosted online.
- Pastor Hester was given the role of applying for technological grants for the church and also to apply for a low cost/ free DSL line for the church to increase Internet capability.
- Ms. Beswarick and Ms. Sayers are still the prime driving forces behind the technology capacity of the program.

In order to sustain and expand the technology use within the church, focused technology management is required. It is essential for the small staff team to be aware of all the ways technology is being used in the church and the mission/goal for each project. This shared knowledge and responsibility will enable the staff to work as a team that stands on a common level of knowledge, enthusiasm and motivation in managing the church's technology

Resources:
- Mr Shaw can work more closely with Ms. Beswarick and Ms. Sayers in Helping Hands. He can take on the job of a process consultant in the program. Hugh first needs to learn what process consulting involves and be willing to fulfill that role.
- Dr. Joe Mertz/ Ms Kathy Schroerlucke are teaching the CMU Technology Consulting in the Community course which focuses on teaching students how to *be* process consultants. They can direct Hugh to resources that they have on hand (papers used in the class, training classes, websites, etc)
- In order to ensure continuity and sustainability of current work, time should be spent documenting the various ongoing projects by each staff member that is in charge. The exchange of information between staff members and Mr Shaw can take place during weekly meetings that are incorporated into the normal meetings that the staff already holds. The documents can take the form of detailed meeting minutes and should be organized and collated so that there is an existing central document that all staff members have access to.

- Pastor Hester can more effectively apply for grants through : the Techsoup website http://www.techsoup.com/resourcelist.cfm?resourcelistid=17&showall=1 that provides a list of grant funders
- An online course to learn to create accurate program budgets and effectively communicate needs in grant proposals is available at http://www.compasspoint.org/elearning/special/syllabus_budget1.htm.

Recommendation 2: Develop a technology plan

A technology plan is needed to maximize effective use of technology in Joy-Full-Gospel Fellowship due to their limited resources. This careful planning and organization will enable the future, wider applications of technology. As the staff and Board come together to create the plan, they will have a common understanding of the challenges faced by the church and support the implementation of projects together. The staff can begin by creating a technology plan for the Helping Hands program that determines its development in the next 2-3 years.

Resources:
1. A Guide to Technology Planning (http://projects.scrtec.org/~techplan/techplanguide.html) clearly outlines the steps involved
2. Techsoup has technology organizational evaluation worksheet that should be done to analyse the church's current technology standing : http://techsoup.com/worksheetpage.cfm?worksheetid=7
3. technical worksheets and case studies that are good learning bases can be found at http://www.progressivetech.org/Resources/index.htm and http://www.infolink.org/process.htm
4. Robert Morris University http://www.rmu.edu/bcnm offers technology planning courses
5. Technology consultants can help in reviewing the technology plan:
   - CompuMentor: www.compumentor.org is a San Francisco-based nonprofit organization that works with non-profit agencies and they can be contacted at 415.633.9346 or email consult_info@compumentor.org.
   - CompassPoint Nonprofit Services: http://www.compasspoint.org/tech/index.html can be contacted through Thomas Battin, Director of Technology Consulting Services tomb@compasspoint.org or 415.541.9000

Recommendation 3: Develop Helping Hands Program

The donated computers were successful in increasing the capacity of the program. The students independently learned from the educational games that could be tailored for their specific learning level. This allowed Ms. Sayers to spend more time with other students that needed more individual attention. The enthusiastic response of the students to the pilot program is an encouragement to the community partners to further expand the way technology is used in Helping Hands.

Sourcing for more volunteers: In order to expand the intake of the Helping Hands program and still provide the quality of academic assistance that it offers now, more volunteers have to be found to help in teaching the students.

Resources
The church has applied to Starbucks for both a grant and for volunteers (Starbbuck's employees) who can help in the program.
It is also possible for Ms. Sayers to request for volunteers from the church congregation, seeking for housewives /retirees or youths who are able to set aside time each week to volunteer at Helping Hands.

New technology initiatives: The program can allocate time for an alternative way of learning that stimulates critical, creative, independent thinking after completing academic work. The Helping Hands program will be thus be touching the lives of these children in more than just academic areas. More parents may be interested in enrolling their children for these programs and outreach will then be increased. The church will also be motivated to expand their current use of technology to encompass these greater goals.

Possible ideas include:

Self-Learning : Teams to work on projects after class time
- Exposure to Internet: Web publishing project
- Students as teachers: Designing own worksheets on Word/Publisher to test younger students at lower grade level
- Pushing creativity: Creating own cards/handicrafts/editing pictures using software
- Arousing curiosity: Let children fix up old donated computers for use

Interactive learning:
- Networked computers can be used for LAN games to enable friendly competition between students
- Internet-working: virtual classroom collaborations through e-learning and video conferencing

Specialized learning:
- Set aside one or more computers with software for children with specific learning disabilities or weaknesses
- Teach students word processing and spreadsheet use which will be useful in their later school years

Resources:
- Another 15-391 project: Computers first have to be upgraded, networked, and/or linked to the Internet.
- Visiting other educational organizations that are using technology in interactive ways (see Collaboration with Other Community learning programs below).
- Reading online case studies, such as:
    - 180 Ideas and Resources for Teachers (hhtp://www.ael.org/rtec/ideas.htm) ideas of how to integrate technology into the classroom.
- The program has a donated New Office software suite that can be used on current systems

Recommendation 4: Collaboration with other community learning programs

Other organizations that carried out similar after school programs and contact was established to set up onsite visits so as to learn from the experience of these organizations.
- A meeting has been set up for the 30th of April with a large Presbyterian church that uses technology in an after school program and also as part of their church worship
- A meeting is also being arranged by Ms. Beswarick with Baptist Temple Church Center, an organization that is also taking part in the 15-391 program this semester.

It is recommended that more of such visits can and should be carried out by the community partners from these starting points by networking with visited organizations to find out other possible sites to visit. East End Cooperative Inc, Youth Programs www.eecm.org can also be a possible place to visit.

Recommendation 5: Network computers and add high bandwidth Internet connectivity
Local area, peer-to-peer networking can be implemented for the Helping Hands computers to allow the sharing of software/memory resources between the donated computers and also for sharing of internet access when a DSL line is obtained for the program. A separate network can also be set up for the staff computers to accomplish the same purposes.

Resources:
- Creating and maintaining the network can be Hugh's focus if he has the prior experience of setting up a LAN and managing it. This will be advantageous, as Hugh will be readily on-hand to trouble shoot any network errors that occur
- A summer job can be offered to CMU students with networking expertise who can build the network for the church. Arrangements can be made with the CMU Career Center (http://www.studentaffairs.cmu.edu/career/) to offer summer employment. However, this option leaves the managing and maintenance of the network to the church which is not feasible considering the community partners' lack of experience.
- The community partners can take introductory courses on network administration to ensure that they are ready to manage it independently. Online courses can be found at http://www.21stnetwork.com/ which will cost a small fee.
  A tutorial search engine http://www.findtutorials.com/list.asp?category=3 can also be used to find free tutorials on networking.

Recommendation 5: Widen use of technology in church
The following are ways in which technology can be used in other areas in the church.
- Sunday services can be video taped instead of the current cassette tape recordings that the church makes.
- A laptop can be used to generate Powerpoint slides of worship songs which can be projected with an LCD projector during worship and a database of songs can be maintained.
- Videos of special events or services can be recorded and burned onto cd-roms for circulation within the congregation.
- Pastor Logdson can get a palm top which stores different versions of the bible electronically
- Web casting and video streaming can be used in the future to deliver sermons online

Resource:
A Christian media company Ministry Media that helps ministries with web design, web hosting and video production has a website http://www.ministrymedia.com/ that also lists other possible ways of using technology to communicate the message of Jesus Christ.

About the Consultant:
Hsin-Ee Chia is a 3rd year senior majoring in Computational Biology in the Mellon College of Science. She will be returning to Singapore at the end of May 2002 to work as a senior officer in the Biomedical Services Division of the Economic Development Board of Singapore.

Table 1: Specifications of donated equipment

Number of Computers	Specifications
3 desktop units	486SX, 25mHz - OS: Windows 3.11 and DOS6.x - HDD space: 163Mb - RAM: 8Mb
1 desktop units	486SX, 25mHz - OS: Only DOS6.22 - HDD space: 528Mb
1 (Gateway) tower unit	486DX, 33mHz - OS: Windows 95 - HDD space: 347mB - RAM: 16 Mb

Table 2: Setup of staff computers

Location	Computer (source)	Main User	Operating system	Main tasks Carried out
Church Office (ground level)	Gateway 2000 (donation)	Pastor Logdson	Windows 95	Word processing, creating bimonthly newsletters and other documents
	Dell Desktop (purchased)	Ms. Beswarick	Windows 98	Database maintenance, accounting, online correspondence, creating newsletters and other documents
Hester's office (basement)	Compaq Desktop (donation)	Pastor Hester	Windows 95	Word processing, creating newsletters and other documents

Table 3: Set up of donated systems at the end of the consulting period

Computer	Comments
(1) 486 Gateway computer running Windows 95	Installed educational software
(2) 486 computer running Windows 3.1	Reformatted hard drive. Reinstalled the operating system. Educational software installed
(3) Macintosh Performa system with cd-rom drive	Installed a typing tutor software.
(4) Computer running Windows 98 with cd-rom drive	Educational software installed. Ms. Sayers also works on this computer