**Information Systems Management
Course 95-822**

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Final Consulting Report

Gateway to the Arts

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Gateway to the Arts
Executive Summary

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Community Partner, Lisa Hoitsma

I. Background Information

Gateway to the Arts is a non-profit organization located on 1400 South Braddock Avenue which seeks to provide performances and activities in all arts disciplines – music, dance, theater, and the visual arts, to educators and students of all ages in 14 counties of western Pennsylvania. Gateway believes that the integration of the arts in education engages students in learning and improves teaching by challenging the teachers to rethink their teaching strategies. Their mission is stated below.

> *"Gateway to the Arts transforms the lives and education of children through active participation in the arts and inspires students and educators to become lifelong learners and participants in the arts by making the arts integral to education."*

Currently there are 3 full time employees including the executive director, 1 part-time, and 2 interns. Their work station consists of five computers, a server, and internet connection. Most of the organization's information is stored in the FileMakerPro database. However, due to the poor design of the database, reports generated from this database are often incorrect. This problem results in a lot of re-work that the staff must do to re-generate these reports. While the staff feels comfortable working with computers, there is limited understanding of the software programs that are used daily. Additionally, the organization has recently experienced several technical problems– the server and two of the computer hard-drives have recently crashed. Also, the staff member who used to update the website and manage the central FileMakerPro database retired in December 2005. Currently, no one on staff has the knowledge or skills to take on these duties. As Gateway's 50th anniversary approaches, the staff sees an increased need for a strategic technology plan to address many of the technology problems and plan for future growth and opportunities in the organization.

II. Consulting Tasks

The two main consulting tasks were to create a technology plan and to implement a technology education program for the organization. A technology plan was created to explore and address many of the technology issues that were happening at Gateway. The technology plan outlines a three-year vision of how technology can be used in the organization and what must be done to achieve that overall vision. Additionally, it includes a detailed budget that will aid the organization in technology budgeting and fundraising for the next three years. The second task was to implement a technology education program in Microsoft PowerPoint which integrates the organization's current technology with their current everyday tasks. The program included a workshop for all staff members conducted by the consultant, and a final deliverable which was a PowerPoint on the AIE Institute. The final deliverable was split up among all staff members and compiled at the end of the

technology education program. The technology education program was conducted to increase staff understanding of the programs which are currently on their computers but are underutilized or not used at all. Gateway staff members have recognized the opportunities that using technologies such as PowerPoint can bring to their organization. In particular, they see technologies such as PowerPoint as a strong communication tool for school administrators and financial supporters.

III. Outcomes Analysis and Recommendations

The major outcomes from the first work task, developing and implementing a technology plan, are:
- Budgets have been created for all expenses concerning technology spending
- Staff members think more broadly about technology in the organization
- Staff members have increased understanding of software programs
- Inclusion of strategic technology planning in the case for the 50th anniversary campaign

These outcomes have impacted Gateway positively by increasing the technical understanding of all staff members, encouraging staff members to think strategically about how technology can be used in their organization, and providing a final document which Gateway can use to budget and implement the feasible technology opportunities discussed throughout the consulting partnership. The major risk with this task was that the technology plan would not be followed, updated or renewed after the third year. This risk will be minimized due to the creation of a permanent technology team for the organization which will meet twice a year to evaluate the status of the technology plan and make updates if necessary. The team will also be responsible for the creation of a new technology plan once the current three year plan has expired.

The major outcomes from the second work task, implementing a technology education program, are:
- Staff members developed a better understanding of the Microsoft PowerPoint software
- A plan for how to develop technology education programs for other technologies that are currently underutilized has been developed

These outcomes have impacted Gateway positively by increasing the staff's understanding of Microsoft PowerPoint and by providing a template for what a technology education program consists of. The major risks are that staff members will stop using PowerPoint after the consulting partnership, staff members will forget what they have learned and will need to learn the concepts again, or that the lesson plan for PowerPoint won't work for a new technology due to limited resources available. These risks can be minimized by proper planning that ensures all resources are available when needed. Also, Gateway has already planned to work with a board member to create a template for their PowerPoints and have budgeted for a new laptop computer and a projector to show PowerPoint presentations at schools. Therefore, the risk that they will stop using PowerPoint is minimized by their current commitment to continue using PowerPoint.

The first recommendation is to implement three technology education programs for staff members to increase the technical knowledge of staff members. These technology education programs will increase staff understanding of the software they use everyday and decrease the time wasted trying to figure out programs or fix program problems in an inefficient manner. Additionally, staff members have expressed an interest in learning more about the software and hardware technologies at Gateway. Since a technology education program has already been implemented during the consulting partnership, the initial plan and structure for these programs has already been created.

The second recommendation is to upgrade the existing hardware and software infrastructure to decrease wasted time and to increase opportunities for future technology growth and visioning. The increased hardware capabilities will allow Gateway to purchase and install software programs that they were not able to install before due to hardware constraints. In addition, software upgrades will increase the compatibility between programs and allow the organization to take advantage of the new functionalities included in newer versions. Because the executive director has already talked to Gateway's external consultant, Mike Connolly, about their plan to upgrade existing hardware infrastructure and gotten a price estimate, the biggest hurdle in implementing this recommendation will be finding the necessary funding for all the upgrades that need to occur. However, the hardware and software upgrades that need to be done have already been planned in the technology plan.

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I. About the Organization

Organization

Gateway to the Arts is a non-profit organization which seeks to provide performances and activities in all arts disciplines – music, dance, theater, and the visual arts, to educators and students of all ages in 14 counties of western Pennsylvania. Gateway believes that the integration of the arts in education engages students in learning and improves teaching by challenging the teachers to rethink their teaching strategies. Over 100 professional artists are involved in these activities and performances. The organization serves approximately 120,000 students and educators in 350 schools throughout 14 countries of western Pennsylvania. The mission statement of Gateway is stated below.

> *"Gateway to the Arts transforms the lives and education of children through active participation in the arts and inspires students and educators to become lifelong learners and participants in the arts by making the arts integral to education."*

Gateway to the Arts was started in 1957 by a small group of string players from the Pittsburgh Symphony who performed at several Pittsburgh public schools. Currently, the organization has five main programs: Auditorium and Pre-school Performances, Artist Residences, Professional Development programs for educators and artists, the Artswire newsletter and Special Events including arts in education roundtables and showcases. As Gateway to the Arts is reaching its 50th anniversary, the staff recognizes that there are many additional programs and opportunities that they have not been able to start due to various reasons. Time and staff constraints are two of the reasons. Additionally, the organization has experienced several technical problems. There has been a recent interest in increasing the amount of technology used in their organization; however, there is a limited understanding of current technology, much less new technical tools, among the staff and the organization has no set technology plan.

Facilities

Gateway to the Arts is located on 1400 South Braddock Avenue on the second floor of a building called the Center for Creative Play. The office consists of two rooms: one room is the executive director's office and the other bigger room contains four desk spaces, a couch, a center table, a jacket cabinet, a printer, a fax machine. Each of the desk spaces is roomy and intended for each of the staff members. Currently, it is a perfect fit for the number of

employees Gateway employs. However, the space could be a constraint as the organization grows.

Programs

Gateway to the Arts offers five main programs: Auditorium and Pre-school Performances, Artist Residences, Professional Development programs for educators and artists, the Artswire newsletter and Special Events including arts in education roundtables and showcases. Auditorium Programs are performances for grades preK-12 which are usually held in an auditorium. The focus of these programs is on educating children to actively participate in the arts and encouraging educators to make arts integral to education. Computers are used to plan these events, to send out PDF contracts to artists, and to contact the artists by e-mail. In particular, the staff uses the FileMakerPro database to organize these events.

Artist Residencies are a series of sequential workshops that occur on multiple dates and times in a classroom. Residency projects are co-designed by classroom teachers and artists with specific curricular goals in mind for the students. The program focuses on more specific topics than auditorium programs. Currently, computers are not used to plan these events. Instead, Carol Wolfe, the Education Director plans each of these events by paper and then enters them into contracts and Excel spreadsheets. Professional Development Programs offer opportunities for educators, artists and arts organizations to develop their artistic and education skills. Like the artist residencies program, computers are not used to plan or organize these programs.

Special events include Arts in Education Roundtables (3 per year), events where the board of directors, their friends, and other interested investors are invited for a night of cultural events and cocktails, and showcases. These events are focused on publicizing the work that Gateway of the Arts does and the impact it has on the community. Computers are used to make invitations and brochures for the event, as well as to contact those invited and to plan the event. In particular, Quark and Photoshop are used to create inventions and FileMakerPro is used to track attendees and donations.

Staff

Gateway to the Arts has five staff members, including the Executive Director. There are 3 full time employees including the executive director, 1 part-time, and 2 interns. All employees have their own personal computer and email account and use Microsoft Outlook, Word, Excel, and Internet Explorer daily. All staff computers were recently updated to Windows XP and the staff is still adjusting to the new computer environment.

1. Lisa Hoitsma is the Executive Director and she is in charge of obtaining funding to run Gateway's programs, to budget for the year, to oversee the staff, and keep track of finances to send to the bookkeeper. She is the only one who uses QuickBooks.
2. Carol Wolfe is the Education Director. She is in charge of the Artist Residencies and Professional Development programs. She feels bogged down by the amount of paperwork she has to complete for the Residencies program. Additionally, she would like to learn how to put formulas in Excel and wants to put PowerPoint slides on Gateway's website but does not

know how to do this.

3. Eric Haines is the recently hired Marketing and Public Relations Manager. The retired manager, Libby, is still in contact with the organization and occasionally helps the staff solve technical problems and updates the website. When employed, Libby was the informal IT contact for the organization. However, her main job was to publicize Gateway's events and mission to teachers, students, as well as donors.

4. Heidi Baldt is the Scheduling/Administrative Coordinator. She is in charge scheduling Auditorium and preschool programs and of mailing contracts to both the schools and the artists. She works mainly with FileMakerPro and has recently begun using Adobe Acrobat but occasionally has problems with Adobe. Additionally, she does not feel comfortable editing Adobe Acrobat files, the file type of all Teacher Guides. Teacher Guides are guides given to the teacher so they can plan their classes around the Auditorium presentation.

5. Katie Zawrotniak is the Outreach Coordinator. She is an intern from Carnegie Mellon's Master of Arts Management Program. She is in charge of organizing and planning the board Special Event. While she feels comfortable using programs such as Photoshop and Illustrator, she doesn't feel comfortable trying out computer programs she was never familiar with before such as Quark.

Technical Environment

The technical environment at Gateway is described below. The hardware includes 4 Dell computers which is located at the desks of the Executive Director, the Education Coordinator, the Marketing and Public Relations Manager, and the Scheduling/Administrative Coordinator. The Outreach Coordinator's desk has a donated computer from a law firm whose specs are unknown. All the computers are connected through a network server which runs a backup which is kept on-site and an anti-virus scan at the end of each day. Additionally, the computers are connected to the main printer through the network. All the computers are also connected to the internet through DSL connection provided by Choice One. The types of software used vary by the position held and are described below.

1. Hardware: 4 Dell P4 1.4 ghz, 128 ram, 40 gig hard drive DVD, CDRW, NIC, 3 year warranty, 4 19" Dell screens, 1 Scanner Umax 12uxl, Epson 980 Inkjet Printer, HP LaserJet 5L, Canon NP6030, one donated computer

2. Server: Dell PIII 1 ghz, Scsi controller, 2 36 gig hard drive, windows 2000 with 5 clients, B/U DDS4 20-40, 256k ram, cd-rom, 56k modem

3. Network: All computers are connected to the server and networked together.

4. Internet Connection: DSL provided by their phone service company, Choice One

5. OS: Windows XP

6. Types of software programs: Microsoft Office Professional, FileMakerPro 5.5, Microsoft Outlook, Adobe Acrobat, QuickBooks (only used by Executive Director), digital camera software (only used by Education Director), Quark, Photoshop and Illustrator (Used by Marketing Manager and Outreach Coordinator).

Technical Management

At Gateway, no one person is responsible for managing the technical environment. If problems arise, they call Mike Connolly, an external consultant. They are charged for these

services at a price they consider to be expensive and the response time is one week. There is no log or reporting of technical problems. Before the consulting partnership, equipment was replaced only if it breaks. The person who had the most experience in technology (the previous Marketing and Public Relations Manager) has left the organization. This poses a problem as the organization has limited resources to solve technical problems.

Technology Planning

The executive director is the person who is primarily responsible for planning and budgeting the technology used in the organization. Prior to the consulting partnership, the executive director allocated $2,000 a year for technology in the annual budget and there was no set technology plan. This posed a problem as they went over their budget by $2,700 this past year. Additionally, Gateway did not have a technology planning committee; the board of directors approved the budget for technology each year. Also, training programs and workshops for staff members were not planned and employees attended them only when they desired to. Employees attended one to two workshops a year depending on funding and interest.

Internal and External Communication

All of the files are shared on the server except for personnel and accounting files located on executive director's computer. For the most part, there is no need to share files due to the clear division of job roles amongst the staff. The FileMakerPro database program has a GUI interface for the staff and contains a history of all the schools, artists, and performances since the database was created. The database program allows the staff to add a performance and print out the proper contracts needed to send to both the artist and school, create artists pay sheets and report on activities to funders. The organization keeps all contact information for schools, artists, funders, board members, vendors, etc. in the FileMakerPro database. Occasional email addresses are position specific and located only on the employee's computer. The server creates a backup of the database every night and sends an email stating the state of the backup to the executive director and Mike Connolly. If the backup isn't successful, an email is not sent and the executive director tries to figure out what went wrong, or calls Mike Connolly.

Although a firewall is in place, the staff mainly relies on the server's virus scan to ensure that their computers are secure and do not run anti-spyware or anti-virus software on their own computers. Security of their data is a potential problem.

All staff members have internet email accounts and access the web. The organization has a website created with ASP.NET with an Access Database at the backend. The website supports the organization's mission but can only be updated through Libby, the previous Marketing and Public Relations Manager. While Libby does not work for the organization anymore, she is paid by Gateway by the hour if updates to the website need to be made. The Executive Director has hired a new Marketing Manager who will create a new website and be in charge of updating the website.

Information Management

All the information contained in the FileMakerPro database is critical to the organization. FileMakerPro contains historical and current information on funders, artists, schools, locations, artist cost, payments, and contracts. The information flows electronically among the staff through FileMakerPro since it is on every employee's computer and connected to the server. Thus, all information only needs to be entered once. The information is managed using a relational database.

The FileMakerPro database was developed for $10,000 by an external company. However, it does not always work properly. The FileMakerPro database produces several problems such as incorrect reports and strange errors. While the staff has begun double checking their reports and learning how to work their way around these errors, the inadequate nature of the database is still an aggravation and wastes valuable time that could be better spent. The source of the bugs is unknown but the Executive Director hypothesizes that a poor database design is the reason for these errors.

All of Gateway's programs are managed electronically through this database system except for the Residencies and Professional Development programs, which are planned on paper. For bookkeeping purposes, the organization uses QuickBooks. The staff has expressed the need for an updated FileMakerPro database which includes the ability to input information for the residencies program and does not contain report errors.

II. Scope of Work

Task 1. Develop and Implement a Technology Plan

Description of the work task

The first consulting task was to develop and implement a technology plan that would allow the organization to budget technology costs, recognize key areas of opportunity for the organization, and understand how technology can be better utilized within the framework of their organization by drawing on many different members of the technology team. The technology plan is both a reminder of what is currently available and a reminder of the organization's technology goals for the future and how these goals will be implemented. Additionally, it is a central document for all technology information and planning that can be accessed by all staff and board members.

One of the problems that Gateway experienced this year was going over their technology budget. As a result, funding for other programs and events were reduced by that amount. This negatively impacted their mission to "transform the lives and education of children through active participation in the arts" because they had to spend more money on technology and less on developing and increasing the amount of programs they were organizing. Additionally, the technology plan from this task will allow Gateway to obtain additional funding during their 50th anniversary campaign, which will allow them to develop more programs and events to meet their mission. Gateway's 50th anniversary campaign is next year and they expect that some financial supporters will want to donate specifically to the organization's technology fund contingent on seeing the organization's technology plan.

Approach Taken

- The Executive Director organized a technology team to help develop the technology plan
- The Executive Director and the Consultant held an initial visioning meeting with the technology team to present a review of the current technology resources at Gateway and how they were being used. The meeting also included a discussion of how technology can be better utilized at Gateway to the Arts and some opportunities for technology growth and improvement.
- The Consultant analyzed and created detailed flow charts for the work processes at Gateway such as Marketing, Finance, Scheduling, Administrative Tasks, etc by interviewing staff members. The flow charts created pointed out problem areas as well as areas for improvement or opportunity. These flow charts were then reviewed by the staff and the executive director for accuracy.
- The Executive Director and the Consultant held a second meeting to brainstorm short term and long term technology goals for the organization. Additionally, discussions about timeframe, resources needed, and cost were discussed in this meeting. After the meeting, both the Consultant and the Executive Director participated in an email exchange about the feasibility of the activities identified for the technology plan.
- The Consultant and the Executive Director created a draft of the technology plan based on the two meetings.

- The Executive Director and Consultant held a third meeting where the technology plan was reviewed by the technology team. Adjustments that needed to be made were discussed. Additionally, staff members who were not apart of the technology team reviewed the technology plan at the next staff meeting.
- The Consultant and Executive Director adjusted the technology plan accordingly
- The Executive Director and Consultant sent out a final draft to the technology team and staff members and the table of contents to all board members

Sustainability of the task

This task is sustainable after the consultant leaves because the consultant worked with the technology team, staff, and the community partner to develop the program. No work was done by the consultant in isolation and the organization is confident that the plan will be updated each year even after the consultant leaves. A risk is the potential risk that the plan is not updated year after year due to lack of motivation or time. Additionally, another risk could be that they don't follow the plan. Finally, another risk is that they will not make future technology plans in future years. However, these risks are minimized by the permanent technology committee that will be created at Gateway whose sole responsibility is to make sure the technology plan is being followed, updated, and renewed.

Task 2. Implement a technology education program that integrates the organization's current technology with their current everyday tasks

Description of the work task
The second work task was to work with the community partner to develop a technology education program. The goal of the technology education program was to encourage use of new technologies or technologies they already have by integrating these technologies with the staff's job roles. During the course of the consulting partnership, a technology education program was developed for Microsoft PowerPoint. A lesson plan for this program is included in Appendix A. The program demonstrated a deliverable as a result of the hands-on efforts of the organization's staff at weekly meetings. As a result, all members of the staff were involved in using the new technology and became more familiar with it. The major problem being addressed with this work task was the staff's unfamiliarity with certain technical programs. Because of this, time was wasted figuring out how to use programs which could otherwise be used to promote additional programs to meet their mission.

Approach Taken
- The Consultant researched which technologies had been underutilized or were not understood well within the organization by speaking with the Executive Director, interviewing the staff members, and analyzing the work process diagrams.
- Both the Consultant and the Executive Director decided on PowerPoint as the technology to focus the program on
- Both the Consultant and Executive Director decided on staff meeting as the time when all staff members can focus on the technology
- Both the Consultant and the Executive Director decided that the overall deliverable should be a PowerPoint for school principals and funders explaining the AIE Institute

- The Executive Director decided how each staff member's job role related to the overall deliverable, and assigned different tasks based on the assessment
- The Executive Director notified all staff members about the educational program
- The consultant conducted an initial workshop on the basics of PowerPoint
- Both the Consultant and the Executive Director set a deadline for the overall deliverable
- The overall deliverable was completed.

Sustainability of the task

The possibility of staff members having a hard time fitting these educational programs into their schedules was a key risk. However, organizing these programs during mandatory staff meetings minimized this risk because it ensured that all staff members were present at the session.

III. Outcomes

Task 1. Develop and Implement a Technology Plan

The main deliverable of this task was a fully developed technology plan which will be implemented throughout the timeframe specified for the technology plan, which is 3 years. As a result of the development and initial implementation of this plan, four favorable outcomes were identified.

Outcomes

Outcome1: Budgets have been created for all expenses concerning technology spending
Before the consulting partnership began, Gateway to the Arts did not create detailed technology budgets. However, Gateway did allocate $2,000 of their budget each year to fund technology. Unfortunately, the lack of a detailed technology budget has resulted in Gateway to the Arts going over their technology budget of $2,000 by $2,700 this year. The technology plan developed and implemented at Gateway through the consulting partnership includes the budgeting necessary for all technology spending in all divisions of the organization. With such budgeting information, the technology plan will be more detailed and accurate to meet the technology needs of the organization, further limiting the risk of the organization going over their technology budget. During the creation of the budgeting portion of the technology plan, technology costs for each year were analyzed, justified, and set to stone. These technology budgets will allow Gateway to actively keep track of and plan the hardware, software, warranties, and networking components that must be phased out of and into the organization for the upcoming three years.

Outcome 2: Staff members think more broadly about technology in the organization
Before the consulting partnership began, there were general ideas of things the organization wanted to do with technology but these ideas were often overshadowed by the tasks that needed to be done immediately. As a result, these ideas were not implemented because staff members did not have the resources to implement these ideas or the outlet to express these ideas. Through the technology plan, these ideas were planned out and the resources needed for these ideas were allocated correctly to achieve successful implementation of the ideas. For example, the idea of an improved web site that includes secured areas for teachers and board members was bought up during conversations with the scheduling and education director as a way to decrease the amount of paper that needed to be mailed out to teachers and students. This idea was discussed and planned in the technology plan under the website growth section. Throughout the span of the consulting partnership, staff members started and continued to think more broadly about what technology can do for Gateway. Concrete evidence of this outcome was seen by the staff's increased involvement in discussions about technology and the organization, their increased brainstorming about technology and the organization, and the increased excitement among staff members about implementing new technology solutions during staff meetings and technology team meetings. By analyzing Gateway's workflow diagrams, staff members looked at the inefficiencies of their own workflow and brainstormed ways to use technology to decrease these inefficiencies. Ideas such as an internal system that decreases the amount of information that needs to be remembered in the staff member's head, an improved website that includes secured areas for teachers and board members, and online

evaluation surveys for their programs have been bought up by staff members. Many of these ideas can be seen in the final draft of the technology plan and these ideas will be implemented at Gateway in the upcoming years.

Outcome 3: Staff members have increased understanding of software
The next outcome is the staff's increased understanding of the software they use daily. The results of this outcome were measured through an assessment of how comfortable staff members felt towards the programs they use everyday compared to their comfort level with these programs at the beginning of the consulting partnership. At the beginning of the consulting partnership, the staff had a fair understanding of the software they used daily. They were able to use the programs necessary for their job but sometimes had trouble troubleshooting. Concrete evidence of increased understanding can be seen in the improved TechAtlas survey scores for all employees solely through the process of developing and implementing a technology plan. TechAtlas is an online technology planning tool for nonprofits which also includes a technology skills survey that was filled out by all Gateway employees. The survey has twelve categories which include four questions each. Employees are asked to rank themselves from one to five for each question. At the end of the consulting partnership, all employees raised their Teachable scores at least 3 out of 20 points in 90% of the categories. Additional benefits in the future include increased understanding of programs such as FileMakerPro and Microsoft Excel due to the educational programs and mandatory training planned in the technology plan. However, these outcomes can only be measured once the technology plan has been implemented since the plan will include a current situation of the staff's software understanding, and a plan detailing the training and the programs that will increase the staff's understanding of the computer software used in the workplace.

Outcome 4: Inclusion of strategic technology planning in the overall strategic plan for the 50th anniversary celebration
Prior to the consulting partnership, a case statement was being developed for the 50th anniversary celebration. However, this case statement did not include anything about technology. After the development of the technology plan and the initial implementation of the plan during the consulting partnership, there has been an increased emphasis on not only the need for technology in the organization, but also the importance of these resources to the organization. This immediate need and emphasis on technology is expected to continue all through the planning of the 50th anniversary celebration. This excitement and emphasis will increase the importance of technology funds from staff members, the board, and funders. Including the technology plan in the overall plan for the 50th anniversary celebration offers increased opportunity for increased technology funding from the 50th anniversary celebration. While the amount of increased funding can not be measured until the end of FY2008, the success of previous strategic planning for other aspects of the organization provides evidence for the success of technology planning as a mechanism for raising money in Gateway's 50th anniversary strategic plan.

Evidence of Expanded Capacity to Meet the Organization's Mission

One of the problems that Gateway experienced this year was going over their technology budget. As a result, funding for other programs and events was reduced by that amount. This negatively impacted their mission to "transform the lives and education of children through

active participation in the arts" because they had to spend more money on technology and less on developing and increasing the amount of programs they were organizing. With the technology plan and the specific technology budgets, the risk of going over budget for technology has been minimized because the technology plan allows the organization to keep track of and plan the hardware, software, warranties and networking components that must be phased out throughout the years. Additionally, the technology plan has created and set the responsibilities for a new board committee which is devoted to making sure the technology plan is followed, updated, and renewed. The technology plan also provides an opportunity for Gateway to obtain additional funding during their 50th anniversary campaign, which allows them to develop more programs and events to meet their mission. Finally, increased staff understanding of the software that staff members use and increased vision for technology in the organization has allowed staff members to brainstorm and plan ways to reduce inefficiencies in their current work flow using technology. When implemented, these solutions will allow staff members to be more productive in their tasks and as a result enable them to spend more time developing programs that meet Gateway's mission.

Outcome Sustainability and Risks

Outcome	How to sustain the outcome for the next 6 to 18 months	Major Risks
Budgets have been created for all expenses concerning technology spending	This outcome is only likely to be sustained in the next 6 to 18 months if the technology plan is regularly looked at, followed, and updated according to current technology costs. In order to sustain the benefit of this outcome, a member of the technology team is in charge of making sure the technology budgeting is accurate and correct for the times. This person will adjust the budget and/or plan if necessary.	A risk is the possibility that the plan is not updated with new technology costs year after year due to lack of motivation or time. Additionally, another risk could be that the plan is not followed. Finally, another risk is that Gateway will not make technology plans in future years.
Staff members think more broadly about what technology can do for the organization	This outcome is likely to be sustained in the next 6 to 18 months only if staff members are continuously encouraged to share their ideas about how technology can fit in their organization. In order for this to happen, an open forum for staff and board members has been developed and implemented so input about technology and how	A risk is that staff members will forget about technology vision once the technology plan has been written. Another risk is that staff members will not speak up about the vision they have for technology in the organization after the technology plan has been

	it fits in the organization can be discussed even when a technology plan is not pending.	written.
Staff members have an increased understanding of the software they use daily	This outcome is likely to be sustained in the next 6 to 18 months if staff members are required to go to training and staff education programs are planned out and scheduled early on. In order for this to happen, the technology plan should include a detailed plan for when staff education programs will take place so all staff members can plan accordingly. Also, staff training will be required every few months. This will allow staff members to choose a time that best fits their current schedule.	A risk is that staff members will be too busy to attend workshops or training that will help them learn more about the software they use everyday. Another risk is that they will be too busy to implement staff education programs during staff meetings.
Inclusion of strategic technology planning in the overall strategic plan for the 50th anniversary campaign	This outcome is likely to be sustained in the next 6 to 18 months if the technology plan is explained and presented to donors and potential funders who would like to see it. In order for this to happen, Gateway should make sure the technology plan is included in discussions about future funding.	A risk is that the technology plan might be overlooked during the 50th anniversary campaign.

According to the technology plan, the technology team will meet twice a year to evaluate the status of the technology plan and make updates if necessary. This will help increase the likelihood that the outcomes will be successfully carried out. The sole responsibility of this technology team is to make sure the technology plan is being followed, updated, and renewed.

New vision of how technology supports the mission

Overall, the task of developing and implementing a technology plan has allowed the organization to budget technology costs, recognize key areas of opportunity for the organization, and understand how technology can be better utilized within the framework of their organization by drawing on many different members of the technology team. By reducing the possibility of going over budget and increasing the amount of technology funding received by planning ahead, there is more opportunity for newer and better technologies to be used in their organization to support their mission. By planning ahead, better decisions can be made as to which technologies best support their everyday tasks that

allow them to reach their mission. These decisions have been documented in the technology plan which will serve as a central document for all staff and board members in the organization. With the staff's increased understanding of their everyday software, staff members have developed a better basis for technology visioning. Additionally, by thinking more broadly about what technology can do for their organization, staff members began thinking about how technology can work to reduce the inefficiencies in their organization. Many of these ideas are planned out in the technology plan and will be implemented throughout the span of the technology plan. As inefficiencies are reduced, a better supported mission results.

Task 2. Implement a technology education program that integrates the organization's current technology with their current everyday tasks

The main deliverable of this task is a fully developed and implemented technology education program that allows staff members to integrate the organization's current technologies with their current everyday tasks. For the span of this consulting period, one technology education program was developed for the software program Microsoft PowerPoint. During the course of the program, the community partner and the consultant decided on the PowerPoint slideshow because it would bring the most value to the organization. The staff members were then taught the basics of PowerPoint, went through a hands on lesson, and then developed their own PowerPoint slides. These slides were put together to create a PowerPoint describing the AIE Institute process to teachers and school administrators. As a result of the development and implementation of this education program, the following two outcomes were identified.

Outcomes

Outcome: Staff members developed a better understanding of the Microsoft PowerPoint software
Prior to the consulting partnership very few staff members had any understanding of Microsoft PowerPoint software. Only one employee had received PowerPoint training beforehand, and most of the TechAtlas scores for PowerPoint measured before the consulting partnership were in the low range. None of the staff members had developed anything work related using Microsoft PowerPoint software even though this software was on all their computers and was identified as a tool they were interested in using. During the implementation of the technology education program, staff members were exposed to all aspects of the Microsoft PowerPoint software. Through the hands-on lesson and the time spent working on the slides necessary for their part of the AIE Institute slideshow, staff members developed a better understanding of the software as a whole and the capabilities of the program. The increase in staff understanding of the Microsoft PowerPoint software can be measured by comparing the old TechAtlas scores for the PowerPoint section to the new scores after the technology program was implemented. Overall, staff scores for the "Electronic Presentation Skills" section increased by at least 5 points out of 20 points for each staff member.

Outcome: A plan for how to develop technology education programs for other technologies that are currently underutilized

Prior to the consulting partnership, some staff members attended outside software training programs but very few of the skills they learned were translated to the workplace. Staff members felt that they already had a lot of work to do and that they did not have time to share their skills with other staff members, much less begin working with these software programs on a day to day basis. For the PowerPoint program, staff members brainstormed an AIE Institute slideshow that required input from all staff members. They then split up the slides among themselves and in the end put these slides together to form a complete project. When all staff members worked together, they were able to help each other out when running into problems. Most importantly, these programs develop the organization's overall understanding of the software by getting all staff members involved.

Evidence of Expanded Capacity to Meet the Organization's Mission

As staff members develop a better understanding of the Microsoft PowerPoint software, less time was wasted figuring out how to use and trouble shoot the program. Additionally, as they increase the amount of PowerPoints they create and then use, they are able to decrease the amount of time spent explaining the overall picture of the program to schools and are able to spend more time answering detailed questions. This means that staff members have more time to promote and create additional programs, which allows them to better meet their organization's mission to "transform the lives and education of children through active participation in the arts". The plan for how to develop technology education programs will limit the amount of time spent figuring out what needs to be done to create such a program in the future. As a result, more time can be spent on future programs. These programs will in turn increase the staff's ability to provide enhancements to programs and to market events more effectively. As more programs are run, Gateway will be able to better "transform the lives and education of children through active participation in the arts".

Outcome Sustainability and Risks

Outcome	How to sustain the outcome for the next 6 to 18 months	Major Risks
Staff members developed a better understanding of the Microsoft PowerPoint software	To sustain this outcome for the next 6 to 18 months, staff members must continue to think about new PowerPoint presentations that might be needed and continue to develop more PowerPoints (at least one per month) so the PowerPoint concepts can be reiterated.	One of the risks is that staff members will stop using PowerPoint after this project. This risk is minimal for Gateway since they have already planned to work with a board member to create a template for their PowerPoints and have budgeted for a new laptop computer and a projector to show PowerPoint presentations at schools. Another risk is that they will forget what they

		learned and will need to learn the concepts again.
A plan for how to develop technology education programs for other technologies that are currently underutilized has been developed	To sustain this outcome for the next 6 to 18 months, all technology education programs planned in the technology plan must be implemented. The programs should be planned ahead so all necessary software is available to staff members who need it. Additionally, when projects can not be split up, staff members should identify and complete individual projects themselves and then share them with the rest of the staff.	One of the risks is that the plan won't work for a new technology. For example, if a project can not be split up among staff members or if the software isn't available on all the staff computers. This risk is also minimized by the planning done in the technology plan which ensures that all needed software and other resources are available.

New vision of how technology supports the mission
As staff members developed a better understanding of PowerPoint software they also developed a vision for how PowerPoint can support Gateway's mission by pinpointing different areas PowerPoint could be used. Although the AIE Institute process was deemed the most important, staff members also mentioned the Scheduling process and an overall introduction to Gateway presentation as other potential projects. Overall, as staff members better understand the software they use everyday, they develop a better vision of how other technologies can be used to support Gateway's mission. As software programs become more familiar and less intimidating, staff members have become more open to trying and looking for how technology can better fit into their mission and their everyday activities.

IV. Recommendations

Introduction

Vision

Gateway's technology vision for the future is to improve staff understanding of current technology, continuously evaluate how new technology can be incorporated into their organization, and to upgrade hardware and software components in a timely fashion in order to improve work efficiency in the organization. At Gateway, technology provides the underlying support for all work processes. Thus, improving staff knowledge of software programs will allow Gateway to increase overall staff productivity because it will be easier for them to recognize the suitable programs and the corresponding shortcuts for each task that they want to accomplish. Also, by dispersing technical knowledge among all staff members, the impact of circumstances such as someone leaving the organization will be minimized. By continuously evaluating how new technology can be incorporated into their organization, Gateway can take advantage of the added functionality of newer software programs. Finally, by upgrading hardware and software components in a timely fashion, staff computers will be able to work more productively without having to wonder when their "slow" computers will be updated. A scheduled plan will increase the chance that the upgrades do happen and will allow the organization to stagger the upgrades fairly. Faster computers will allow more work to be accomplished and will increase the organization's ability to provide programs which meet their mission of "transforming the lives and education of children through active participation in the arts" and "inspiring students and educators to become lifelong learners and participants in the arts by making the arts integral to education (www.gatewaytothearts.org).

Recommendations and Suggested Timeline

For Gateway to reach this vision, two primary recommendations have been recommended for the next three years. The suggested timeline for these recommendations can be seen in the picture on the next page
- Implement three technology education programs for staff members to increase the technical knowledge of staff members
- Upgrade the existing hardware and software infrastructure to decrease wasted time and to increase opportunities for future technology growth and visioning
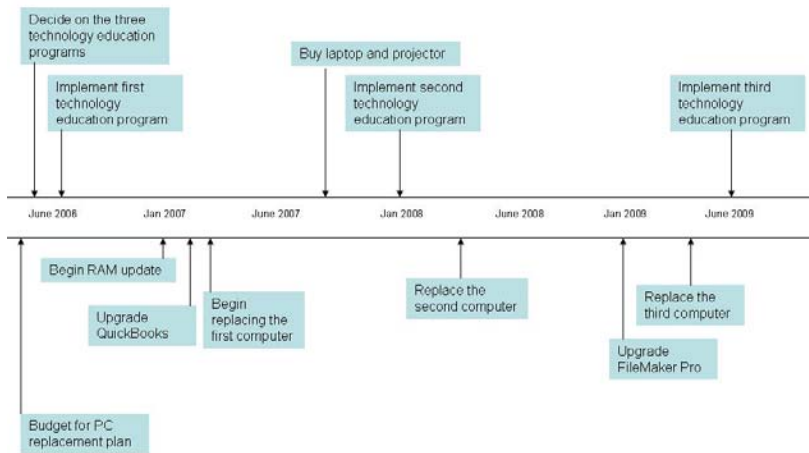
Figure 1. Three year timeline for goals

Recommendation 1. Implement three technology education programs for staff members

During the consulting partnership, one technology education program was implemented at Gateway. Due to the success of the Microsoft PowerPoint technology education program, three additional technology education programs are recommended for the upcoming three years. Based on the needs of the organization, the suggested software programs to base these technology education programs on are FileMaker Pro, Excel, and Quark. These technology education programs will encourage the use of new technologies or technologies they already have by integrating these technologies with the staff's job roles. At the end of the programs, a deliverable will be demonstrated as a result of the hands-on efforts of the organization's staff at weekly staff meetings. As a result, all members of the staff will be involved in using the new technology and become more familiar with the technology.

Implementing the technology education programs will increase Gateway's ability to meet their overall mission. The programs will increase familiarity among staff members about the different software programs available on Gateway's computers. Additionally, these educational programs offer an opportunity for the staff to better understand technologies such as FileMaker Pro and Excel to organize fundraising efforts and to create charts that allow them to increase funding from their financial supporters. Increased funding will result in more money for the programs and events that they run to meet their mission. With a better understanding of relational databases and how to develop reports in FileMaker Pro, staff members will be able to automate the creation of many of their reports, resulting in increased time efficiencies. The time that the staff members will save will allow them to run additional auditorium and training programs in the arts to reach their mission. Also, by dispersing technical knowledge among all staff members, the impact of circumstances such as someone leaving the organization will be minimized.

Approach

- The technology team will research which technologies have been underutilized or not understood well within the organization by surveying staff members and looking at the organization's work flows in the technology plan
- The technology team will decide which technologies should be part of the programs
- The Executive Director and staff members will decide on a time when all staff members can focus on technology (ex. Staff meetings)
- The Executive Director and the staff will decide what the overall deliverable should be (ex. A PowerPoint for school principals and funders)
- The Executive Director will decide how each staff member's job role relates to the overall deliverable, and assign different tasks based on that evaluation
- If necessary, the Executive Director will research and order 2 copies of a reference book that explains the basics of the technology chosen
- The Executive Director and staff members will look for and attend relevant outside training programs from the Bayer Center at Robert Morris University or find board members who have the relevant expertise to hold workshops at Gateway
- A timeline will be set for the program and a deadline will be set for the overall deliverable
- The overall deliverable will be completed.

Outcomes

Outcome	How this will be measured	What is the current measure
Staff members will have an increased understanding of the software they use daily	This will be measured by an assessment of how comfortable the staff members feel towards the programs they use everyday.	The staff has a fair understanding of the software they use daily. In addition, the technology plan created during the consulting partnership will have the results of a technical assessment survey from TechAtlas that all staff members completed.
By understanding software technology better, staff members will work more efficiently and be better able to create reports and necessary documents independently.	For the FileMaker Pro program, this will be measured by how independently each staff member can create the reports necessary for their desks. A similar outcome measurement can be used for the Excel and Quark educational	There is no current measure. Having employees submit reports from/in the proper software will demonstrate their ability to use the software.

	program.	

Internal resources

The following resources are internal resources that will be necessary and helpful in implementing the recommended goal of three technology education programs. The survey results from TechAtlas and the work flow diagrams from the technology plan will help the technology team discover the most important training programs that will provide the most value to the organization. The staff members and the executive director will work very closely with the technology team to develop a plan for the technology education program. Staff members will then use internal resources such as existing reference books and software manuals to teach each other about the software. They will use their computers to implement their portion of the deliverable. Finally, the technology education program might include a workshop conducted by a board member with the previous expertise in that software package.

- The TechAtlas staff survey results
- The technology plan
- The technology team
- Board members
- Staff members
- All staff computers
- Existing reference books
- Software manuals

External resources

The following resources are external resources that will be necessary and helpful in implementing the recommended goal of three technology education programs. Online bookstore retailers such as amazon.com and half.com often offer significant discounts on books, offer free shipping, and have a great search function for finding relevant books. In addition, online tutorials at tech-soup.org and online tutorials or help guides located on the software company's website offer quick references and are resources that staff members can access from their own homes. Finally, the Bayer Center at Robert Morris University offers many training classes that can also be a part of the technology education programs.

- www.amazon.com – To research and purchase books such as the following:
    1. QuarkXPress6 Bible (Bible) (Paperback) by Dennis R. Cohen, Steven A. Schwartz: This book is described on Amazon as a good introductory book that also covers some more advanced topics. The book uses visual examples to explain how the program works, goes over major functions of Quark, and included a reference card for quick reference. It will be a good introductory book to get staff members acquainted with the simpler functions of Quark.
    2. FileMaker Pro 8 Bible (Bible (Wiley)) (Paperback) by Dennis R. Cohen, Steven A. Schwartz: This book is described on Amazon as a good introductory book for FileMaker Pro. It also includes a CD with plug-in tools and sample files from the book. Topics that this book covers that Gateway staff has expressed interest in are: generating summary statistics across records, exchanging data between programs such as Microsoft Excel, and publishing or sharing data on the Web or company intranet

3. Microsoft Office Excel 2003 Step by Step (Paperback) by Curtis Frye: This book includes a step by step explanation of the major functionalities of Microsoft Excel. It also includes a CD-ROM with a reference eBook, many practice files and templates that will work well for employees who like more hands on practice. All in all, this book will be a good book to fit all the different preferred learning styles at Gateway.

- www.tech-soup.org – Online tutorials
- Software company online tutorials / help guides
- The Bayer Center at Robert Morris University

Budget

	Item or Procedure	Material Costs	Staff Hours	Consult. Hours	Est. Cost
	Research technologies that have been underutilized or which need increased understanding	0	2	0	0
	Create technology education program plan	0	2	0	0
	Find and purchase introductory books/cd-roms (2 for each program) for training	3 programs * 2 books *$75/book = $450	3 hours (one hour for each program)	0	$450
	Execute technology education program	0	60 hours/staff * 4 staff members * 3 programs = 720 hours	0	0
	Total	$450	723 hours	0	$450

Goal 2: Upgrade the existing hardware and software infrastructure

Gateway hopes to upgrade and/or replace all of their computers by year 2010. In the year 2001, Gateway purchased four brand new computers and the server. The specifications of these computers are listed below. In 2002, a Micron laptop was donated by DDI. It is out of date and can't support necessary software programs. This past year, all of the computers except the laptop were recently upgraded to the Windows XP operating system. However, due to the memory intensive nature of this operating system and other software programs, a RAM update for all computers has been recommended. Currently the computers at Gateway have 128 RAM; an update to 512 RAM will increase the overall speed of employee computers. Increasing the speed will limit the amount of time that is wasted waiting for programs to open up or for computers to boot up. In addition, it will allow for increased capacity: in the event that an upgrade to a program is needed, having enough RAM to support that upgrade is

crucial. A recommended approach to replacing all staff computers is to stagger the replacement of these computers by replacing one computer a year. Computers that use the most memory intensive programs such as the computer for the marketing director should be replaced first. In addition, software upgrades must be purchased for Quickbooks and FileMaker Pro. A new laptop and PowerPoint projector have also been requested by staff to assist in marketing and education efforts.

As mentioned above, upgrading the RAM on the staff's current computers will result in faster computers and less wasted time waiting for programs to open and computers to reboot. This will allow staff members to increase time spent on mission-related tasks such as scheduling new programs for schools or applying for additional funding so more schools can partner with the artists. Replacing the computers will allow for increased capacity in terms of computer processing power and in terms of personnel. Currently there are two staff members, one executive director, one part time staff, and two interns using the computers. However, there are only five computers. Therefore, both interns can not be at Gateway at the same time. Replacing the computers will increase the number of computers at Gateway and will result in older computers that can be used by the interns or other new employees. The QuickBooks software upgrade is mandatory because Gateway's bookkeeper company requires Gateway to update their software. Other software upgrades such as FileMaker Pro are highly suggested as upgraded versions have increased functionality that will allow for Gateway's main database to interact with their website. The new laptop and PowerPoint projector will allow Gateway to increase their usage of PowerPoint slides at schools and fundraising events. The usage of PowerPoint slides offers increased fundraising and marketing opportunities that will help Gateway achieve their mission and provide more services.

Approach

Updating RAM on existing computers
- Hire an external consultant to walk Gateway through the RAM update
- Allow external consultant to figure out the type of RAM that must be bought for computers
- Research prices on BestBuy.com and Newegg.com or buy the RAM from the consultant
- The consultant will update the RAM on all staff computers

Purchase laptop and projector
- Identify the needs of the education director, executive director, and marketing director concerning the laptop and projector.
- Identify the appropriate projector based on these needs
- Consult with the technology team about this decision
- Research laptop and projector costs at Dell.com and BestBuy.com
- Purchase laptop and projector

Replace existing computers with new computers
- Create a list of the order of how the computers should be replaced
- For each new computer to be ordered:
- Time permitting, look for special deals at Dell.com before placing the final order for a computer.

- Order the computer
- Hire a consultant to network the computer to the local network and to the internet
- When all computers are replaced, update the technology plan to indicate the next time frame when the computers will be replaced again.

Outcomes

Outcome	How this will be measured	What is the current measure
Gateway computers will run faster and be able to have more memory intensive programs	This will be measured by an assessment of how long it takes the staff to boot their computers or to open specific memory intensive programs. This assessment will be compared to another assessment made after the RAM update is installed, and again after the computer is replaced.	Currently, the time it takes to boot staff computers and to open specific programs has not been measured. However, there have been complaints about certain programs or computers being slow. Keeping statistics on the time savings will help increase funding and support for future computer investment decisions.
An increase in the amount of PowerPoints used to present information to teachers and funders	This will be measured by counting how many PowerPoints presentations were created and used before the laptop and projector purchase and comparing it to the number of PowerPoint presentations created and used after the purchase.	Currently there has only been one PowerPoint presentation created for the organization. All staff members believe that PowerPoint presentations will be an excellent communication tool when explaining the complicated processes of the residencies and AIE Institute as well as providing an overview of Gateway's services.
Replacing Gateway computers with new computers will allow for increased personnel capacity	This will be measured by counting the number of additional usable computers after computer replacements are completed.	Currently, there are five computers in use but six different users who need to use these five computers.

Software upgrades will allow for technology growth in the organization	This will be measured by keeping a list of the additional capabilities realized by upgrading the software and seeing how additional functionality impacts technology visioning for that year.	Currently, there is no current list with the capabilities of the currently used software.

Internal Resources

The following sources are internal resources that can be used to implement the goal of updating the hardware and software infrastructure at Gateway. The technology plan provides an overview of Gateway's current technology environment, warranty policies and licensing information. In addition, the technology team can be contacted for suggestions at the time the organization is researching and deciding upon the different products. Staff members and their comments on internal surveys can be used to identify problem spots concerning hardware and software inefficiencies and their impact on the organization. Additionally, the PC Troubleshooting Sheet, which is located on the server, can be used to identify other problem spots. Finally, staff computers must be used when upgrading the RAM or upgrading software programs.

- Technology Plan
- Technology Team
- Staff Members
- Staff Computers
- Internal Surveys
- PC Troubleshooting Sheet

External Resources

The following external resources are mainly research tools that will enable Gateway to get the best deals on the software and hardware components that they purchase. By researching the prices and special deals online, Gateway can save a lot of money which can be used to purchase other products. The Tech soup website offers great discounts on software and hardware products and also has informative tutorials on the basic concepts of RAM and computer memory for staff members to read. Finally, the websites of any vendor whose upgrade will be purchased by Gateway in the next 3 years should be referenced for free online guides or tutorials. Currently, it is recommended that FileMaker Pro and QuickBooks be upgraded to Version 8 and 2007 (in the year 2007). Finally, Mike Connolly, the external

consultant who has been working with Gateway for five years so far is also a great external resource.

- Best Buy Website – http://www.Bestbuy.com
- Newegg Website – http://www.Newegg.com
- Dell Website – http://www.Dell.com
- Tech Soup Website – http://www.techsoup.com
- Website of software vendor - http://quickbooks.intuit.com/, http://www.filemaker.com
- Mike Connolly – External Consultant

Budget

	Item or Procedures	Material Cost	Staff Hours	Consult. Hours	Est. Cost
1	Update RAM on all computers to 512ram.	5 RAM at 70.00 each = $350[1]	0	2.5 hours at $90/hour = $225[2]	Consultant Cost: $225 RAM Cost: $350
3	Budget for one PC replacement per year beginning in FY2007 with marketing, then education, scheduling, executive director and intern)	4 computers at $1200 each = $4800	1	4 hours at $90/hour = $360	Consultant Cost:$360 Computer Costs:$4800
4	Research and purchase laptop and projector	$3,000 is budgeted in the 50th anniversary strategic plan	3	0	$3000
5	QuickBooks software upgrade in FY2007	$200[3]	2	0	$200
6	FileMaker Pro upgrade to FileMakerPro8 Server Advanced	$2,499[4]	3	5 hours at $90/hour = $450	Consultant Cost: $450 FileMaker Pro upgrade cost: $2,499
	Total	$10,849	9	$1,035	$11,884

[1] Estimated RAM cost based on BestBuy's website:
http://www.bestbuy.com/site/olspage.jsp?skuId=6308131&type=product&id=1074787987929
[2] Estimated using the current rate for the external consultant, Mike Connolly
[3] Estimated using Quickbook's website: http://quickbooks.intuit.com/
[4] Estimated using FileMaker Pro's website: http://store.filemaker.com/r1.html#FMSA

About the Consultant

Phoebe Wu is an Accelerated Masters Student at Carnegie Mellon University which means she is currently both an undergraduate senior and a first year master's student. In May 2006 she will graduate with a bachelor degree in Information Systems and in December 2006 she will graduate with a masters degree in Information Systems Management. She enjoys information technology consulting and hopes to work as a consultant after she graduates.

Appendix A. PowerPoint Technology Education Lesson Plan

This PowerPoint lesson plan was used to implement the second work task: developing a technology education program that integrates the organization's current technology with their current everyday tasks

Objective
Provide hands-on training for every staff member to understand basic functions of PowerPoint.

Main topics covered at the PowerPoint workshop
Time: approximately 45 minutes
- How to create and save a new PowerPoint
- How to use pre-created PowerPoint's
- Using design templates
- Adding new slides
- Adding slide layout
- Inserting elements onto the slide
- How to use spell check
- How to view the slideshow
- How to change the ordering of slides
- Writing notes
- Animation

Final Deliverable
Deadline: April 15th, 2006
Staff will create a draft PowerPoint that is an overview of the AIE Institute. Slides will be broken up so that Heidi and Eric create overview of Gateway, Lisa creates an overview of the AIE Institute, and Carol creates close-up of the Institute and the follow-up work in the classroom. At the end of the lesson the staff will come together, comment on each other's slides, save their slides to one file, and discuss ways to make the slides more uniform.