

# DESIGNING FOR ORGANIZATIONAL INTELLIGENCE IN NONPROFITS

ENABLING EFFECTIVE USE OF INFORMATION AND KNOWLEDGE LEADING TO SUSTAINABILITY

A thesis project submitted in candidacy for the degree of Master of Design in  
Communication Planning and Information Design at the School of Design at  
Carnegie Mellon University.

May 2011

---

Barbora Batokova, M. Des. Candidate

---

Suguru Ishizaki, Adviser



## ACKNOWLEDGEMENTS

I would like to thank my adviser, Prof. Suguru Ishizaki, for his invaluable guidance and advice during the entire process. I would also like to thank the Center for Victims of Violence and Crime (CVVC) staff and consultants, especially LaVerne Baker Hotep, Molly Burke, Ellen DeBenedetti, Nick Callas, Danielle Diamond, Mary Jo Harwood, Dawn Lehman, Vanessa Mayers, Debbie McManus, Tracey Provident, Erin Siffing and Stephanie Walsh, for their collaboration on this project and the trust they have placed in me.

A big thank you also goes to Sandi DiMola, my friend and mentor, who provided valuable advice, especially during the early stages of my thesis. Finally, I would like to thank my family, especially my mother Renata Procházková and my grandmother Jiřina Procházková, for their support during my graduate studies.



# TABLE OF CONTENTS

7	ABSTRACT
9	INTRODUCTION
10	Problem Statement
13	Client
14	Stakeholders
17	RESEARCH
35	APPROACH TO DESIGN
38	Project Scope
43	SOLUTION
44	Workflows
50	Information Architecture
58	User Interface
60	Custom Services
64	Supporting Deliverables
67	EVALUATION
73	CONCLUSION
74	Scalability
75	Recommendations for CVC
75	Recommendations for Designers
76	Reflection



## ABSTRACT

### KEYWORDS

organizational intelligence  
organizational learning  
knowledge management  
nonprofit organization  
human-centered design  
information design  
sustainability

In many small to mid-size nonprofits, a large amount of knowledge and information is confined to local folders, hard copy formats or even specific people, making it inaccessible to those who could benefit from it. This informal practice causes duplication of efforts and prevents the organization from maintaining critical knowledge and learning from past experience.

Partnering with The Center for Victims of Violence and Crime (CVVC), a Pittsburgh-based human services nonprofit organization, I applied human-centered design methods to identify their specific informal knowledge and information processes and structures. Using the research findings, I developed a sustainable and systematic knowledge management practice that also takes into account the constraints of funding and time, which many nonprofits face.

To support this practice, I created a system with a hierarchical information architecture that is able to expand overtime to accommodate the growth of the organization and its programs. It enables clear organization, storage and retrieval of explicit knowledge documents as well as the related tacit knowledge, creating the necessary basis for sharing and collaboration. By simplifying and formalizing major administrative tasks, the system also streamlines organizational processes, allowing the staff to work more effectively.

Implemented with Microsoft SharePoint 2010, the system creates a trustworthy environment that is necessary to facilitate organizational learning and maintain critical knowledge, leading to sustainability and innovation.





# INTRODUCTION

As of November 2010, the National Center for Charitable Statistics reported over 1.5 million nonprofit organizations. Of those, over one million are public charities such as human services organizations or advocacy groups. Many of those public charities are dependent on the skills, experience and talent of their members, volunteers and staff to further their missions.

**PROBLEM STATEMENT** Being knowledge-intensive bodies, their competitive advantage largely depends on the level of organizational intelligence (OI). Jay Liebowitz, author of *Building Organizational Intelligence*, defines the term as “an organization’s capability to process, interpret, encode, manipulate and access information in a purposeful, goal-directed manner, so it can increase its adaptive potential in the environment in which it operates.”<sup>1</sup> In other words, it is the organization’s ability to effectively use information for its competitive advantage.

Liebowitz identifies five main components of organizational intelligence: organizational structure, organizational culture, stakeholder relations, knowledge management (KM) and strategic planning<sup>2</sup> (see Fig. 1). In order for an organization to have high organizational intelligence, all five components must successfully come together and enable organizational learning, which is largely supported by successful knowledge management.

However, this is easier said than done. Often times lacking funds and staff to perform daily operations, many local nonprofits do not have the resources to implement knowledge management systems that would systematically capture and transmit their knowledge. Many accumulate large amounts of explicit knowledge in the form of various reports, presentations and other explicit data

---

1 Liebowitz, Jay. *Building Organizational Intelligence: A Knowledge Management Primer*. CRC Press, 2000.

2 Liebowitz



FIGURE 1  
**ORGANIZATIONAL INTELLIGENCE**  
and its five components as defined by  
Jay Liebowitz.

documents. However, since this knowledge is scattered across the organization, often buried in local hard drives or hard copy formats, the organization cannot benefit from it, let alone begin transforming it to tacit knowledge that would lead to organizational learning.

Furthermore, nonprofits have large amounts of undocumented institutional knowledge. Originating in people, this knowledge forms overtime and becomes embodied in networks, communities, work routines, practices, norms and artifacts.<sup>3</sup> As such, it is hard to formalize and share. Combined with a high staff turnover, this prevents the organization from maintaining critical knowledge and learning from past experience, causing duplication of efforts. As a result, the organization is unable to innovate its structure and processes that lead to sustainability.

**CHALLENGE** Therefore, the challenge of this project is to identify the existing informal and undocumented knowledge management practices and structures within a nonprofit organization and use these findings to develop a sustainable and systematic knowledge management practice. Given by the nature of the nonprofit sector, it is expected that this project will also deal with constraints such as staff availability, funding and technology.

---

3 Liebowitz

**CLIENT** To address this challenge, I worked with **The Center for Victims of Violence and Crime (CVVC)**, a Pittsburgh-based human services nonprofit organization, as a client. CVVC accomplishes its mission *Healing Trauma. Resolving Conflict. Ending Violence.* with 35 employees and 70 volunteers, including its survivor network, board and advisory council members and professionally-trained mediators.

CVVC comprises of three main program initiatives:



### **Crime Victim and Witness Assistance**

The historical backbone of the agency that helps individuals, families and communities heal from trauma caused by violence and crime.



### **Peace-It-Together Community Initiative**

Educates the community on the root causes of violence through community-based education, outreach, peace building efforts, and arts and media programming. Internally referred to as the Community, Education and Outreach (CEO).



### **Dialogue and Resolution Center (DRC)**

Supports people in resolving conflict and building and restoring relationships by providing individuals and organizations with training and/or direct mediation/conflict resolution service.

In 2006, CVVC merged with the Pittsburgh Mediation Center (PMC), a Pittsburgh-based nonprofit that provided mediation services and training in the areas of conflict resolution, third party intervention, mediation, team building, negotiation and collaboration as well as facilitation services. PMC services fit right into CVVC's conflict resolution, mediation and training initiatives, strengthening CVVC's service spectrum. While all three initiatives are closely related, the primary project client is the DRC/CEO.

**STAKEHOLDERS** The primary stakeholders of this project are the DRC/CEO staff members, because they are the primary users of this solution. Secondary stakeholders include the CVVC management and staff, volunteers and board members, as they will also greatly benefit from this project. DRC and CEO clients are tertiary stakeholders (*see Fig. 2*) as they are the direct recipients of the service that DRC/CEO staff provides. The tertiary stakeholders represent 53 distinct populations divided into six major groups: Service Agencies, Special Populations, Health Care, Academia, Professionals, Law Enforcement and Offenders.

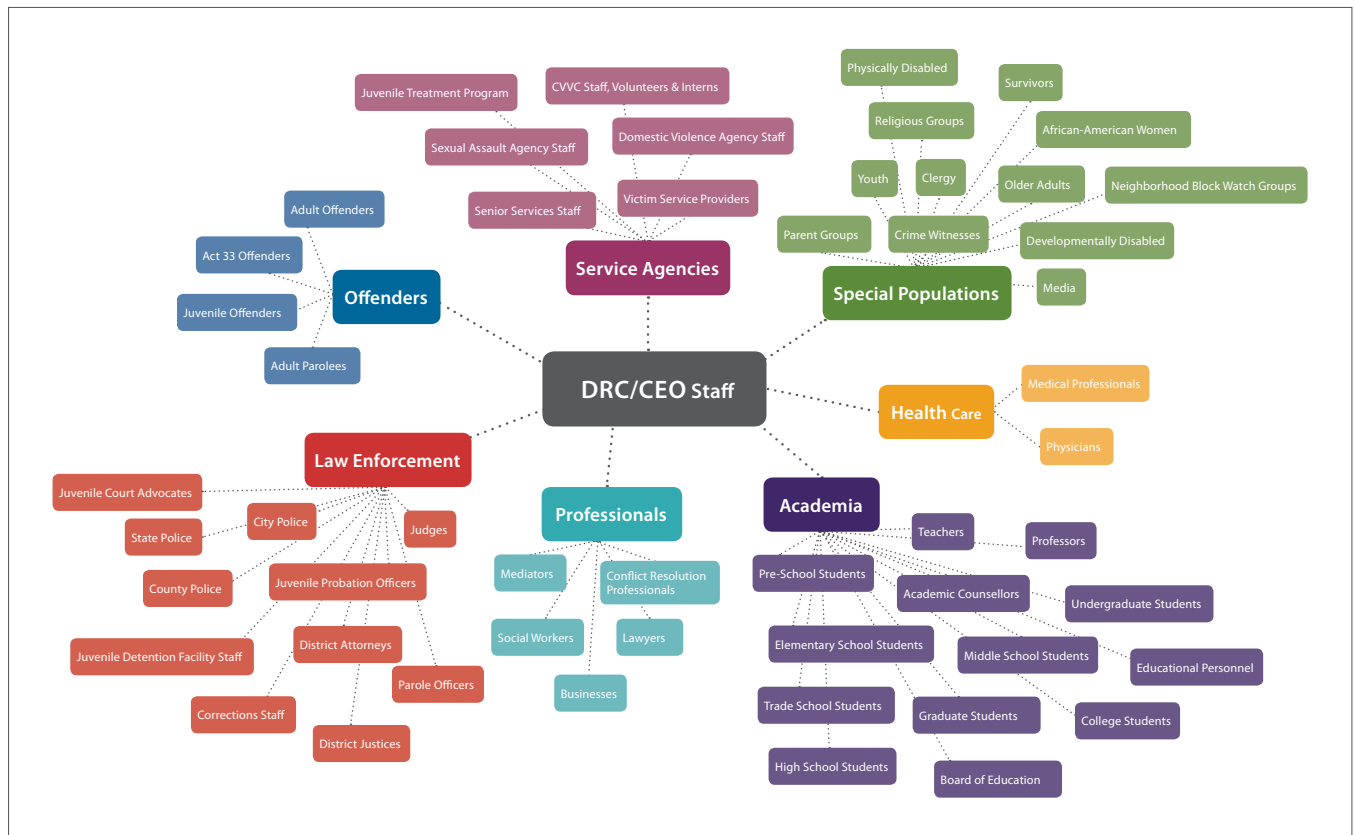


FIGURE 2  
STAKEHOLDER MAP

shows the primary and tertiary stakeholders divided into six major groups.







**RESEARCH**

To understand the culture, activities and relationships of the DRC/CEO staff and to uncover their needs, I carried out multiple interviews and used activity theory (*see Fig. 3*) to analyze them and create “activity theory” models for each interview (*see Fig. 4*). To synthesize the results of all seven interviews, I created one comprehensive model that allowed me to see the issues that were repeatedly expressed (*see Fig. 5*). I also attended regular staff meetings and held a collage session to explore ideal scenarios.

All activities provided a wealth of information that I synthesized in terms of the five main components of organizational intelligence that Liebowitz identifies: organizational structure, organizational culture, stakeholder relations, knowledge management and strategic planning. Organizing my findings according to these components made sense, because all five of them contribute to the ultimate goal: organizational learning that in turn leads to sustainability and innovation. This synthesis led to six core needs, each tied to one of the five components.

#### ORGANIZATIONAL STRUCTURE

According to William E. Halal, professor of management at George Washington University, decentralized organizational structure leads to higher organizational intelligence, because it allows local decision making and thus leads to faster and more direct problem solving.<sup>4</sup> However, CVVC’s organizational structure is hierarchical (opposite of decentralized) and is a manifestation of a top-down structure, where the most important decisions trickle down to the individuals. Due to its small size and familiarity among employees, CVVC’s organizational structure does have some decentralized elements. For example, when a new curriculum is being developed, the associate director usually approves it, unless it’s being

---

<sup>4</sup> Halal, William E. “Organizational Intelligence: What Is It, and How Can Managers Use It?” Booz & Company, <http://www.strategy-business.com/article/12644?gko=4a546>.

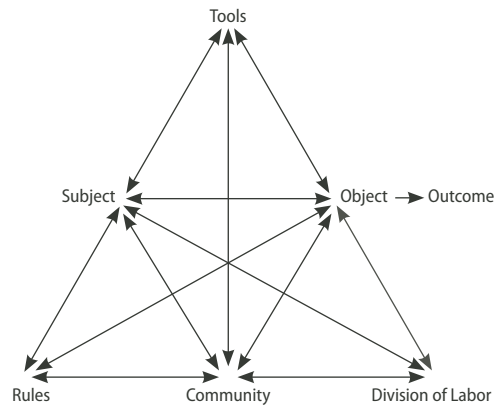


FIGURE 3  
ACTIVITY THEORY

is a framework for understanding how people in different communities carry out their activities to accomplish specific goals. The basic unit of analysis is an activity system, defined as "any ongoing, object-directed, historically conditioned, dialectically structured, tool-mediated human interaction."<sup>4</sup>

4 Donna Kain and Elizabeth Wardle, "Activity Theory: An Introduction for the Writing Classroom," (2009), [http://core.ecu.edu/engl/kaind/4530/ftp/Activity%20Theory%20for%20students\\_EW%20\(2\).pdf](http://core.ecu.edu/engl/kaind/4530/ftp/Activity%20Theory%20for%20students_EW%20(2).pdf)

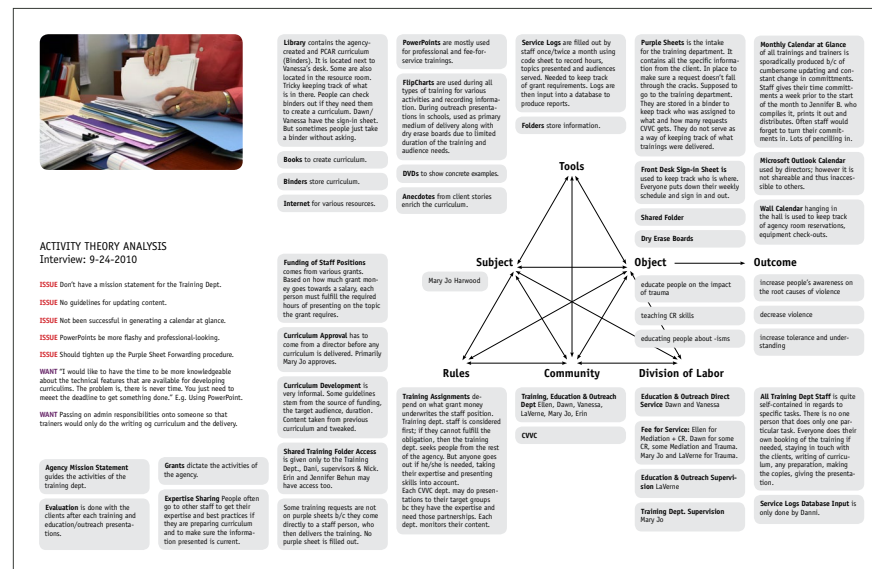


FIGURE 4  
ACTIVITY THEORY MODEL

was created to analyze and synthesize the results of an interview with a staff member.

## RELATED TO CURRICULUM DEVELOPMENT

**ISSUE Shared Training Folder** is not used for various reasons: disorganization of content, all needed files are on personal computers, no need to have access to other people's files, no knowledge on how to use it, no trust in the location, no knowledge on procedures of sharing.

Strong desire to know what other's have done, have access to other people's curricula.

"I have no idea who has access to my files."

**ISSUE Curriculum Inconsistency** across training locations.

**ISSUE Lack of Specialized Curricula for Current/Marketed Activities** e.g. Grief & Loss Group

**ISSUE Most materials come in hard copy form** - no digital copies.

Library contains the agency-created and PCAR curriculum (Binders). Located next to Vanessa's desk and in the resource room. Tricky keeping track of what is in there. People can check binders out if they need them to create a curriculum. Dawn/Vanessa have the sign-in sheet. But sometimes people just take a binder without asking.

**TRC Drive (Ellen's Files)** Dawn has access because she has historically had it from PMC and bc they co-train.

**Purchased Curricula** acquired in printed form only. No digital copy.

**Internet** to verify knowledge while developing curriculum.

**CVC Services PowerPoint** not easily found. Asked for the powerpoint, received outdated version. Ended up putting together a new presentation: "If you want quality, you have to do it yourself."

**Old Outdated Curriculum Binders** stored at people's offices, the library. Used for reference or as a starting point for new curriculum development. Not many of them are usable.

**Personal Books** stored at home. Used for reference.

**VIZ Training Manual** Contains much of the content all other presentations/trainings have. Master manual is not in the place where it's supposed to be. No responsibility for who is updating it.

**Handouts** are given to training participants. There are multiple kinds depending on the topic.

**Curriculum Plans/Agendas** are documents that guide the curriculum development.

## RELATED TO ADMIN PROCESSES

**Front Desk Sign-in Sheet** is used to keep track who is where. Everyone puts down their weekly schedule and sign in and out.

**E-mail Vacation Responder** must be set up by Dawn => cumbersome.

**Brochures/Marketing Flyers** are stored in the shared folder or with the people who update them. There is a sheet that says who updates what, but it is also obvious who has the brochures because of the brochure content. Some are difficult to locate or out of date => people do not use them.

**Paper folders** store information.

**E-mail Blast Database** of people who want to receive e-mails from the agency. Maintained by Jennifer B. Outdated.

**Purple Sheets** is the intake for the training department. Stored in a binder.

**Microsoft Outlook Calendar** to print out and distribute to other people so they are informed of one's schedule. Not shareable in digital form.

**E-mail Blasts** to market fee-for-service trainings and EVE circles.

**VoiceMail**

**Phone** to communicate with people and avoid e-mail.

**Printer/Copier** is used to make handouts for the clients.

**Flowcharts** to plan things and see the relationships.

**Spreadsheets** to help organize information.

**Sign-Up Contact Form for Mailing List** are filled out by people at trainings/other events.

**E-mail** to communicate with clients and CVC staff, e-mail content upon request.

**Forms** should be accessible to everyone.

**ISSUE Face-to-Face Communication.** More needed or is preferred to e-mail.

**ISSUE Monthly Calendar at Glance** of all trainings and trainers is sporadically produced b/c of cumbersome updating and constant change in commitments. People don't know what's coming.

**Personal Calendars/Agendas** that people carry around with them.

**Desk Calendar** is a personal calendar to use for own events and pencil in other people's events.

**Wall Calendar** hanging in the hall used to keep track of agency room reservations, equipment check-outs.

**Service Logs** are filled out by staff once/twice a month to keep track of grant requirements.

## RELATED TO TRAINING

**FlipCharts** are used during types of training for various activities and recording information. During outreach presentations in schools, used as primary medium of delivery along with dry erase boards due to limited duration of the training and audience need.

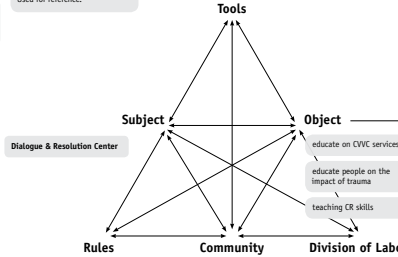
**Dry Erase Boards** are used as visual aids during shorter (1-2hrs) trainings.

**DVDs** to show concrete examples.

**Anecdotes** from client stories enrich the curriculum.

**PowerPoint** to deliver fee-for-service trainings to professionals, during EVE circles.

**WANT** More knowledge about technical features available for curriculum development.



educate on CVC services  
educate people on the impact of trauma  
teaching CR skills

put the juvenile offenders into the shoes of somebody who has been affected by crime or violence  
think about how one's actions affect others

provide info on conflict resolution and mediation  
help people develop mediation and conflict resolution skills

educating people about -isms  
give people tools to help them reduce violence, to resolve conflict peacefully

## PRACTICES: ADMIN

**ISSUE Staff Roles & Organizational Structure:** Atmosphere is not very collaborative. We are all very much self-contained. Difficult figuring out who is responsible for what. Staff moves from one position to another, often retaining some responsibilities of previous position. Many wear multiple hats.

Having to learn a lot of procedures on the go based on conversation with someone or experience.

"I work with things that I created and I know where they are. And nobody seems to care or need them."

"I don't even claim to pretend to have any idea who all does what in the agency. The only way I can survive in this agency is when I only look out for my needs."

Results in double-bookings, scheduling conflicts, duplication of efforts by multiple people.

**ISSUE** Should tighten up the **Purple Sheet Forwarding** protocols.

**ISSUE No Dedicated Admin Person** for dept. Admin work has to be picked up by individual staff.

## PRACTICES: TRAINING

**ISSUE Lack of clear protocols and workflow processes.**

"I worked in an emergency room. I don't get lost easily. I am used to multiple steps and multi-tasking. But I get here and I knew this wasn't going to work for me."

**Personal Protocols** developed by people to accomplish a task as a result of lack of direction from top level.

**ISSUE Lack of Communication from top level** regarding organizational development and growth.

**ISSUE Lack of Planning** from top level.

**ISSUE Dept. Meetings** often stay away from agenda to talk about different issues bc people who are not involved in the issue on the agenda attend the meeting. Take place monthly 11 a.m.-12 p.m. to go over the most important stuff. There is not enough time to discuss everything.

**ISSUE Difficulty with Communicating with Clients.** E.g. multiple staff involved in the process.

**ISSUE Training Assignments** Due to lack of staff and resources, many training requests, and/or tradition, any CVC staff many pick up a training depending on the topic, their experience and qualification.

**Curriculum Development** is very informal. Some guidelines stem from the source of funding, the target audience, duration. Content taken from previous curriculum and tweaked.

**ISSUE No Follow-up** on curriculum development from the top level.

**Curriculum Approval** has to come from a director before any curriculum is delivered. Primarily Mary Jo approves.

**ISSUE Version Control of Documents & Lack of Ownership for Documents.**

**Training Evaluation** is done with the clients after each training and education/outreach presentations.

**ISSUE Missing Source Attribution in Curricula & Presentations**

**ISSUE Access to Journals** to stay up-to-date on research.

**Expertise Sharing Through Conversation** People often go to other staff to get their expertise and best practices if they are preparing curriculum and to make sure the information presented is current.

**ISSUE** Both agencies (PMC & CVC) had their own terminology and what "training" meant to them. After the merger, the linguistic and contextual cultures merged.

**ISSUE Naming of Trainings** Some often called differently to appeal to different audiences.

**ISSUE** Lines between fee for service and outreach/education are not always clear. Often times it has to do with the age group where it might be education/outreach, but CVC charges for the service.

## RULES

**Dialogue & Resolution Center** Ellen, Dawn, Vanessa, LaVerne, Mary Jo, Erin, Jennifer

**Job Descriptions**

**Funding Underwriting Staff Positions** comes from various grants. Based on how much grant money goes towards a salary, each person must fulfill the required hours of presenting on the topic the grant requires.

**Agency Mission Statement**

**Grants** dictate the activities of the agency.

**ISSUE No Department Mission Statement.**

**Dialogue & Resolution Center** Ellen, Dawn, Vanessa, LaVerne, Mary Jo, Erin, Jennifer

**CVC**

**EVE Project Supervision & Implementation.**

**EVE Circles Facilitation.**

**Coordination of Violence Prevention @ Schools**

**EARN Coordination.**

**Primary Prevention w/ Gwen's Girls Supervision.**

**Radio Programs Supervision & Hosting.**

## LAVERNE

**EVE Project Supervision & Implementation.**

**EVE Circles Facilitation.**

**Coordination of Violence Prevention @ Schools**

**EARN Coordination.**

**Primary Prevention w/ Gwen's Girls Supervision.**

**Radio Programs Supervision & Hosting.**

**Initial training for production officers to teach how to facilitate the Victim Awareness Curriculum.**

**MELISSA FERARRO**

## MARY JO

**Fee-Based Mediation & Conflict Resolution Training** is inherited from PMC.

**Dialogue & Resolution Center Supervision**

**Client-Requested Fee-for-Service Trainings** She does all the follow-up, contract preparation, curriculum.

**AAA New Employee Orientation Training**

**Providing Fee-Based Mediation & CR Service** (comes from PMC)

**Marketing Fee-Based Trainings & Service** like sending letters to schools and businesses.

**U of Pitt Consortium on Ethics**

**Reading for Content** Sometimes Ellen asks Dawn to read over her curriculum because she is the only other person in the field.

**MELISSA FERARRO**

## ELLEN

**Client-Requested Fee-for-Service Trainings** She does all the follow-up, contract preparation, curriculum.

**AAA New Employee Orientation Training**

**Providing Fee-Based Mediation & CR Service** (comes from PMC)

**Marketing Fee-Based Trainings & Service** like sending letters to schools and businesses.

**U of Pitt Consortium on Ethics**

**Reading for Content** Sometimes Ellen asks Dawn to read over her curriculum because she is the only other person in the field.

**MELISSA FERARRO**

**MELISSA FERARRO**

**MELISSA FERARRO**

## DAWN

**Mini CR Training** if Ellen is not available. About 3-hrs long.

**Gwen's Girls Partnership** for primary prevention for sexual violence: parents, girls, teachers.

**Violence Prevention @ Schools: Grief & Loss Groups** Delivering service.

**Ed. & Outreach Curriculum + Agenda Development**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

## VANESSA

**EVE Circles Coordination.**

**Radio Programs Production Coordination.**

**Violence Prevention @ Schools: Grief & Loss Groups** Delivering service.

**Ed. & Outreach Curriculum + Agenda Development**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

## TRACEY PROVIDENT

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

**Police + DA Training**

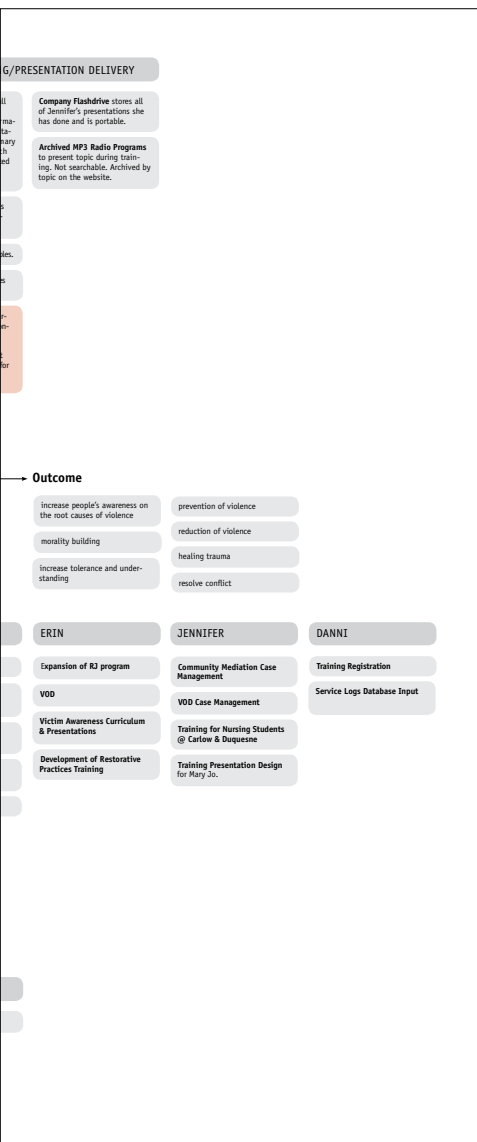


FIGURE 5

### COMPREHENSIVE ACTIVITY THEORY MODEL

was created to synthesize the results of all seven interviews. It was instrumental in extracting the core needs. The more saturated red background, the more important the issue, because it was mentioned by more people.

developed by the training coordinator/senior mediator, who has enough decision power (stemming from her professional experience) to approve the curriculum herself. Another example is when trainers/community educators can collaboratively decide to accept a training request, assign it and schedule it. Only if they run into a problem, do they approach higher-up staff.

#### NEED 1 **RECONCILE OPERATING MODES**

The mode of operation that stems from CVVC's organizational structure seems to clash with the mode needed to accommodate the fee-for-service services taken over from PMC (*see Fig. 6*). Being the historical backbone of CVVC, the Crime Victims and Witness Assistance division gave rise to the "trauma-crisis-response-mode." This is a reactionary mode that responds to crisis as it occurs and does not lend itself to pro-active marketing efforts required by fee-for-service activities, which have become a major focus for the DRC. While CVVC program initiatives (1) and (2) operate mainly from allocated government funds, the DRC is a division that requires marketing efforts to bring in the revenue.

As a result of this clash, some staff is confused where the DRC fits within CVVC. This issue has been briefly addressed by the business plan developed by Dewey & Kaye in January 2010, recommending a name change for the department (previously simply known as the "training department") to be able to market itself more effectively—hence the Dialogue and Resolution Center. However the business plan has been somewhat put on hold by the CVVC management, as it's trying to develop a plan on how to implement it. This hold has trickled down to certain staff responsibilities, leading to further confusion.

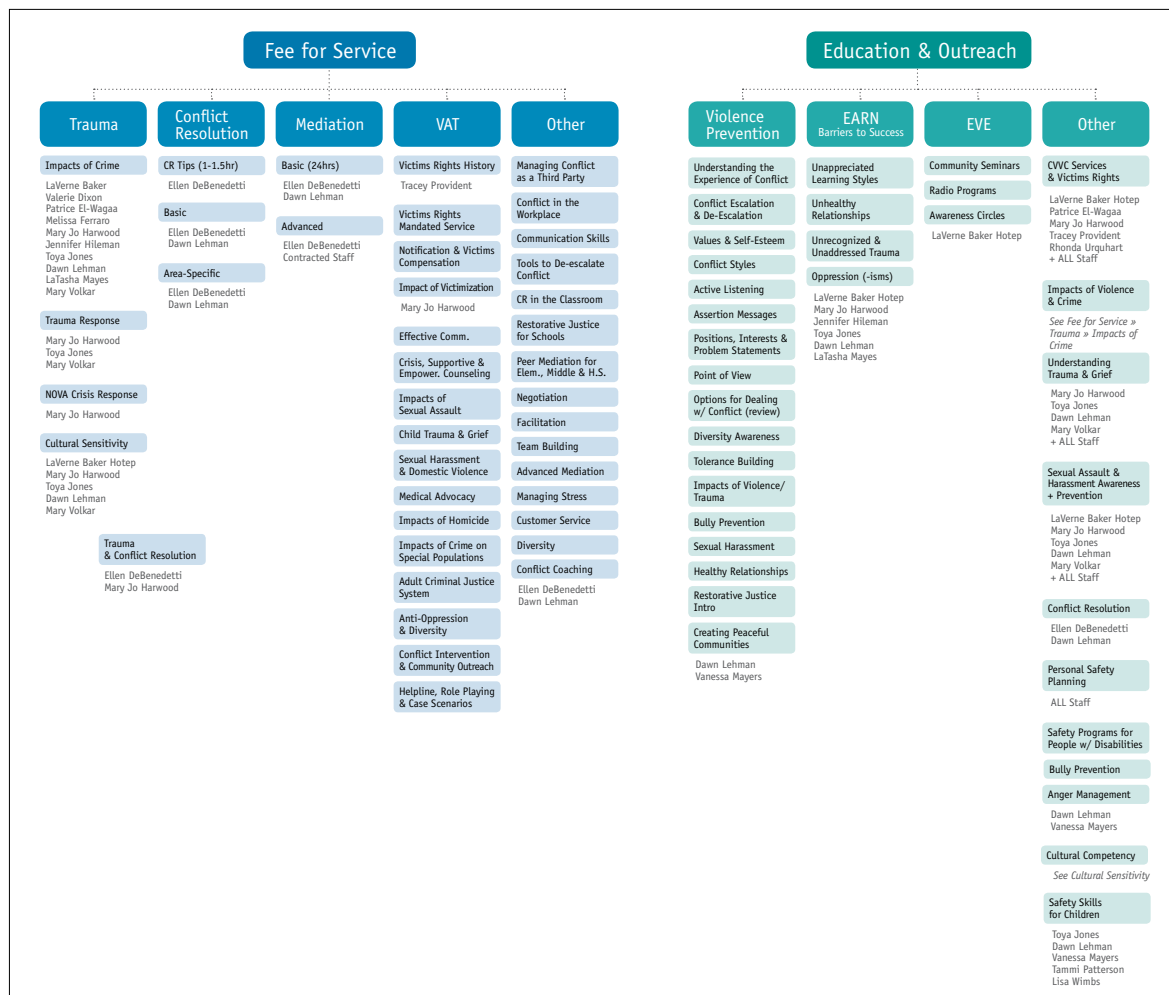


FIGURE 6  
STAFF & TRAINING SERVICE SPECTRUM MODEL

was created to understand staff responsibilities and their expertise in terms of being able to deliver various training and presentations. Even though incomplete, it shed some light on the expert knowledge of the DRC/CEO staff.

NEED 2 **CLARIFY STAFF ROLES**

While all staff members have job descriptions that clearly outline their responsibilities of day-to-day work and where in the organizational structure their position fits, clarity as to who has the best knowledge on certain topic or who is responsible for certain activities/procedures is missing. This problem partially stems from the fact that CVVC program initiatives CEO and DRC share staff members. Another reason is the shifting of staff members from one position to another within the organization, retaining some of the responsibilities from previous positions due to having expert knowledge on certain topic or specific task experience. As a result, many staff members “wear multiple hats.” While this does not necessarily prevent the staff from completing their day-to-day responsibilities, it does create additional steps in completing tasks and thus takes away time and effort that could be used elsewhere.

NEED 3 **ESTABLISH FORMALIZED PROTOCOLS & WORKFLOWS**

Another major problem that is related to organizational structure is the lack of formalized protocols and workflows. New staff has to learn procedures and protocols on the go, asking other staff questions, often being referred to multiple people within the organization to get the needed information.

A direct manifestation of this problem is the development of “personal workflows” (*see Fig. 7*). While these workflows are very organic as they emerge from everyday activity and are constantly modified according to the staff needs, they are not sustainable, because they typically cease to exist once the staff members leave and are replaced. All the hard work and time that went into perfecting that workflow is lost, because the workflow was confined to people's heads and was never recorded and formalized.



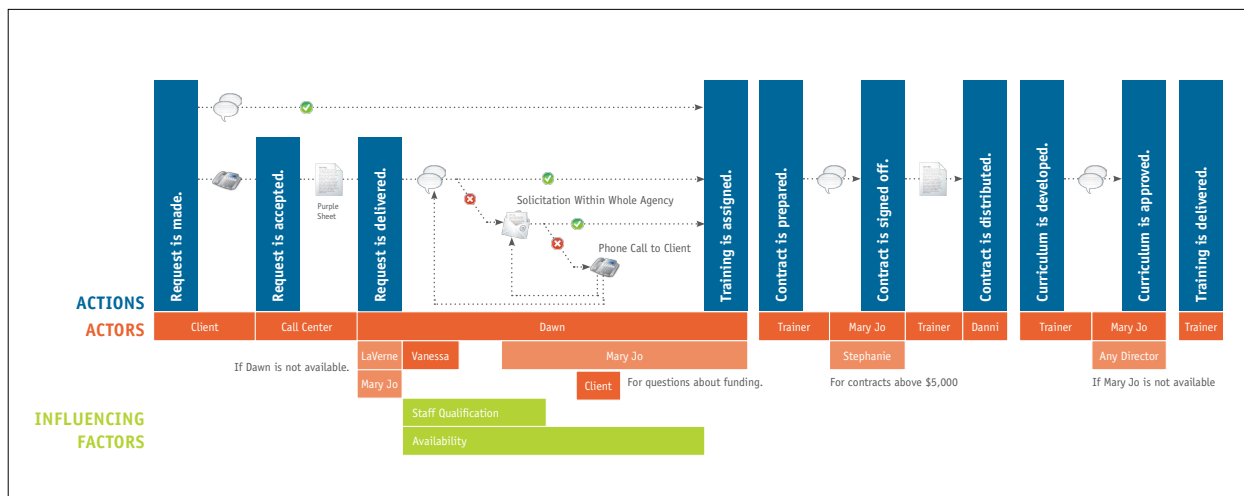


FIGURE 7  
**TRAINING REQUEST WORKFLOW**  
 was created to understand how DRC/CEO processed training requests. This is an example of an organic workflow that is not formalized.

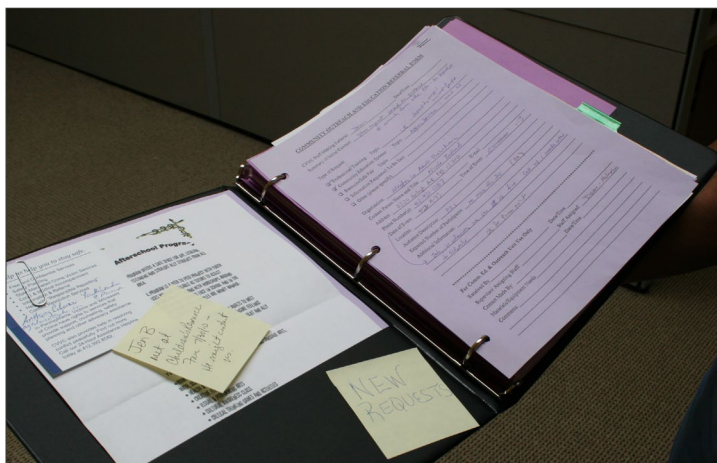


FIGURE 8  
**PURPLE SHEET BINDER**  
 is the only place the training requests are kept in. Usually it is on someone's desk.

## ORGANIZATIONAL CULTURE

Consisting of shared organizational symbols, beliefs, values and assumptions, organizational culture determines how people function within an organization. From all staff interviews, it was clear that the DRC/CEO staff has a strong understanding that preventing violence and helping people resolve conflict is the ultimate mission of CVVC. The overall atmosphere is caring, trustworthy, confidential and somewhat informal due to its small size. Within DRC/CEO, the atmosphere seems to be a little erratic, as the staff is often in and out of the office, leaving very little time for continuous communication to occur. DRC/CEO staff as well as CVVC management recognize that sharing information is more valuable over the expertise of individual staff members. However, that belief has not manifested in formalized practice.

## NEED 4

### TRACK DEPARTMENT-WIDE ACTIVITY

The agency has attempted to establish a process for creating a department-wide calendar at glance; however, due to cumbersome updating process that rested upon one person creating the calendar and printing it out for distribution, it has ceased to exist. Currently, the DRC/CEO staff uses a combination of multiple calendars: Microsoft Outlook, desk calendars, a sign-in book (*see Fig. 9*) and an equipment and booking calendar. As a result, there is no single place to look for department-wide activity.

## STAKEHOLDER RELATIONS

Stakeholder relations between interest groups play an important role in organizational intelligence, because cooperative relationships increase the flow of knowledge. As a result, positively involving stakeholders is not “simply ‘social responsibility’ or “business ethics”—it is a route to competitive advantage.<sup>5</sup> While there is a desire for collaboration among the DRC/CEO staff, in practice all staff members are very much self-contained. This does not mean

---

5 Halal



FIGURE 9  
**SIGN-IN BOOK**

is used to track staff appointments as well as the locations of staff if they are not on site. The sign-in book is one of the many calendars that CVC uses to track organization-wide activity.

that staff does not regularly meet or talk to each other. However, collaboration, where people share knowledge, learn from each other and problem solve together, does not occur often.

#### KNOWLEDGE MANAGEMENT

Knowledge management deals with the conceptualization, review, consolidation and action phases of: creating, securing, capturing, coordinating, combining, retrieving and distributing knowledge.<sup>6</sup> CVVC presently does not have a knowledge management system in place that would enable the organization to move its knowledge through these phases. The DRC/CEO staff maintains a lot of tacit knowledge such as workflows, stories from practice, anecdotes, lessons learned, best practices and heuristics in their heads. Furthermore, the department has accumulated a large amount of explicit knowledge such as various curricula, presentations and trainings, both in digital and hard copy. The main repositories for the digital files are individual local hard drivers and the shared training folder on the organization's network. Hard copies are mainly stored in the "library," which comprises of binders stored on shelves (*see Fig. 10*).

#### NEED 5

##### **ORGANIZE SHARED TRAINING FOLDER & ESTABLISH DOCUMENT VERSIONING**

The shared training folder is disorganized, has outdated content and is only regularly used by two out of the seven staff members, who have designated a special, separate folder to share files with each other. The purpose of the shared training folder is to provide space to share documents within the department and file every new presentation after it is created. However, at its present state, it contains multiple versions of presentations and curricula and there is no clear ownership of documents. Furthermore, naming conventions for presentations and trainings are non-existent,

---

5 Liebowitz



FIGURE 10  
THE LIBRARY  
is used by the staff to store curricula  
and other training material.



partially due to the need to satisfy certain requirements of grants and to appeal to different audiences by naming the presentations/trainings certain way. As a result, there is a problem with classifying various presentations and trainings and mapping out all services the agency offers. Discrepancy thus occurs between what the agency says it does (e.g. on the website or just the belief within the organization) and what it actually does (a.k.a. has the knowledge/content for it). This is another root cause for the disorganized shared training folder.

The disorganized state of the shared training folder is the main reason staff has stopped using it. Other reasons include (1) the lack of knowledge how to use it, (2) staff's distrust in it due to the lack of knowledge who has access to it, and (3) the lack of information on its usage and document-updating guidelines. As a result, staff members have discontinued filing in their documents and prefer to keep documents on their local hard drives (*see Fig. 11*). This results in multiple people owning different versions of the same content, as they modify it for their own needs, training styles and audiences. Only two staff members, who came from PMC, have access to each other's computers, which is a feature they carried over from their previous workplace. However, the sharing is only one-way, as only one of them has the need to access the other's files.

Most staff members as well as the associate director have expressed the desire to have a set of standard curricula that could be tweaked to accommodate different audiences or to serve as a starting point when preparing a new curriculum.

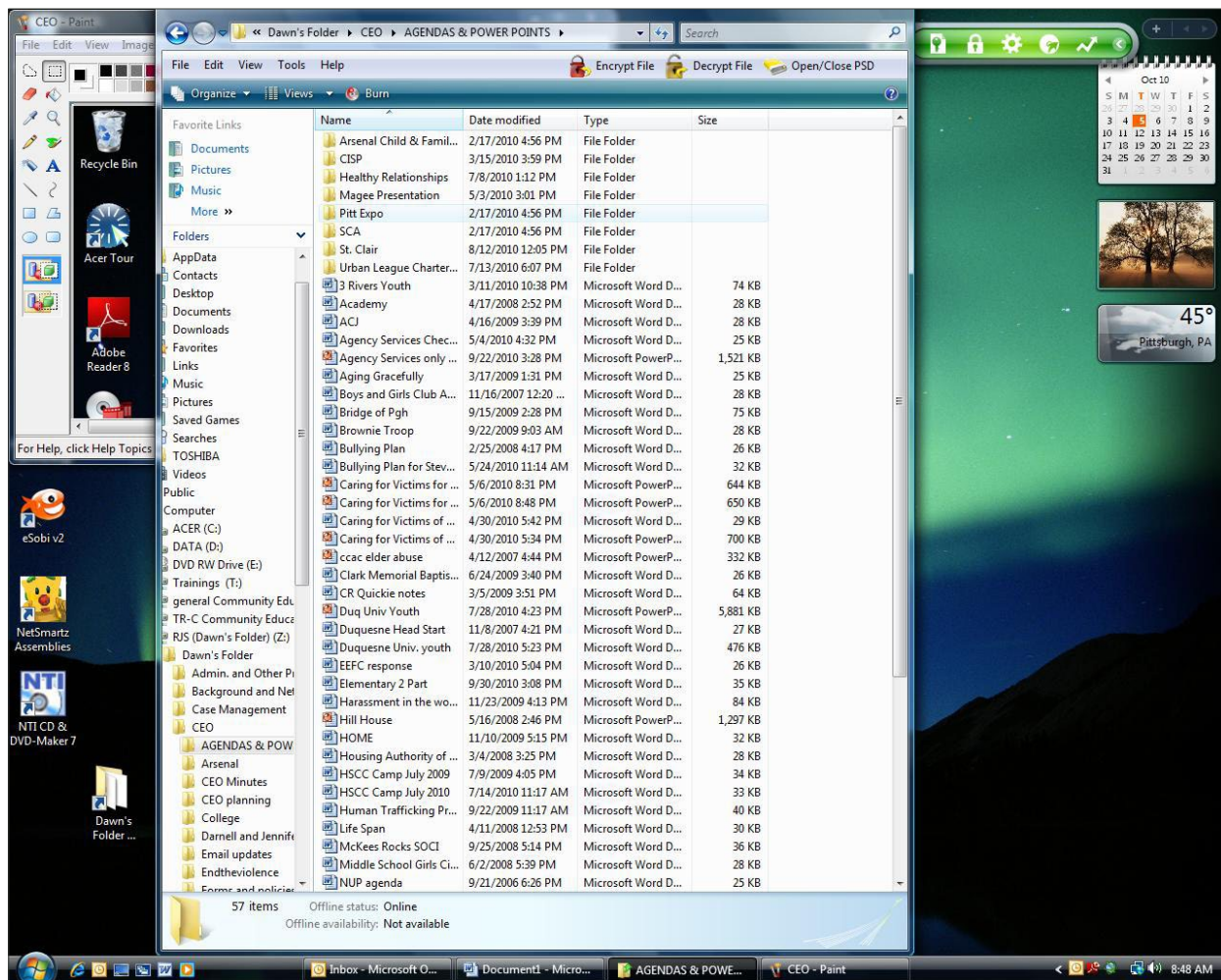


FIGURE 11

### LOCAL HARD DRIVE SCREENSHOT

shows the folder structure of a staff member's computer as well as the connected shared training folder Trainings (T:) and other shared drives.

#### NEED 6 **ENABLE EASY CAPTURING OF TACIT KNOWLEDGE**

As mentioned before, DRC/CEO staff has a lot of tacit knowledge that has not been captured. Ranging from lessons learned to best practices to anecdotes that fit within a particular training, this knowledge is crucial to organizational learning and sustainability of the organization.

#### **STRATEGIC PLANNING**

Strategic processes gather information and convert it into strategic decisions. Wide participation in the process is usually more effective as more information is available to reach proper decisions.<sup>7</sup> As previously mentioned, CVVC contracted Dewey & Kaye to prepare a business plan (*see Fig. 12*) to help market and increase the revenue from conflict resolution and mediation training. However, the plan does not include the strategic plan to implement it, which is why some organizational activities have been put on hold, while the CVVC management decides on the implementation steps. It was expressed during the interviews that the management does not include the staff in conversations about strategic planning or the future of the organization. Knowledge management and organizational intelligence research has shown that this leads the staff to being passive participants in the organization, who have no active role in the organization as whole. This may lead to lack of staff empowerment and engagement, as they simply fulfill the decisions passed down onto them.

---

<sup>7</sup> Halal



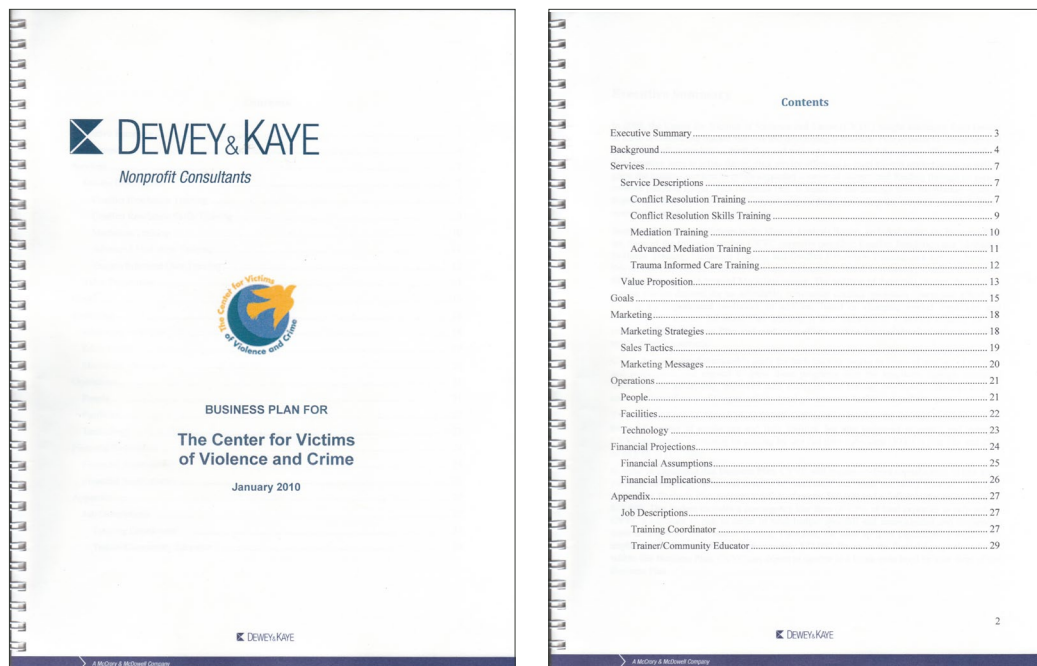
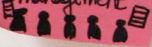


FIGURE 12  
STRATEGIC PLAN


developed by Dewey & Kaye to help market and increase the revenue from conflict resolution and mediation training.

USING  
TECHNOLOGY


Social network  
w/ document  
management




Online Portal  
(Sharepoint)



Online Communic  
Portal




Department  
Wikipedia




Discussion  
Board to  
share knowledge




Online portfolio  
of curricula




Database of  
tagged curricula  
+ docs




Social Network  
for CWC clients  
+ staff



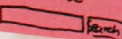
Virtual Training  
Center




Create your  
own training  
app for clients




Searchable  
Curriculum  
Database




Filing System  
for Shared Training  
Folder



Interactive  
Calendar



Document  
Timeline to  
organize folder



Blog to share  
insights from  
the field



NOT USING  
TECHNOLOGY

categorization  
guide for  
curricula/  
presentations

Create Document  
Version Control  
Department



New Employee  
Orientation  
Manual



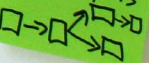
Separate  
Department  
from CWC




Create Admin  
position for  
DRC



Create Workflow  
process for  
training requests



Library of  
Curricula



# APPROACH TO DESIGN

Based on the identified needs, it is apparent that CVVC's motivation for better organizational communication and establishing a knowledge management system is to improve marketing strategy and to offer a better service to its customers. As such, its value proposition is the customer intimacy, which is "a strategy that focuses on capturing and using knowledge across the company to market, sell and service customers more efficiently and effectively."<sup>8</sup>

To address most of the core needs identified in the previous section, the best approach to design is to create a knowledge management practice supported by an online communication system that would enable the systematic capture and dissemination of organizational information and knowledge. During the exploratory research phase, I learned that CVVC purchased a collaborative and sharing platform called Microsoft SharePoint 2010 (MSP) (*see Fig. 13*) and was in the process of implementing it.

At first, this seemed like a roadblock. However, after further research, I learned that CVVC has only contracted an IT consultant to deploy MSP, not to build a system with extensive information architecture that would support CVVC activities and help the organization become more sustainable. Therefore, this presented an interesting opportunity. Realizing the full potential of MSP (after going through an online training on lynda.com), it only made sense to use the technology to the project's advantage.

---

8 Carla O'Dell and C. Jakson Grayson, Jr. *If Only We Knew What We Know*. New York, NY: The Free Press, 1998.



FIGURE 13

**WHAT IS SHAREPOINT?**

model shows the six components of the collaborative platform. Adapted from Microsoft.com.

Figure 14 shows the reasoning behind the three possible approaches for this project, with “SharePoint Site with Information Architecture” as the best approach. One of the driving reasons for using MSP was the fact that it presented a strong opportunity to design a fully-functioning product as opposed to a highly developed concept/prototype (Approach 2). Furthermore, ignoring CVVC’s MSP implementation and designing another system would simply result in duplication of efforts, because it is very unlikely, if not impossible, that CVVC would implement another system after spending funds on MSP. In addition, while the DRC/CEO staff is fairly comfortable with using technology, suggesting they use two similar, yet separate, platforms to accomplish their daily tasks is simply unreasonable. MSP is a powerful technology that possesses the features to address the core needs identified during research. Therefore, using MSP to create a comprehensive, usable and functional system within project timeline is the best approach, because it speaks directly to the needs of the client.

#### DESIGN IMPLICATIONS

It is important to know that IT systems, like MSP, do not always constitute a knowledge management system, as they disregard the importance of tacit knowledge, and make the organizational knowledge into static, inert information.<sup>9</sup> Therefore, it is crucial to use the technology to not only organize the explicit data like presentations and curricula, but to also create opportunities for the staff to share their tacit knowledge and have direct interactions among each other, where that particular knowledge is shared. This is particularly important, because the DRC/CEO staff has repeatedly expressed the desire to continue to have direct personal contact.

---

<sup>9</sup> Borghoff, Uwe M. and Remo Pareschi. “Information Technology for Knowledge Management.” *Journal of Universal Computer Science* 3, no. 8 (1997): 835-842.

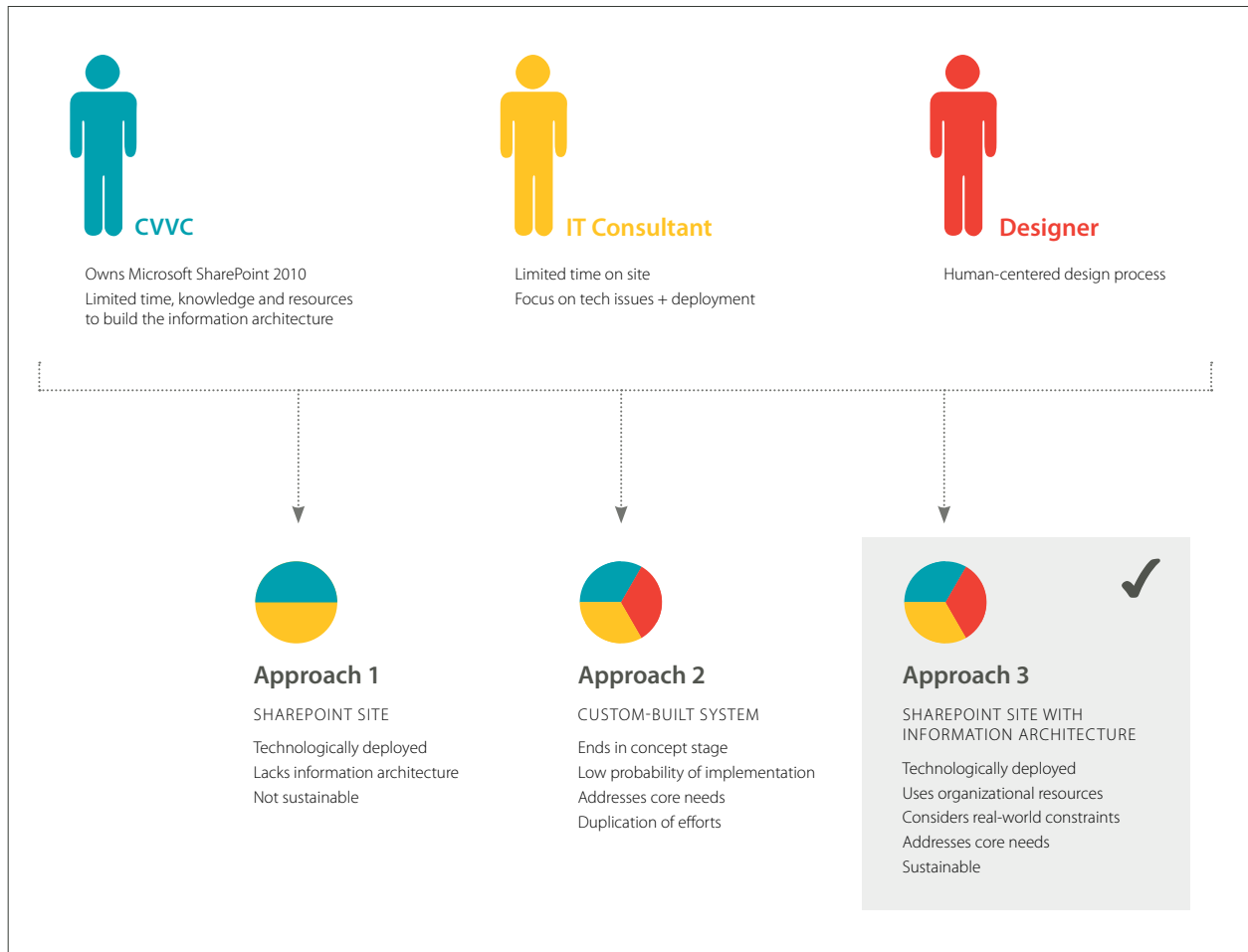


FIGURE 14  
THE ROLE OF DESIGN MODEL

shows the reasoning behind the decision to make use of the SharePoint 2010 technology and leverage all of the organizational resources.



Another important consideration related to the management of various documents (explicit knowledge) is the fact that DRC/CEO staff will continue to generate multiple versions of presentations/curricula, because of their need to tweak the content for various purposes and audiences. Furthermore, because trainers/community educators have varying teaching styles, they modify the content to fit their own style. While some may use a PowerPoint as the sole guiding document, for others the PowerPoint might just be one of the tools of delivering the content while having a comprehensive agenda (another document detailing the content) as well.

**PROJECT SCOPE** Even though CVVC is implementing MSP organization-wide, the scope of this project is limited to the DRC/CEO section of the entire MSP architecture. It should also be understood that the reconciliation of the organizational modes (Need 1) will not be directly addressed by the solution as it is outside of the capability of knowledge management.

While this project is about organizational intelligence and knowledge management, the solution will not constitute an all-encompassing knowledge management system as defined by literature. O'Dell and Grayson identify four enablers for successful knowledge management: culture, technology, infrastructure and measurement.<sup>10</sup> While the culture of the DRC/CEO staff is supportive of knowledge sharing on the micro (individual) level, support systems within the macro (organizational) level such as employee promotions based on the amount of knowledge sharing do not and, in reality, cannot exist due to the nature and small size of CVVC. Hence, the culture enabler can only be taken so far. Furthermore, implementing extensive employment infrastructure into the solution is unrealistic, as the possibility of CVVC creating new job

---

<sup>10</sup> O'Dell and Grayson.



positions such as chief knowledge executive that would facilitate knowledge management is highly unlikely. Measurement, focusing on evaluating the knowledge sharing contributions to projects and processes, is another important enabler and should be taken into account; however, the main focus of this project is on the technology that enables the sharing.

Therefore, this project's goal is to enable the effective use of information and knowledge across the organization and make the communication among staff more efficient through the use of technology, because it is clear that designing a full-fledged knowledge management system within the allocated timeline and organizational resources is outside of the scope of this project.



# Dialogue and Resolution Center ▶ Home

[CVVC Main](#) [DRC Home](#) [Training & Education](#) [Restorative & Transformative Practices](#) [Meeting Workspace](#) [DRC Blog](#)

## Quick Links

[Purple Sheets](#)

## Lists

[Calendar](#)
[Tasks](#)
[Contacts](#)

## Discussions

[Team Discussion](#)
[Recycle Bin](#)
[All Site Content](#)

## Dialogue and Resolution Center

The DRC provides critical conflict resolution, state recognized mediation, and dialogue services. As such, it is the "front line" resource for resolving community conflicts. The DRC also facilitates dialogues in large groups or public meetings, assists with culture clashes that can occur in schools, workplaces and neighborhoods, and assists with the integration of immigrant and refugee populations into already established communities.

### Training & Education

A site that stores documents and other resources for both Community Education & Outreach program and fee-for-service trainings.

- [Administration](#)
- [Training](#)
- [Contracted Training](#)
- [EVE Project](#)
- [Supporting Research](#)

### Restorative & Transformative Practices

A site that stores documents and other resources regarding restorative and transformative practices.

- [Victim Offender Dialogue](#)
- [Community Mediation](#)
- [Supporting Research](#)



## Calendar

[←](#) [→](#) April, 2011

S	M
27	28
3	4
10	11

**SOLUTION**

The final solution consists of four interrelated components: the workflows, the information architecture, the user interface and the custom services (*see Fig. 15*). The workflows model the knowledge management practices leading to systematic capture and dissemination of knowledge and information. These workflows are supported by the information architecture that both sustains and grows out of DRC/CEO activities and manifests itself through the MSP user interface. Finally, the custom services are part of the entire solution and help make the system respond to the particular needs of DRC/CEO.

## WORKFLOWS

To illustrate how the solution would be used, I created two task flow analyses of specific activities: (1) processing a training request and (2) locating and modifying a PowerPoint presentation. These two task flows respectively represent two kinds of activities the solution would support: (1) the systematic gathering and dissemination of knowledge and information through higher-level practice, which directly addresses Need 3, and (2) the basic accessing and creating of documents/information, which is inherently enabled by the MSP technology and addresses Need 5. These two types of workflows were also helpful during the initial development of the information architecture, because they modeled the level of granularity the system would support.

I focused on developing the first workflow of processing of a training request (*see Fig. 17*), because it is solely supported by MSP, not defined by it as in the case of type 2 workflows. The first workflow has three MSP Workflows (automated processes) defined in MSP Designer (*see Fig. 16*): (1) notifying the appropriate staff based on

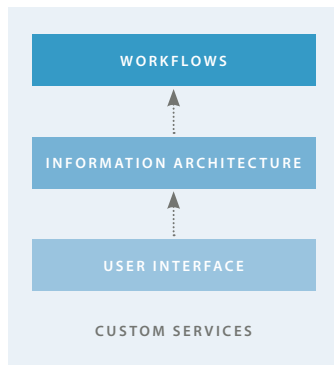


FIGURE 15  
**SOLUTION MODEL**  
 shows the relationship of the components that form the solution.

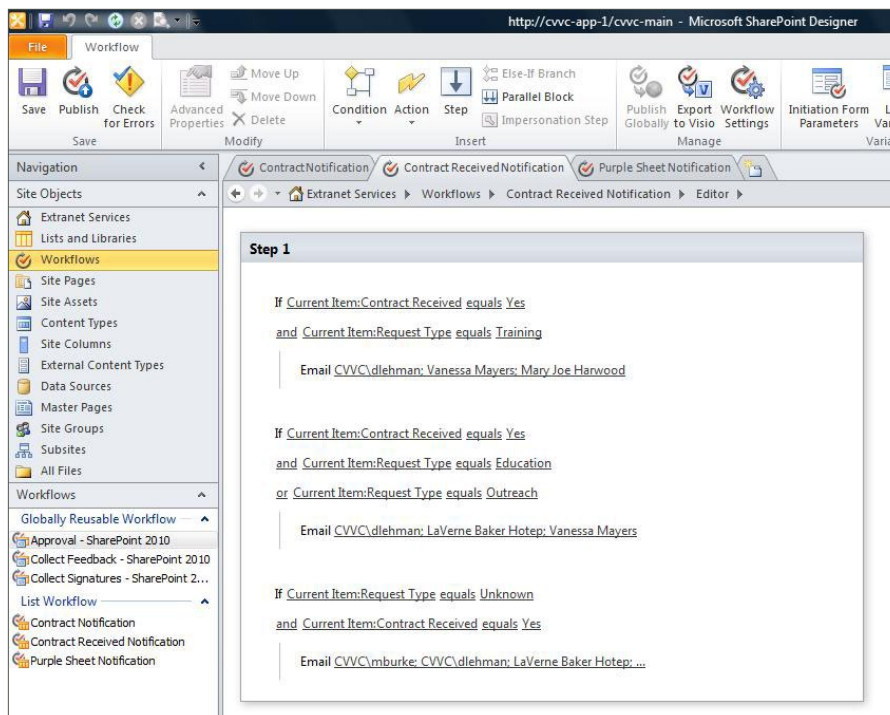


FIGURE 16  
**WORKFLOW DEFINITION**  
 as designed in SharePoint Designer.

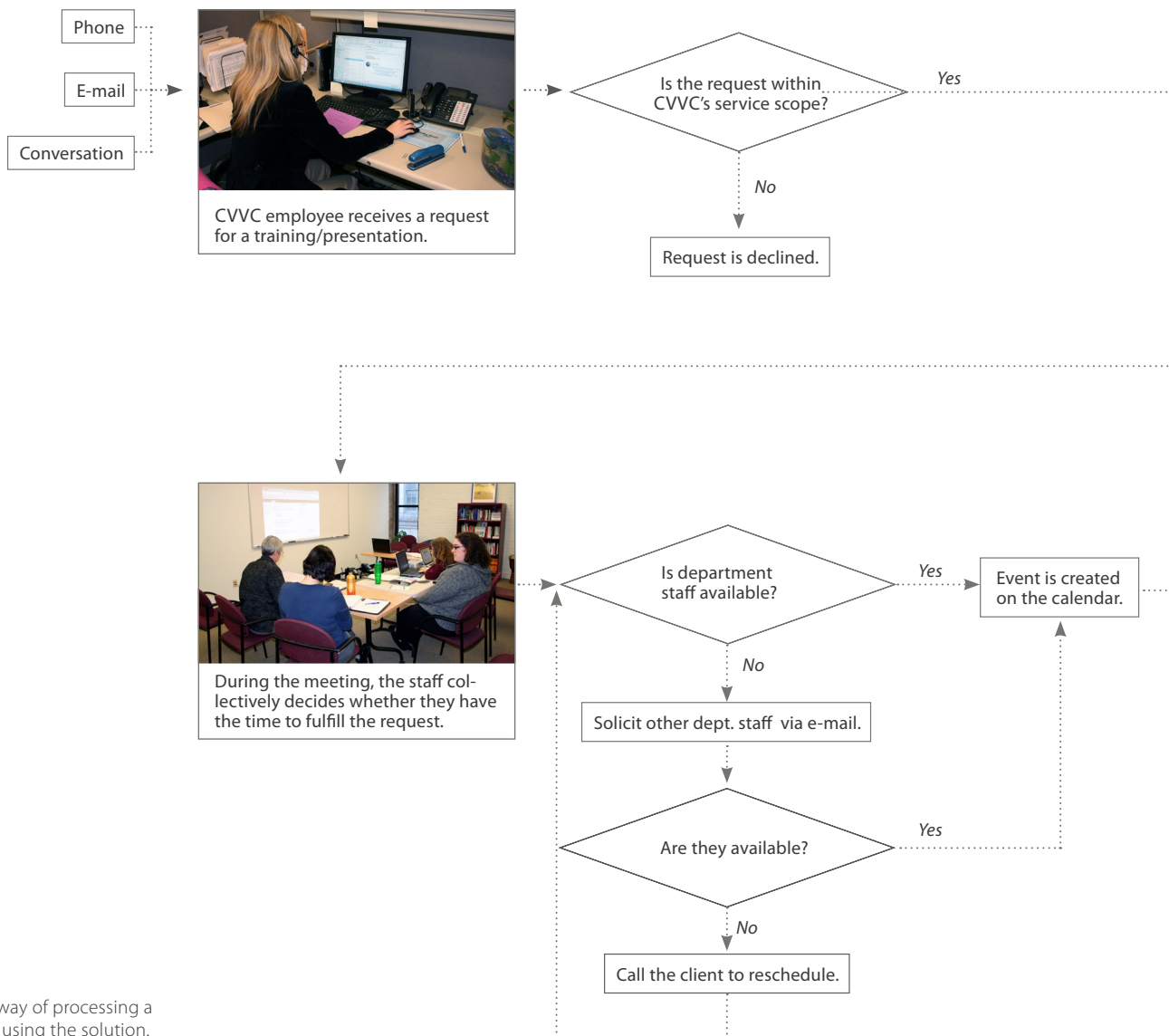
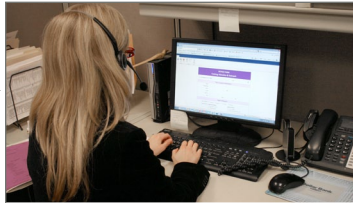


FIGURE 17  
**WORKFLOW**  
 shows the new way of processing a training request using the solution.



CVVC employee fills out the electronic Purple Sheet form.

System sends a notification to specific staff based on the type of request.

Individual staff reviews the request before the next meeting.

Staff also collectively decides whether a contract is needed for this request.

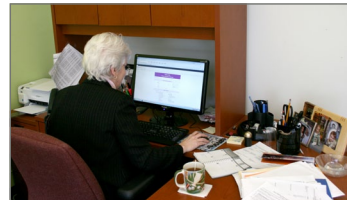
Is contract needed?

Yes

System generates a notification for fiscal to prepare a contract.

No

Training request is processed.



Once the contract is received back, fiscal marks it on the form so the system can notify the staff.

the request type, (2) notifying fiscal that a contract is needed, and (3) notifying the staff that a contract was received and that the presentation/training can occur as planned.

#### PURPLE SHEET FORM

To make this workflow functional, I designed a new Purple Sheet (see Fig. 18), which is the main form to process training requests at CVVC. Migrating the form from a hard copy format to an electronic one in InfoPath required some adjustments to be able to define the custom MSP Workflows. It was also an opportunity to look at the organization of the information fields to correspond with the staff's experience of filling it out. Due to the nature of the digital format, I was able to make some fields easier to fill out by providing pre-defined drop-down menus. The electronic format now also offers more consistency in the information acquired thanks to the predefined options or radio buttons allowing only one choice.

After having consulted and tested the form with multiple DRC/CEO staff, minor adjustments were made to individual fields as well as their sequence. When the form was completed, SharePoint wasn't available to the entire organization yet, so the new electronic Purple Sheet was first printed out and distributed across the organization so that all CVVC staff could start taking advantage of the new, more efficient form. When SharePoint did become available organization-wide, the Purple Sheet Library (folder) was moved up from the DRC/CEO SharePoint section to the main CVVC SharePoint homepage to be more accessible to everyone, not just the DRC/CEO staff.

This workflow thus serves as an example of how the system facilitates the collection of important information and makes it accessible to multiple people across the organization, contributing to better knowledge management. It also shows how the system can be used to streamline cumbersome administrative tasks, allowing





the staff to focus on more important things. Finally, it shows how certain activities can be formalized and thus made more sustainable. The system is fully capable of supporting many other activities like this, and it is expected that these will develop overtime.

## INFORMATION ARCHITECTURE

The central component of the solution is the system's information architecture that directly supports the workflows. It also enables clear organization, storage and retrieval of explicit knowledge documents as well as the related tacit knowledge, creating the necessary basis for sharing and collaboration that leads to organizational learning. A five-level hierarchy system, the architecture is able to expand overtime to accommodate the growth of DRC/CEO and its programs.

Designing the information architecture was a process of creating multiple models that either addressed different aspects of the system, targeted a different audience (myself vs. CVVC vs. the public) or were an iteration of a previous model to incorporate new findings from usability testing.

**MODEL 1** The first model for the information architecture (*see Fig. 19*) was my first attempt to represent the structure of the system based on my previous knowledge of the organization, its services and the DRC/CEO shared training folder. Primarily intended to aid my own understanding, this model is possibly the most complex one, as it draws on expert knowledge of the MSP platform. I used color-coding to distinguish among the various types of sites and web parts MSP offers to build the system. As such, the first model is more successful at representing the various elements of SharePoint rather than the overall hierarchy of the system.



**MODEL 2** Stemming from the previous model, Model 2 (*see Fig. 20*) was created for the first thesis poster session. Its main goal was to clearly communicate something unfamiliar to an audience. I simplified the model by getting rid of the extra information portrayed by the color-coding and reduced much of the parts of the previous diagram into icons. As a result, this model helped me (and my audience) to see the overall hierarchy. Furthermore, this model also communicates the scope of the thesis project by placing it within a larger hierarchic system of the entire CVVC SharePoint site.

After creating the second model, as I was getting closer to implementation, I realized the key challenge in creating the information architecture was determining whether certain areas of expertise (e.g. victim offender dialogue or conflict resolution) should be their own sites, separate pages or just document libraries (folders). Another challenge was deciding where these should be placed within the information hierarchy. Solving this required intimate knowledge of each area of expertise and how many documents existed within that area. Even after two and a half months of research of the organizational context and activities, I was no expert on any of the specialized fields CVVC embodies. As a result, it was hard to make those decisions alone.

**CARD SORTING** To address these challenges, I designed an open card sorting activity, asking each DRC/CEO staff member to create their own information hierarchy (*see Fig. 21*). I then created a separate information architecture model in OmniGraffle for each staff member and asked for additional feedback based on the visualization. To obtain a statistical analysis as well, I recreated the card sorts in websort.net, an online card sorting service. The most useful analysis was the tree view (*see Fig. 22*), which mapped all the items and placed them into categories based on the similarities of each participant's card sort. Findings from the card sorting activity and the subse-



FIGURE 21  
**CARD SORTING**  
addressed some of the challenges encountered during the development of Model 1 and Model 2.

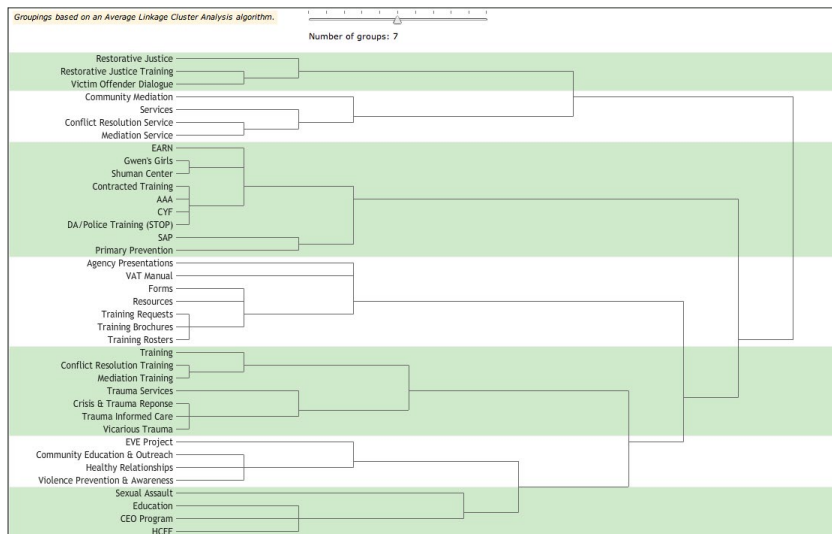


FIGURE 22  
**WEBSORT.NET TREE VIEW**  
shows the seven main categories based on statistical analysis of all card sorts.

quent analyses directly led to the final prototype of the information architecture that was fully implemented with MSP.

**MODEL 3** Possibly the least visually appealing, the third model (*see Fig. 23*) for the information architecture was created to accommodate findings from the card sorting activity. Using the modeling software OmniGraffle Pro, I was able to make quick additions and changes to the model to accommodate the final feedback from DRC/CEO staff before I moved to implementation.

**MODEL 4** Having the final hierarchy, I was ready to fully implement it in SharePoint. However, I soon realized that the third model wouldn't be particularly helpful during the actual building, because it was missing the classifications relevant to SharePoint building blocks (sites, pages and libraries/lists) as well as the relationships among the individual pages. In a sense, I needed to go beyond the detail of the first model that used the color-coding. Building this fourth model (*see Fig. 24*) therefore forced me to think about the system in more detail and enabled me to create the secondary navigation as well as to capture the various text links that would connect the individual pages among sites.

After implementation, I held usability testing sessions (*see Evaluation section*), to finalize the information architecture (*see Fig. 25*).

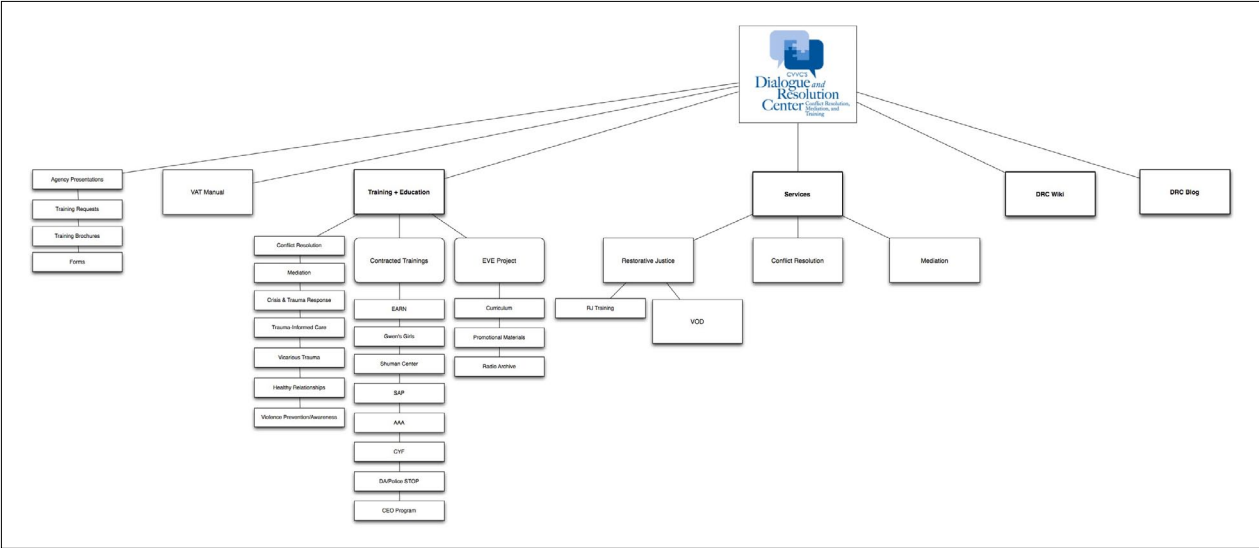
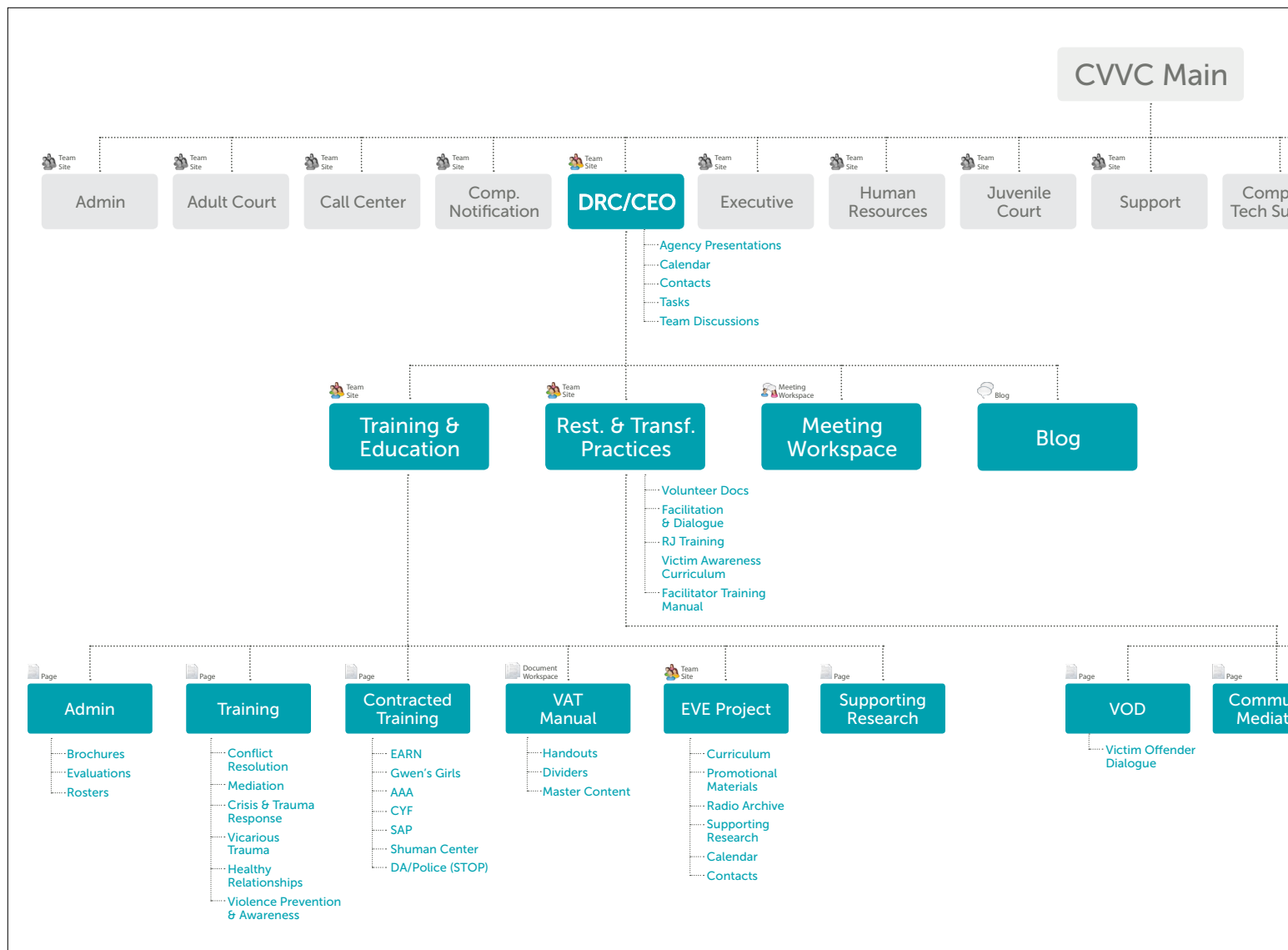


FIGURE 23  
INFORMATION ARCHITECTURE MODEL 3  
was created to accommodate the findings from the card sorting activity.

Site	Page	Library/List	Secondary Nav	Text Links
Home	Landing Page (Index)	Calendar Agency Services Presentations DRC Policies	Quick Links Intake Forms (Purple Sheets)	Training & Education Training Admin Training Contracted Training (see project Supporting research)
			Lists Calendar Tasks	Restorative Practices Restorative Justice Supporting Research
	Training	Conflict Resolution Mediation Crisis & Trauma Response Trauma Informed Care Vicarious Trauma Healthy Relationships Violence Prevention & Awareness	Discussions Team Discussion	Meeting Workspace
			some as below	Training Administration Training Contracted Training EVE Project
			Pages Training Administration Training Contracted Training EVE Project Supporting Research	N/A
	Administration	Rosters Intake Forms Brochures	Quick Links Intake Forms (Purple Sheets)	N/A
			Lists Calendar Tasks	N/A
			Discussions Team Discussion	N/A
			some as above	N/A

FIGURE 24  
INFORMATION ARCHITECTURE MODEL 4  
(cropped) shows the secondary navigation as well  
as the text links connecting individual pages.





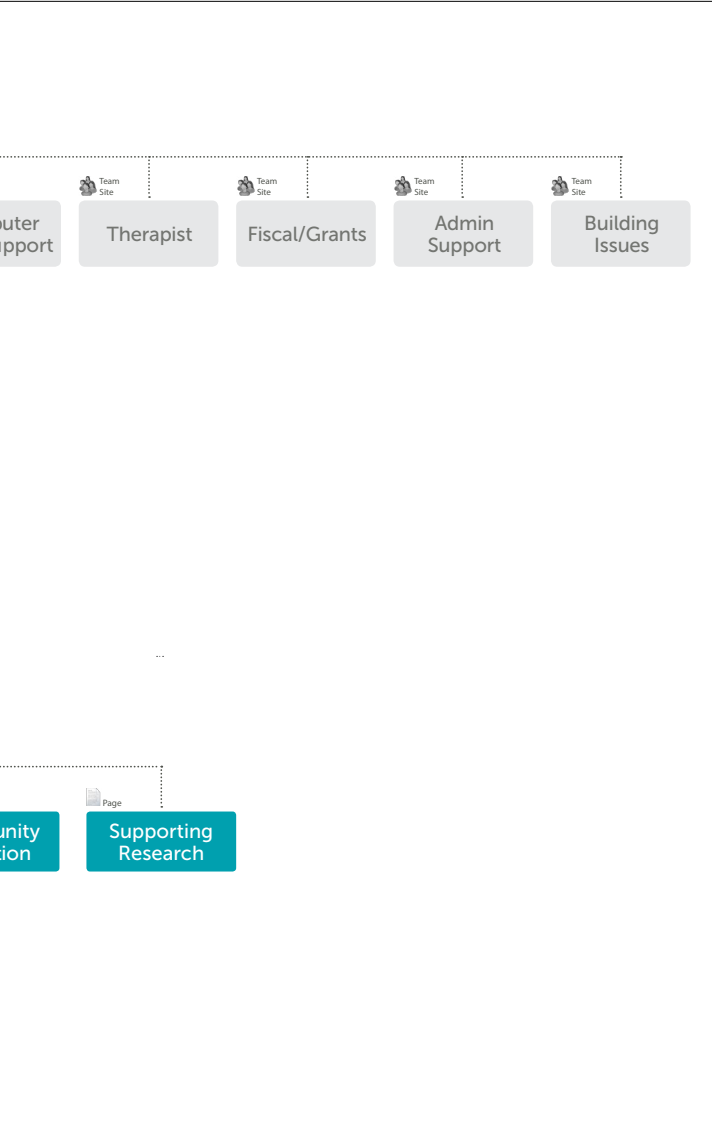


FIGURE 25  
**FINAL INFORMATION ARCHITECTURE**  
shows the structure of the system after being finalized after usability testing. It also places the project within the scope of the entire CVVC SharePoint site.

## USER INTERFACE

Implementing the information architecture through the MSP user interface posed some challenges, because I was working with a client. Since I needed access to a PC and the organizational network, I was dependent on the IT consultant to set that up for me. This took longer than I anticipated (over two months), which forced me to start thinking about a “Plan B,” if I could not get access to these resources to build the system as proposed. Fortunately, by the end of January, I got access and could start building the solution.

Since MSP is an out-of-the-box solution, the creative freedom for the user interface was limited. MSP offers only a handful of possible page layouts, along with customizable color schemes and the possibility to change the site icon. However, the focus of this project was not on the interface; rather, it was on the functionality of the entire solution, for which MSP was only a means to an end.

For that same reason, usability testing of the interface was only a partial objective of the usability testing sessions for the information architecture, with the understanding that only minor adjustments to the interface could be made. After the testing, I added small icons next to the text links to make it more obvious those were links to pages with additional document libraries.

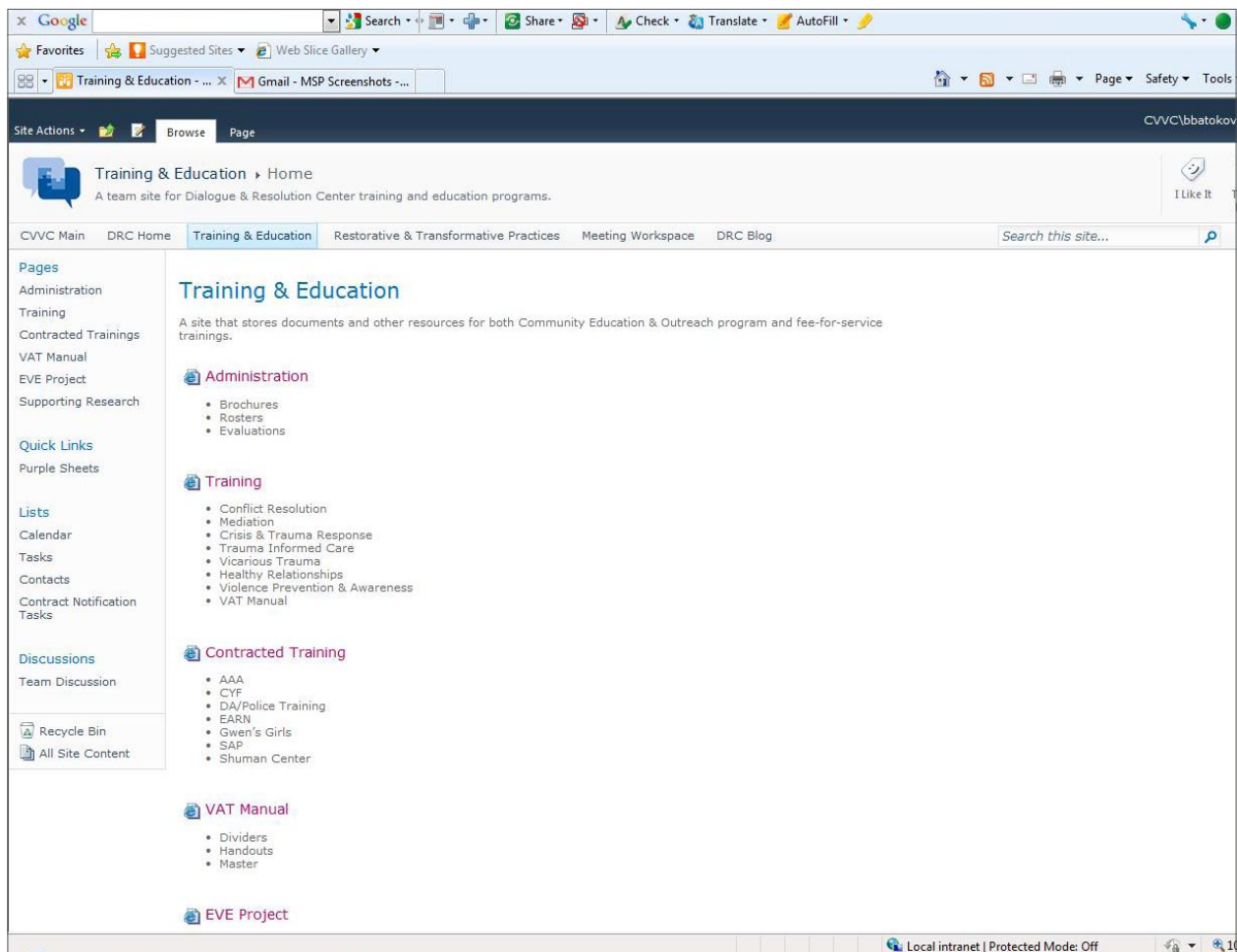


FIGURE 26  
USER INTERFACE SCREENSHOT  
shows the Training & Education home page.

## CUSTOM SERVICES

To address the remaining needs identified by research, I enabled and defined certain MSP features and services.

### DOCUMENT VERSIONING

To manage the different versions of various documents (Need 5), I turned on and defined document versioning (*see Fig. 27*). This leads to better organization, processing, retrieval and dissemination of information and knowledge across the organization, directly contributing to more effective knowledge management. Because most of the documents in the currently existing libraries will be final versions, it made sense to only enable major versions and limit them to 10 to be mindful about conserving the server space (since MSP creates a new version every time a document is modified and keeps a separate file for each version).

Document versioning enables the user to attach comments to each version, be notified when a document is changed, as well as to restore a document to a previous version. Thanks to the full integration of MSP with MS Office, it is also easy to compare the various versions as well as to check out documents to prevent multiple people overwriting each other's changes.

### DOCUMENT TEMPLATES AND CONTENT TYPES

To be able to capture the tacit knowledge related to documents (Need 6), I also created four new templates and made them into custom content types. A content type is a special kind of document template that has pre-defined meta data fields that capture additional information about a document that is usually left unrecorded and exists only in someone's head. These fields can be displayed as columns in the document library on the SharePoint site and, as a result, can be used for custom filtering, which leads to more effective organization of documents and their searching.

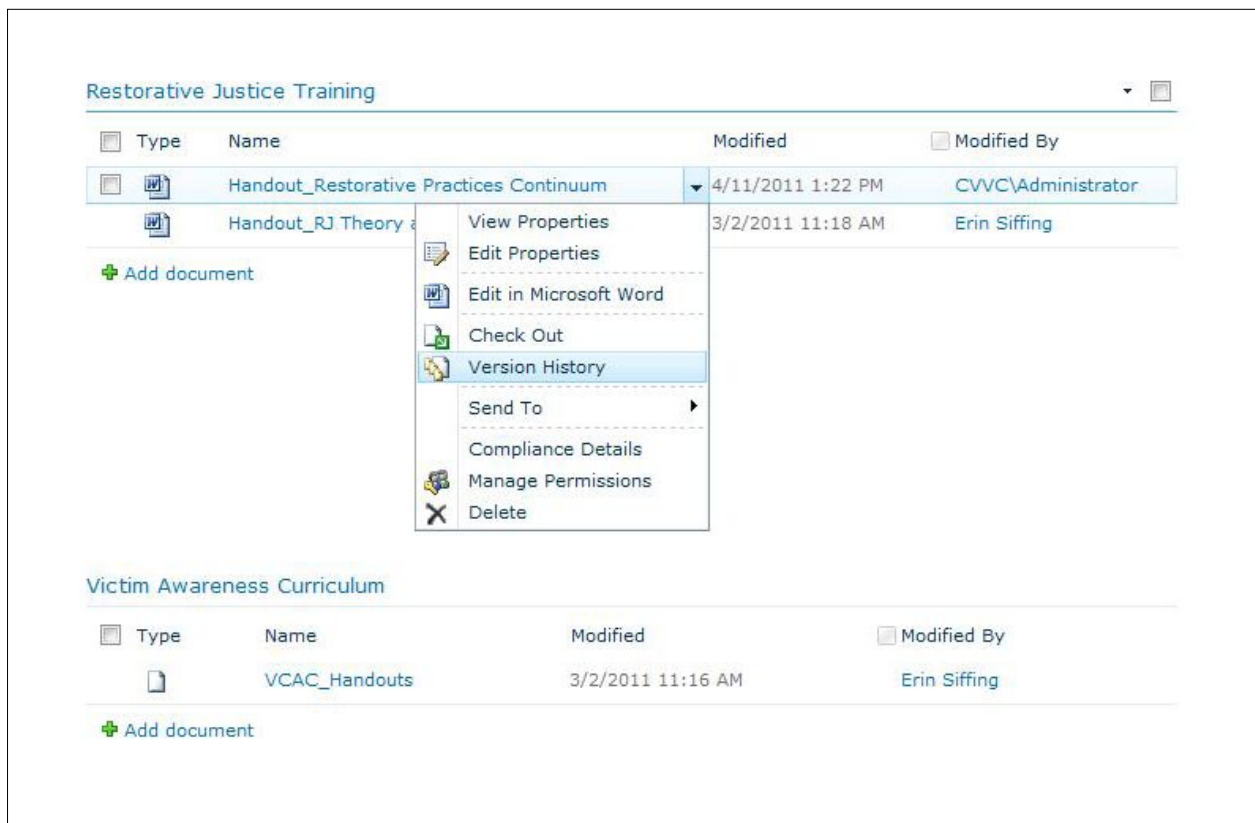


FIGURE 27

#### DOCUMENT VERSIONING

enables tracking of multiple versions of documents, comparing among them and attaching comments to each version.

I designed four content types:

1. **Training Presentation:** a .pptx file with title, audience and duration as meta data fields.
2. **Training Document:** (*see Fig. 28*) a .docx file with title, audience and duration as meta data fields.
3. **Training Roster:** (*see Fig. 29*) an .xlsx file to keep track of registered people for a training session. It has the title of the training and start date as meta data fields. The file includes three sheets: sign-in sheet for conflict resolution, sign-in sheet for mediation and a payment roster.
4. **Purple Sheet Form:** an InfoPath document that is fillable within the browser to process training requests.

#### DEPARTMENT CALENDAR

To enable tracking of department-wide activity in one place that everyone would have access to (Need 4), I created a calendar on the main DRC/CEO site. This calendar can also be synchronized with personal MS Outlook calendars and therefore allows each staff to compare their personal work calendars with the department events, making it easier to schedule other appointments, trainings and presentations.

#### STAFF PROFILES DRC BLOG

Staff profiles and the DRC Blog are also part of the solution. They both enable the staff to record their individual areas of expertise and are searchable by other staff members. The profiles not only help make the system more friendly, but they also clarify who is an expert on certain topics (Need 2). Staff members can ask questions about these areas of expertise on individual profiles, creating opportunities to have conversations that would otherwise not occur due to time constraints or limited direct interaction between the particular staff members. The DRC Blog has a similar function—it

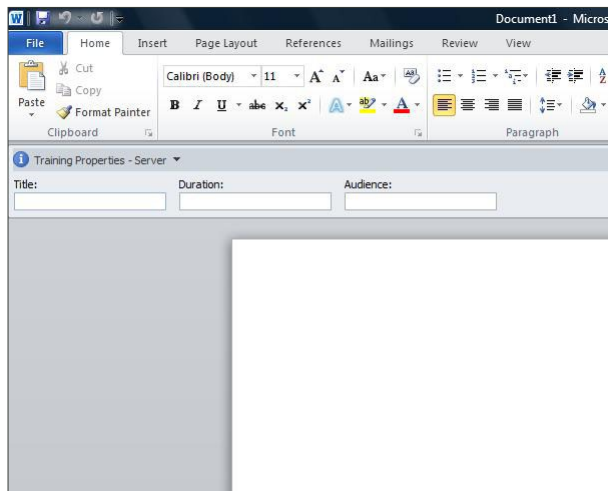


FIGURE 28

#### TRAINING CONTENT TYPE

enables the author to attach meta data such as the duration of the training and the target audience.

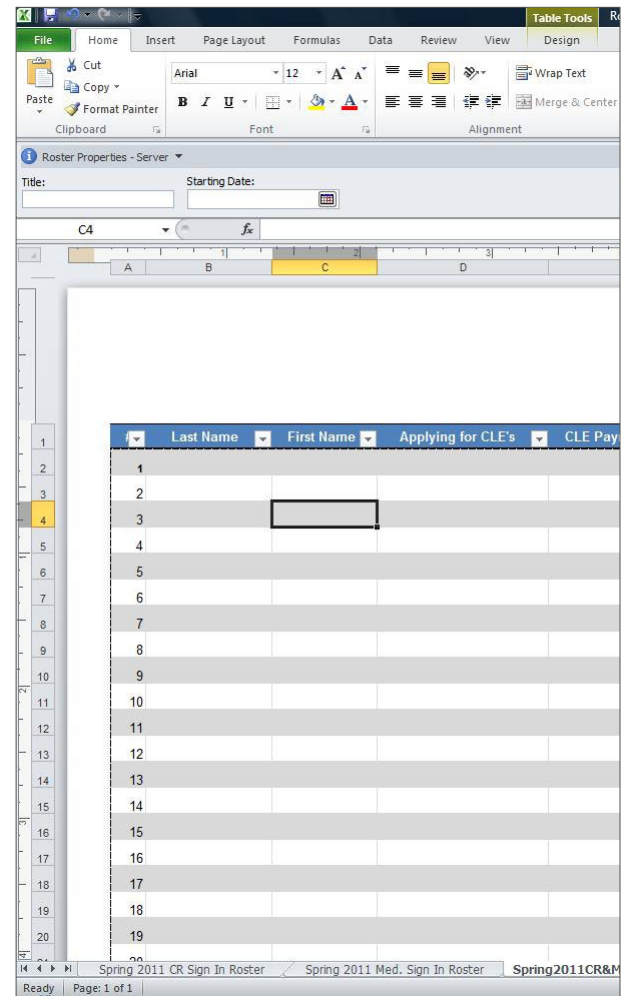


FIGURE 29

#### TRAINING ROSTER CONTENT TYPE

is an Excel file with three sheets and two meta data fields: title and the start date of the training.

enables sharing of anecdotes, stories from the field and best practices in an effortless way that is convenient for everyone as it does not have time or location constraints.

## SUPPORTING DELIVERABLES

- TIPS CARD** To support the solution and to help the DRC/CEO staff transition to the new system, I designed a card that lists several tips on how to take full advantage of the system (*see Fig. 30*). While the DRC/CEO staff participated in the development of the solution, they are not yet familiar with all system components and features and how these can make their jobs easier. The card was distributed to the
- REPORT** DRC/CEO staff and CVVC management. CVVC also received a report detailing the design process and the solution to be able to continue with the project if desired.



## Seven Great Tips

to get the most out of SharePoint

### Learn SharePoint

Take some time to learn the system and what it can do for you. Online training sites such as lynda.com are a great place to start. Feeling in control of the system will help you become more efficient.

### Fill Out Your Personal Profile

Help make the system more friendly. Upload your photo, share your skills and add areas of expertise people can ask you about. Visit your colleagues' profiles to see what they're experts in. Ask them what you've always been curious about, but there never was time for a conversation.

### Take Advantage of Your Newsfeed

Use the status update on your profile page to share news with colleagues who are outside of your department. Define the settings for your personal newsfeed and keep up to date with what others are doing as well. The more people use it, the more useful it becomes.

### Contribute to the DRC Blog

Share some of your experiences on the DRC Blog. It's a great way to record some happy stories or tips and tricks from the field. Don't forget to tag your post with some keywords to enable easy searching in the future.

### Create a New Document

Try creating a new presentation or document directly in SharePoint. Thanks to the integration with MS Office, you'll see it's not much different. You'll also be able to take advantage of adding extra information like the target audience for a training.

### Create New Document Libraries

Take advantage of being able to create new document libraries to suit your needs. Consult with your colleagues and browse through site to make sure you are not creating a duplicate library.

### Sync Your Calendars

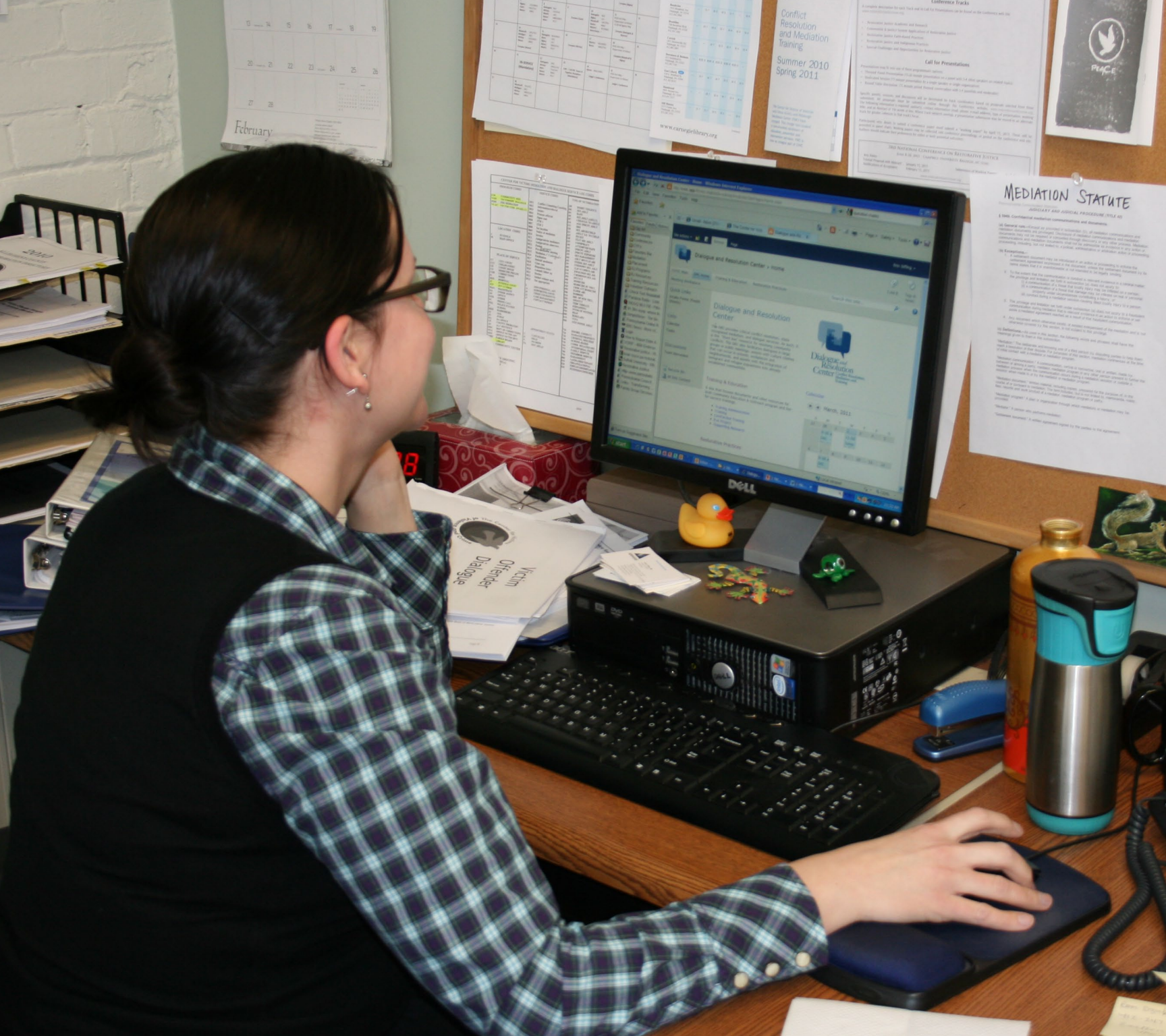
Connect the shared department calendars in SharePoint with your personal Outlook calendar. You will be able to see your day at a glance, making it easy to plan other commitments. Color-coding, automatic synchronization and drag-and-drop will make it easy to manage all these calendars.

This card was designed by Barbora Batkova as part of M.Des. Thesis titled "Designing for Organizational Intelligence at Nonprofit" at Carnegie Mellon School of Design in the Spring 2011.

FIGURE 30

### TIPS CARD

helps the user get familiar with the system, promoting its future growth.



February

Conflict Resolution and Mediation Training  
Summer 2010  
Spring 2011

# MEDIATION STATUTE

JUDICIARY AND JUDICIAL PROCEDURE TITLE 90

§ 90-10. Confidential mediation communications and documents

(a) General rule. All communications and documents in connection with a mediation process shall be confidential and shall not be disclosed in any court proceeding or to any other person, except as provided in this section.

(b) Exceptions. The following communications and documents shall not be confidential:

1. Communications and documents that are necessary to the functioning of the mediation process.

2. Communications and documents that are necessary to the functioning of the mediation process.

3. Communications and documents that are necessary to the functioning of the mediation process.

4. Communications and documents that are necessary to the functioning of the mediation process.

5. Communications and documents that are necessary to the functioning of the mediation process.

6. Communications and documents that are necessary to the functioning of the mediation process.

7. Communications and documents that are necessary to the functioning of the mediation process.

8. Communications and documents that are necessary to the functioning of the mediation process.

9. Communications and documents that are necessary to the functioning of the mediation process.

10. Communications and documents that are necessary to the functioning of the mediation process.

# EVALUATION

To test the solution, I asked five DRC/CEO staff members to identify five to seven documents they would like to upload to the SharePoint site. During the session, I asked them to think aloud as they were navigating the system. Aside from audio recording the sessions, I also used the fourth information architecture model to record the route each participant took through the system to upload each document.

The objectives of the usability testing were to:

- test the ease of navigation,
- see if the information hierarchy matched the user's mental model,
- get examples of documents the DRC/CEO staff works with to aid in the development of specific document content types,
- uncover any glitches, and
- get general comments on the solution.

After each session, I mapped the steps each participant took through the system to upload each document (*see Fig. 32*). I also evaluated any problems that they encountered based on these four criteria:

1. **Severity:** How serious is the problem on a scale of 1-5, with 5 being the most severe?
2. **Frequency:** How many users are likely to have the same problem?
3. **Impact:** Can the users still accomplish the task?
4. **Persistence:** How likely is the user to repeat the behavior that led to the problem?





FIGURE 31

#### USABILITY TESTING

sessions led to more changes in the information architecture as well as minor improvements in the user interface.

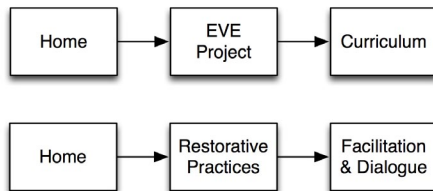


FIGURE 32

#### DOCUMENT "ROADMAPS"

show the pathway each user took to upload a particular document.

Even after all previous iterations, usability testing sessions led to more improvements in the information architecture. The most significant change occurred within the Restorative Practices tab, which was renamed to Transformative and Restorative Practices to address the fact that some areas were more transformative, rather than restorative. Other improvements included moving existing libraries to more appropriate places, adding new ones and getting rid of some that were found to be irrelevant or duplicate.

**DEPLOYMENT** At the beginning of April, the fully-functioning solution was made available to the DRC/CEO staff. I consider this project a success, because the solution meets all five previously identified needs and creates an atmosphere of trust and control. Not creating such atmosphere would mean failing one of the main purposes of the project, because the lack of trust and control of is one of the main obstacles in creating an organizational culture of continuous learning. However, thanks to the participatory design methods, which closely involved the DRC/CEO staff, CVVC management and their IT consultant, the DRC/CEO staff has real ownership of the solution, which directly contributes to their trust in the system. Furthermore, the DRC/CEO staff has permissions to create new pages and document libraries, which gives them direct control over the system as well.

Since the solution is a long-term practice, rather than a sole artifact, it is difficult to make any further conclusions, since they all require observation and assessment overtime. While the solution does take into account certain traditional behaviors and processes, it still represents a significant change in behavior and it should therefore be expected that the switch to using the new system will not happen over night. However, the very positive feedback from the staff speaks for itself, confirming the success of this project.



FIGURE 33  
DRC/CEO STAFF USING THE SYSTEM  
on laptops during a department meeting to review new Purple Sheet forms and put events on the calendar.





# CONCLUSION

While this project produced a custom solution for a specific client, the process through which the solution was achieved can be replicated in other CVVC departments, as well as other organizations. This has been one of my personal thesis goals from the very beginning—to create a use case study, from which others could benefit as well, not only the client.

**SCALABILITY** After subtracting the time spent on fulfilling academic requirements, this project took about 15 hours a week for 32 weeks, coming to a total of 480 hours, with a rough split in half between (1) exploratory and generative research and (2) concept development, implementation and usability testing. If I were to continue this project to create the information architectures and one workflow for each tab of the entire CVVC Main navigation, it would take between 150-300 hours per tab to be able to achieve the same level of detail and quality.

The reduction of time commitment takes into account my acquired knowledge of CVVC, the relationships I have developed, the fact that the MSP technology is deployed organization-wide and is ready for development, and finally, my experience of going through this process. One of the reasons the difference between the minimum (150 hrs) and maximum (300 hrs) time commitment is so big is because I believe that the DRC/CEO is the most complicated group within the organization due to the merger with PMC five years ago. However, it is the only group I can base my estimates on.

Unfortunately, it is not possible for CVVC to replicate this process by itself. First, CVVC currently does not have the manpower to do so; and second, I believe that the knowledge of human-centered design process is absolutely crucial to the success of such follow-up project. Lastly, having a fresh perspective of someone who is

not familiar with the current state and context of tasks and activities within a group of people is important to be able to perform objective evaluation and give recommendations.

#### RECOMMENDATIONS FOR CVVC

Therefore, I have several recommendations for CVVC in order to continue with this project:

- encourage the growth of the current solution by providing incentives for using it,
- find a volunteer design intern that would be capable of replicating this process for other departments, or
- seek collaborative relationships with the CMU School of Design to continue development.

#### RECOMMENDATIONS FOR DESIGNERS

It should be expected that the time commitment to replicate this process at CVVC would be higher for another consultant, depending on his/her familiarity with CVVC, MSP knowledge and human-centered design. Here are the recommendations for designers who would like to continue this project or replicate it for another organization:

- be familiar with human-centered design
- get to know your target audience and primary stakeholders by immersing yourself in their culture and activities,
- take the time to develop these relationships beyond the project by having occasional casual conversations as well,
- make use of conceptual modeling to organize your findings and thoughts,
- share your models to clarify the information obtained from interviews or observations, and
- use participatory design methods to involve your primary users in the design to facilitate ownership of the solution.

**REFLECTION** I have had a very positive experience throughout this project. One of the main reasons was the fact the CVVC management and staff has placed their trust in me even though they didn't know what human-centered design meant. I believe this was due to some connections through previous personal relationships; however, it was also largely due to the underlying principles of human-centered design. This project was the first time I was able to see the power of the process in real practice. Human-centered design not only enables, but requires us to be closely involved with our target audience and main stakeholders. I believe this was one of the main reasons this project was successful.

Working on a "client project" presented many challenges; fortunately, convincing the client of design's capability to solve problems was not one of them. However, working with a nonprofit organization, where there's always something more important to do, proved to be a challenge in and of itself. Scheduling interviews and coordinating deadlines with the staff and consultants sometimes pushed the project behind, forcing me to even consider developing a "Plan B" to be able to finish my thesis on time. However, the extra effort and stress that "client projects" often generate was completely worth it, because I was able to give the DRC/CEO staff a real solution that will help not only them, but also the many clients they serve.

During this project, I have acquired many new skills, including software, technology and human-centered design methods like card sorting, conceptual modeling and activity theory. However, what I consider the most valuable, is the fact that my thesis helped me gain confidence as a designer.





#### **Use of Visuals**

All photography, collected documentation and artifacts depicted in this document were used with the signed consent from CVVC staff.  
Photo on page 72 by Robert Mann.

**© 2011 Barbora Batokova**

Master of Design in Communication Planning and Information Design

batokova@gmail.com | [www.batokova.com](http://www.batokova.com)

