

**Information Systems Management  
Course 95-822**

**Spring 2006**

**Final Consulting Report**

**Community Technical Assistance  
Center**

**Arjun Vasanth**

# Community Technical Assistance Center

## Executive Summary

Student Consultant, Arjun Vasanth  
Community Partner, Alida Baker

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### I. Background Information

The student consultant for this consulting engagement is Arjun Vasanth. The community partner involved with is Alida Baker working for the Community Technical Assistance Center (CTAC). CTAC has been in existence for over 25 years. Alida is a community development specialist with CTAC and she has been with CTAC for over 11 years. CTAC specializes in offering technical consulting services to non profit community development organizations. They are located near down town Pittsburgh in the Alleghany West neighbor hood. The office is on the second floor of a two-floor building and the office address is 901 Western Avenue, Pittsburgh, PA 15233. The mission of CTAC is “CTAC is committed to building and strengthening effective community-based organizations through training, individualized consulting services, referrals and publications. As a non-profit corporation, our goal is to develop strong communities by providing technical assistance to neighborhood groups, tenants, councils, merchants associations and community development corporations in South Western Pennsylvania.”.

### II. Consulting Tasks

Over the course of the consulting engagement the major scope of work under taken was to design an entirely new website for CTAC. The process consultation methodology was employed and a design document was developed for an entirely new website. This design serves as a reference to developers who will develop the website. The new design was made to incorporate content management. Content management allows employees of CTAC who do not have much knowledge about the scripting languages used to make web pages, to update the content of the website without having to go into the scripts of the webpage. This brings in knowledge and expertise, which various employees of CTAC in particular subjects, to the fore when content needs to be updated, and thereby increases capacity for CTAC to serve the needs of their clients better.

### III. Outcomes Analysis and Recommendations

The outcome of the consulting task was a complete website design document. There are certain risks associated with the task in order for it to be sustainable. To achieve sustainability, the momentum which has been generated for the design of the new website needs to continue, the budget for the implementation of the website must be allocated. Decision on whether to have an

annual maintenance contract must be made. The design document of the website has been made to incorporate a search feature which will allow users of the website to search for particular information that they are looking for. New pages consisting of detailed information about the services which CTAC offers to their clients will be present on the website. Owing to the vastness of the services which CTAC offers, there will be a search feature specifically for the services page.

My first recommendation is that CTAC podcast their workshops. CTAC charges for certain workshops which they hold, they will be able to charge people a nominal fee for viewing the podcasts of these workshops. This will increase the return on investment of CTAC. Moreover they will give clients of CTAC the ability to access information from the workshops any time of the year. Additionally any new non profit organization established after the last workshop was conducted will also have access to this information, should they need it.

A second recommendation the student consultant made is for CTAC to implement an automated mailing service to send their newsletters to their clients via email. At present all email addresses to whom the newsletter need to be sent are stored on a database and are updated manually and need to be deleted manually when people need to unsubscribe. Any modification on the information about each individual also needs to be performed manually. Moreover since the emails are being sent out by an external agency, any time a modification of information, adding an address or deleting an address needs to be done the same procedure needs to be carried out online on the agency's database. If this is not done then the client will continue to receive newsletters from CTAC. This leads to a redundancy of information. The student consultant recommended that a free automated mailing service like Majordomo be implemented. Majordomo will handle the database of email addresses automatically. Users who want to be added to the mailing list need just to send an email to majordomo. Also users who want to delete themselves from the mailing list can do the same. CTAC employees need not manually add or delete the addresses. Additionally, Majordomo will also allow CTAC to keep track of all emails which have been sent out.

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# Community Technical Assistance Center

## Final Consulting Report

Student Consultant, Arjun Vasanth  
Community Partner, Alida Baker

### I. About the Organization

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Brief summary - The Community Technical Assistance Center (CTAC) is a Pittsburgh based non-profit organization that provides a range of services including workshops, consulting, referrals and publications, for the purpose of supporting other community-based organizations and non-profits, and by extension building stronger communities. They are primarily based in Pittsburgh but do work all over South Western Pennsylvania.

Organization – The CTAC is located at 901, western avenue, Pittsburgh, PA. There are a total of 6 people working at the CTAC. They serve 150 clients every year primarily engaged in community development. Their workshops relate to subjects on community development as well as operations and establishing a non profit. They operate on a budget of \$500,000 to \$600,000. They are about 24 years old. Their mission statement is

*Community Technical Assistance Center (CTAC) is committed to building and strengthening effective community-based organizations through training, individualized consulting services, referrals and publications. As a non-profit corporation, our goal is to develop strong communities by providing technical assistance to neighborhood groups, tenants, councils, merchants associations and community development corporations in South Western Pennsylvania.*

My main contact is Alida Baker who is a Community development specialist. Additionally I would term her as an accidental techie. She is not afraid to try new technologies. None of the people working at the CTAC have had much of any formal technical training and have learnt all that they know through reading and with the help of others.

The main problem identified is that their website needs some revamping ([www.ctaonline.org](http://www.ctaonline.org)). There is a splash page in the beginning which takes some time to load and they want to get rid of it. When the website was developed, they got external consultants to develop it. The scripting language, namely ASP, used by them is alien to the people at CTAC and hence they are unable to update the website or perform any changes. This is mainly due a lack of knowledge about the development of the website. Alida wants everyone in the office to update the website and we agreed that if there was a content management system implemented on the website it will encourage everyone to update the website without having them to undergo much training.

## Facilities

There are two levels in their office. In the lower level there is a conference room where they hold all their training sessions and also rent it out. Upper level has the offices where all the employees work. The areas are well lit. There are no problems related to technology in terms of structure and furniture.

## Program

The main programs the employees are involved in is community development. CTAC may be thought of as a consultant to non profits. They help non profits who are involved in community development in all matters of technical assistance. These include finance related problems, book keeping and any other problems non profits may face. They also help non profits who are involved in community development in other matters relating to the structure and bylaws of being a non profit, how to hold effective meetings, communication skills, strategic planning and fundraising to name a few. <sup>1</sup>They use computers extensively. One of the most recent and significant use of technology is the incorporation of PDA's in their data collection. CTAC is hired by various non profits and governments to take a census of buildings in a community. This data collection exercise involves collecting data on a wide array of parameters, many times almost 90 different parameters. They give their data collection volunteers PDA's to collect the data and they later synch it with their computers. They were to access more clients (those whom CTAC can do work for). They make use of their access database to a large extent and are always open to trying new things.

## Staff

The staffs are all mostly self taught in terms of computer literacy. Their latest initiative is the use of Arc View from ESRI. When there is an issue encountered which they cannot solve themselves, they count on the Bayer Center for Nonprofit Management for assistance. If they require training, they are willing to write a proposal to the company who makes the product for assistance or free training. There is a lot of enthusiasm and willingness to learn more. Alida Baker, my main contact has been with the group for about 12 years and is a professional librarian in terms of education. One of the main concerns is that she does not have the time to explore all the possibilities open to her.

The other employees Diane Smith is the Office/Program Coordinator; Marjorie Howard is the Community Development Specialist and finally Shelley Harnett, Community Development Specialist. All the people in the office use email regularly. They are well versed with Microsoft Outlook. None of them interacted with the development of the website. They give all the content to Alida to make any updates to be made on the website.

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<sup>1</sup> [http://ctaonline.org/school\\_workshops.asp](http://ctaonline.org/school_workshops.asp)

## Technical Environment

There are six computers for each of the people who work there and one server. There is a plotter for their map printing needs. They use palm pilots to meet their data collection needs. Their database system is Microsoft Access and OS is Windows XP. They are experimenting with ArcView. The telephone network and internet connections are from Verizon. There are no foreseeable problems related to technology. The main problem which I identified with this in mind is the fact that there would have to be a lot of training involved when any new software is introduced.

## Technology Management

John Boles is a technical consultant who helps the CTAC whenever required in matters of technology management. He helps with everything from moving the computers around to installing new software. Anyone in CTAC can call him whenever they have a problem. The organization considers technology very important. They feel that their work has been improved tremendously after the introduction of new technology. The decision to call John is taken by the person who encounters any problem, His hourly rates vary and sometimes he works pro-bono. The backing up of data occurs weekly. This helps in ensuring that critical data is not lost if a failure of any system occurs. Norton anti virus is run everyday on the computers to prevent virus attacks.

## Technology Planning

There is no definite technology budget. There is no technology planning committee. They try and make it a point to change their computer infrastructure every three years. Sometimes they change a computer only once it becomes slow. This results in computers being changed later than three years. They have never attempted to make a plan in the past. Their tight budget prevents them from doing so. The decision to change any computer is just made arbitrarily. If a computer is old or if the organization feels they need a new computer they make the decision. There is no formalized process. With regard to upgrades, all new software is bought as and when it is required or the organization feels there is a need. Much of the software has been also bought when Alida hears about it from others and then does a little experimentation on it to check its feasibility. They then write a proposal or receive a grant and procure the software.

## Internal and External Communications

There is a network in place. There is a wireless router and Alida does have a laptop she uses wirelessly. The staff has internet email accounts. Updating of the website is limited as there is not much knowledge of the exact working of the website. All information about donors, clients, and volunteers are managed with the help of Microsoft Access. All the employees who have a laptop use the wireless network. Those with desktops use the wired network. They have a regular newsletter that is mailed out via email every month. This is another method they use to get in touch with their clients. They have a website which is used for external communication with their clients and prospective clients. The website suffers from shortcomings such as inconsistent

data. Additionally, the website is over five years old. All except one employee can update the website. This prevents the expertise of many employees from being put on the website. The designing of a totally new website is the main consulting task for the consulting engagement.

## Information Management

They use information management software to the best of their ability but can definitely do better. Throughout my consulting task I shall be identifying problem areas where there can be improvement and recommending the same to my CP. They use a shared Access database for sharing any information which needs to be commonly updated. They used to manage their finances themselves. But after it grew bigger than they can handle, they began relying on outside help. They have an accountant who comes in part time to manage the books. He uses quick books as his financial software. There is no information redundancy which came up during my initial analysis. Their database is maintained by Alida. There is a GUI interface which is used by others in the organization when they want to make any changes. This is their primary data management tool.

## II. Scope of Work

### Task 1: Designing the new website

Description – The present website was developed five years ago. It is used as a means of reaching the clients of CTAC. The job of developing the website was sourced from an external agency. Updating of the website is presently being done in-house. This is where the problem begins. The technology used to develop the website initially is alien to the employees at CTAC. They have knowledge of HTML and hence the updating of the website happens but only in HTML. The website was initially developed in ASP and there has been no change to the overall design of the website since its inception.

Alida Baker, my community partner has the most knowledge of technology and updates the website to the best of her ability. She has knowledge of HTML and makes the modifications as possible. Maintaining the website is a difficult job and it is time consuming. This is preventing Alida from doing other work in the office to meet the mission of the organization. She feels that her time can be better spent doing work for the community.

Another suggestion from her side is to make an interface so that the other employees of CTAC are able add and delete content from the website without much technological knowledge. This would free her, as they would not have to rely on her to make all the required updates to the website. This is also a positive for the entire organization, as it gets more of the expertise reflected directly on the website.

Impact on the mission – As mentioned CTAC uses their website to reach their constituents. The website tries to emphasize the mission of CTAC to a large extent. By not being updated properly the website is moving away from its intended mission. Information is not being obtained by CTAC's clients in a fast and consistent manner. Clients who have not subscribed to the mailing list can get the information from the website. There have been complaints from clients that information they have searched for is not being found easily. Only one person possesses the knowledge to update the website. Also the website has been updated only using HTML and this has resulted in the information of the website becoming haphazard. Because of this, non profits involved in community development are not able to receive information as and when they need it. This impacts the mission of CTAC greatly as they are not able to meet it to the full extent they would like to. With an improvement in the delivery of information, CTAC's clients will be able to address the needs of the community better and faster. This will allow them to functions in a much better and informed manner. Additionally Alida Baker is the only person in CTAC who updates the website. She does not have any form of formal education in website development she uses her knowledge of HTML to maintain the website. This has led to a lot of redundant code and a loss of structure in the website. This in-turn affects the mission of the organization. The task of updating the website is causing Alida to not dedicate enough time to work with the community and thus she is not able to reach the slated mission of the organization.

Approach – The approach I intend to follow is developing a totally new website. Along with this I would like to implement a content management system. This will take care of the problem faced in terms of updating the website. With a content management system employees will be able update the website with the help of forms and therefore can perform updating with basic computer skills. The implementation of this type of system is possible only on an entirely new website. My approach is as follows:

- Draw a work process diagram on my CP's organization to better understand the organization's work processes
- Develop a context description chart to understand the infrastructure of the organization and resources available to them
- Develop a causal flow diagram inline with the process consultation process to identify any root causes for the problems
- After identifying the consulting tasks that need to be completed I developed a work plan for the task at hand
- I intend to do my requirement gathering and in the process identify the what the website needs
- I need to find out how each of the employees interact with the website
- The pages which the website needs to have shall be identified
- The design of the layout of the website and each page will be prepared
- The result of this task will be a comprehensive documentation/business plan which will outline exactly what is required for the website. This will be the documentation that we will use to obtain quotes for the development of the website and it will serve as a reference for any future updates that the website will need
- After obtaining the estimates, the website will be developed and undergo testing before full deployment. This implementation phase will occur outside the consulting engagement time frame.

Impact – I shall now address the impact which this task shall have on various criteria set forth.

- **Organization** – The work will affect the organization in a positive way. Having a comprehensive and well designed website will reach more constituents thereby increasing the ability of the organization to reach its mission. It will also lead to a lot of efficiency improvements. Clients of CTAC will be able to obtain the information they need from the website and will not have to contact CTAC for anything and everything. Alida Baker who is presently the only one in the organization who updates the website will have more time to perform her role as the community development specialist. She is normally the first person who clients contact for any information they need
- **Programs** – There will be an impact on the programs in a positive note. The task will lead to better information transfer between CTAC and its constituents. It will allow the employees of CTAC to perform updates on the website as soon as the information is available and not wait for a third party to update the website
- **Staff** – The impact on the staff will be two fold. On one hand the staff will be able to have better access to the website and the features that go along with it. This will have all

the employees update the information on the website as and when they see fit. This will allow information to be updated at a much faster rate. The clients of CTAC will also have better and faster access to information. This is a significant impact. On the hand there will be some amount of training that will need to be done for the staff to teach them the new features of the website and how to use them

- **Technology Planning** – The impact on the technology planning will be very similar to that of having any new technology in place. There will be learning involved as well as regular maintenance. The maintenance will not be very frequent but will need to be done never the less. I estimate that maintenance will have to be on an annual basis. This will impact the technology plan as now there will have to be money set aside for the regular updating of the website if the updates are to be done externally. Also if an annual maintenance contract is signed by CTAC there will be regular payments which need to be done by CTAC. All this will have to be incorporated in the technology plan.
- **Internal and External Communications** – This initiative will definitely improve communications both external and internal. As there will be immediate updating of the website, there will be faster and more effective transmission of information to the clients of CTAC.

### III. Outcomes and Recommendations

Task 1: Created an entirely new CTAC website design document which enabled the organization to meet its mission better and provide a better service to its clients.

At the end of the consulting task a comprehensive design document was created which has been sent to potential developers for estimates and quotes for the implementation of the website. A design document is a document which gives website developers an idea of what the final website should look like. It will also give the developers an idea of the technology required to make the website. The document developed is serving a dual purpose, as it was made with the involvement of all CTAC personnel, it serves as document to let the employees know exactly what to expect from the new website and a design document to get estimates from prospective developers. The second part of the document developed is the content which makes up the website. The content document is held separately for two reasons. First being, companies who are solicited for the development of the website need not know the content until the contract is signed. Secondly, the sheer volume of information makes the document bulky. The design document will be sent to companies for estimates and the project will be awarded based on these estimates.

The new website design will help the organization both internally and externally. Internally, by the use of content management, employees will be able to update the website by use of forms. As the employees of CTAC have no knowledge of scripting languages used for development of websites this greatly benefits them as they do not need to go into the code of the website to change the content. An outcome of not having to go into the code of any updating which needs to take place is that the employees will be able to change and update the website by themselves instead of relying on others. Externally, the website allows CTAC reach their goals and mission. The new website design assists in CTAC's primary goal which is to reach out to more clients and provide as much technical assistance to the community development organizations they help. A lot of new features have been incorporated in to the design document of the website which is not present in the existing website. The website design document has been made to allow the website to be updated regularly and processes non redundant information. Additionally, easy updating will be provided for by use of content management. This includes the use of forms to update the content of the website and a new search mechanism to search for information throughout the website as well as in the services page. I established that CTAC employees get calls mainly relating to the range of services CTAC offers. The new website design document has incorporated an entire section which lists CTAC's services in detail. Only if they cannot find it do they need to call CTAC. Also, a new feature which will be made available to the clients is a form which they can fill out and become eligible for a free hour of consultation with CTAC.

Alida Baker, a community development specialist at CTAC was involved in every step of making the design document. As I used the method of process consultation, I was able to teach my CP how to design and develop a design document. As Alida was involved greatly in the requirement gathering, meeting and obtaining information from the employees of CTAC as well as getting the content organized an outcome which can be seen is that she is now in a position to offer workshops from CTAC to other non profits who wish to make or modify designs and design documents for their websites. By offering this service CTAC will be able to expand the

services they offer as a technical service provider. Additionally, my CP will be able to prepare a design document when called upon to do so in the future. An outcome which is observable is that my CP with my assistance prepared the entire content document of the services part of the new website.

Before I began my task CTAC had a website which was over five years old. The website was developed by an external agency working pro-bono for CTAC and they did not involve CTAC in any of the development work. Hence CTAC had no idea of the scripting language used for the website and therefore were not able to update the website in a way they required. One of the employees at CTAC knows HTML and all updates were carried out using HTML and by only that single employee. Now Alida Baker and the other employees of CTAC realize that they can have a new website with content management and this will allow them to update the content without having to go into the code of the website. It will be very easy for them to update the content and will not require them to learn new a new technology.

The new website, as it has been designed, employs content management. Updating the website is done through the use of forms and will not require anyone to go into the code of the website. Employees no longer have to depend on someone else to update the website for them. This will allow the new website to be updated on a much more regular basis and in a much more consistent way owing to the use of content management. This allows the information needs of CTAC's clients to be met in a fast and accurate manner. For example, as per the design, all the services of CTAC will be listed on the website in great detail. The services pages include all the information which CTAC generally offers those who call for information along with this it will also allow users to fill in a form to request for more information. There are certain publications of CTAC specifically designed for non profits that will also be available to their clients though the new website. At present these publications are available in print form. This allows clients to get information on CTAC's services easily and in detail from the website. Another example is that clients who want information after office hours need not wait till the next day to call CTAC. They can get the information online. Thus, allowing CTAC to meet their mission successfully.

The content and design documents have been completed. The implementation phase of the website has begun. The design document has been sent out to get estimates for the actual development of the website. Over the next few months, a company needs to be decided upon and contract signed. My CP has realized that a new website is definitely required and she is committed to seeing the task through. The budget for the website is going to be determined after the estimates are received from the companies who the design has been sent out.

The employees of CTAC are responsible for maintaining the content of the website. They are open to the option of signing an annual maintenance contract which will be decided after the complete deployment of the website. The budget allocation for the website and the annual maintenance contract will be done based on the estimates received from prospective companies who bidding on the website. They will also bid on the annual maintenance contract which will be taken into account when money is raised for the implementation of the website.

Additionally even though the updating of the new website will be very much simpler and can be done by someone who does not have much knowledge about website scripting languages, it still

requires the person to enter information. CTAC employees have never done this kind of work earlier. But they have realized that if this is done properly, it will reduce their work load in terms of manually answering clients every time a client calls for information. If there is neglect on the part of the person whose responsibility it is to update the information, this could lead to the outcome not being sustainable. Another risk is if the estimates for the website are very high then CTAC will have to organize additional funding or look for other organizations that are prepared to implement the website at a cheaper rate and there is no well defined time line for this. They will look into budgets once they receive the estimates. A website can be developed from as little as \$495 while the upper limit depends on the content and the company who undertakes the development.<sup>2</sup> Finally, while this assignment at CTAC was very beneficial to CTAC, there has not been any new vision on technology during the assignment.

## Recommendations

### Vision:

The vision for CTAC is to use technology to become much more productive and improve efficiency. By incorporating podcasts of their workshops, they can have information available to their clients around the clock. By automating their mailing service of their newsletters, CTAC will not have to manually maintain their mailing list. They will not have to manually enter information of subscribers, delete information of subscribers and modify the information of subscribers. There is a lot of redundant information which occurs when mailing lists are maintained manually; the vision is to get rid of this redundancy. The vision also aims in allowing CTAC employees to pursue other aspects of community development such as data collection for determining which communities need development sooner than other and to collect community information for other non profits in the western Pennsylvania region. CTAC is already putting their existing technology to good use and working it to its full potential, their new vision will improve upon already existing processes.

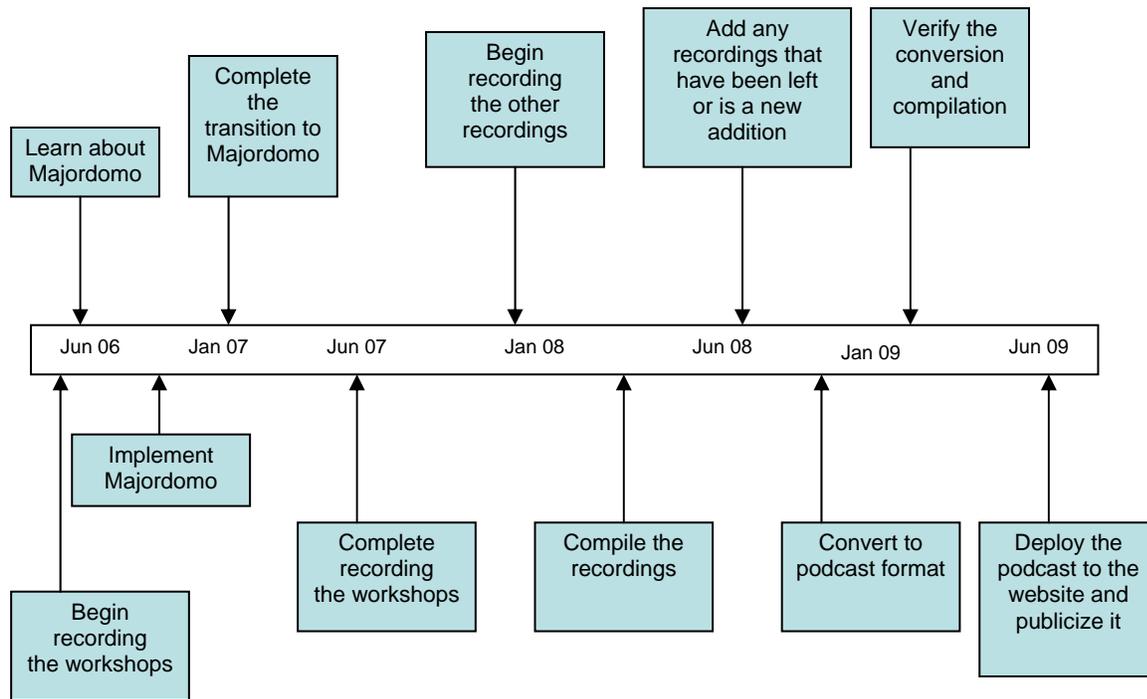
### Goals

After working with CTAC for 4 months I have come up with a set of goals which can be implemented in CTAC over the next three years. These are namely:

Incorporate podcasting for their workshops and other information  
Implement a automated mailing system which allows clients to subscribe and unsubscribe to mailing lists automatically

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<sup>2</sup> Elance.com – An agency that allows companies to bid on projects. <http://agency.elance.com/websites/index.html>



## Strategies

Task 1: Incorporate podcasting of their workshops and other information.

CTAC holds many workshops for other non profits. These workshops include subjects such as:

- How to become a 501C3 organization
- A checklist for becoming a non profit
- Developing leadership skills
- How to run effective meetings
- How to keep your financial records and books in good order

These workshops are held once or twice a year. But there are certain non profits who have not attended these workshops. Some of the non profits who have been newly instituted also need help and there are others who have not attended the workshops as they were unaware of them. Moreover some non profits that have employed new members and need them to be trained or become aware of the rules and regulations associated with non profits. CTAC finds it difficult to serve the needs of non profits on an individual basis owing to the sheer volume of requests they receive.

Podcasting of workshops is an innovative approach to allow their clients to access the workshops through the year. Podcasting as defined in Wikipedia is the distribution of audio or video files, such as radio programs or music videos, over the Internet using either RSS or Atom syndication

for listening on mobile devices and personal computers.<sup>3</sup> CTAC will need to video tape their workshops and then publish them over their website. The podcast can be downloaded by their clients and played on their computer or use of mobile devices such as iPods. This allows them to learn about the information covered in the workshops any time during the year.

Podcasting will greatly help CTAC in terms of meeting their mission better and ROI. Podcasts may be downloaded by their clients via the internet. CTAC's primary goal is to help other community development organizations to be more effective and help the community to the maximum possible. This can be achieved to a greater extent if CTAC's clients are able to access information they need in a fast and timely manner.

The workshops will be published on the CTAC website. CTAC can charge people to download the podcast of workshops which they normally charge for thereby increasing their ROI. These podcast can be workshops of CTAC, walking tours of different communities, brief descriptions of communities and other similar material. This would also give rise to efficient use of funds as once a podcast is created there is no maintenance costs involved. The only costs are those involved for publishing the podcast. Moreover the podcasts will save CTAC time of not having to explain and hold workshops for individuals. The podcasts will not replace the existing workshops; they will just serve as an addition to help their clients and offer them a better service. Clients can review workshops to make sure they have not missed any information covered in the workshops.

The strategies or major steps involved in reaching the goal of making and publishing podcasts are

Make a list of all the material that need to be published

Convert all the VHS formats which are recordings that will be made into digital (MPEG) format, if required

Any computer which is has a video capture card will be able to do this. Also if the camera is a digital video camera which has a USB connection that can be connected to the computer this conversion is possible I strongly recommend the Pinnacle TV tuner card software bundle which has an easy to use wizard to convert video from an analog to a digital format

If the podacast is only going to be audio then it needs to be converted into MP3 format or if video then as mentioned the MPEG format will suffice

Software I suggest for the conversion to MP3 format is Audacity, which is free software allows user to convert recordings to MP3 format. LAME MP3 encoder allows users to export MP3 files.

Audacity maybe found at [http://audacity.sourceforge.net/download/beta\\_windows](http://audacity.sourceforge.net/download/beta_windows)

Save the files on a local computer and upload it to the internet when required. You need to create a local folder called public\_html at the locations of the hosting company and create a link for the same on the website. The files are presently being uploaded via FTP, this process can continue to upload the podcast files also.

The outcomes for the podcasting material are significant. There will be a significant impact on the ROI as the cost of making the podcast is not much and it publishing podcasts is also not expensive. Additionally it will further the mission of the organization by allowing CTAC to

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<sup>3</sup> Wikipedia definition of Podcast - <http://en.wikipedia.org/wiki/Podcast>

reach their clients in a more efficient manner. Clients will be able to access information by the use of podcasts any time and from any where. They will not have to wait for CTAC to hold their new workshops to learn about the information they need. Moreover the number of enquires that CTAC receives for information will reduce as a lot of the information will be available via the podcasts. Client can also be asked to fill in evaluation forms to assess the effectiveness of the task. CTAC can earn additional revenue from selling their podcasts to their clients. There is no current measure for this.

The research resources needed to complete the strategies for this goal are:

Internal Resources – There needs to be a set of people who will implement the process of conversion of video or audio and publish it to the website. Moreover there need to be a computer with a TV capture card which can be dedicated for a certain period of time to convert the video. A TV tuner card can be plugged into any computer. The card comes bundled with software which facilitates conversion of video from the input source to a digital format. The input source such as a video camera or VCR can be plugged into the computer using the TV tuner card. The video can be recorded on the computer and then the software can be used to convert it to a podcast. A video camera and a microphone is required to capture information during the workshops. All the presenters and teachers need to be recorded and the sound captured just like capturing anything on video. There should also be space allocated on the website to host the podcast.

External Resources – There are certain websites which maybe referred in case CTAC needs information about podcasting. These resources are:

[http://www.podcastingnews.com/articles/Exporting\\_MP3s\\_Audacity.html](http://www.podcastingnews.com/articles/Exporting_MP3s_Audacity.html) - This is a website which gives information on all the latest innovations and also articles related to podcasts. It also has information on how to create podcasts and publish them.

<http://en.wikipedia.org/wiki/Podcast> - This is a wikipedia article on podcasts. It contains all the information which will allow anyone who is totally new to podcasts to understand the technology and significance of podcasts

<http://www.signvideo.com/conv-v-to-d.htm> - This is an article on how to convert VHS to DVD. It is especially useful when there are existing videos in store or videos captured on VHS. It gives a step by step way of how to convert VHS to DVD format. Converting to DVD format allows videos to be stored for a long time. VHS quality decreases over time, therefore making videos loose quality.

Budget – The software which is needed is free. The website to publish the material is already available. If the existing bandwidth gets exhausted, CTAC will have to purchase more bandwidth to host the files on their website for the website provider. One of the computers at CTAC can be used to convert the information into the required format. Employees who have a laptop can allow their desktops to be used to convert the information, in other words employees can work on their laptops while their desktops are being used for the conversion process.

Item or Procedure	Material Costs	Staff Hours	Consult. Hours	Est. Cost
Research technologies used for podcasting	0	20	0	20hrs *\$30/hour = \$600
Hiring recording equipment for recording the information	Based on actuals	Duration of the workshops	0	\$0
Obtain software necessary for the making of podcasts	0(free)	20 hours	0	20hrs * \$30/hour = \$600
Deploy the podcast and webhosting	Will be hosted on existing website	60 hours/staff * 4 staff members = 240 hours	0	240 * \$30/hour = \$7200
<b>Total</b>	Cost of hosting on website + actuals of hiring a recording company	340 hours	0	\$8400

1. Staff hours have been calculated at \$30/hr
2. The recording equipment is being hired instead of buying it as they will be of use only during the workshops

Task 2: Implement an automated mailing system which allows clients to subscribe and unsubscribe to mailing lists automatically.

CTAC is presently using an external agency to email their newsletters. To collect the addresses of those who want to be added in or removed, employees of CTAC need to manually add them or delete them, this is very time consuming. Every two to three months my CP can spend a full day just performing all the additions and deletions. It can go on for more than a day depending on the volume of additions and deletions that need to be performed. Every time the list needs to be updated, an employee of CTAC needs to copy the entire list of email addresses from their database and paste them to the service which actually sends the emails out.

Automating this so that subscribers of the mailing list can remove and add themselves automatically by sending an email will save a lot of time and hassle of handling all the email address often. It will give the employees of CTAC time to work on other community development projects. I recommend Majordomo which is a program that will assist CTAC in reaching this goal. Majordomo is an open source program which automates the management of Internet mailing lists. Commands are sent to Majordomo via electronic mail to handle all aspects of list maintenance. Once a list is set up, virtually all operations can be performed remotely by email, requiring no intervention upon the postmaster of the list site.<sup>4</sup>

<sup>4</sup> Majordomo Homepage - <http://www.greatcircle.com/majordomo/>

As mentioned Majordomo is a program which allows maintenance of internet mailing lists without any intervention by the postmaster. At present there a lot of time used up by employees of CTAC to maintain their mailing list. The addresses need to added and deleted manually and also sending the mailing list involves using an external service provider who charges monthly. Thus taking care of the list themselves and sending the mail themselves will save CTAC money. The saving which CTAC will incur in using a free service such as majordomo is \$120 a year along with all the time saved in not having to do the system maintenance for the list. The outcomes of this will be measured in terms of feedback from the CTAC employees on the ease of operation and time saved which can be surveyed a few months after the complete install of the service. The money saved maybe measured quantitatively. The other value which Majordomo will provide CTAC is all interactions with majordomo may be taken care of by email. They do not have to manually handle any information about their clients in the mailing list. Majordomo will also allow the owner, namely CTAC to keep track of their clients as well as all the emails that have been sent out after majordomo was installed.

The major steps involved in implementing Majordomo are:

Download and install Majordomo locally as per the instructions in the install file supplied with the download

Majordomo maybe downloaded from <http://www.greatcircle.com/majordomo/>

There a Readme file provided on the website which explains in detail all the aspects of how to use Majordomo. This Readme file needs to be reviewed carefully before using the software. The file covers the following major points

What is Majordomo?

Attributions

Mailing Lists/Support

More Documentation

The list of configuration files

Common problems and debugging

Using digest and achieve

Other programs present in the software

Tricks

Customizing the default list configuration values

A book called Managing Mailing Lists by Alan Schwartz (published by O'Reilly & Associates, 1998) is a good introduction to mailing lists in general, and to managing Majordomo in particular, from both a site owner's and a list owner's perspective.<sup>5</sup> It can be bought on Amazon.com for as little as \$2. A new book costs \$29.95. A description of the book is as follows<sup>6</sup>

This is a comprehensive guide is for anyone who wants to run or manage a mailing list, including the busy system administrator who needs to ensure that user-owned mailing lists run as trouble-free as possible.

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<sup>5</sup> Amazon.com book listing - <http://www.amazon.com/exec/obidos/ASIN/156592259X/greatcircleassoc/104-4519797-7251914>

<sup>6</sup> Amazon book description - [http://www.amazon.com/gp/product/156592259X/sr=8-1/qid=1146278764/ref=sr\\_1\\_1/104-8332715-8049525?%5Fencoding=UTF8](http://www.amazon.com/gp/product/156592259X/sr=8-1/qid=1146278764/ref=sr_1_1/104-8332715-8049525?%5Fencoding=UTF8)

There are many examples which are given There is a concentration on UNIX systems. The author covers the technicalities of list operation, including the selection and use of all the leading software. He also goes into the pros and cons of the various strategic questions that list managers must face, such as whether or not a list should be moderated or whether or not to allow non-subscribers to post to a list. This book will save any new list manager a great deal of time and trouble.

The outcome of this task will impact CTAC in a positive manner. The implementation of this software will lead to a more efficient and less time consuming mailing of the newsletters and other information published by CTAC. There will be a decrease in time used to compile and send out mailers to CTAC's clients which at present takes an entire business day. The measure for this will be input from employees of CTAC who will be doing this task. There can be evaluation forms which are distributed at regular times which help in evaluating the success of the implementation. There is no current measure for this. There will also be a good ROI or return on investment as it system does not require regular maintenance and once implemented can run for many years. There is no current measure for the task. A measure which may be used is to evaluate the benefits accrued six months after the implementation. There can be a survey among the employees of CTAC to evaluate the time saved. Also the books may be looked into to see how much money has been saved in not having to pay an external agency to do the mailing for CTAC.

The research resources needed to complete the strategies for this goal are:

Internal Resources – The key staff people who will be involved in this are those are presently involved in sending the mailing list out. Alida Baker is the primary person involved in this task and it is her responsibility to send out the newsletter. It will require the use of one computer where the Majordomo will need to be installed.

External Resources – The main source of information is the majordomo website which is at <http://www.greatcircle.com/majordomo/>. Additionally all the information that is required to setup majordomo is available in the readme file which is also available on the same website. Another source of information is a book called Managing Mailing Lists by Alan Schwartz (published by O'Reilly & Associates, 1998). It can be purchased on Amazon.com for as low as \$2. It is available at <http://www.amazon.com/exec/obidos/ASIN/156592259X/greatcircleassoc/104-4519797-7251914> - This is an amazon.com listing of the book and also provides reviews. Also users can purchase the book directly from Amazon. Users can read the reviews and determine how relevant the book is to them and purchase if they feel they need it.

Budget – Majordomo is available online for free. The expense involved will be that of installing it and running it on the computer. Additionally there will be an expense in terms of having an employee of CTAC setup the entire service. This means the employee will not be able to do his or her regular duties. But this expense can be made up when Majordomo is fully operational as it will reduce the time spent on maintaining the newsletter mailing list.

Item or Procedure	Material Costs	Staff Hours	Consult. Hours	Est. Cost
Find and purchase introductory books for training	1 book = \$2 second hand or \$29.99 brand new + shipping (\$3)	1 hour	0	1hr * \$30/hr = \$30 + \$32.99 = \$62.99
Execute implementation of majordomo	0	30 hours/staff * 1 staff members = 30 hours	0	\$30/hr * 30 = \$900
<b>Total</b>	\$32.99	31 hours	0	\$30/hr * 31 = \$930+ \$32.99 = \$962.99

## About the consultant

The consultant for this engagement was Arjun Vasanth. After completing his undergraduate education in Bangalore, India Arjun joined Carnegie Mellon University as a graduate student in the Master of Information Systems Management program. As a career path he wants to go into IT consulting. His team won the Deloitte Consulting Case Challenge at The Heinz School in October 2005. He will be interning at Bank of America this summer in New York City.

## Appendix A.

### Web Design Document

The following document is a design document for the implementation of a brand new website for The Community Technical Assistance Center (CTAC).

#### Executive Summary

CTAC is an organization that was established more than 25 years ago. The Community Technical Assistance Center (CTAC) is a Pittsburgh based non-profit organization that provides a range of services including workshops, consulting, referrals and publications, for the purpose of supporting other community-based organizations and non-profits, and by extension building stronger communities.<sup>7</sup>

The mission statement of CTAC is “CTAC is committed to building and strengthening effective community-based organizations through training, individualized consulting services, referrals and publications. As a non-profit corporation, our goal is to develop strong communities by providing technical assistance to neighborhood groups, tenants, councils, merchants associations and community development corporations in South Western Pennsylvania.”

The CTAC website is long overdue. The existing website ([www.ctaconline.org](http://www.ctaconline.org)) was developed over five years ago and has not undergone revisions, while the organization’s services have changed and expanded over the years. The website has been maintained in an inconsistent manner and this lead to the website losing its structure. With the new website we aim at not allowing that to happen. The primary feature which we want the new the new website to have is the ability to easily update the information with the use of content management. The new website needs to represent what the organization does. Also the people who refer to our website come from different backgrounds and education. The website must cater to everybody.

There will be an administrator login feature provided, and this will enable the administrator to update the website as and when required. The addition of new information will be more frequent on some pages than others. These pages will require the use forms so that the updates can occur in a consistent manner. Another factor that must be noted while developing the website is that the staff at CTAC does not have knowledge of the scripting languages such as ASP. This hinders them from making major changes to the website. This is the primary reason for the implementation of content management.

Additionally the new website will incorporate a few new features which do not exist in the previous website. An example of this is a help form which clients can fill out describing their necessities and this will entitle them for one free hour of counseling. Another new feature which we would like to employ is a search feature which does not exist on the present website.

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<sup>7</sup> <http://www.ctaconline.org/office.asp#support>

## Statement of Purpose

The website's primary use is to reach out to more of CTAC's clients. The website should help CTAC meet their goals and mission better. As a non profit which works to benefit other non profits we want to be as effective as possible. There are many services that CTAC offers and we want our clients to be aware of this. When our clients use us, we do not usually but sometimes charge them a small fee and this helps us sustain ourselves also. There a significant importance associated in keeping the website updated. Many of CTAC's clientele refer the website regularly. Moreover we want the new website to allow different community development organizations to share ideas with each other.

The present website has many features which we want to be presented in a better way and make it more pleasing to look at. The existing website has been updated only by making changes to the HTML code. The website has now lost its original structure with much of the content appearing on the homepage itself. Only one of 5 employees are currently familiar with HTML. The other employees of CTAC do not have knowledge of computer languages and cannot update the website using HTML or ASP. Hence the new website must make use of forms to update the content of the website. The use of forms or content management will allow the employees to update the information themselves without having to rely on someone else to do it for them. They have experience filling forms based on their use of the internet. We want to leverage this knowledge to allow them to update the website by themselves. They should be allowed to do the same only with administrator privileges. They are open to make changes in other ways and not just with the use forms as long as it does not involve any coding of the website. The success of this implementation will be measured on the ability of the employees of CTAC being able to update the content effectively and in an accurate manner without going into the code of the website.

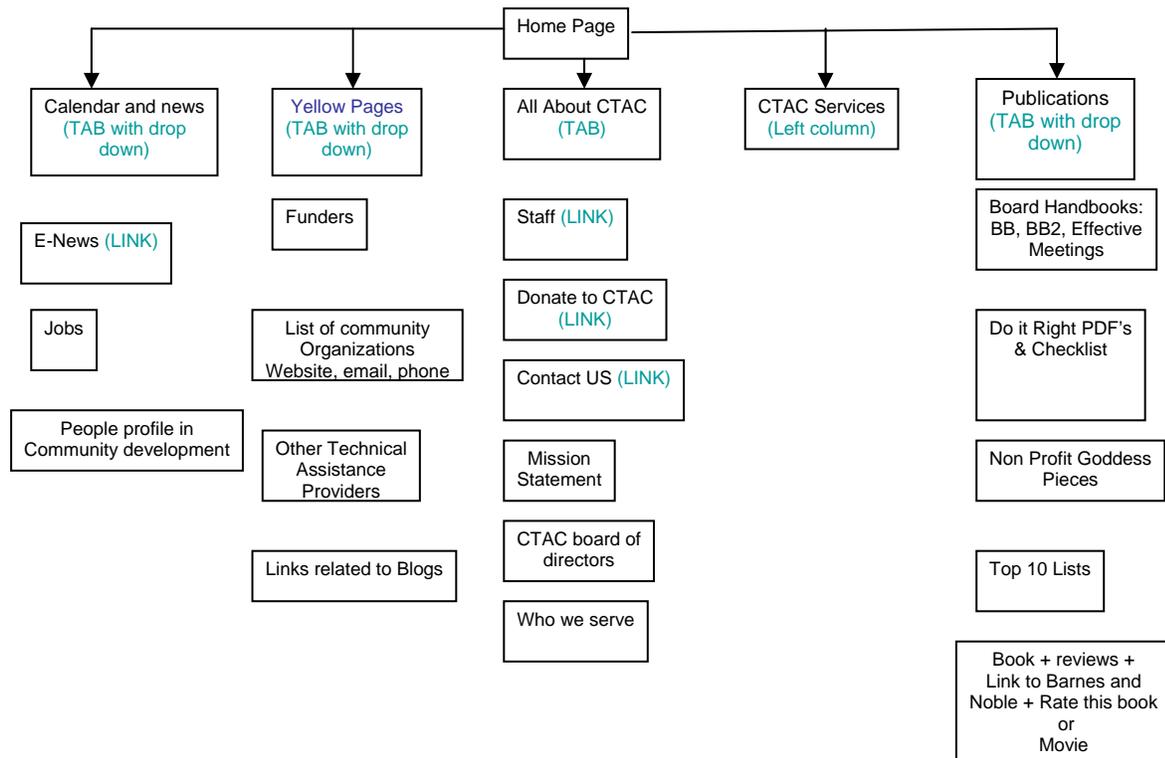
There are certain pages which will need to be updated more frequently than others. This includes the notice/discussion board and the non-profit goddess help page. The latter is where people can write-in with questions which will be answered by CTAC. There will be regular updates for this page. More details of each of the features of the new website are mentioned in the next topic.

## General Constraints

There are certain constraints which are to be obeyed while creating the website. CTAC will be providing a database of media and information which can be published. Any other media maybe added subject to obeying all copyright laws. CTAC employs an external agency to collect donations so in the content outline the page for donating to CTAC should re-direct CTAC to this external agency. The content of the website is in a separate content document which will be given to the agency developing the website after signing a contract for the same. The reason for this is the content is intellectual property and is not free to distribute without permission of CTAC.

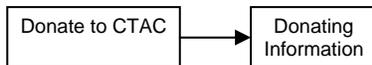
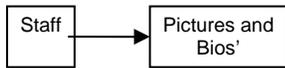
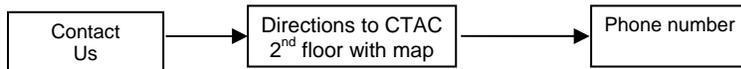
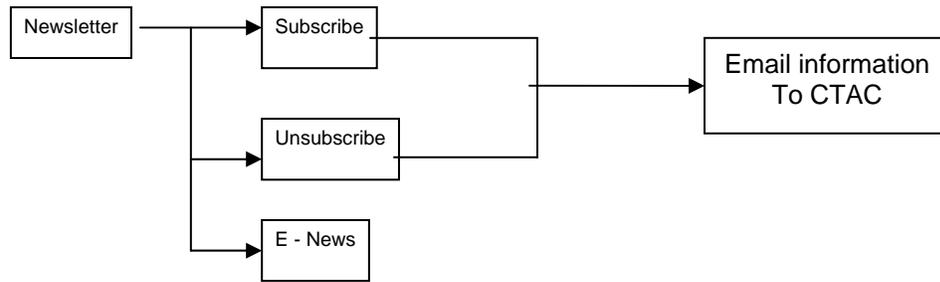
## Content Outline

The basic outline for the website homepage is as follows:

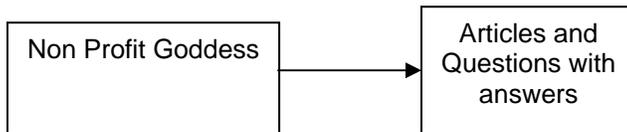
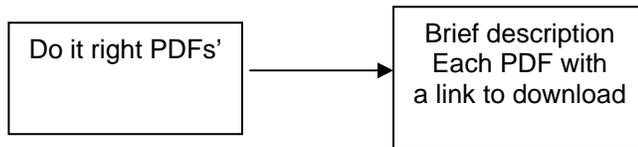


The outline for each of the individual pages is as follows:

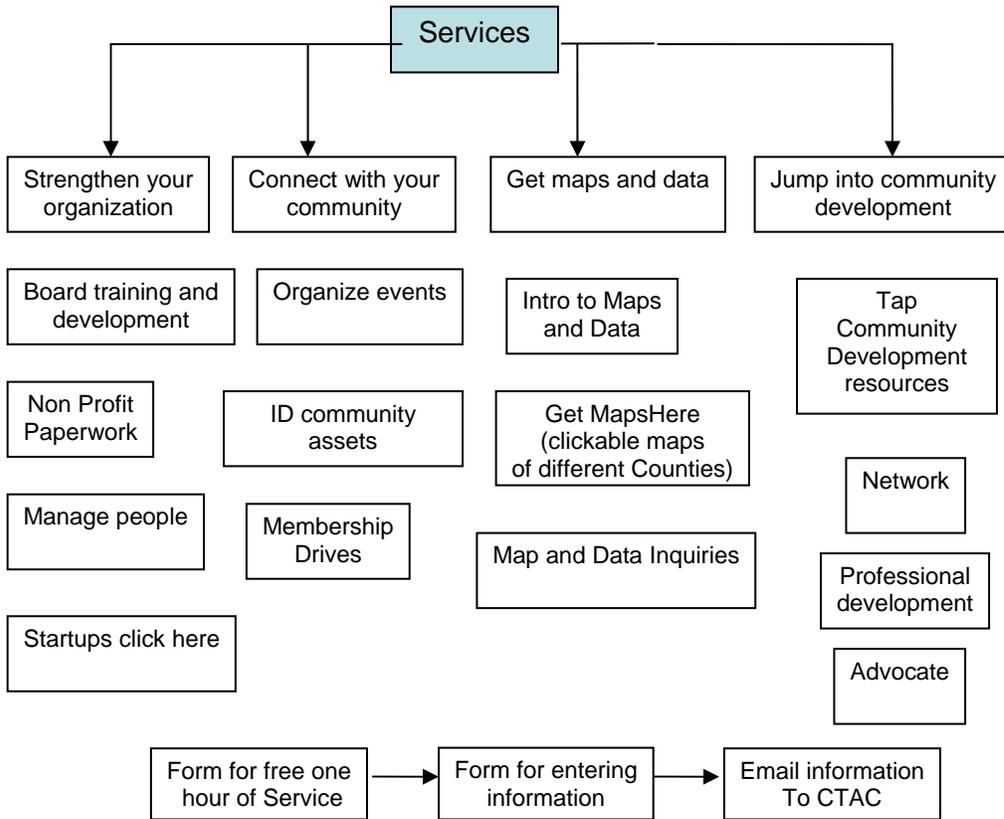
### All about CTAC



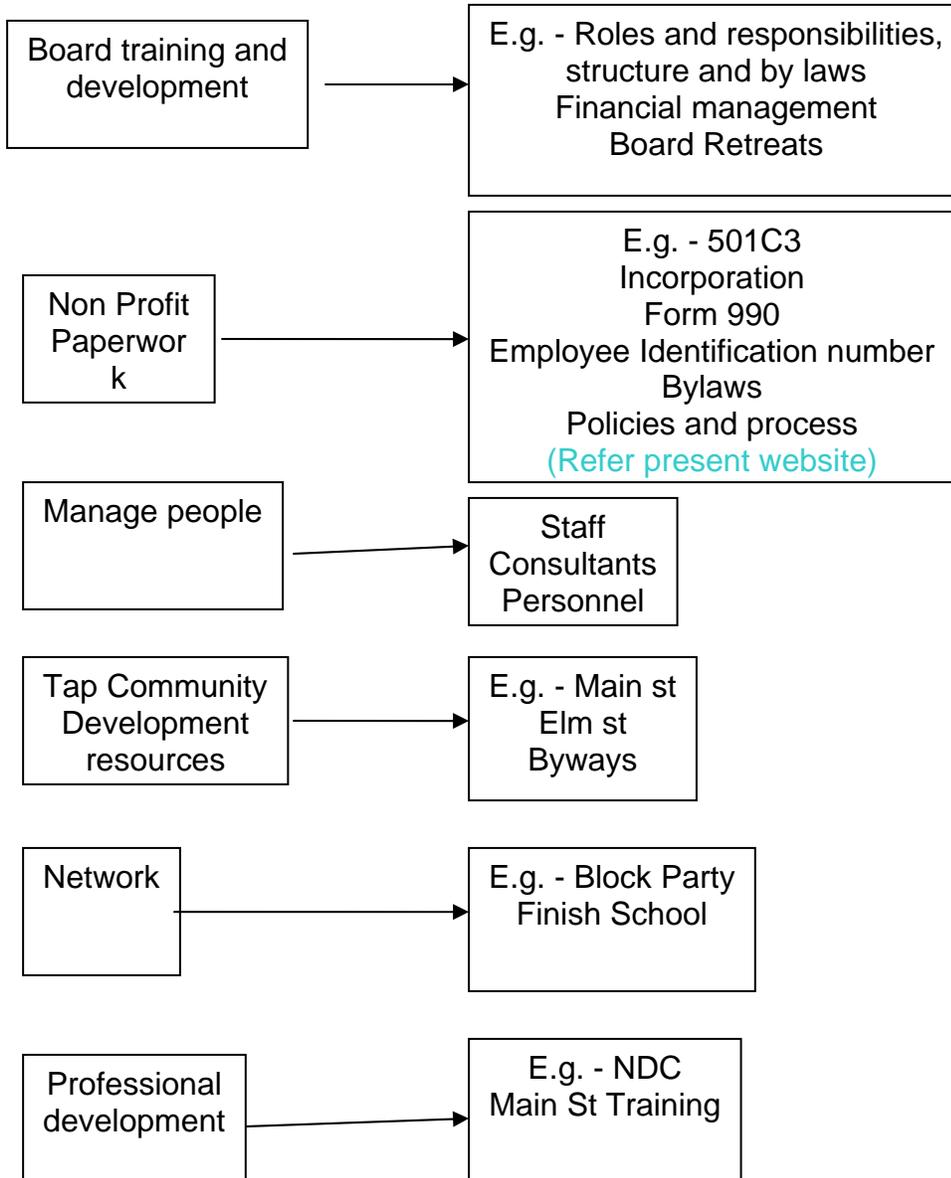
### Publications



**Services – All services have a brief description and if required will lead to another page with all the information in detail**



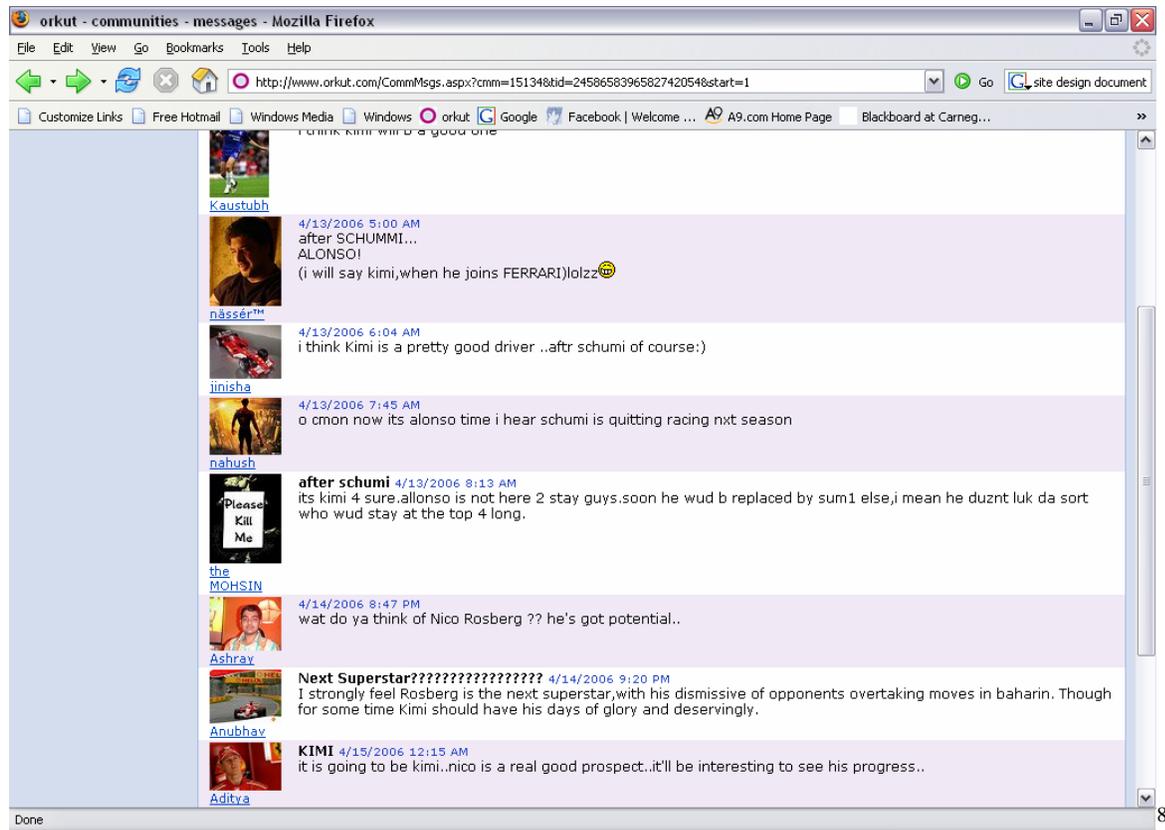
## Services - continued



## Interface mockups

The following are interface mockups which are an example of how the final website will look.

For our non-profit goddess help page should be an interactive page with the question and response alternating. The use of photographs where possible will definitely make the page more acceptable.



The forms to enter data will be customized based on the data which each form will have but the following format:

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<sup>8</sup> Orkut message exchange page -  
<http://www.orkut.com/CommMsgs.aspx?cmm=15134&tid=2458658396582742054&start=1>

Server Change - Mozilla

File Edit View Go Bookmarks Tools Window Help

Sever Name: N/A Database Name: N/A Change ID No. NEW RECORD

Application: N/A Network Hardware: N/A

Affected Software:

Short Keyword Description:

Long Description:

Testing Begin Date:

Description of Test Results:

Date Test Completed:

Tested By:  Network Personnel  Server Personnel  Database Personnel  Application Personnel

Approved By:

Date Implemented in to Production:  Comments After Implementing Change in to Production:

New App. Version Number:  New Application Patch Name:

New Database Version Number:  Database Patch Name:

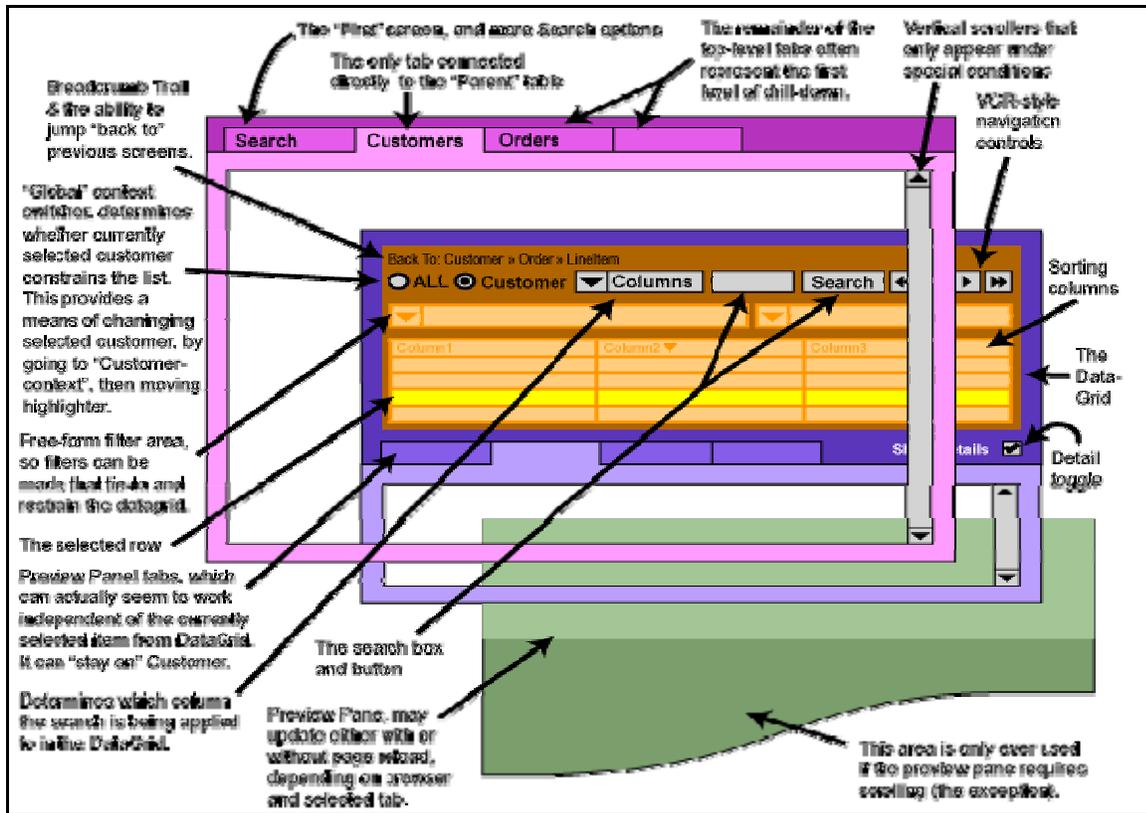
Date CM Received the New Changes:

[Discard changes and return to main menu.](#)

Each of the Services pages could be separated in form of tabs based on the material and under each topic we could have pages designed as follows:

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<sup>9</sup> <http://www.isaserver.org>



10

The home page of the website should have the services information, which is our most important information on the left pane. There will be a drop down menu for each topic and it will be initiated by a mouse over. There is already a mock-up of this in place and it should look some thing like the following:

<sup>10</sup> <http://www.mike-levin.com/tutorial-graphics/ui-labels.gif>

CTAC - Community Technical Assistance Center, Inc. - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Mail Print

Address [http://developer.mullen.com/ctac\\_new/index.asp](http://developer.mullen.com/ctac_new/index.asp) Go Links

**CTAC** Community Technical Assistance Center, Inc. Search >>>

[About CTAC](#)
[Services](#)
[News & Events](#)
[Ask The Non-Profit Goddess](#)
[Resources](#)
[Site Map](#)

**Our Mission.**  
 Strengthening effective community-based organizations through training, individualized consulting services, referrals & publications.



*Community News*

At CTAC we believe there is great strength, wisdom and ability to be found in neighborhoods, neighborhood people and the organizations they create. CTAC is here to support and encourage their efforts to make Southwestern Pennsylvania communities stronger, healthier and more vibrant, through community-based

- South Pittsburgh Development Corp. has released **Brookline**, a **photo history book** in the Images of America Series by Arcadia Publishing. The book is packed with historical information and black-and-white historic photos, some professionally shot, but most from private collections never before seen. Order your copy [online](#) or contact [Amy Fisher](#) at 412-344-2179.
- **Read Between the Signs.** Check out the award-winning sculptural-relief fence and abstract flower garden

**UPCOMING EVENTS**

View the full Calendar of Events [Click Here >](#)

**HIGHLIGHTS**

[http://developer.mullen.com/ctac\\_new/resources\\_kits.asp](http://developer.mullen.com/ctac_new/resources_kits.asp) Internet

11

<sup>11</sup> [http://developer.mullen.com/ctac\\_new/index.asp](http://developer.mullen.com/ctac_new/index.asp)