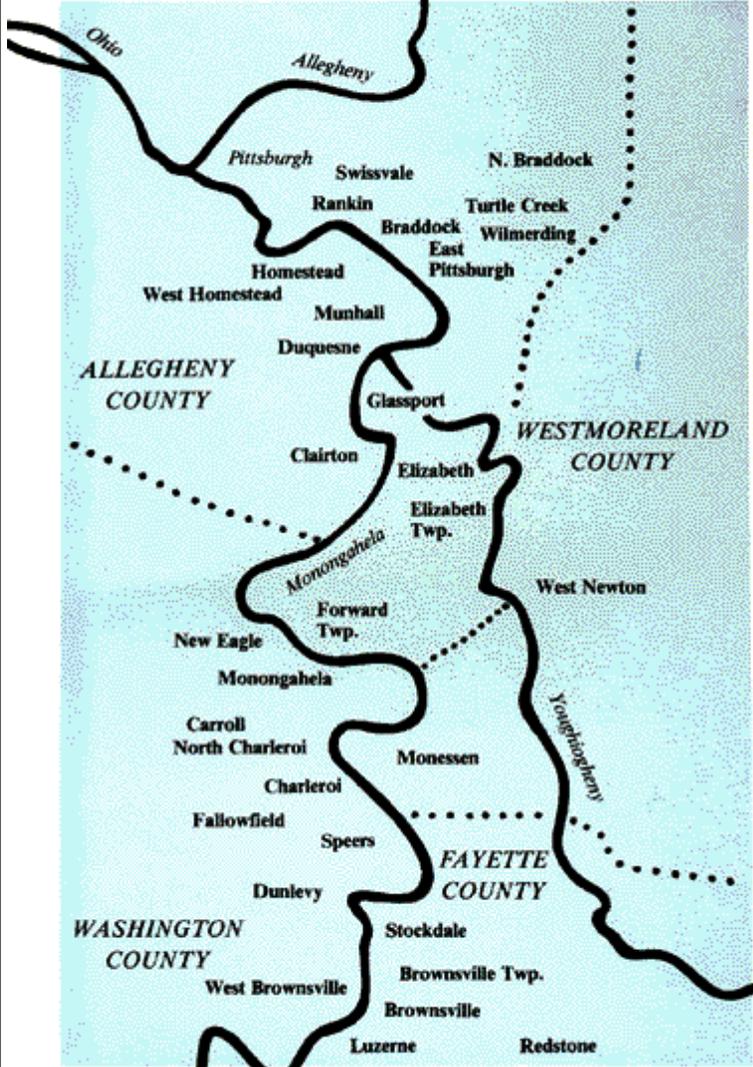


Mon Valley Initiative – Workforce Development Program

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About the Organization

The Mon Valley Initiative (MVI) is a non-profit community and economic coalition made up of 13 community development corporations operating in three counties in Southwestern Pennsylvania: Allegheny, Washington and Westmoreland. They have a volunteer pool of over 200 people dedicated to revitalizing the region. The Mon Valley Initiative was created in 1988. Since that day, the staff and the volunteers have worked together to unite communities and restore the economic vitality of the Mon Valley.

Mon Valley Communities	Mon Valley Initiative Members
 <p>The map displays the Mon Valley region, bounded by a thick black line. It covers parts of Allegheny, Westmoreland, Fayette, and Washington counties. Labeled communities include Pittsburgh, Swissvale, Rankin, Braddock, East Pittsburgh, Wilmerding, Turtle Creek, N. Braddock, Homestead, West Homestead, Munhall, Duquesne, Glassport, Clairton, Elizabeth, Elizabeth Twp., Monongahela, Forward Twp., West Newton, New Eagle, Monongahela, Carroll, North Charleroi, Charleroi, Fallowfield, Speers, Dunlevy, Stockdale, Brownsville Twp., Brownsville, West Brownsville, Luzerne, and Redstone. Rivers shown include the Ohio, Allegheny, Monongahela, and Youghiogheny. County names are also indicated: ALLEGHENY COUNTY, WESTMORELAND COUNTY, FAYETTE COUNTY, and WASHINGTON COUNTY.</p>	<ol style="list-style-type: none">1. The Community and Economic Development Corp. of Clairton2. Downtown West Newton, Inc3. East Pittsburgh Economic Development Corp.4. Greater Charleroi Economic Development Corp.5. Homestead Area Economic Revitalization Corporation6. Monessen Community Development Corp.7. North Braddock CARES, Inc8. Rankin Economic Development Corp.9. Swissvale Economic Development Corp.10. Turtle Creek Development Corp.11. Wilmerding Community Improvement Advisory Committee12. Glassport Development Corp.13. Duquesne Business Advisory Corp.

The office of the Mon Valley Initiative is located at 303/305 East Eight Avenue, in the commercial district of Homestead, near the Waterfront. This location is not totally arbitrary; it is a symbol of the origins of the Mon Valley Initiative. Today the Waterfront is a booming retail center, but in the past the region was very active in the steel industry. But in the late 1970's - early 1980's all the factories and mills closed, leaving all the workers unemployed: Homestead had the largest concentration of unemployed persons in the whole region. Like the "stacks" that we can still see today, lost, in the middle of the Waterfront, the workers were lost, without jobs, without income. The economy of the region was really bad. So in 1988 the *Mon Valley Initiative* was created to give a new breath to the region.



The "lost stacks" or why Mon Valley Initiative exists.

There are four main programs in the Mon Valley Initiative. And logically *their common mission is to provide a service able to restore the economic vitality of the Mon Valley.*

The Workforce Development Program: The mission of the Workforce Development Team is *"To help area residents attain the skills and connections necessary to acquire 'living wage' jobs and begin productive, healthy careers, while providing the skills work force regional companies need, continuing to encourage the development of the Mon Valley's economic base"*. This program is the newest one of the four but it is already really active and successful. It has a two-side approach. One is targeted at area residents interested in gaining employment and starting a career path. The other is targeted at regional employers. By meeting with area employers during the program development phase, the workforce development specialists are able to incorporate employers' key points of concern into the training program. The second part of the work force development program provides area residents with the skills essential to finding employment. A standard training program was developed by the workforce specialists to fit to the needs of every participant in the program. Soon, five computers and the creation of a computer-based course will be added to the program. The goal of this course is to provide basic skills on a computer. Over the past year the workforce development team assisted over 50 people with employment and training. The workforce development team has counseled more than 300 people facing many different barriers to attaining employment.

The Small Business Initiative Fund Program: It is a small business loan program. Its mission is to expand opportunities for small businesses by creating financially-sound and independent companies. The Mon Valley helps non-bankable candidates, who would not receive capital from traditional lending sources because of assessed risk. The initiative fund has to date closed 6 loans totaling over \$292,000 and creating more than 21 jobs. Initiative funds team member project closing an additional 6 loans in 2002.

The Housing Development Program: This is a very active program. It has two facets: the renovation of existing houses in Mon Valley communities and new construction development projects. With assistance from Allegheny, Washington and Westmoreland counties, the Mon Valley Initiative is able to offer ownership options to low-income families. Potential buyers must make 80% or less of the median regional income to qualify to participate in the housing program. In addition to housing development, the

team also conducts informational seminars and technical assistance to potential homebuyers. Mon Valley Initiative's housing development team has created over 200 units of affordable housing in the Mon Valley with another 35 currently under development.

The Community Outreach Team: This team is responsible for special events, volunteer recruitment, newsletter publication, general communication relations, media relations and for providing technical assistance to the community development corporations.

Behind these programs there is a staff, bringing life to the Mon Valley Initiative. It is composed of eighteen people. Laura Zinski is the Chief Executive Officer; Debra Humberson is the controller. In the Workforce Development team there are four people: Jefferson Brooks, the program Director; Linda Janus and Eleanor Morton; and Selena Butler, the case manager. There are four people in the initiative fund team, and six in the housing development team. The last two employees are Lorraine Conley, the community outreach Director, and Eric C. Sloss, the public relations coordinator; both are members of the community outreach team.

The Technology Situation

To help the staff of the Mon Valley Initiative in accomplishing their goal, technology is already used. Every employee has his or her own computer. Most of them are Pentium 233, with 32 Mb of memory, and are all running under Microsoft 98. Network laser printers are shared among users on each floor of the office, and some stations have their own ink jet printer.

The facilities of the Mon Valley Initiative are on three different floors in the building, but this difficulty didn't stop them from networking all the computers together. The network server is located on the second floor and is running Windows NT 4. The sever is connected to the internet with a DSL connection, so all the staff is connected to the internet and is able to receive email. However, there is no up-to-date antivirus protection installed to protect the system from viruses and other threats which can come from the internet. The server also allows the employees to share files and folders over the network.

The software used includes the usual office applications. All the workstations have Microsoft Office 97 Professional installed. That includes Microsoft Word, Excel, Access, PowerPoint and of course Microsoft Outlook, which is used by all the staff to read email and to plan their schedules. All the staff knows how to use these programs as a tool in their every day work, but nobody has a deep knowledge that would allow them to use all the potential of the software.

Logically the management of the technology suffers of the same symptoms: Eric Sloss is in charge of the management of the computers and the network, but it is not his primary job in the organization. He accepted this responsibility because he was the most qualified for this task among the staff. But this situation should be temporary and a better solution has to be found. Mr. Sloss currently makes a backup of the server every morning and makes it run as well as he can. But often the server crashes, affecting everybody's internet connection, and Mr. Sloss has to reboot the server. If a member of the staff has a technology related problem Eric is the first line of support. If the problem is beyond Eric's capacities, the company Shiloh provides support for MVI's machines, but the intervention of an outside company requires time. And during this time lost in waiting for assistance, the capacities of MVI will be affected and that costs money.

The last relevant technology fact about MVI is their web presence. They have their own web site (www.monvalleyinitiative.com) and all the staff in the organization has "@monvalleyinitiative.com" email addresses. The web site provides to the visitor all the needed information about the Mon Valley Initiative and their programs. In the Workforce Development's section there is even an online form that

allows the visitor to request further information about the program. This web site is maintained up-to-date by Eric Sloss and the image it gives corresponds to the real image of MVI.

The technology situation can be summarized this way: The Mon Valley Initiative is actually using the technology and understands the benefits it provides. But nobody on the staff fully understands its use and management. That results in a technology dependency; if an unusual problem occurs, help from the outside of the organization is needed. This dependency can impact the efficiency of MVI deeply. So they should increase their technological skills in order to be able to respond quickly and efficiently to most of the unexpected situations.

The Consulting Partnership's Focus

The consulting focus of this project was on the Workforce Development group; Jefferson Brooks, the director of the program, is the community partner. The specific goals of the Workforce Development are:

- *Get jobseekers to know themselves.*
- *Raise their skills and interests.*
- *Help them know the market and its opportunities.*
- *Help jobseekers find stable employment.*

To achieve these goals the Workforce Development program planned to buy four new computers to create a cluster for the jobseekers. They made a proposal to Verizon and they received \$10,000 to realize this project.

Mr. Brooks knows how to use his computer to accomplish his daily tasks but lacked the knowledge to implement the new computer cluster. He understands how to use Word, Outlook and the basics of Excel. But at the beginning of the consulting project he knew nothing about the hardware and the configuration needed in a modern and efficient computer. So he was unable to purchase by himself the computers and the equipment needed to create the cluster. The main task of the consultant consisted in guiding and helping him through the whole purchase process: from the selection of computers to the effective use and management of the new lab.

The consulting task was divided into four parts:

1. Define the specification of the machines
2. Increase the computer-related knowledge of Mr. Brooks
3. Determine the furniture needed, and make a space layout for the lab
4. The purchase process

1. Define the specification of the machines: To know what to buy, you need to know, or at least have a good idea, of what you want do with the computers. The requirements are not the same if you want to play with the latest 3D game or if you just want to use Word and surf the internet. On the other hand, to define how you can use the cluster and what you will be able to do with the participants of the course, you need to know what can be done according to the configuration you have. The problem appears to be like an infinite loop; to know what you must have you must know what you want to do, and to know what you can do you must know what you have. Because of this loop we cannot deal with the two tasks sequentially. In order to break the loop the two problems were solved in parallel.

The cluster will be used to teach the basics about the computers, their environment and the tools available on them, like Windows or Word. So the first task was to define what kind of machines is needed to perform these tasks. Even if it was clear that a high-end and expensive configuration was not needed, the goal was not to restrict the possibilities offered by the lab by buying cheap machines. The main problem was to find a good balance between usefulness and power. A lower bound for the configuration was not

too difficult to define; we wanted the computers to at least be able to run a recent version of Microsoft Office and Internet explorer. But defining an upper bound was the most difficult part, because it is precisely this bound that will fix the potential possibilities of the lab. The fact is that with a lot of power the possibilities offered today are huge, almost unlimited. But the power has a price, and there is no reason to pay a high price to have more power if this extra power is not going to be used. So the question was about power and money. The problem, in the world of computers, is that both of them are difficult concepts to understand and to follow through time. Computer science is an area that changes very quickly and not regularly. To have a global picture of the situation a good knowledge of the computers is needed. That logically leads to an important part of the consulting task: The understanding of the computer; what makes a computer powerful, what makes a computer expensive. To get that there is no magical approach, you have to learn what a computer is of.

2. Increase the computer-related knowledge of Mr. Brooks: As explained in the preceding paragraph, understanding the computers was not only an advantage for him, it was required in order to define the configuration of the computers. The main task here for Mr. Brooks was to learn what the different components present in a computer are. It seems obvious, but how can you buy a computer adapted to your need if you can't tell what is the role of the CPU in your computers? So the utility of all the main part of a computer were explained: the CPU, the main memory, the hard drive, the graphic card, etc... Learning the functions of all these devices also required learning the terminology related to computer hardware. If you know only the concepts and not the terminology, it's impossible to have a discussion with someone or to explain your point of view. So understanding things like the difference between MHz (Mega Hertz) and MB (Mega Byte) for example, was part of this task.

Once you understand what a PC is, what it is made of, how it works, and once you know the terminology that allows you to speak about it, the next step comes almost naturally: understanding where the price and the power comes from in a particular configuration. This step is needed to put all the pieces together in order to have a good global view on the actual situation on the computer market. With this global view and understanding it was possible for Mr. Brooks to finish task 1 (Define the specification of the machines). The knowledge learned was the missing piece to balance the power and the usefulness of the configuration. That closed the configuration definition problem.

At this point we can have the impression that the knowledge of the computer was limited to the hardware part. But it was not the case. Even if the knowledge of the hardware was crucial to do the specifications, the software part was not completely omitted during the consulting. The subjects were not huge ones, like the use of Access or the configuration on Windows. The goal was more to learn "all the little things that make things easier", like the use of the shortcuts, the use of a web search engine, how to tune your personal settings. And even if this knowledge were not required to complete any task described in this section it help Mr. Brooks to use his computer with more efficiency.

3. Determine the furniture needed, and make a space layout for the lab: The specification of the computers was done, but the whole equipment needed for the cluster doesn't only consist of computers. A printer was also needed. But there are some even more important things needed; a cluster is not only made of technology. Such simple furniture like tables, chairs and appropriate lights are needed in a cluster. For each computer a chair has to be bought and the printer cannot just lie on the ground. That can seem obvious, but often the most obvious things are forgotten. So, in the budget of the cluster we included the furniture. That was a need if we didn't want to spend more than the \$10,000 available for the project.

Another aspect not related to the technology but indispensable for the purchase is the space layout of the cluster. For example, it is stupid to order 8 computers if there is the place only for five of them. The space layout was particularly important in this consulting situation because MVI will very soon renovate

the first floor of the building. So the challenge was to design the space layout without being able to see for real the space allocated for the lab. Doing that was not an easy task, because a space layout don't takes into account only the computers; everything related to the computer has to find its place in the space. First of all, the user: He or she must be able to access the computers easily even if others computers are actually in use, the user must also have enough room to work comfortably on the computers. Then there will be a printer in the lab: it must be accessible to everybody without disturbing the others. And finally the space layout took also into account the electricity, the network cables and the lights. Making all the enumerated element working together in a coherent way required was one of the tasks that Mr. Brooks and the consultant had to compete.

4. The purchase process: The conventional approach to complete this task would simply be to select a good vendor and then order the computers. But the problem with this approach is: How do you define a good vendor? On which criteria do you base your judgment? In order to answer these questions in the best possible way, Mr. Brooks and I decided to submit a bid to many vendors, and then make the choice of vendor based on the responses.

So, the first part of the purchase was the selection of the vendors to which the bids were sent. Then the configuration previously defined was sent to the selected vendors. And finally after a short while the vendors answered our bid. To understand the answers Mr. and the consultant had to review the vendor's proposal together.

At this point, all the elements were available to make the final vendor choice. Of the price was not the only consideration in the selection; the quality of the service, the warranties offered and the availability of the vendor were also taken into account.

Then, after the selection of the vendor, the purchase took place. The purchase was the final point of the consulting story. But every good story must have a moral after its ending. The moral of this story will be the analysis of the outcomes and the formulation of the recommendations.

Consulting Outcomes and Recommendations

Doing the work is often not too difficult, but every serious piece of work as to be followed by an analysis of the results obtained. So, for each one of the four main steps described in the previous section there will be an analysis. The analysis will of course include the outcomes related the corresponding step.

The outcomes are really important because they concretize the work done, but there is another important element that must not be forgotten: it's the sustainability of the work accomplish. Even if the work of the consultant is over, Mr. Brooks will have to continue what he began with the consultant on his own. The really final task of the consultant is to deliver appropriate recommendations that will put and keep his partner on the way to the success, for the short, and if possible, the long term. So each outcome will be followed by many recommendations.

1. Define the specification of the machines:

- Outcomes:
Mr. Brooks understands what an appropriate configuration is: By going through the configuration definition process Jefferson Brooks understood that choosing a configuration for a computer is like "choosing a pair of shoes". This analogy illustrates well the problem we were facing: a pair of shoes might look good from the outside, but if the shoes don't fit you the next steps will be painful. For a computer it's the same; if it doesn't fit your need, inappropriate computers will bring a lot of problems. By his interest during the choice of the configuration Mr.

Brooks clearly shows that he understood this concept. Also the bid itself, is an evidence that demonstrates concretely his interest and his understanding of the situation.

The specification: The most concrete outcome of this first step was the configuration¹ that Mr. Brooks included in the bid he made. The usefulness of this bid was uncontested when the final vendor choice was made.

A team spirit: The outcomes here are not only related to the technology. During the selection of the computers, Mr. Brooks worked with Eric Sloss, the actual technology manager at MVI. Mr. Sloss wanted to change all MVI's computers, so logically he took advantage of the work done by Mr. Brooks on the specifications. They developed a shared expertise. And by doing that a great amount of time was saved, because the problems weren't solved twice. Such cooperation is already a wonderful outcome, because both of them understand that team work can solve most of the problems, even if the problem is technology related.

- Recommendations:

Don't lose the team spirit: Computers evolve so fast that purchasing computers became a task that has to be done regularly. This time Mr. Brooks was helped by a consultant. But for future purchases a consultant won't be on his side during the whole process. That should not be a problem. The team work between Mr. Brooks and Mr. Sloss was successful, so this team resource must be used again to solve the future technology problems. The next time that computers will have to be purchased, they will be able to define well the configuration needed if they work in team.

The external expert, a resource to use with care: Even if a team can accomplish an impressive amount of work, sometimes the problem is out of the capacities of the team and the help of an expert consultant is needed. The external consultant generally doesn't have a good overview of the problem, so if he doesn't have any help from inside the organization he will need a lot of time to define the problem and to find the appropriate solution. Also, if the external consultant doesn't try to understand the global problem, he will probably come up with an inappropriate solution. To avoid that, the help of the consultant should be asked as late as possible, when the problem is well understood and perhaps partially solved. So when the expert comes, the bases for his work will be there and he will just have to build the solution in the way that was previously and internally defined. Using a consultant like that will minimize the consulting time needed, and guarantee an appropriate solution.

The guideline: In the appendix C, there is a guideline that explains "how to purchase new computers in the future". This guideline contains the main steps included in the purchase process, and will help the reader to go through the whole process by himself, without the help of a consultant. There is nothing completely new in this document, but all the steps are listed in it. So a quick reading of this document will help Mr. Brooks to remember the work done with the consultant. With the experience acquired during the time spent with the consultant and the help of this document, the next purchase should be a simple formality.

2. Increase the computer related knowledge of Mr. Brooks:

- Outcomes:

Understanding what a computer is made of: Before the consulting, Mr. Brooks saw his computer as a black box. He could have say: "Why should I care about what is inside my computer, I just want to use it". And that's true; while you are only using a tool you don't have to understand its

¹ This configuration is included in the appendix A of this document

internal functioning. But when you want to buy this tool you have to understand it in deeper detail. That's especially true when the tool you plan to buy is as complex as a computer, because changing a single component in the configuration can change the power and the price of the computer by a great amount. Now Mr. Brooks understands the function and the utility of the main parts that compose a computer, and he is now able to give his opinion about a configuration and discuss it. For instance, while Mr. Brooks was reviewing the bids with the consultant he asked: "We asked for a Pentium 3, why did they put a Pentium 4?" This simple question proves that Mr. Brooks knew what a processor is; he noticed the difference and asked the right question.

The terminology: Understanding the components and their functions in a computer is one thing, but to understand the true meaning hidden behind a configuration you have to understand all the terminology related to the component. This terminology was also part of the knowledge that Mr. Brooks acquired during the consulting. Mr. Brooks was so enthusiastic about his new knowledge, that one week after the introduction he had about hardware, he found on his own a document summarizing all the concepts and difficult terms that he just learned. That's an evidence of the work accomplished, but it is also a great reward for the consultant.

All the little things that make you life easier: The possibilities offered by a computer today are huge, but most of the time people don't use all this power, not because they don't want to but because they don't know that the possibilities exist. The best example to illustrate that is the web search engine used by Mr. Brooks. Before the consulting he was using the MSN (Microsoft Network) search engine because MSN was the default homepage on his computer. But the consultant showed him the Google search engine (www.google.com). Mr. Brooks quickly realized the power provided by this new search engine and recommended to his colleagues the use of Google. Now many employees at MVI are using Google in their daily work.

- Recommendations:

Share your knowledge: With the Google example, explained above, we saw that many wonderful resources are available for free, but people don't use them because they don't know they exist. Too often people think that they have to take a course with a PhD. in computer science to learn something new about computers. But that's absolutely false! Simply sharing your knowledge and experiences with your neighbor can lead to marvelous discoveries. Communicate to discover, and the outcomes will be far behind your expectations.

Use online dictionaries: As we just saw communication is the key of learning and an open door to new knowledge. But often, a simple obstacle to communication is the vocabulary. If you don't understand what the other says there is no communication, no sharing. That's a big problem with the computer's world; the terminology used to speak about computers and their components is almost a foreign language for a non-computer-scientist. But what do you do when you don't understand a word? You just look for the definition in a dictionary. And the good news is that dictionaries about computer terminology exist on the internet and are completely free. Here are two of them:

www.maran.com/dictionary

www.webopedia.com

Both of them are easy and intuitive to use: The first one is really close to a conventional dictionary; the home page is just an alphabetic index that allows you to access quickly the definition that you need. On the second site finding the definition is even easier; just enter the word you don't understand in the search field and click the "Go!" button. That will send you directly to the definition. These two resources are great to increase your vocabulary and your understanding of the computer.

The newsgroups or how to learn and communicate at the same time: The newsgroup is the perfect union between communication, knowledge and technology. On a newsgroup everybody is free to ask a question, answer a question, share information or simply share their point of view. All newsgroups are classified by topics and almost all imaginable topics can be found. To access to these newsgroups a simple mail client like Outlook Express² is enough. It is not difficult to add and to use a newsgroup in this tool, but the way of doing it differs slightly with each different version. So, the best way to configure your newsgroup reader is to refer directly to the help of your software. Generally the help will guide you step by step through the configuration³.

3. Determine the furniture needed, and make a space layout for the lab:

- Outcomes:

The space layout: Defining the configuration needed for the computer was one thing. But before doing the purchase we had to know how much space would be available for the lab. So the consultant and Mr. Brooks took the floor plan of the facility and thought about a good layout for the computers and the printer. That was a hard task because the space allocated for the lab was small. But Mr. Brooks was aware of that fact and asked to have some more room in the lab, and now five computers will fit well in the cluster.

The furniture: Even if the computers were the most expensive part in the purchase, a budget had to be allocated to the furniture. So Mr. Brooks took a furniture catalogue and allocated a budget of \$2,000 for the furniture. That will cover the price of the desks, the chairs, the extra lights needed and the printer stand.

- Recommendations:

The facilities before the purchase: When purchasing computers, the space allocated to the new machines must always be defined before the purchase. This recommendation sounds like an obvious fact, but obvious things are easy to forget. Even if the new computers purchased will only replace old ones, the space is still important. Perhaps the new computer will have a bigger screen and will require more room on the desks, or if the space is very limited, switching to flat screens could be useful.

A tool to make the space layout easily: Designing a space layout by hand is really difficult. But computer software exists that simplifies this task a lot. Microsoft Visio is one of them. This software allows you to create space layouts really quickly; a simple drag-and-drop allows you to place or move a desk. And Visio is not limited to the design of space layout; an impressive different kind of diagram (like what?) can be realized with this tool. More information about this product and its capabilities can be found on its web site:

www.microsoft.com/office/visio/default.asp

On the web site you can just take a “virtual tour” and you will discover quickly the capacities of the software.

² Watch out here: Microsoft Outlook Express and Microsoft Outlook are two different software, and even if Microsoft Outlook is generally more powerful than its little brother, it does not allow you to read newsgroups. So if you use Outlook to read your emails, you will have to switch to Outlook Express to consult your news groups.

³ For more convenience, the appendix D contains a copy of the help dedicated to the newsgroups in Microsoft Outlook Express 6.

4. The purchase process:

- Outcomes:

The bid: To select the best vendor Mr. Brooks sent bids to three vendors: Dell, Gateway, and Shiloh (the vendor who installed the actual MVI system). The answers to the bid came quickly, so Mr. Brooks and the consultant had to review them together in order to select the best vendor. While doing that, Mr. Brooks realized the advantages provided by the bids: It allows the client to approach the vendor without making any commitment and the client can see the service and the availability of the vendor. For example Mr. Brooks tried many times to call Dell to have some more information, but he was never able to reach the person who sent the proposal. But the service offered by Shiloh was really better; Mr. Brooks reached his contact there easily, and the vendor from Shiloh proposed to have a meeting to make everything clear. This meeting was probably the greater outcome generated by the bid. It allowed to add the final touch to the configuration. And logically the vendor selected was Shiloh; they had the best price, the best service, they already know MVI and finally, they will come and setup the computers.

The lab: All the outcomes are important, even the smaller ones. But that's not a reason to forget the largest outcome of this consulting: The lab itself! It is still not created but five computers⁴ and an inkjet color printer are already ordered and will find their place at MVI after the renovation. This lab is the concrete achievement of the consulting process, but it's more than a lab, it is an invaluable new tool for the Workforce Development program. And behind the computers there are all the outcomes previously enumerated.

- Recommendation:

Use bids again: The usefulness of the bid was uncontested. Without it the selection of the vendor would have been much more complicated. So the recommendation here is simple: Use bids again for future computer purchases. If a simple process works well, there is no reason to change it or to make it more complicated.

Additional Recommendations

Recommendation: Learning how to manage the computers:

Once the computers are purchased and delivered the computers still have to be configured. The configuration is especially important if the computers are going to be used by multiple users in a cluster. For example if a new participant comes and wants to use the cluster, Mr. Brooks should be able to create an account for him. Many basic functions like this one should be known by the Community Partner and the other members of the Workforce Development. Here are some of them:

- Being able to create / delete a user.
- Set the rights of the user in such a way that he is not able to access confidential files present on the network.
- Operate the printer: change the ink cartridge, solve paper jams.
- Change a forgotten password.

All these are really simple tasks. But even the simple tasks have to be learned. To learn how to do that there are mainly three resources:

⁴ The detailed configuration ordered can be found in the appendix B.

1. Jeff Brooks could learn most of these tasks with Eric Sloss, who is actually managing the network. Mr. Sloss could just explain and show to Mr. Brooks where into the options you have to go to manage the users and their rights on the network.
2. A great resource is also the Windows help. To access it you just have to click the “Start” button and then “Help.” Once in it you just have to enter the task you want to do in the search field and you will find really quickly the description of the whole procedure required to do the task you want.
3. And finally if the help didn’t help you in solving your problem, there is certainly a solution available on internet. Most of the time if you just directly type your question or problem in the google search engine (www.google.com), you will find quickly the right answer.

Recommendation: How to create a good course with the new cluster?

The new computers the Workforce Development just bought for the jobseekers are a big outcome for the program. This cluster will allow the Workforce Development to make their program better. The better the program is, the more people will participate in it. And helping as many jobseekers as possible is part of the mission of the Workforce Development team.

- *Using tutorials:* The machines have been ordered but the structure of the course isn’t yet well defined. A person from outside MVI will be in charge of the main course. But the program should not be based only on a “scholar like” course. The participants are finished with school and they probably don’t want return to a fixed and rigid structure like the one that is used in a traditional school. The program should be flexible and adapted to all the different skill levels of the participants. I think a good way to reach this goal is to use tutorials in addition to the course.

What would be the benefits of using the tutorials?

- A lot of good tutorials are available for free on the internet. That means there is no extra cost to buy the tutorial, and no extra work to create them.
- A tutorial gives a concrete vision of the concept to the learner. The basic idea of a tutorial is to learn by actually doing the task. This way of learning is well suited for people who have never used a computer, because the tutorial forces them do for real all the steps needed.
- The tutorial will allow the participant to learn at their own rhythm. That’s really important because all of the participant won’t work at the same level. So the slower ones will have all the time they want to complete and to fully understand the concepts explained in the tutorial. On the other hand, if participants are really quick they could just take another, more advanced tutorial.
- A tutorial doesn’t require any teacher. So participants can come whenever they want to continue their set of tutorials. That will make the schedule of the course flexible, and that’s always appreciated.
- Tutorials have almost no limits: you can find a tutorial explaining how to use the mouse under windows, and another one about Java programming. That means that the tutorials won’t limit the participants in their learning; if someone wants to learn more, they just have to search for a more advanced tutorial.

But the most important thing about these tutorials is that they won’t be there to replace the normal course. They would just be there to offer an optional complement to the course. Their role would be to bring a supplementary degree of freedom. So all the participants could find a learning method adapted to their personality and to their needs.

Not too much resources are needed to use tutorials; tons of them are available on internet. The only thing needed to use them is to find them. Here are some good addresses:

This first link does not directly point to tutorials; it is a link pointing to a page listing many sites that contain tutorials.

directory.google.com/Top/Computers/Education/Internet/Help_and_Tutorials

This link points directly to a web site that provides a lot of good, free tutorials.

www.tutorialfind.com

The site above is really good. For example, under the “computer hardware” section, there is a really good tutorial that covers well the hardware knowledge learned by Mr. Brooks. Here is the address of this particular tutorial

www.ckls.org/~crippel/computerlab/tutorials/basics.html

- *Creating a web site for the course:* It’s certainly not a good solution to consult all the tutorials online at their original location. If one of the sites goes offline, or if the address changes the Workforce Development will just loose the tutorials. A better solution would be to copy locally all the good tutorials and perhaps also make some paper version of them. Then, to make the tutorials easily accessible, the Workforce Development could put them all on their own web site. Such a set of tutorials will help them to achieve their mission: Helping job seekers by giving them new knowledge.

Such a web site dedicated to the course and the job seekers would definitely very useful to the Workforce Development’s program. But there is no reason why the site should be limited to the tutorials. The site could include information about the employers working with MVI. The participants could have their own web page with their resumes on it. The possibilities are almost unlimited.

But creating such a web site and learning to manage it is not an easy task. That could be a nice job for another student consultant from CMU. But at the beginning, even if the web site is small and very simple that doesn’t really matter, a small web presence is always better than no presence at all.

- *An email address for each participant:* With the new cluster the Workforce Development made a first step in the direction of the technology and the concrete outcomes will soon be visible. But the effort should not end there. Participants will soon be able to access the computers to learn, to work or to surf on the internet. But having access to the internet becomes really useful when you have an email address. An email address give you access to the world and it opens new horizons. This recommendation is probably the easiest to implement and the one that can have the biggest impact on the course and the participants.

The easiest way to create an email address is certainly to use hotmail (www.hotmail.com). You just go on the web site and click on “sign in”. Then you follow the instructions on the screen and five minutes later you can contact the entire planet!

Recommendation: Create a database to store the data of Workforce Development:

The Workforce Development has records for all the participants but doesn't have an efficient way to manage them. To collect information about the jobseekers there is a form that the participant has to complete when joining the program. But this form is, and stays, handwritten. So it is difficult to manage all these paper forms. Once the jobseeker has found a job, Workforce Development keeps in touch to see if everything is going well with the new employer. Jefferson Brooks uses Excel to store this follow-up information and some other data about the participant. That means that the information about one participant is split in two: One part in the handwritten form and the other in the Excel file. Half on paper, half on computer, which makes things really difficult to manage. That would be much more efficient to store all the data in a database or at least in Excel

Why would this database be useful?

- The program will be improved a lot by this database. If you are able to manage your data well, the efficiency of the whole program is improved. That also means: better communication among staff, better overview of problems and needs, and huge savings of time. So overall the productivity of Workforce Development will be improved.
- One part of the program of the Workforce Development is to create a resume for the participant of the course. We can imagine a Word document linked directly with the database. By using this link one could import all a participant's data into the template Word document. That will automate almost completely the creation of the resume. So they will save time on this task and could spend more time on the important ones.
- If we use Access there will be no extra management needed for the database, because Access is installed on all the machines of MVI.
- The database will help the Workforce Development to put the computers and the technology in the center of their program. Rather than asking a new participant to fill in the signup form on paper, they could directly fill out the form on a computer, perhaps online, on the web, and the data will be directly accessible to the staff.

The potential of such a database is big. But creating the database is not easy at all. An external consultant will certainly be needed in order to implement the database, and an external consultant is expensive. But some alternative solutions exist. For example many students are taking a database course at CMU, and this class includes a project. An agreement could be made with the teacher and the creation of the database can be proposed as a project to the students.

But even if the database cannot be implemented now, it's not a reason to forget it forever; the situation can change in one, two or perhaps five years. Then the project could become realizable. That's true for any idea. Even if a recommendation or an idea sounds like an unreachable dream, it's not a good enough reason to stop dreaming about it.

About the consultant

My name is Stéphane Mojon and I am an exchange student, studying at Carnegie Mellon only for one year. I come from Switzerland where I am studying Computer Science at EPFL, the Swiss Federal Institute of Technology in Lausanne. So this consulting experience was also a wonderful discovery for me. I learned a lot from Mr. Brooks, certainly more than what he imagines. And for that I would like to thank him a lot.

Thank you Jeff.

The configuration included in the bid

Mini Tower Case	
Power supply	
CPU cooler	
Motherboard:	ATX
CPU:	Pentium 3 / 1 GHz
Memory:	pc133 / 256 Mb
Hard Drive:	40 Gb
CDrom Drive:	IDE 48x
Video Card:	Standard 32 Mo AGP card
Monitor:	17"
Sound Card:	Standard
Speakers:	2 speakers without subwoofer
Network Card:	PCI 10/100 Mbps RJ45
Floppy disk:	3.5 inch
Keyboard:	US Standard
Mouse:	3 buttons with scroll PS2
Printer:	Inkjet color
Microsoft Windows 2000	
Microsoft Office XP	
Antivirus software	

The configuration ordered

CPU:	Pentium 4 / 1.6 GHz
Memory:	256 Mb
Hard Drive:	40 Gb
CDrom Drive:	IDE 52x
Video Card:	NVIDIA TNT2 32 Mo AGP
Monitor:	17''
Sound Card:	Integrated on the mother board
Speakers:	2 speakers
Network Card:	10/100 Mbps, Integrated on the mother board
Floppy disk:	3.5 inch
Keyboard:	US Standard
Mouse:	3 buttons with scroll wheel, PS2
Printer:	HP 940c
Microsoft Windows 2000	
Microsoft Office XP Professional	
Norton Antivirus	

A guideline to purchase new computers in the future:

MR. Brooks and the consultant had to purchase new computers. So, together they went through the whole purchase process. This process can be separated into five different phases:

1. *Understand what a computer is made of.* That means knowing which parts are present and required in a computer. Even if computers are evolving at an incredible speed, the main components and concepts are almost the same as the ones that were introduced with the first personal computers more than 20 years ago. The microprocessor, the memory, the hard drive were and still are in every computer. So understanding these concepts is essential if you plan to purchase a computer.
2. *Determine what you want to do with the new computers.* A computer is a really polyvalent tool, and it can be used in many different ways. Every different way of using a computer implies different hardware and software. So before choosing the computers you must know exactly how it will be used. If you don't, a bad vendor could easily sell you an expensive and inappropriate computer.
3. *Understand what the actual computer's market offers.* This part is probably the most difficult, because the price and the speed of machines are evolving very fast, and not regularly. The release of a new component, such as a CPU, can change the market very quickly.
4. *Choose the computers.* After getting through phase 2 you know what you want, and after phase 3 you know what the market offers. So, you can now do the "intersection" between what you want and what the market offers, to define what is the configuration that you need now.
5. *Purchase the computers.* Once the configuration is chosen it's not a big deal to order them. The choice of the vendor shouldn't be too difficult. For the same configuration the price usually don't change a lot from one vendor to another. So the price should not be the decisive argument in choosing a vendor. Others factors are more important, like: Will the vendor be able to deliver the computers on time? What guarantees are offered? Does the vendor provide a good after-sale service? Saving one hundred dollars on a machine is not useful if you have to spend hours on the phone because your computer is not working properly.

Replace the computers regularly:

Mr. Brooks and his consultant went through all these five phases, together. But the computers just purchased won't last forever. Usually a computer has to be replaced every three years. After more than three years the low performance of the computers will begin disturb their users in their work: Compatibility problems will appear first.

A typical example involves Microsoft Word: You receive an important Word document by mail, but you cannot open it because the sender has a later version of Word than the one that you have. If you are facing such a problem you will lose a lot of time, because you will either have to ask the sender to resend the same document in a format compatible with your version, or you will have to find a computer using the version of Word you need. And what will be the next step? You will install the latest version of Word on your old computer. But that will slow down your system and you will continue to lose time. The only efficient way to avoid that is to *change the computers regularly*. If the computers are replaced every three years the whole organization will benefit from it.

- The staff will always have an efficient tool, compatible with the tools used by their clients and other organizations.
- The management of the computers will be easier. Newer computers and software tend to be more and more user-friendly. Each new version of a product introduces new ways to make management and maintenance as simple as possible.
- The purchase of new computers can be planned and budgeted for in advance.

A guideline to purchase new computers in the future, continued

What has to be done for the next purchase, and the next one...?

It becomes obvious now that even if you just bought a new computer, you will certainly have to buy new computers again. So you will have to go through the purchase process once again. To make all the future purchase as easy and as successful as possible we should review what was done during the purchase phase we just went through. Based on that, we will be able to formulate concrete recommendations for all the future purchase.

Phase 1 of the purchase process has generated important outcomes for Mr. Brooks. Now he understands better what he has into his machines. He also found really good documentation about the utility of the main pieces of hardware and the low-level software concepts. That will help him a lot in the long term. The next time he has to buy a computer, Phase 1 won't even be needed or will be at least very quick.

The next three phases (*phases 2 to 4*) won't be as easy as the first one, even if it is the second or third time that you go through this process. But do as much as you can on your own before asking the help of a computer consultant! This recommendation is particularly important, because during the whole time spent on this purchase, the consultant was always there, with Mr. Brooks.

The presence of a consultant is always liked because you feel secure in some way; If you do something wrong, the consultant will tell you. But in the future the consultant won't be there at each step, because it is too expensive. But that's not a reason to be "afraid" of taking initiatives, even if it is about computers. The best way to deal with it is to go as far as you can by yourself and then at the end, ask a specialist. Here is concretely what it means in our purchase case.

- *Phase 2*: Spend enough time to define what you want to do with your new computers. And even if you just purchase computers to replace older ones, don't directly decide that the new ones will have exactly the same use as the old ones. Technology is fast and you can perhaps now do things with computers that were impossible when you purchased the older ones three years before. An example of this kind today could be voice recognition to help you type letters.
- *Phase 3*: This phase is the most difficult to do by your own. But lots of good resources exist to help you to figure out what the market is like. A good one is the web site:

www.pricewatch.com.

This site is kind of hit parade to find the cheapest components for computers. You can see the "price tendency" (stable, increasing, decreasing) for each piece of hardware. Another good way to know what is available on the market is to regularly visit the web sites of the big vendors like Dell, Gateway, and Compaq. And then spend some time to see if there are new models or if the price changed a lot since the last visit.

- *Phase 4*: Selecting each part of the new computers one by one is certainly not easy to do. But once again you can just go to the web site of a vendor and then choose a pre-built configuration that looks good and close to what you need. Then take each part in this configuration and try to ask yourself: Is that what I need? And if not, do I need more or less?

Notice that in all the points enumerated above the intervention of a consultant was never needed. But now you went through the process by yourself and you already defined well what you want. Based on that, it is now the right time to ask the help of a consultant, because now you can engage in a real discussion with him. He or she will look at the configuration you did. If some inappropriate choices were made the consultant will correct them and tell you why something else would be better. He will certainly make some suggestions but really quickly you will be ready to order the computers, because you had a strong base to start with and the consultant was here just to give a final review.

A copy of the help dedicated to newsgroups in Outlook Express 6

What are newsgroups?

A newsgroup is a collection of messages posted by individuals to a news server (a computer that can host thousands of newsgroups).

You can find newsgroups on practically any subject. Although some newsgroups are moderated, most are not. Moderated newsgroups are "owned" by someone who reviews the postings, can answer questions, delete inappropriate messages, and so forth. Anyone can post messages to a newsgroup. Newsgroups do not require any kind of membership or joining fees.

To use newsgroups in Outlook Express, your Internet service provider (ISP) must offer links to one or more news servers. After you set up an account for each server you want in Outlook Express, you can read and post messages in any of the newsgroups stored on that news server.

When you find a newsgroup you like, you can "subscribe" to it so that it is displayed in your Outlook Express Folders list. Subscribing provides easy access to your favorite newsgroups, eliminating the need to scroll through the long list on the server each time you want to visit a favorite newsgroup.

Newsgroups can contain thousands of messages, which can be time-consuming to sort through. Outlook Express has a variety of features that make it easier to find the information you want in newsgroups.

To add an e-mail or newsgroup account

You will need the following information from your Internet service provider (ISP) or local area network (LAN) administrator:

- For e-mail accounts, you'll need to know the type of e-mail server you use (POP3, IMAP, or HTTP), your account name and password, the name of the incoming e-mail server and, for POP3 and IMAP, the name of an outgoing e-mail server.
 - For a newsgroup account, you'll need to know the name of the news server you want to connect to and, if required, your account name and password.
1. On the **Tools** menu, click **Accounts**.
 2. In the **Internet Accounts** dialog box, click **Add**.
 3. Select either **Mail** or **News** to open the Internet Connection Wizard, and then follow the instructions to establish a connection with an e-mail or news server.

Note

- Each user can create multiple e-mail or newsgroup accounts by repeating the procedure above for each account.

A copy of the help dedicated to newsgroups in Outlook Express 6, continued

To subscribe to a newsgroup

The benefit of subscribing is that the newsgroup is included in your Folders list for easy access. You can subscribe to a newsgroup in any of the following ways:

- When you add a news server, Outlook Express prompts you to subscribe to newsgroups on that server.
- Click a news server name in your Folders list, and then click **Newsgroups**. Select the newsgroup that you want to subscribe to, and then click **Subscribe**. You can also unsubscribe here.

When you double-click a name in the Newsgroup list, a subscription is automatically generated.

Notes

- When you view a newsgroup without subscribing to it, its name appears in your Folders list. Right-click the name and then click **Subscribe**. For more information about viewing a newsgroup without subscribing to it, click Related Topics below.
- To view a newsgroup you subscribe to, click its name in the Folders list.
- To cancel your subscription to a newsgroup, click **Newsgroups**, click the **Subscribed** tab, select the group you want, and then click **Unsubscribe**. You can also right-click the newsgroup in your Folders list and then click **Unsubscribe**.

To post a message to a newsgroup

1. In the Folders list, select the newsgroup you want to post a message to.
2. On the toolbar, click **New Post**.
3. Type the **Subject** of your message. Outlook Express cannot post a message that does not contain a subject.
4. Compose your message, and then click **Send**.

Notes

- To send your message to multiple newsgroups on the same news server, in the **New Message** dialog box, click the icon next to **Newsgroups**. In the **Pick Newsgroups** dialog box, click one or more newsgroups from the list (hold down the CTRL key to select multiple newsgroups), and then click **Add**. You can choose from all newsgroups or only those you subscribe to by clicking **Show only subscribed newsgroups**.
- You can send a given message to more than one newsgroup at a time only if all the newsgroups are on the same news server. To post a message to newsgroups on other news servers, create a separate message for each news server.
- You can cancel a message you have posted by selecting the message, clicking the **Message** menu, and then selecting **Cancel Message**. Canceling a message does not remove it from a newsgroup user's computer if the user downloaded the message before it was canceled. You can cancel only messages you have posted; you cannot cancel another person's message.